



**GREEN
CLIMATE
FUND**

Meeting of the Board
4 – 6 April 2017
Songdo, Incheon, Republic of Korea
Provisional agenda item 11(e)

GCF/B.16/07/Add.06

14 March 2017

Consideration of funding proposals – Addendum VI

Funding proposal package for FP043

Summary

This addendum contains the following three parts:

- a) A funding proposal titled “Saïss Water Conservation Project” submitted by EBRD;
- b) A no-objection letter issued by the national designated authority or focal point; and
- c) Environmental and social report(s) disclosure.

The documents are presented as submitted by the accredited entity, and national designated authority or focal point, respectively.

Table of Contents

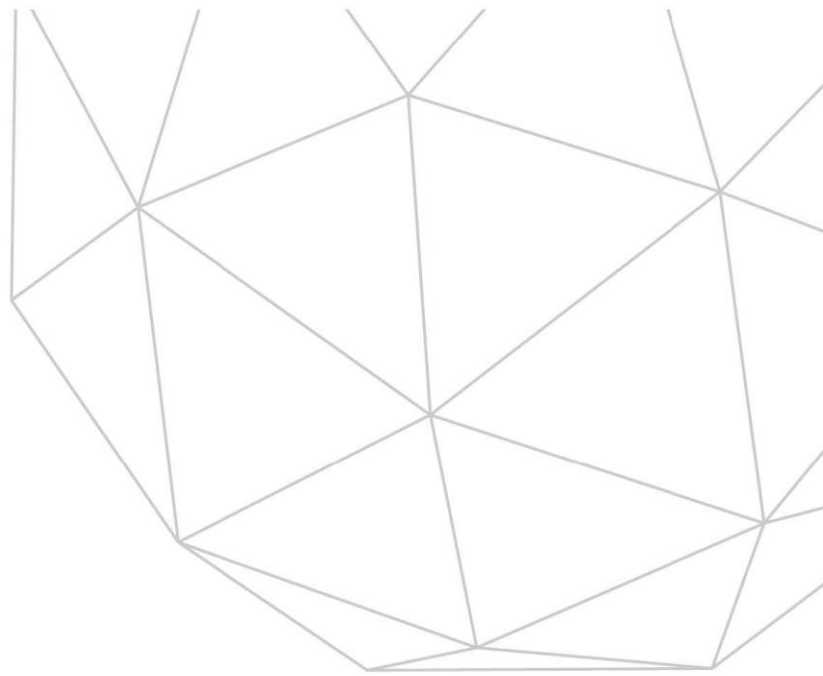
Funding proposal submitted by the accredited entity

No-objection letter issued by the national designated authority or focal point

Environmental and social report(s) disclosure



GREEN
CLIMATE
FUND



Funding Proposal

Version 1.1

The Green Climate Fund (GCF) is seeking high-quality funding proposals.

Accredited entities are expected to develop their funding proposals, in close consultation with the relevant national designated authority, with due consideration of the GCF's Investment Framework and Results Management Framework. The funding proposals should demonstrate how the proposed projects or programmes will perform against the investment criteria and achieve part or all of the strategic impact results.

Project/Programme Title: Saïss Water Conservation Project

Country/Region: Morocco

Accredited Entity: European Bank for Reconstruction and Development (EBRD)

Date of Submission: 19 September 2016

Contents

Section A	PROJECT / PROGRAMME SUMMARY
Section B	FINANCING / COST INFORMATION
Section C	DETAILED PROJECT / PROGRAMME DESCRIPTION
Section D	RATIONALE FOR GCF INVOLVEMENT
Section E	EXPECTED PERFORMANCE AGAINST INVESTMENT CRITERIA
Section F	APPRAISAL SUMMARY
Section G	RISK ASSESSMENT AND MANAGEMENT
Section H	RESULTS MONITORING AND REPORTING
Section I	ANNEXES

Note to accredited entities on the use of the funding proposal template

- Sections **A, B, D, E** and **H** of the funding proposal require detailed inputs from the accredited entity. For all other sections, including the Appraisal Summary in section F, accredited entities have discretion in how they wish to present the information. Accredited entities can either directly incorporate information into this proposal, or provide summary information in the proposal with cross-reference to other project documents such as project appraisal document.
- The total number of pages for the funding proposal (excluding annexes) is expected not to exceed 50.

Please submit the completed form to:

fundingproposal@gcfund.org

Please use the following name convention for the file name:

"[FP]-[Agency Short Name]-[Date]-[Serial Number]"

A.1. Brief Project / Programme Information		
A.1.1. Project / programme title		GCF-EBRD Saïss Water Conservation Project
A.1.2. Project or programme		Project
A.1.3. Country (ies) / region		Morocco
A.1.4. National designated authority (ies)		Ministry of Energy, Mining, Water and Environment
A.1.5. Accredited entity		European Bank for Reconstruction and Development
A.1.5.a. Access modality		☐ Direct ☒ International
A.1.6. Executing entity / beneficiary		Executing Entity: Ministry of Agriculture and Maritime Fisheries (MAMF) Beneficiaries: Approximately 2,849 commercial and subsistence farms and 350,000 individuals in the Saïss plain (directly) and around 1.8 million inhabitants/water users dependent on the Sebou-Saïss basin (indirectly).
A.1.7. Project size category (Total investment, million USD)		☐ Micro (≤ 10) ☒ Medium ($50 < x \leq 250$) ☐ Small ($10 < x \leq 50$) ☐ Large (> 250)
A.1.8. Mitigation / adaptation focus		☐ Mitigation ☒ Adaptation ☐ Cross-cutting
A.1.9. Date of submission		19 September 2016
A.1.10. Project contact details	Contact person, position	Craig Davies, Associate Director, Climate Resilience Investments Marta Modelewska, Principal, Climate Resilience Investments
	Organization	European Bank for Reconstruction and Development
	Email address	daviesc@ebrd.com, modelewm@ebrd.com
	Telephone number	+44 (0) 20 7338 6000
	Mailing address	One Exchange Square, London EC2A 2JN, UK

A.1.11. Results areas (mark all that apply)	
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 and 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.)



Ecosystem and ecosystem services

(E.g. ecosystem conservation and management, ecotourism, etc.)

A.2. Project / Programme Executive Summary (max 300 words)

Morocco experiences chronic water scarcity, which is being exacerbated by a combination of population growth, economic development, a strong decline in precipitation due to climate change and unsustainable groundwater use. Water availability in Morocco has dropped from 3,500 m³ per person per year in 1960 to 1,000 m³ in 2000, and forecasts are predicting it will further fall to 490 m³ in 2020, below the United Nations' "absolute water scarcity" level. In this context of scarcity, the gap between offer and demand will increase in the next years. Currently, the water demand in Morocco, estimated at 13,7 Bm³, is met from surface water mobilized (11,7 Bm³) and an overexploitation of groundwater (2 Bm³). In 2030, water demand is predicted to increase to 16,2 Bm³, and therefore, if no measures are taken, the gap would be 4,5 Bm³. This poses a severe threat to agricultural production and rural livelihoods, as more than 80% of abstracted water is used for agricultural irrigation. In this precarious and challenging context, climate change is a hugely important risk amplifier.

In response, the main objective of this Project is to improve the climate resilience of agricultural systems in the Saïss Plain by halting the fast-progressing depletion of the Saïss aquifer, which is caused by (i) decline in precipitation due to climate change, (ii) increasing variability and unpredictability in rainfall resulting in unsustainable groundwater use, and (iii) low adoption of water efficient irrigation systems (incl. drip irrigation) and modern water demand management methods. The Project will shift the paradigm of water provisions for the Saïss irrigation system, switching from highly unsustainable groundwater to sustainable surface water resources. The Project will finance a bulk water transfer scheme from the M'Dez dam to the Saïss Plain in Northern Morocco and will help prepare a Public-Private Partnership (PPP) with regards to the implementation of the new irrigation networks. This critical infrastructure will facilitate transfer of water from a river basin with a surplus of water to the Sebou-Saïss basin with a shortfall of water resources, thus support conservation of the endangered aquifer and water resources of the Sebou-Saïss basin. The Project will also improve community involvement in water governance by scale up technical skills and institutional capacities and promote private sector involvement in the adoption of improved, modern irrigation infrastructure and equipment. This will increase the efficiency of water use and services, promoting drip irrigation and modern water demand management methods, thus strengthening capacity for adaptation to climate change in the Sebou-Saïss basin

The specific **objectives** of the Project are:

1. To increase climate resilience of irrigation infrastructure through developing and strengthening the technical and institutional capacities needed to undertake infrastructure investments and improve irrigation system management in a strategic water transfer scheme in the Saïss Plain, which aims at reversing the process of the Saïss aquifer depletion and building long-term climate resilience;
2. To promote effective community involvement in water governance and improved awareness of climate resilience issues among end users of water services; and
3. To facilitate private sector involvement in the design, implementation, operation and maintenance of irrigation infrastructure and the introduction and promotion of best-practice, efficient irrigation techniques with a significant demonstration impact across sector and region.

The specific **outcomes** of the Project will be:

1. Strengthened institutional and regulatory systems for climate-responsive planning and development in the irrigation sector in the Saïss plain;
2. Strengthened adaptive capacity and reduced exposure to climate risks related to water use for irrigation amongst farmers (both commercial and subsistence) and communities in the Saïss plain; and
3. Strengthened awareness of climate threats to water use in agricultural systems and corresponding risk-reduction processes amongst farmers, communities and the wider population in the Saïss Plan.

The Project is expected to result in improved and more climate-resilient irrigation services for 2,849 farms, and to increase to the extent of irrigated agricultural land in the Saïss plain from 18,450 ha to 21,600 ha.

A.3. Project/Programme Milestone	
Expected approval from accredited entity's Board (if applicable)	2016
Expected financial close (if applicable)	2016 (for EBRD Loan) 2017 (for GCF Grant)
Estimated implementation start and end date	Start: 2017 End: 2021
Project/ programme lifespan	18 years - maturity of the EBRD loans 40 years - lifetime of the infrastructure The Project involves three key phases: • Phase 1: Implementation (2017 – 2021) – the Project's components and key investments will be installed over this time period; • Phase 2: Repayment (2017 – 2035) – beneficiaries will repay EBRD's loan financing; and • Phase 3: Operation (2022 – 2052) – the Project will be fully operational, initially under a PPP arrangement lasting 30 years.

B.1. Description of Financial Elements of the Project / Programme

Project overview

The Saïss Water Conservation Project will change the paradigm of water provisions for the Saïss irrigation system, switching from highly unsustainable groundwater (the Sebou/Saïss basin) to more sustainable surface water resources (made available from the M'Dez dam). It will strengthen the climate resilience of agricultural production and safeguard livelihoods in the Saïss Plain (located in the Sebou-Saïss water basin, in the Fès-Meknès region) through a provision of critical improvements to irrigation infrastructure, delivery mechanisms, including preparations for a Public Private Partnership (PPP) and promoting irrigation governance and community participation. The Sebou-Saïss basin represents 11% of Morocco's annual water endowment and in the last 30 years it has experienced unsustainable levels of water exploitation with a net loss of 100 million m³ per year, with over 82% of the water being used for agricultural irrigation. It is estimated that, at the current exploitation rates, the Saïss aquifer will be completely depleted within 25 years resulting in severe social and economic consequences.

In response to these severe challenges, this Project aims to enable water users and agricultural production in the Saïss Plain to make the transformational shift away from current irrigation practices which are based on an unsustainable dependency on groundwater abstraction. The Project will achieve this by a provision of critical irrigation infrastructure – a bulk water transfer scheme, thus making possible the annual transfer of 90-110 million m³ of surface water from the M'Dez dam to the Saïss Plain area. The Project will be delivered through a structured approach comprising of technical assistance, policy dialogue and water infrastructure investments to support the transition towards more sustainable and climate resilient water service delivery, and modern and efficient irrigation practices. The Project has been conceived and will be delivered under the strategic framework of the Plan Maroc Vert (PMV) from 2008 to 2020, a major initiative and a guiding framework for addressing impacts of climate change in agricultural sector development of the Government of Morocco. PMV ensures smooth coordination with Government priorities and with other financing initiatives in the irrigation sector, and of the National Water Conservation Programme (PNEEI).

The indicative total financing package of the proposed Project amounts to EUR 203.82 million, of which EUR 120 million loan finance will be provided by the EBRD and a further EUR 0.88 million grant finance by EBRD Donor Funds. An additional EUR 31.97 million is to be provided as non-reimbursable grant resources by the Green Climate Fund (GCF), with a further EUR 53.82 million in co-financing from the Kingdom of Morocco. The level of grant for the Project directly impacts the size of the investment from the private sector, and consequently the final tariff, which should be affordable but also allow the private sector to make profits. It is also justified by the avoided externalities related to the depletion of the Saïss aquifer, such as economic slowdown, migration to cities, job destruction, total depletion of the Saïss aquifer, environmental consequences etc.

Experience of irrigation projects in Morocco confirms that an appropriate blend of loan and grant resources is needed due to the affordability constraints experienced by many of Morocco's farmers, communities and households. Blending the financial instruments (GCF grant resources, EBRD loan, and private sector finance) will guarantee the affordability of water for farmers as demonstrated by the preliminary financial analysis (See Annex IV). Furthermore, in a context where Morocco is facing significant fiscal needs to finance infrastructure projects, and in which its debt is growing, the Saïss project, given the size (almost half a billion euros), would almost certainly be postponed or delayed without a grant contribution covering part of its costs. The financing gap for this climate resilient Project would not allow its implementation in due time to avoid the complete depletion of the Saïss-Sebou basin, posing a severe threat to agricultural production and rural livelihoods in the Saïss Plain.

Technical assistance for capacity development and policy advice

The proposed Project will also include a technical assistance component for capacity development and policy advice. It is anticipated that this component of the Project will be funded using grant resources amounting to EUR 2.85 million, which will be provided by the GCF (EUR 1.97 million) and the EBRD's Donor Funds (EUR 0.88 million). These activities will cover skills transfer, capacity building and institutional development activities that will deliver important public goods in the form of an improved enabling environment for the sustainable management of water resources and irrigation infrastructure, including the integration of climate resilience into the management and delivery of irrigation infrastructure and services. As these elements are not revenue generating, the use of grant resources is highly appropriate.

Investment in transformational infrastructure

The elements of the Project that support the integration of approaches, technologies and design standards that promote sustainable water resource management and climate resilience in the planning and management of irrigation infrastructure will draw on detailed technical guidance on structuring irrigation system investments that has been developed by the EBRD and the United Nation Food and Agriculture Organisation (FAO). These elements will be financed using an appropriate blend of loan and non-reimbursable grant finance from GCF, EBRD and the Kingdom of Morocco amounting to a total of EUR 203.82 million.

This Project component is anticipated to include grant resources of EUR 30.00 million from the GCF which will be used to co-finance the main bulk water transfer scheme and distribution pipeline sections in the Saïss Plain, a critical and required piece of infrastructure enabling introduction of the new irrigation networks by the private sector. This infrastructure is essential for improving water resource management and climate resilience in the Sebou-Saïss water basin, where chronic water scarcity is being exacerbated by a combination of population growth, economic development, a strong decline in precipitation due to climate change and unsustainable groundwater use. This poses a severe threat to agricultural production and rural livelihoods, as more than 80% of abstracted water is used for agricultural irrigation. The proposed investment in transformational infrastructure will support conservation of the endangered aquifer and water resources of the Sebou-Saïss basin, and will help prepare a Public-Private Partnership (PPP) with regards to the implementation of the new irrigation networks. As this infrastructure does not generate revenues, it would be extremely difficult to finance it using non-grant resources, especially considering country's budget constraints caused by relatively low tariffs and affordability constraints across the population. In this context, the level of grant for the Project directly impacts the size of the investment from the private sector, and consequently the final tariff, which should be affordable to farmers but also allow the private sector to make profits. The GCF funding is not foreseen to directly impact the level of tariff. The tariff for irrigation services will be determined by the result of the procurement process for the Public Service Contract. Furthermore, it should be noted that the level of tariffs will be impacted by the level of public subsidies (EUR 112 million) estimated for the PPP. MAMF has been working on the Feasibility Study for this Project and on the structuring of the PPP contract with the support of international advisers. The Feasibility Study included a financial analysis which assessed in particular the total cost of infrastructure for the project as well as the current cost of irrigation water for the farmers. MAMF and its advisors then worked based on two principles: (i) a tariff affordable to the farmers and (ii) a contract economically and financially viable with a private sector partner for the distribution and maintenance. The main parameter influencing both factors/principles described above is the total amount of that the private sector would invest in the project, and consequently the total public subsidy needed for the project to take place. These calculations were done by the MAMF and its adviser and are not available as they are confidential. The team could access them during due diligence and verify the assumptions and the calculation. Finally, it is important to note that this approach was successfully designed and implemented with the support of the World Bank/ IFC for the Guerdane project, and is currently applied to other irrigation PPPs in Morocco, such as Chtouka.

The remainder of the investment component of the Project will be financed from the EBRD loan finance of EUR 120 million and the Kingdom of Morocco co-financing of EUR 53.82 million. The loan finance resources will be used to finance the section of the main transfer pipeline and 90 kilometres long main distribution pipeline conveying water within the project irrigation perimeter and supplying 12 primary pipes and potentially part of the main transfer pipeline starting from the intake and conveying water to the main distribution pipeline. This infrastructure is critical as it is a required condition for private sector participation in the irrigation water provision. Without this investment, the engagement of private sector would almost certainly be postponed or delayed. the Project will also support MAMF to structure a public-private partnership (PPP) scheme for the maintenance and operation of the tertiary irrigation network which will transfer water from the distribution section to irrigation blocks and ultimately the end-users of the water. This additional infrastructure, costed at approximately EUR 140 million, is to be financed by public and private sector partners under the PPP scheme formula upon the completion of this Project. These costs are therefore not included in this Project.

Table 1 presents an indicative financing breakdown for the proposed Project (in million EUR) and Table 2 - an indicative breakdown of costs by expenditure type (in million EUR).

Table 1. Indicative financing breakdown for project (in million EUR)

Component	Sub-component	Amount (for entire project)	Currency	Funding amount by institution		
				GCF	EBRD	Kingdom of Morocco
COMPONENT 1 Scaling up climate resilience of irrigation infrastructure through investment in a strategic water transfer scheme in the Saïss Plain	SUB-COMPONENT 1.1 Strengthening institutional capacities	0.9	million euro (€)	0.9	-	-
	SUB-COMPONENT 1.2 Construction of the transfer and distribution water pipeline sections	203.82	million euro (€)	30	120	53.82
COMPONENT 2 Promoting effective community involvement in water governance and improved awareness of climate resilience issues among end users of water services	SUB-COMPONENT 2.1 Community involvement and gender equality for more effective and climate-resilient irrigation service delivery	1.07	million euro (€)	1.07	-	-
	SUB-COMPONENT 2.2 Advisory services on improved water use for end-users	0.15	million euro (€)	-	0.15	-
COMPONENT 3 Scaling up private sector involvement in the design, implementation, operation and maintenance of water infrastructure and resources	SUB-COMPONENT 3.1 Preparations support for a PPP scheme for tertiary irrigation infrastructure	0.03	million euro (€)	-	0.03	-
	SUB-COMPONENT 3.2 Policy and regulatory support for effective environmental monitoring of the Saïss aquifer	0.7	million euro (€)	-	0.7	-
Total project financing		206.67	million euro (€)	31.97	120.88	53.82

Table 2. Indicative breakdown of costs by expenditure type (in million EUR)

	Engineering	Land acquisition	Works	Technical and advisory services	Total
Capacity development and policy advice	-	-	-	2.85	2.85
Main transfer pipeline section	4.62	0.3	71.1	-	76.02
Main distribution pipeline section	7.6	2.4	117.8	-	127.8
TOTAL	12.22	2.7	188.9	-	206.67

B.2. Project Financing Information

	Financial Instrument	Amount	Currency	Tenor	Pricing
(a) Total project financing	(a) = (b) + (c)	...	<u>million euro (€)</u>		

(b) GCF financing to recipient	(i) Senior Loans			() years	() %
	(ii) Subordinated Loans			() years	() %
	(iii) Equity				() % IRR
	(iv) Guarantees				
	(v) Reimbursable grants *				
	(vi) Grants *	31.97	<u>million euro</u> (€)		
* Please provide economic and financial justification in section F.1 for the concessionality that GCF is expected to provide, particularly in the case of grants. Please specify difference in tenor and price between GCF financing and that of accredited entities. Please note that the level of concessionality should correspond to the level of the project/programme's expected performance against the investment criteria indicated in section E.					
	Total requested (i+ii+iii+iv+v+vi)	31.97	<u>million euro</u> (€)		
(c) Co-financing to recipient	Financial Instrument	Amount	Currency	Name of Institution	
	<u>Senior Loans</u>	120	<u>million euro (€)</u>	EBRD	
	<u>Grant</u>	0.88	<u>million euro (€)</u>	EBRD's Donor Funds	
	<u>Grant</u>	53.82	<u>million euro (€)</u>	<u>Kingdom of Morocco (State Budget)</u>	
	Lead financing institution: EBRD The tenor of the EBRD loans will be 18 years with 5 years of the grace period. Pricing of the loans from EBRD will apply EBRD's standard sovereign loan conditions.				
(d) Financial terms between GCF and AE (if applicable)	1. Separation of the EBRD 'ordinary capital resources' and 'Special Fund resources' The financial terms between GCF and EBRD will be governed by the AMA, and a specific Funded Activity Agreement (FAA). In line with the Article 10 of the Agreement Establishing the Bank (AEB), the GCF resources are 'special resources' of EBRD. The 'special resources' from the GCF and EBRD's 'ordinary capital resources' shall at all times and in all respects be held, used, committed, invested or otherwise disposed of entirely separately from each other (See F.4 for details). 2. GCF Special Fund EBRD will establish the GCF Special Fund internally, through which all payments from the GCF and repayments to the GCF will pass. Resources from the Special Fund will not be comingled with EBRD's ordinary capital or other donor resources as far as financial flows are concerned, and EBRD will treat the resources from the Special Fund as assets of the EBRD for the purposes of the privileges and immunities provisions of the AEB. A Special Fund structure is preferable to an independent legal fund structure because it reduces costs (a				

dedicated legal fund would attract set-up and running cost, which would be additional to the fees, and would be charged proportionally to the GCF), and because it ensures that the protections provided to the GCF by the Special Fund are being extended outward to the client, thereby reducing GCF risk exposure. It is the least-cost, least-risk option for the management of the Project, and is following fully EBRD's in-depth experience in establishing other investment projects and programmes.

3. Financial flow from the GCF to the EBRD, and from the EBRD to the recipient

The GCF resources will be made available through a Project-specific sub-account of the GCF Special Fund. GCF resources will be passed in tranches to MAMF by the EBRD, on a pro-rata basis alongside EBRD-funded loans. Terms and conditions of the GCF resources will be specified in the term sheet as presented in the template attached to this proposal in Annex VI.

4. Fees to EBRD

Costs incurred from administering a Special Fund are charged to the Fund according to the AEB and related EBRD policies. As per this requirement and the GCF Board's decision B.11/10 (Annex 2, paragraph 7), the fees associated with this Project will be calculated at the rate of 5% of the requested GCF financing amount. This will cover all costs by EBRD in administering the grant, the associated technical assistance and capacity building, Project supervision and implementation, Project completion and evaluation as well as reporting, and other activities, unless specified otherwise in the relevant sections.

B.3. Financial Markets Overview (if applicable)

Not applicable.

C.1. Strategic Context

Water stress and climate change vulnerability: Morocco is a dry country characterised by limited and uneven rainfall. Morocco experiences chronic water scarcity, with only 879 m³ total annual renewable water resources per capita, but with regional variations as low as 130 m³ per capita in southern and south-eastern regions. On average, 36% of annual renewable water resource is withdrawn, with the bulk (88%) being used for agricultural irrigation. The great challenge is not the average quantity, but the variability in precipitation and water supply, bearing substantial economic and social implication through agricultural production impacts. Morocco's extreme water scarcity is being further exacerbated by the impacts of climate change and by unsustainable groundwater use leading to diminishing groundwater reserves. Only 15% of total agricultural land is irrigated, often with inefficient water use and management. The extreme vulnerability of Morocco's agriculture sector to climate change impacts and the need for scaled-up investment in climate-resilience infrastructure are explicitly set out in the Second and Third National Communication to the UNFCCC (2010 and 2016¹ respectively) and the Independently Determined National Contribution (2015)².

Legal framework protecting water resources: Morocco is often regarded as a progressive example of the MENA region in its water policy and irrigation investments. The central legislation for water is the Law on Water (1995), which is in need of revision. Its provisions comprise access to drinking water, agricultural water uses, wastewater treatment and use, pollution provisions. Since 2009 there has been a dedicated Water Strategy in place including quantitative targets and Programmes for Wastewater and Irrigation Water. An updated National Water Plan is currently being drafted including some lessons from river basin authorities. Implementation of some of the provisions is slower than expected, for example the polluter/user pays principle.

Institutions managing and protecting scarce water resources: The Ministry of Energy, Mines, Water and Environment with a dedicated Department for Water is responsible for planning and coordinating the protection of water resources with a focus on pollution and environmental impacts. The other notable institution is MAMF due to the importance of the agricultural sector as principal water user. River basin authorities (in total 9) responsible for water abstraction and discharge authorisation have been introduced and should be financially independent through water taxes from the local water service providers, but the finances generated as well as the human capital available are not sufficient for all tasks. The High Council for Water and Climate coordinates inter-ministerial consultation and stakeholder dialogue.

Irrigation tariffs: The regional bodies of the Ministry for Agriculture and Fishing are carrying out the infrastructure investments and are setting the irrigation tariffs, an arrangement dating back to 1969. Agricultural water users pay 40% of the total costs of irrigation system investments and maintenance. Part of this contribution is based on land size and part of it is based on a volumetric fee for abstraction. The volumetric fee was last increased in 2009 and is regularly adjusted for inflation.

Plan Maroc Vert – a strategy aimed at protecting scarce water resources for agriculture sector: In order to address the serious threats posed to the vital agricultural sector by climate change impacts and in particular increasing water stress, Morocco has adopted the Green Moroccan Plan ("Plan Maroc Vert", the "PMV"), a strategic plan for the period 2008-2020 with a focus on improving productivity, quality, sanitary security, and product competitiveness within the agribusiness sector. The PMV aims at building climate resilience of agriculture (by protecting water resources and mobilising surface water) and to increase contribution of agriculture to Moroccan GDP from EUR 6.4 billion to EUR 9 billion, double the agriculture sector value-added and create 1.5 million jobs and invest EUR 0.9 billion annually in the sector through the implementation of circa 1,500 projects. Measures to increase the agricultural productivity by up to 59% till 2020 are identified as: intensification of production, extension of cropland, improvement of localised irrigation, institutional innovations and an improved processing of products. Beside the objective of promoting increase in the productivity of the agriculture, the PMV addresses climate change, overexploitation of groundwater, and alleviation of poverty. The strategy is based on two pillars:

- Pillar I promotes a "*modern agriculture, with a high added value and adapted to markets*". It concerns the irrigated areas and rain fed areas above 400mm/ annum. Investments and activities foreseen under the Pillar I are aimed to be led

¹ http://unfccc.int/essential_background/library/items/3599.php?rec=j&preref=7847#beg

² <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Morocco/1/Morocco%20INDC%20submitted%20to%20UNFCCC%20-%205%20June%202015.pdf>

primarily by private sector.

- Pillar II is dedicated to “*combating poverty through amelioration of agriculture revenues*” of small scale farmers. It concerns solidarity-based agriculture located in mountain areas, oases and rain fed area below 400mm/ annum. Investments and activities foreseen under the Pillar II are aimed to be led primarily by the Government of Morocco.

The PMV is accompanied by planned investments of EUR 12-17 billion and the proposition to improve cooperation between educational and agricultural institutions. In this context, the Kingdom of Morocco is implementing incentives, investment and institutional reforms to ensure greater returns at both the farm level and the economy as a whole. In fact, PMV’s agricultural water objectives comprise: developing means of mobilizing conventional and unconventional water resources; development of water resources for irrigation; establishing a strong incentive pricing promoting savings and water enhancement; proactive policy in terms of managing demand, such as a genuine water policy, widespread use of efficient irrigation techniques, and focusing on crops maximizing the value of used water, etc. The PMV also provides a powerful framework for coordinating multiple financing initiatives in the irrigation sector, whether undertaken by national or international entities.

In this way, the PMV provides an effective strategic framework for coordinating the activities of different financing institutions in the area of agricultural irrigation improvements. As noted above, the investment needs are huge and the support and engagement of multiple financing institutions is needed. The GCF is already beginning to play an important role in the implementation of the PMV and a number of Accredited Entities (AEs) are preparing major irrigation projects under the umbrella of the PMV, which is ensuring that these are designed and implemented in a coordinated fashion and with strong national ownership. For example, this currently includes:

- Morocco’s national Agricultural Development Agency (ADA), which is responsible for monitoring the implementation of the national agricultural strategy, linking with private or social investors, and promoting and managing the implementation of the aggregated model, providing linkages between the different partners. ADA has recently been accredited as an national AE of the GCF and is expecting to receive GCF Board approval in October 2016 for a project ADA’s project supporting the development of argan orchards in degraded environments in the **Souss Massa Draa river basin**, which will include irrigation improvements in the project area.
- Agence Francaise de Developpment’s (AFD) proposed project in the **Guir Rheris Ziz river basin** which focuses on water distribution from the Khaddoussa dam and adapting oasis-based agriculture to the impacts of climate change by supporting the adjustment to the use of new water sources and associated technical support.
- EBRD’s proposed Saïss Water Conservation project (this project) in the **Sebou-Saïss river basin** which focuses on water resource conservation through the introduction of a transformative water transfer system together with institutional and governance improvements to facilitate private sector investment in modern irrigation technologies and community involvement in water resource management.

The effective coordinating function of the PMV is demonstrated by the way in which the above EBRD and AFD project proposals have been set up to cover different river basins, under the overall oversight and leadership of MAMF. Each of these projects is being implemented in a different river basin, under the guidance of MAMF and under the framework of the PMV. This is in line with best international practices in water resources management (e.g. the EU Water Framework Directive) which require water resources to be managed and governed at the river basin level under an over-arching national framework. There will therefore be no overlap between the three projects in terms of physical works, water resources used (e.g. rivers, aquifers) or institutional partners (e.g. specific river basin authorities and PIUs/OPDs). EBRD will ensure that ADA and AFD are invited to future consultation events, and information sharing on the level of specialized CSO teams is ongoing and will be deepened. In addition, EBRD has held discussions with ADA and AFD on how to align further the implementation of the three projects, including by ensuring that lessons learned and knowledge generated will be shared with the MAMF to ensure that the MAMF can more easily replicate activities, and benefit from these.

C.2. Project / Programme Objective against Baseline

I. Baseline

1. **Morocco is highly vulnerability to both climatic extremes and climate change**

Morocco’s climate is very diverse, with a warm, Mediterranean climate in the northern coastal region, continental inland areas

and semi-arid areas in the south. Morocco is making political and strategic efforts to conserve biodiversity and to mitigate and adapt to climate change. However, despite positive action, Morocco remains vulnerable to the effects of climate change due to its geographical location, and is prone to water scarcity, declining agricultural production, desertification, floods and rising sea levels in coastal areas.

Morocco experiences chronic water scarcity, which is being exacerbated by a combination of population growth, economic development, a strong decline in precipitation due to climate change and unsustainable groundwater use. Water availability in Morocco has dropped from 3,500 m³ per person per year in 1960 to 1,000 m³ in 2000, and forecasts are predicting it will further fall to 490 m³ in 2020, below the United Nations' "*absolute water scarcity*" level. In this context of scarcity, the gap between offer and demand will increase in the next years. Currently, the water demand in Morocco, estimated at 13,7 Bm³, is met from surface water mobilized (11,7 Bm³) and an overexploitation of groundwater (2 Bm³). In 2030, water demand is predicted to increase to 16,2 Bm³, and therefore, if no measures are taken, the gap would be 4,5 Bm³. This poses a severe threat to agricultural production and rural livelihoods, as more than 80% of abstracted water is used for agricultural irrigation.

In this precarious and challenging context, climate change is a hugely important risk amplifier, especially for Morocco's agricultural sector. Agriculture, which represents 16% of Morocco's GDP³ but employs about 40% the country's workforce, is endangered by decreases in annual rainfall (projected to reduce by around 20% by the 2060s⁴) increasing the risk of crop failures and malnutrition. Agricultural GDP (and indeed total GDP) is closely correlated with precipitation. In the past decades, the country has experienced serious drought episodes with variable impacts on economy and water resources. Since 1960 average temperatures have increased by 0.16 degrees centigrade (climate historical data show that the proportion of dry years increased by four times and surface water availability decreased by 35% between the period 1947-1976 and 1977-2006⁵), and there have been declines in average precipitation together with increasing variability and unpredictability in rainfall. Average precipitation is expected to decrease by 20% by 2050 and 40% by 2080 according to some projections, and average temperatures to increase by three degrees centigrade by 2080⁶. Without technology change, average rain-fed cereal yields could fall by 24% by 2050. There is also substantial variation between regions, as regards both present and future vulnerabilities, with the east and north-east likely to experience the greatest temperature rises. The 2010 World Development Report (WDR) ranks Morocco amongst the countries for which climate change will have the greatest impact on yields. Improved land and water management including water and soil moisture conservation as well as development of crop and livestock systems which are more resilient to drought and extreme weather conditions, are priorities for the sector, especially for the smaller farmers whose systems are largely rain-fed and who lack know-how and financial resources⁷.

See Figure 1 for further information on water availability in Morocco, and Figure 2 for further information on rainfall variability.

³ World Bank Data. Agriculture as % of GDP. <http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS>

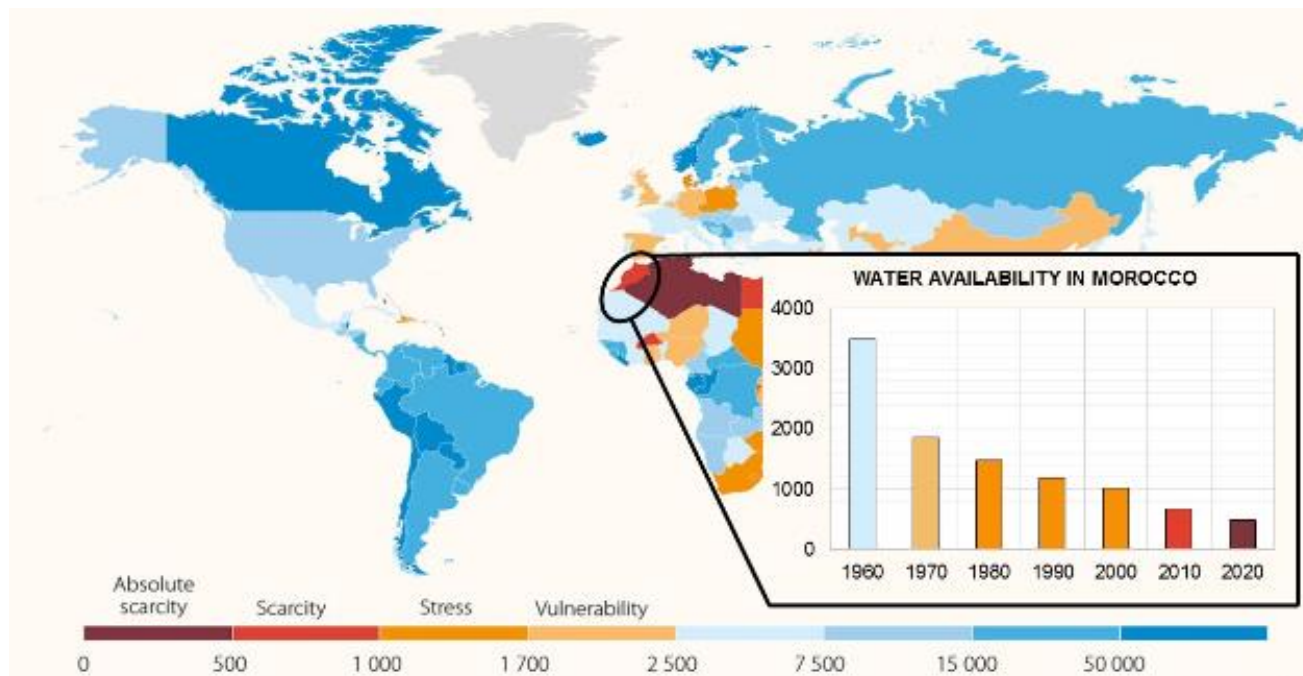
⁴ McSweeney, C., New, M. & Lizcano, G. 2012. UNDP Climate Change Country Profiles: Morocco. Available: <http://country-profiles.geog.ox.ac.uk/> [Accessed July 2016].

⁵ Ibid.

⁶ World Bank (2009). Morocco study on the impact of climate change on the agricultural sector: René Gommès, FAO/NRC Tarik El Hairech, DMN Damien Rosillon, consultant Riad Balaghi, INRA Hideki Kanamaru, FAO/NRC.

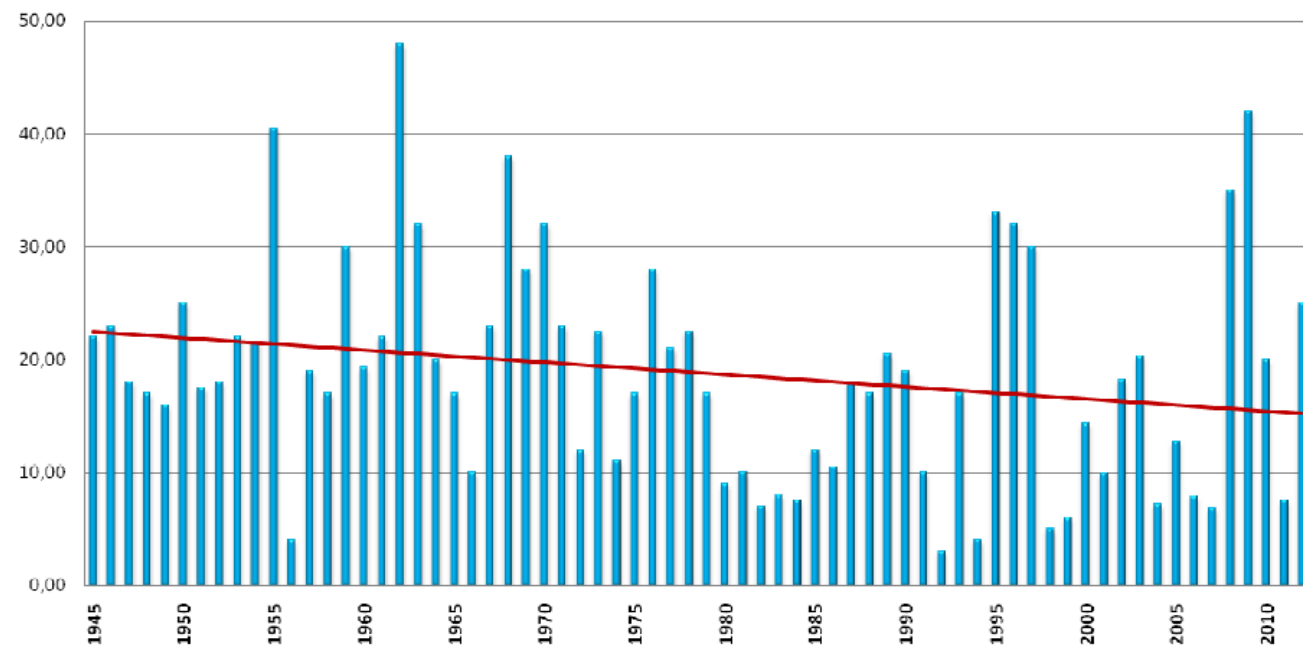
⁷ The World Bank 2010-13 CPS (Country Partnership Strategy) includes a pillar on Sustainable Development in a Changing Climate with a strong focus on improved land and water management in agriculture as well as on renewable energy.

Figure 1. Water availability, 2011 (m3 per person per year)



Source: FAO, Aquastat

Figure 2. Rainfall variability (in billion m3 per year), 1945-2012



Source: FAO (2014), Initiative régionale pour faire face à la pénurie d'eau dans la région du Proche Orient et Afrique du Nord.

2. Morocco's water deficit threatens the long-term sustainability of the agriculture sector

Agriculture is central to Morocco's economy, as evidenced by the strong correlation between GDP and agricultural GDP. In 2014 agriculture represented 15.6% of GDP, contributing the most to the country's overall growth (see Figure 3 for further details). The agricultural sector represents a critical element in the country's demographic and socio-economic situation, generating 40% of the jobs nationwide, mostly in rural areas where the majority of the poorer population live. The loss of cultivable land due to water shortages and soil erosion has a direct impact on rural poverty. Morocco's agriculture sector is vulnerable to cyclical droughts and climate change. For the past decade, lower-than-predicted rainfall patterns have reduced available irrigation water to about half the designed volume. As a result, farmers are supplementing surface water by pumping groundwater, and aquifers are falling by up to 5 meters per year. Uncertainty about irrigation water supplies is a major factor deterring farmers from switching to higher-value crops, and tensions over access to water resources are rising.

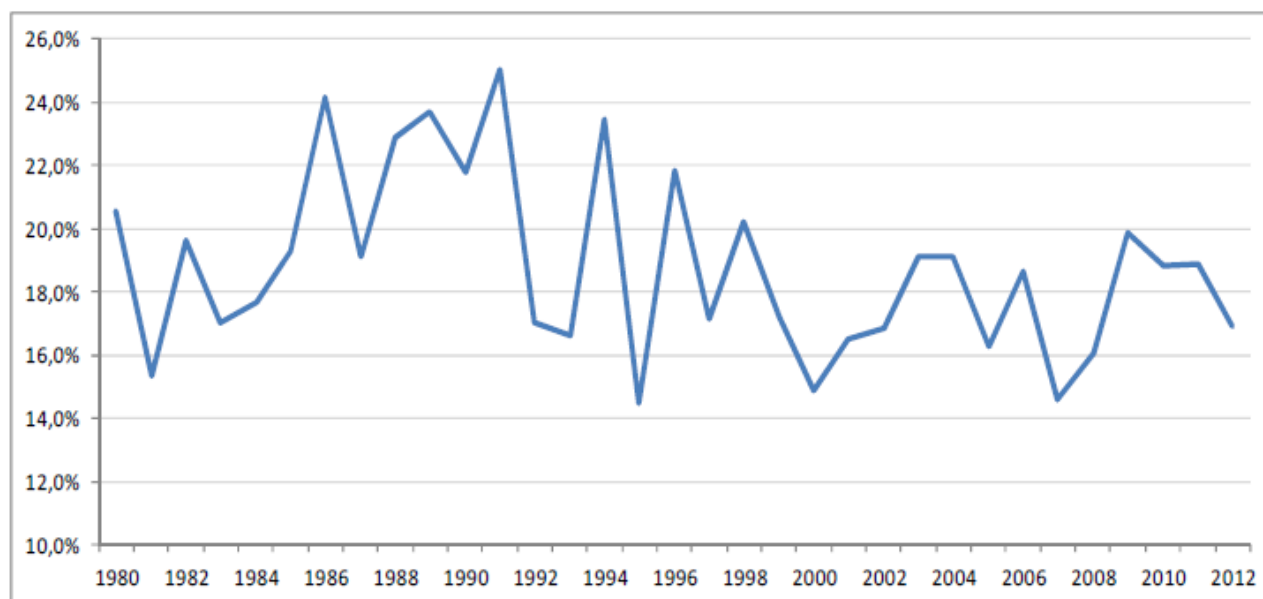
The Saïss-Sebou basin represents 30% of Morocco's annual water endowment and provides water for 6.3 million people. Within the Saïss-Sebou basin, the Saïss plain represents a surface area of 2200 km² a population of 1.8 million people and an irrigated area of 49 677 ha (ADI 2012). The Saïss aquifer, the principal water resource of the Saïss plain, is badly overexploited with an annually deficit of 100 Mm³. The prospective depletion of the Saïss aquifer, which is inevitable if current unsustainable water abstraction practices are continued, will leave the Saïss plain completely exposed to the projected impacts of climate change on local water availability, as most climate change models predict significant reductions in precipitation and surface runoff in the local Saïss plain region. This in turn would result in the collapse of agricultural production in the Saïss plain.

Aware of this pressing issue, the MEMWE (Directorate of Water) prepared the assessment of solutions for the conservation of the Saïss aquifer was undertaken in 2011-2012 within the framework of the Sebou Basin Integrated Water Resources Management Master Plan ("Plan Directeur d'Aménagement Intégré des Ressources en Eau – Sebou PDAIRE"). Two alternatives were considered for the supply of irrigation water in the Saïss Plain:

- A transfer from the High Sebou basin from M'Dez dam, or
- A transfer from the Wadi Ouergha basin, with the construction of the Al Wahda dam.

After careful consideration, the first option was selected in view of the economic benefits it presented (incl. lower investment costs and energy savings) and considering the fact that the M'dez dam construction had been launched as a result of the 2008-2010 floods that affected Morocco (in the city of Meknes where 7000 people were affected and lost their home). In addition, the Moroccan Government has already identified several measures for the management and development of water efficiency programs which would double the agriculture sector's added value by creating 1.5 million jobs by 2020, and also prioritises water conservation measures in the agriculture sector. This includes the development of water-saving irrigation techniques in already irrigated areas to make better use of Private Irrigation Systems through supplementary inflows from surface water, significant improvements of irrigation techniques and better yields by planting more profitable crops.

Figure 3. Agriculture, forestry and fishing contribution the Moroccan GDP



Source: FAO (2014), Initiative régionale pour faire face à la pénurie d'eau dans la région du Proche Orient et Afrique du Nord.

3. Need for improved irrigation infrastructure and innovative financing structures

During recent decades, water saving and natural resources conservation, particularly water quality, have become a major concern and a principal objective in development programmes in Morocco. The increasing scarcity of national water resources and the degradation of their quality have prompted the Moroccan authorities to take a particular interest in the economy of water, primarily in irrigation and the control of all types of pollution, in parallel to the development and management of water resources. Water inefficiencies in irrigated areas in Morocco have several causes. One of these relates to losses at the level of the irrigation network (infrastructure, water management, water rotation, etc.).

In response to this challenge, the promotion of private sector participation has been selected by the government as a solution to introduce greater efficiency in water use, ensure a better sustainability of the facilities implemented and optimise water resources and operating and maintenance costs. Introducing private financing in the agricultural sector, especially through the increased use of PPP irrigation schemes is a specific objective of the one of the PMV's major pillars. For this reason, the Direction de l'Irrigation et des Aménagement des Espaces Agricoles (DIAEA) has launched a programme of feasibility studies for the structuring PPPs irrigation schemes. Morocco is one of the first countries in the world to pilot approaches for scaling up investment in irrigation improvements through PPP schemes. In 2005, it launched the world's first irrigation PPP scheme in the form of the citrus production system in of Guerdane, which came into operation since 2009. Further irrigation PPP schemes have subsequently been launched in Chtouka and Azemmour – Bir Jdid.

The Saïss basin serves many competing water users – local industry, a diverse agricultural sector, and towns and cities in the region, which include the major centres Fez (ca. 1 million inhabitants) and Meknes (700,000 inhabitants). It is expected that improved irrigation infrastructure and subsequently efficiency in water use by farmers will also ensure a better sustainability of municipal water services in two most important urban centres located in the Sebou basin – Fez and Meknes, where water supply from the aquifer currently amounts to approximately 49 Mm³ (= half of the 100 Mm³ deficit) (See Annex II). Although the recharge of the Saïss plain aquifer is a permanent (although seasonal) process mainly from rainfalls and surface water (small streams) flowing to the Plain, over the recent decades the aquifer was affected by the fact that water was pumped from it faster than the natural recharge process could occur. Lack of improved infrastructure and appropriate water technology to be used in the Saïss Plain (and more generally is promoted in Morocco for irrigation) may further impact the water availability for drinking water supplies if it is not addressed. The solution of the transfer from M'Dez dam was on this basis considered as a solution to achieve the objective of safeguarding Fez-Meknes aquifer water table and preserving the Saïss Plain agricultural activity.

4. *Agriculture management regimes and practices*

Current management practices of farmers are of concern as they are unsustainable in the longer-term and especially in the face of decreasing water resource availability which is being exacerbated by climate change. Losses at the level of the field (e.g. related to irrigation techniques, irrigation equipment, inefficient control of the technique and irrigation scheduling by farmers) and losses due to the non-optimal management of farming systems (comprising all the cultural practices adopted in the irrigated area from the choice of crops and rotations, to the technical package, etc.) are significant. The current total efficiency of the irrigation system in the Saïss plain region area is estimated to be around 59%.

In addition, Water User Associations (WUAs) have limited capacity to take on more responsibility for irrigation system management at the local level, to operate on a more commercial basis, and to effectively implement consultative mechanisms. There is a great need to encourage the adoption of more efficient and sustainable irrigation practices by water users (e.g. both male and female farmers) and to build their capacity to take responsibility for the management of irrigation systems at the local level, and to operate on a more commercial basis. Although some solutions are available, the adoption is slow due to slow transfer of knowledge, low education, and limited financial resources of smallholders hold back the adoption of climate change adaptation measures. Women farmers in particular have an even more limited adaptive capacity to climate change compared to men because of higher illiteracy levels (between 56%-64% of women in the Saïss plain have received no education at all), fewer endowments (less than 10% of land in the Saïss plain region is owned by women), fewer entitlements and limited access to services, restricted by social norms and their limited decision-making power in the community. As agriculture is transformed into a more commercially oriented and globally integrated sector, there is a risk that women farmers are being left out and remain in traditional, small-scale, low-productivity agriculture and therefore more susceptible to the impacts of climate change.

Although some solutions are available, the adoption is slow due to slow transfer of knowledge, low education, including a relatively low valorisation of water resources, and limited financial resources of smallholders hold back the adoption of climate change adaptation measures. Raising public awareness and promoting behavioural changes are therefore crucial elements for the promotion of the equitable, efficient and sustainable use of water resources, in particular in the context of the large variability in water availability in Morocco.

5. *The socio-economic situation of the population in Morocco and in the Saïss Plain*

Inequality, poverty, and vulnerability remain important challenges. A quarter of the population in Morocco is still economically vulnerable (near-poverty). There are persistent disparities as 70% of poverty is still rural, and most development indicators in rural areas lag behind urban areas, largely as a result of difficult geography, deteriorating infrastructure, poor access to basic services, and limited capital investments to improve labour value added and hence returns to self-employment and contract labour. 10% of Morocco's 13.4 million rural residents lived below the poverty line in 2011. To overcome these Morocco has engaged in a dynamic process towards strengthening economic opportunities and social inclusion. Several high profile development programs (e.g. the second phase of the National Human Development Initiative) and new sectoral strategies in the areas of education, employment, and youth have been initiated and are supported by the country-led reforms.

Agriculture is central to Morocco's economy, as evidenced by the strong correlation among GDP and agriculture GDP. In addition to its contribution to the economy, the agricultural sector represents a critical element in the country's demographic and socio-economic situation, generating 40% of the jobs nationwide, mostly in rural areas where the majority of the poor are concentrated. The sector is largely composed of small farmers mostly dedicated to low-value agriculture (67% of the farmers own only 26% of the land as indicated by the last available agricultural census in 1996), but also counts a small group of dynamic and well-performing large farmers adopting state-of-the-art techniques and well integrated into the national and international markets (less than 1% of the farmers own 14% of the land). The agricultural sector employs both men and women, but it exhibits great gender disparities. Women's work typically is unpaid (in 2003-2004, 58% of cases; in 2008, 91%); or seasonal and unstable when it is done for remuneration, especially outside of agriculture (59% of cases in 2003-2004; 84% in 2008).

The total population of the Saïss Plain is estimated at about 500,000 inhabitants, in addition to urban population of Fez (1,120,000 inhabitants) and Meknes (650,000). The population growth is estimated at 3 to 5% per year. The population in the upstream area of the Project is of low density. There is no large agglomeration along the transfer route. The area is served by water and electricity. Collective sanitation is not available in all villages. The Project area has a high rate of illiteracy (50% and above), particularly for people older than 25 years old and for people living in rural areas. Levels of school attendance vary across the study area (28% to 56%), and 67% of children do not go further than primary school. The rate of illiteracy for females living in

rural areas (54% to 63.5%) is twice the rate of male, with 55.8% to 63.8% having no education at all. Although varying across the provinces, it is estimated that 86.7% to 92% of girls between 7 to 12 years old receive education, compared to an average of 94% at national level. The rate of poverty registered across the study area is 21%, which is higher than national average (14.2%). Poverty levels tend to vary depending on the proximity to urban areas, with greater poverty in remote areas. These people are likely to be particularly sensitive to the affordability of the future water tariffs.

II. Proposed Project response and objectives

In response to the above challenges, the proposed Project will improve the climate resilience of highly climate-vulnerable agriculture sector by improving access to sustainable and renewable water resources for irrigation in the Saïss Plain. In order to conserve the endangered aquifer and water resources of the Sebou-Saïss basin, the project aims to finance a bulk water transfer scheme from the M'Dez dam to the Saïss Plain in Northern Morocco and to help prepare a Public-Private Partnership (PPP) with regards to the implementation of the new irrigation networks.

The Saïss plain represents 11% of Morocco's annual water endowment, providing water for 1.8 million people. In the last 15 years, this Saïss water table has experienced unsustainable levels of water overexploitation with a net loss of 100 Mm³/year, due both to long-term decreases in rainfall and surface runoff in the context of climate change and increases in water demand, mainly for agricultural irrigation. Surface runoff has been reduced, and as the aquifer is depleted more and more wells are dug at deeper levels, and at current exploitation rates the aquifer are estimated to be completely depleted within 25 years and the plains transformed into a high desert plateau. If this were to happen there would be severe social and economic consequences. Over 82% of water is used for agriculture in the Sebou-Saïss basin and the agricultural sector would thus be lost, resulting in the disappearance of 3 million workdays a year in the region and increased unemployment and social instability. To reverse the process of aquifer depletion, after consideration of the different options, the 2012 integrated water resources management plan developed by the Sebou Basin agency recommended the transfer of surface water from the M'Dez dam. The M'Dez dam was initially designed as a flood protection scheme with a capacity of 700 Mm³ and from 2020 onward will allow the opportunistic transfer of approximately 90-110 Mm³/year to the Saïss Plain. The dam's construction started in 2014 and was scheduled to be completed by 2018. The water will be transferred from the M'Dez dam to the Saïss Plain by a 62-kilometre main transfer pipeline, and will be distributed through a system of primary and secondary distribution pipelines finance in the public-private partnership (PPP). This will increase the efficiency of water use and services and introduce and promote best practices in irrigation such as drip irrigation, as well as modern water demand management methods, thus strengthening capacity for adaptation to climate change in the Sebou-Saïss basin.

In this way, the Project will shift the paradigm of water provisions for the Saïss irrigation system, switching from highly unsustainable groundwater (the Saïss aquifer) to sustainable surface water resources (made available from the M'Dez dam). Furthermore, the Project will support the scaling up of the technical skills and institutional capacities and promote greater private sector involvement in operation and maintenance of infrastructure. The proposed PPP scheme will also facilitate further essential investment in improved, modern irrigation infrastructure and equipment, which will in turn increase the efficiency of water use and services, promoting drip irrigation and modern water demand management methods, thus strengthening capacity for adaptation to climate change in the Sebou-Saïss basin. Additional infrastructure (metering and modelling) will enable the effective monitoring and management of the Saïss plain water resources.

The specific objectives of the Project are the following:

1. To increase climate resilience of irrigation infrastructure through developing and strengthening the technical and institutional capacities needed to undertake infrastructure investments and improve irrigation system management in a strategic water transfer scheme in the Saïss Plain, which aims at reversing the process of the Saïss aquifer depletion and building long-term climate resilience;
2. To promote effective community involvement in water governance and improved awareness of climate resilience issues among end users of water services; and
3. To facilitate private sector involvement in the design, implementation, operation and maintenance of irrigation infrastructure and the introduction and promotion of best-practice, efficient irrigation techniques with a significant demonstration impact across sector and region.

The objectives of this Project will be achieved through a Project structure consisting of three closely coordinated components detailed in Section C.3.

C.3. Project / Programme Description

Morocco is a dry country characterised by limited and uneven rainfall. Water resources are below the United Nations Development Programme's scarcity criterion of 1,000 m3 per inhabitant per year. Due to competing water demands and to the combined impact of a growing population and an economy in transition, water resources are under increasing stress. Morocco is very sensitive to the effects of climate change which is expected to further exacerbate water scarcity; it is estimated that by 2060 annual rainfall will reduce by around 20% and that the average annual temperature will increase by around 2.5°C, potentially leading to declining agricultural production and desertification. In the past decades, the country started experiencing serious drought episodes with significant economic and social impacts. To address this issue, the Government of Morocco has developed as part of the Morocco Green Plan ("PMV", 2008-2020) a strategy aimed at mobilising surface water and at protecting water resources.

The proposed Project is part of the PMV. It is located in the Sebou/Saïss water basin which represents 11 % of Morocco's total annual water endowment. Over 82% of the water of the Sebou/Saïss basin is used for agriculture and it is estimated that in the last 15 years the Saïss water table has been depleted by around 100 million m3 per year. This depletion is the result of a successful agricultural development policy in a fertile region with access to local and international markets, but a policy based on the unsustainable use of groundwater for irrigation purposes. The overexploitation of the aquifer, in a country severely impacted by climate change, threatens transforming the Saïss plain into a high desert plateau within the next 25 years. The severe negative social and economic consequences of such scenario prompted the Government's decision to implement the Project.

The proposed Project is part of a staged programme designed to transfer annually between 90 and 110 million m3 of surface water from the M'Dez dam to the Saïss plain for irrigation purposes. The following three key phases can be distinguished:

- Phase 1: Implementation (2017 – 2021) – the Project's components and key investments will be installed over this time period
- Phase 2: Repayment (2017 – 2035) – beneficiaries will repay EBRD's loan financing
- Phase 3: Operation (2022 – 2052) – the Project will be fully operational, initially under a PPP arrangement lasting 30 years.

The water ultimately will be distributed through a PPP for which MAMF will select a private partner (i) to co-finance, design, construct, operate and maintain the Saïss plain irrigation network and (ii) to operate and maintain the related water transfer infrastructure. The proposed Project will change the paradigm of water provision for the Saïss irrigation system, enabling agricultural value chains (e.g. more than 3,000 farms) to switch from unsustainable groundwater abstraction (the Sebou-Saïss basin) to the use of sustainable and climate resilient surface water resources (made available from the M'Dez dam). It will allow the restoration of the situation of the Saïss aquifer and contribute to the climate resilience of the Saïss plain.

The proposed Project will have three complementary components, as described below:

- **Component 1:** Increasing climate resilience of irrigation infrastructure through technical and institutional capacities development and investment in a strategic water transfer scheme in the Saïss Plain
- **Component 2:** Promoting effective community involvement in water governance and improved awareness of climate resilience issues among end users of water services
- **Component 3:** Scale up private sector involvement in the design, implementation, operation and maintenance of irrigation infrastructure with a significant demonstration impact across sector and region

COMPONENT 1: Increasing climate resilience of irrigation infrastructure through technical and institutional capacity development and investment in a strategic water transfer scheme in the Saïss Plain

SUB-COMPONENT 1.1 Strengthening institutional capacities for the management, implementation, and monitoring of climate resilience of irrigation water infrastructure

This sub-component will support the establishment, operationalising and institutional development of an Operational Project Directorate (OPD) dedicated to the management and oversight of all irrigation infrastructure upgrades of the proposed Project (see section C.7 for further details on OPD and its organisational set-up). The OPD will be set up within the Ministry of Agriculture and Maritime Fisheries ("MAMF"). The OPD will be an administrative unit of MAMF, which has overall responsibility for irrigation infrastructure investments. The OPD will report directly to the Director for Irrigation of MAMF.

The Project will ensure that the OPD develops necessary institutional capacities and has access to best practices in the implementation of the irrigation upgrade works and specific technical issues, which will include the following:

- **Institutional strengthening of the OPD:** this will identifying training needs and developing a comprehensive training plan in areas such as procurement; project control and reporting; contracting; project accounting and disbursement; environment, health and safety management; and public consultation. This will be designed to ensure that, by the end of the assignment, the OPD is able to fulfil its responsibilities without additional assistance.
- **Monitoring and reporting:** this will cover ensuring compliance with financing agreements and the collection of key project data such as the number of farms benefiting from access to irrigation water, and the reduction in system-wide water losses.
- **Implementation of environmental and social management plans:** this will ensure that environmental and social measures are addressed thoroughly and in accordance with respective financing agreements.
- **Support for procurement, licensing, contract administration and financial management:** this will ensure smooth project implementation, full compliance with financing agreements and applicable national legislation, and efficient disbursement of funds.
- **Development of an exit strategy:** at the end of the assignment, this will outline measures that need to be undertaken in order to ensure a smooth exit, and to ensure that the OPD is able to function without any additional support following the end of the Project.

This sub-component will be funded by EUR 900,000 in grant resources, to be provided by the GCF.

SUB-COMPONENT 1.2 Construction of the main water transfer and distribution pipeline

This sub-component will improve the climate resilience of agricultural systems in the Saïss Plain by halting the fast-progressing depletion of the Saïss aquifer through financing critical infrastructure - a 45 kilometre section of the main water transfer pipeline (3000 mm diameter pipe), and a 90 kilometre water conduit which will convey water within the project irrigation perimeter and supply 12 primary pipes; thus securing water for 21,600 ha of irrigated land, enabling the Saïss irrigation system to make a paradigm shift away from the use of highly unsustainable groundwater. Specifically, this will cover the following elements:

- A transfer pipeline section measuring 45 km to convey water from the M'Dez dam to the main distribution pipeline at the entrance of the irrigated perimeter;
- A distribution pipeline section of 90 km conveying water from the entrance of the project irrigation perimeter to the 12 primary pipes; and
- Engineering supervision funded through EBRD's loan providing implementation support for local contractors and engineers.

Halting the fast-progressing depletion of the Saïss aquifer caused by decline in precipitation due to climate change and increasing variability and unpredictability in rainfall resulting in unsustainable groundwater use is of utmost importance to the Moroccan Government as elaborated in the Plan Maroc Vert. This critical infrastructure will facilitate transfer of water from a river basin with a surplus of water to the Sebou-Saïss basin with a shortfall of water resources, thus support conservation of the endangered aquifer and water resources of the Sebou-Saïss basin. Furthermore this infrastructure will help prepare a Public-Private Partnership (PPP) with regards to the implementation of the new irrigation networks, which will increase the efficiency of water

use and services, promoting drip irrigation and modern water demand management methods, thus strengthening capacity for adaptation to climate change in the Sebou-Saïss basin.

The construction of the intake in M'dez reservoir is not within the Project's scope. The intake is a parallel investment funded by SFD. It will consist of a stand-alone structure within the reservoir (not built in the dam body), and will connect to the pipeline leading to the Saïss Plain through a diversion tunnel under construction in the right bank abutment of M'Dez dam. The financing of the intake has been secured.

This sub-component will be supported by EUR 120 million loan finance from the EBRD, EUR 30 million of grant finance from the GCF, and EUR 53.82 million in co-financing from the Kingdom of Morocco.

COMPONENT 2: Promoting effective community involvement in water governance, improved awareness of climate resilience issues among end users of water services, and gender equality

SUB-COMPONENT 2.1. Community involvement and gender-sensitive economic inclusion for more effective and climate-resilient irrigation service delivery

Promoting effective community involvement in water governance is critical for increasing climate resilience of irrigation infrastructure. In this context, this sub-component will be delivered through two complementary activities covering:

- i) Community involvement in irrigation governance and improved awareness of climate resilience, and
- ii) Gender-sensitive economic inclusion.

i) Community involvement in irrigation governance and improved awareness of climate resilience

This sub-component will deliver stakeholder participation activities in order to encourage the adoption of more efficient and sustainable irrigation practices by water users (e.g. both male and female farmers), and encourage improved tariff collection rates. Stakeholders will be informed of the risks associated with climate change and the importance of pre-emptive adaptation. The implementation of a new Water Law and improved tariff collection rates by the Authorities will also provide a monetised incentive to adopt sustainable practices. Some communities are already aware of the issue of water scarcity, but the general level of awareness about sustainable water use and effective adaptation options is limited. The capacity building and stakeholder engagement initiatives will increase knowledge and promote positive behavioural changes for a sustainable management of water resources.

In order to deliver these outcomes, a comprehensive Public Participation Programme will be implemented in order to promote community involvement in water governance and improve awareness of climate resilience issues among end users of irrigation services. This will entail the following activities:

- **Education campaigns to raise customer awareness:** these campaigns will be designed by identifying relevant stakeholders in the Project area, (e.g. population disaggregated data by sex and age), water user associations and civil society organizations, large water consumers, technical services providers, administrations and municipal authorities involved in the use or management of water resources or in the agriculture sector including basin agencies and regional agriculture offices), IFIs and other development organisations involved in Projects related to the use or management of water resources. The information needs of these stakeholders will also be identified in consultation with MAMF, the OPD, the basin agency, the agricultural chamber, the IFIs involved in the irrigation sector, local NGOs and other relevant contacts, bearing in mind that not all stakeholders may have the same information needs. This information will then be used to design specific information campaigns about the importance of the sustainable use of water, while awareness of climate change resilience issues will be developed among the end users of water services. These activities will be conducted via various media channels selected to ensure that a broad stakeholder base is reached including females (i.e. provide multiple venues for information campaigns and schedules to accommodate the needs of all potentially interested stakeholders to attend). Examples include awareness-raising and educational activities in school, the establishment of environmental education centres and the organisation of study trips to those facilities, messaging services to farmers about extreme weather forecasts etc.
- **Facilitation of dialogue between end users of water services and the OPD/MAMF:** focus groups will be established in

order to obtain feedback on the information campaign from relevant stakeholders and to involve key stakeholders in consultative mechanisms in a meaningful and sustainable manner. These measures will ensure geographically equitable participation, including the participation of water users associations, farmers and women. This will enable the OPD, ABH and MAMF to disseminate information effectively to the end users explaining the new Water Law which aims to promote local monitoring of the use of water as well as the systematization of aquifer contracts - an agreement between relevant partners to reach an integrated, participatory and sustainable management of water. This activity will also entail the creation of an Advisory Committee for issues such as tariff setting, infrastructure maintenance, consumer complaints, affordability of tariffs and associated social issues. Media participation will be encouraged in order to promote transparency and effective communication to wider stakeholders.

A clear action plan will be set up for the above activities by the consultant selected for this assignment, in cooperation with MAMF. Following the design and implementation of an information campaign, the consultant will collect feedbacks from the end users and from all relevant stakeholders through the formation of Focus Groups. These groups will ensure geographically equitable participation, including the participation of water users associations, farmers and women. In particular, the main tasks of the consultant will comprise:

- Assist the OPD and the local Regional Directorate for Agriculture with the dissemination of information to the end users (e.g. regarding construction works, investments and route information, but also the PPP and any other institutional changes);
- Assist the OPD and the local Regional Directorate for Agriculture on explaining the new water law which aims to promote local monitoring of the use of water as well as the systematization of aquifer contracts, an agreement between relevant partners to reach an integrated, participatory and sustainable management of water.

The Focus Groups will meet every three months to share information and co-ordinate and consolidate their position. The consultant is expected to ensure that there is an official record of the proceedings of a meeting after each meeting.

The consultant will also set up an advisory Committee which will meet at OPD's premises every three months and will include all client groups, i.e. local industry and local authorities. The Advisory Committees will discuss any issue that may arise. If several Advisory Committees are created, the Consultant will agree with MAMF a frequency at which these Committees shall meet (not less than once a year) in order to exchange their experiences and views. Among the key questions that will be discussed will be price setting, infrastructure maintenance, consumer complaints, affordability of tariffs and social hardship caused by the implementation of the Project, of the PPP, and of institutional changes. The Consultant will act as a facilitator for the initiation meetings of the Advisory Committee. In order to ensure that for successive meetings, the objectives are achieved (organising the agenda, taking minutes, supporting the chair, following up on the agreements, etc.). The media will be encouraged to participate in all Advisory Committee meetings. Minutes of the meetings will be distributed/published to consumers and other stakeholders (industries, OPD, MAMF, media, local authorities, women associations, local associations, youth associations, religious leaders and any other relevant group), taking into account which channels are more appropriate (including information for illiterate people). The consultant will select an approach which will ensure that the dialogue continues after the termination of the mandate of this Project. This will certainly include identification and training of the stakeholder(s) taking over the tasks initially carried out by the Consultant, such as facilitation of meetings.

Finally, for efficient feedback to MAMF on stakeholder grievances, the consultant will establish and support the management of an appropriate system for handling grievances for the duration of the assignment. The consultant will develop a method, including indicators, to measure the impact and success of the programme. Based on the intermediate results, the programme shall be adjusted if necessary. The consultant will track progress on the indicators and will report on those to EBRD through quarterly project progress reports.

ii) Women's economic inclusion

The Project will pay close attention to existing gender inequalities and will be designed and implemented in a way that promotes women farmers' equal access to irrigation services and access to economic opportunities in commercial agriculture in the face of a changing climate. In this way, appropriate and gender-sensitive planning, and implementation of the project will make a positive contribution towards the economic inclusion of women farmers in the Saïss plain region. The Project will aim to include women in the emerging formal economy and will help overcome the formal and informal institutional barriers women face in participating in commercial agriculture. In response to these challenges, the Project will include targeted activities aimed at supporting women farmers' participation in agri-business and commercial agriculture, which will cover the following activities:

- **Capacity-building programme to support women's economic opportunities through sustainable commercial agriculture:** this will entail a baseline assessment to identify overall barriers to entrepreneurship and business creation in commercial agriculture by women (including finance, inputs, technology, know-how, socio-cultural, and agro-climatic factors), as well as an institutional assessment including a stakeholder mapping of local institutions relevant for the agro-industry and existing programmes and support provided to farmers, with a specific focus on programs supporting women farmers; sector associations, women business associations and other women's organizations. It will also involve research on best practices within Morocco, and if relevant from other countries, to promote and support women's participation in entrepreneurship and business development in sustainable commercial agriculture, and market research to identify market opportunities for women's participation in agri-business and agri-business supply chains in local, national and international markets and provide recommendations on the best channels to access these markets. These research activities will inform the organisation of a planning workshop with relevant institutional stakeholders in the Saïss plain to discuss research findings and obtain input for the formulation of a 3 year programme to facilitate women-led businesses participation in sustainable commercial agriculture. The programme is expected to include at least the following components: (i) Outreach and institutional capacity building; (ii) Technical and business training and advisory services, with a focus on commercialization and access to markets; (iii) Intermediation to facilitate access to finance (through links to EBRD Women in Business programme and other relevant initiatives); and (iv) Training on climate change adaptation practices and sustainable commercial agriculture.
- **Monitoring and evaluation activities:** to measure the impact of the project, a baseline survey will be conducted at the inception of the project to identify the value of the outcome indicators for the project. This will track progress on key gender indicators and will report progress on a periodic basis.

This sub-component will be supported by EUR 1.07 million of grant resources from the GCF.

SUB-COMPONENT 2.2. Advisory services on improved water use by end-users (farmers) and in the agriculture value chain

This sub-component will deliver targeted advisory services on improved water use by end-users (farmers) and in the agriculture value chain. This will assist the farmers in the Saïss plain to make more effective use of available State financing mechanisms designed to promote drip irrigation. This will allow them to overcome administrative and technical challenges preventing especially smaller farms from benefiting from the existing financing schemes available to invest in water efficient measures. This will include the design of an education and training programme to promote water-efficient practices with local farmers. This will address priority capacity gaps such as the use of water-efficient and cost-efficient technologies, crop water needs, optimal irrigation practices for optimising crop yields, irrigation timing, etc. In order to deliver these outcomes, the the following activities will be carried out:

- **Administrative and technical support to farmers to access State support for drip irrigation:** this will include preparing a diagnostic report that lists the different forms of State support for drip irrigation, as well as an information leaflet in local languages to be distributed to Saïss Plain farmers. The report will also define the eligible potential beneficiaries in the Saïss plain. In coordination with MAMF, the water basin agency, the Chamber of Agriculture and other relevant stakeholders, a 'train the trainers' programme will be delivered so that community trainers can support the population of eligible farmers.
- **Education and training programme to promote water efficient practices:** In coordination with MAMF, the water basin agency, the Chamber of Agriculture and other relevant stakeholders, the main priorities and needs of the target beneficiaries will be identified together with a general assessment of the situation of water usage practices within the Saïss plain, in order to define the target population and design a programme to train community trainers in the teaching of water efficient irrigation practices. This programme will then be rolled out in each village of the Saïss plain. A consultative group of volunteer farmers will be established in order to understand farmers' concerns and needs, and to evaluate the training and workshop programs they attended. Mutual learning exercises to ensure farmer-to-farmer transmission of lessons and experience will also be delivered, as well as the development and dissemination of information materials.

This sub-component will be supported by EUR 0.15 million of grant resources from the EBRD donor funds.

COMPONENT 3: Scale up private sector involvement in the design, implementation, operation and maintenance of water infrastructure and resources with a significant demonstration impact across sector and region

SUB-COMPONENT 3.1. PPP monitoring measures and conditions that promote provision of climate resilient irrigation water services by private sector operator

As explained in previous sections, the Project will also include support to ensure the success of the public-private partnership (PPP) scheme under which a private operator will build, operate and maintain the tertiary irrigation network that will distribute the transferred water to the final end-users of the irrigation system. This PPP scheme will also cover the operation and maintenance of the water transfer infrastructure assets financed by EBRD and GCF for over 30 years, ensuring the ongoing functionality and sustainability of this investment. The Project will inherently benefit the most vulnerable populations through the replenishment of water resources. Populations who are most vulnerable to water scarcity issues will benefit from improved access to water resources through improvement in both physical and economic access. Furthermore, it should be noted that the Project will not exacerbate water scarcity issues and the PPP contract will be specifically designed to preserve the local water resources by diverting sustainable water resources from a distant source through the project's CAPEX investments. The Project will lead to no new cultivated land, and will enable local agricultural to switch from unsustainable groundwater use to sustainable, renewable water sources. Further, the Project's PPP will improve local agricultural practices to be more resource efficiency. Additionally, there will be support for improved water governance which will have beneficial impacts on demand for water resources. Due to both the source of water resources and improved practices, the project will have a substantial adaptation benefit and will not jeopardise local water resources.

In order to help this PPP scheme, EBRD is building on its experience in supporting public clients interacting with the private sector. Due diligence has identified that MAMF staff lacks training on PPPs. It has thus been decided to set up a PPP Certification Programme with the Ministry: EBRD is mobilising technical assistance for the training, and the Ministry will cover for the cost of the certification exam. The expected result is an improved monitoring of the private sector partner obligations during the life of its contract. On top of that, EBRD will support MAMF in maximising the communication around the upcoming PPP contract so as to ensure private sector awareness of and interest in the Saïss PPP project. EBRD will mobilise its large network of private sector clients, and will build on its reputation to mobilise potential bidders. A road-show event will take place in London so that MAMF and EBRD can together present the project to potential bidders and investors.

This sub-component will be supported by EUR 0.03 million of grant resources from the EBRD Infrastructure Project Preparation Facility, as well as by EBRD's own resources. EBRD has covenanted the launch of the PPP bidding process by 30 June 2018. At this stage all the information that EBRD has indicates that the PPP selection will be launched by 30 June 2017 as the bidding documentation is ready.

SUB-COMPONENT 3.2. Policy and regulatory support for effective environmental monitoring of the Saïss aquifer

The global institutional and regulatory framework in Morocco is currently being revised and water conservation measures are being reinforced, with this reinforcement resulting in: (i) strengthening of the role of the Basin Agencies; (ii) permanent monitoring and control procedure with regard to both regular operations and crisis management; and (iii) increased sanctions related to the use of water resources. In order to ensure the sustainable management of the Saïss aquifer, good management of the underground water is paramount. For this reason, the Project will support the development of effective institutional mechanisms by ensuring the availability of relevant reliable information on water resources use in Saïss plain EBRD will also seek opportunities for knowledge sharing and best practice dissemination with irrigation initiatives in other regions and river basins under the framework of the PMV, such as AFD's work in the Guir Rheris Ziz river basin. This will entail the following activities:

- **Identification of relevant stakeholders and information**, e.g. the population of the project area, associations and civil society organizations, large water consumers, and technical services and administrations involved in the use or management of water resources. This will also entail synthesising relevant information such as Saïss aquifer models or studies carried in recent years.
- **Development of a Saïss aquifer model**, which will providing an understanding of the way the aquifer behaves dynamically under various scenarios (dry year, normal year, wet year) as well as provide a view on the anticipated impacts of the Project on the Saïss aquifer evolution, and which will also provide the necessary analytical information for

the successful implementation of the remaining tasks under this sub-component.

- **Identification of information and infrastructure gaps** leading to a conceptual design of the necessary additional equipment or infrastructure required in order to improve the data reporting, e.g. additional piezometers, hydrometric or meteorological stations, water meters or communication systems.
- **Design of a suitable institutional set-up for monitoring the Saïss aquifer, including the establishment of a Steering Committee** which will cooperate closely with the MAMF and local administration.
- **Develop the structure of a comprehensive Geographical Information System**, which will aid the ongoing monitoring and management of water resources in the Saïss plain. Prepare the corresponding tender documents.
- **Support MAMF and the ABH in the implementation of the requirements of the new Law on Water**, with a focus on the aquifer contract for the Saïss aquifer, including reviewing the existing draft Saïss aquifer contract and advising OPD and MAMF on the inclusion of a tariff policy that regulates the use of groundwater.

This sub-component will be supported by EUR 0.7 million of grant resources from the EBRD Donor Funds.

C.4. Background Information on Project / Programme Sponsor (Executing Entity)

The Ministry of Agriculture and Maritime Fisheries (MAMF) is the government body responsible for developing and implementing the policy concerning Agriculture and Rural Development. Financially, it is a Ministry of the Republic of Morocco which is rated BBB- with a stable outlook by Standard and Poor. MAMF takes lead responsibility for initiatives for improving irrigation infrastructure and improving the use of water resources for irrigation. MAMF has extensive experience in working with the international financial institutions, including the African Development Bank, the European Investment Bank, the World Bank, the French Development Agency, or the German KfW. In recent years it has successfully collaborated with those institutions and led the implementation of large scale irrigation infrastructure projects such as the Gharb irrigation scheme, the Large Scale Irrigation Modernization Project, and the Improved Irrigation Services for Farmers project financed by the World Bank, and the Guerdane PPP scheme financed by the International Finance Corporation (IFC). An OPD structure has been used in all of the above mentioned projects.

Within MAMF, the Direction de l'Irrigation et des Aménagement des Espaces Agricoles, (DIAEA) will be responsible for the management of the Project, with support of the Operational Project Directorate (OPD). The DIAEA intends to capitalise on the experience acquired in other irrigation projects with other development partners (e.g. European Investment Bank, World Bank) to design an integrated assistance which will allow an efficient monitoring of the whole irrigation project. The OPD for this Saïss Project will report directly to the Director for Irrigation of MAMF. It will consist of one Director and two units supervised by MAMF civil servants: the Division of Studies, Topography and Expropriation and in the Division of Engineering. The Project management component will finance the necessary expertise for the Director of the OPD to implement the soft project component activities (technical assistance components), in good coordination with the other relevant departments of the Ministry and the local Regional Directorate for Agriculture. The OPD will be in charge of managing the project, conducting relevant analysis, procuring, contracting and monitoring the works, as well as overseeing performance of the private sector partner in the PPP scheme. The Agency of the Hydraulic Basin (ABH) of Sebou and the Ministry of Water will also be involved in the implementation of the project and responsible for overseeing water resource management issues.

C.5. Market Overview (if applicable)

The agriculture sector is central to Morocco's economy, representing around 15% of the country's GDP in 2014 and contributing the most to the country's overall growth. The agricultural sector represents a critical element in the country's demographic and socio-economic situation, generating 40% of the jobs nationwide, mostly in rural areas where the majority of the poor live. The agricultural 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 and well integrated into the national and international markets.

Despite representing only 16% of the cultivated land, irrigated agriculture contributes to about half of the agriculture GDP, 75% of agricultural exports, and 15% of overall merchandise exports. The country has 1.46 million ha of permanently irrigated land, 682,600 ha of which are part of nine Large Scale Irrigation perimeters. As of today, 45% of the irrigated lands in Morocco are irrigated by pumped water (ground water), 33% are irrigated with surface water and about 22% are drip irrigated.

The ability of irrigated agriculture to continue to drive shared prosperity in Morocco is threatened by increasing water scarcity. Reduced rainfall, increased rainfall variability, reduced run off, groundwater depletion, and degradation of water resources have reached alarming levels. Annual renewable water resources total 22 billion m³, corresponding to 730 m³/inhabitant, which is below the United Nations' threshold for indicating water stress (1,000 m³/inhabitant). Climate change is expected to worsen this situation (See D.4. Needs of recipient for more information).

To reverse the process of aquifer depletion, after consideration of the different options, MAMF decided in 2012 to launch the construction of the M'Dez dam. It will have a capacity of 700 Mm³ and from 2020 onward will allow transferring approximately 90-110 Mm³/year to the Saïss Plain. The dam's construction started in 2014 and is expected to be completed by 2018. On top of irrigation of the Saïss Plain, the construction of the dam was justified by (i) the upstream regulation role it plays in the larger Sebou dam scheme and by (ii) the need to secure water for the cities of Fes and Meknes. The M'Dez dam was initially meant to be primarily dedicated to drinking water and hydropower production. This is not the case any longer and the dam will be mainly dedicated to flood control, and the regulated volumes will be used for Saïss plain irrigation. This means irrigation will be the only use of the regulated water.

C.6. Regulation, Taxation and Insurance (if applicable)

Not applicable. EBRD does not need to obtain any additional licenses or permits to carry out the proposed activities in this Project. For more information, please refer to the Agreement establishing the EBRD. The Bank is an international financial institution established and acting on the basis of an international agreement known as the Agreement Establishing the European Bank for Reconstruction and Development dated 29 May 1990, as amended (the "EBRD Agreement"). Members of the Bank are parties to the EBRD Agreement and are bound by the terms of the EBRD Agreement. As an international organisation, the Bank is established and governed on the basis of public international law and, therefore, the Bank is not incorporated under the laws of any country and has no company registration in any country.

Pursuant to the provisions of the EBRD Agreement, the Bank enjoys certain exemption from taxation in the territories of the Bank's member countries. In particular, Article 53(1) of the EBRD Agreement provides that "*within the scope of its official activities the Bank, its assets, property, and income shall be exempt from all direct taxes.*" Accordingly, the Bank's income arising from the Bank's official activities in the Bank's member countries is exempt from any direct taxation in the member countries.

Further, according to Article 53(2) of the EBRD Agreement "*when purchases or services of substantial value and necessary for the exercise of the official activities of the Bank are made or used by the Bank and when the price of such purchases or services includes taxes or duties, the member that has levied the taxes or duties shall, if they are identifiable, take appropriate measures to grant exemption from such taxes or duties or to provide for their reimbursement*". Therefore, pursuant to Article 53(2) of the EBRD Agreement, the Bank is exempt from payment of VAT or any other tax in its member countries on purchases or services made or used by the Bank in connection with its official activities in the member countries.

Further, according to Article 21.2 of the EBRD Agreement, Members shall not impose any restrictions on the receipt, holding, use or transfer by the Bank of currencies obtained by the Bank by borrowing and currencies and other resources administered by the Bank as contributions to the Special Funds and currencies received by the Bank in payment on account of principal interest, dividends or other charges in respect of loans or investments, or the proceeds of disposal of such investments made out of any of the currencies obtained by the Bank by borrowing, or in payment of commission, fees or other charges.

Lastly, the EBRD provides finance, but does not implement projects per se. As such it need not obtain insurance for any goods or services, but rather it verifies that its clients have all the insurance necessary through its regular due diligence process.

C.7. Institutional / Implementation Arrangements

1. The legal arrangements among the GCF, EBRD and the Kingdom of Morocco

Following the GCF Board approval, EBRD and GCF will, based on the AMA, enter into a project-specific legal agreement (the “Funded Activity Agreement” or the “FAA”) for the provision of funds. The FAA will outline the scope (the “Mandate”) of the proposed Project. The agreed resources of the GCF will be placed in a dedicated GCF Special Fund (the “Special Fund”), which from a legal view point has the same privileges and immunities as the EBRD’s resources. The EBRD will be solely responsible for the management and administration of GCF resources and will carry out such management and administration in accordance with its policies, procedures and practices, and with at least the same degree of care as it uses in the administration of its own funds or other donor funds, taking into account the provisions of AMA. The EBRD will apply its own fiduciary principles and standards, taking into account the provisions of the AMA, relating to any integrity checks, anti-corruption, and countering of financing of terrorism (CFT), fraud, financial sanctions, embargoes and anti-money laundering (AML). Following that, EBRD will then put the following agreements in place:

- **A sovereign loan agreement between** EBRD and the Kingdom of Morocco covering the EBRD loan (incl. Environmental and Social Action Plan) (See Annex VII. Environmental and Social Appraisal and Action Plan) ;
- **A grant agreement** between EBRD and the Kingdom of Morocco covering the GCF grant resources; and
- **A grant agreement/ grant agreements** between EBRD and the Kingdom of Morocco covering other grant resources provided.

EBRD will ensure that investments are in compliance with applicable national laws and regulations. In addition, EBRD will seek authorization for disbursement prior to disbursing GCF funds, specifying EBRD financing amount and other relevant terms.

During the implementation of the Project, the EBRD will be responsible for providing the necessary governance, oversight and quality assurance in accordance with its policies, procedures and any specific requirements in the Accreditation Master Agreement (AMA).

2. Project implementation

The Project will be implemented under the supervision of the Ministry of Agriculture and Maritime Fisheries (MAMF) by an OPD specifically established for this purpose. OPD will be responsible for managing the project, conducting relevant analysis, procuring, contracting and monitoring the works, PPP and other relevant activities. The OPD will be in charge of the implementation of the project until completion of the works, which is estimated for 2021. The tendering process and the structuring of the PPP transaction are being supervised by the PPP unit of MAMF. This PPP unit will also constitute an evaluation committee to assess the different offers. It will consist in representatives from MAMF, from the Ministry of Finance, from the Ministry of Water affairs, and from the local Regional Directorate for Agriculture. The PPP unit will finally oversee and manage the performance of the private sector partner on the duration of the contract.

The EBRD will provide project implementation support to the OPD that will be established by MAMF to ensure the timely and cost effective implementation of the Project. Compliance with EBRD and GCF procurement policies and procedures will be closely monitored. The scope and level of support will depend on the result of the due diligence and on the requirements of the project. In addition, the EBRD will seek opportunities for horizontal coordination and knowledge sharing with other relevant projects and initiatives in the irrigation sector, including those implemented by other AEs such as AFD and ADA. The institutional arrangement necessary for the implementation of the project, involves the creation of multiple entities. These entities are designed following a hierarchic structure.

- **Project Steering Committee:**
This has a global supervision role. It is responsible for validating annual schedule, budget, global progress reports and results of the project. The Project Steering Committee (PSC) will meet twice a year to supervise the implementation of the Project. It will tackle all the issues which can arise for a large infrastructure project such as this investment project. It will be headed by the Director for Irrigation of MAMF and will be composed of several Directorates of MAMF, of the local Regional Directorate for Agriculture, and of representatives from the Ministry of Finance and from the Ministry of Water Affairs.

- **Regional Coordination Committee:**

This is the coordinating body of all Project activities. It checks and validates all the documents to be presented to the Project steering committee. The Regional Coordination Committee (RCC) will meet twice a year to prepare the meeting of the PSC. It will be headed by the Director of the local Regional Directorate for Agriculture, and composed of representatives from the DOP and from the different units of the local Regional Directorate for Agriculture.

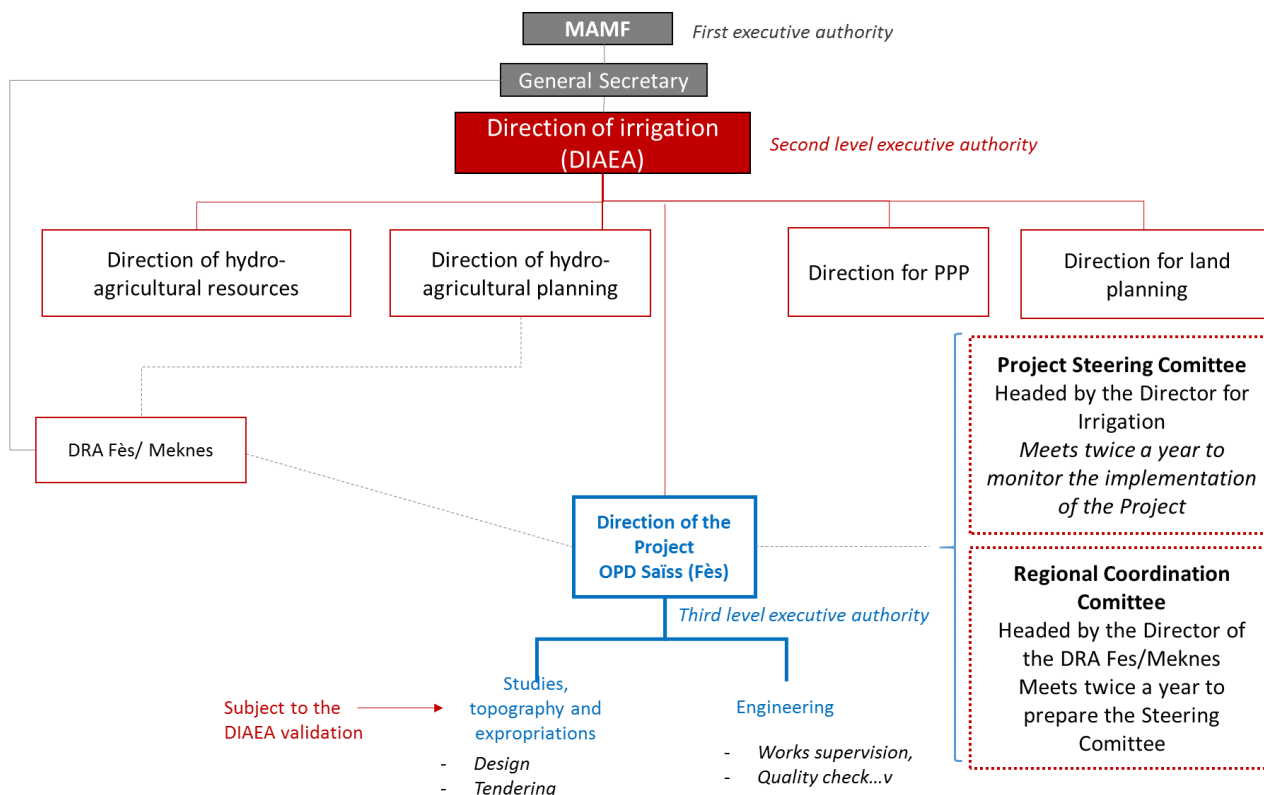
- **Operational Project Directorate (OPD):**

The Operational Project Directorate (OPD) will play a central role in project implementation arrangements. Considering the important level of investment from the Moroccan State for the Saïss project, and in order to support and facilitate the implementation of the project in the best possible conditions, the MAMF decided to create a specific structure dedicated to the management of the project. Two solutions were considered: i) the implementation of a Project Management Unit (PMU), and ii) the creation of an Operational Project Directorate (OPD). The creation of an OPD was decided by inter-ministerial order (MAMF, Ministry in charge of finance and Ministry in charge of public administration). A project of decree for the creation of the OPD has been prepared. The OPD is structured in two main departments: A Department in charge of studies, topography and expropriation and an Engineering Department. The OPD will also be responsible for the environmental and social management of the Project, and will therefore assign the necessary human, material and financial resources. The OPD will benefit from dedicated technical support under the project, as set out in section C.3. In summary, the main responsibilities of the OPD will be:

- Monitoring the completion of studies on the project;
- Monitoring the topography work and expropriation process;
- Supervision of the hydro agricultural development works;
- Checking that the work is completed in compliance with the specific requirements and technical processes in effect;
- Ensuring the project's schedule is respected;
- Preparing the monthly accounts and the inventory of work in process;
- Financial and administrative management;
- Controlling the quality, administration and coordination of work;
- Drafting the report on the completion of work and their accounting position;
- Coordinating the activities and work of the teams temporarily working for the OPD;
- Communicating to the PPP private partner all technical data related to the PPP scheme; and
- Transferring the PPP scheme to the private partner.

See Figure 4 for a diagram that sets out the structure of the OPD and its institutional linkages with existing entities.

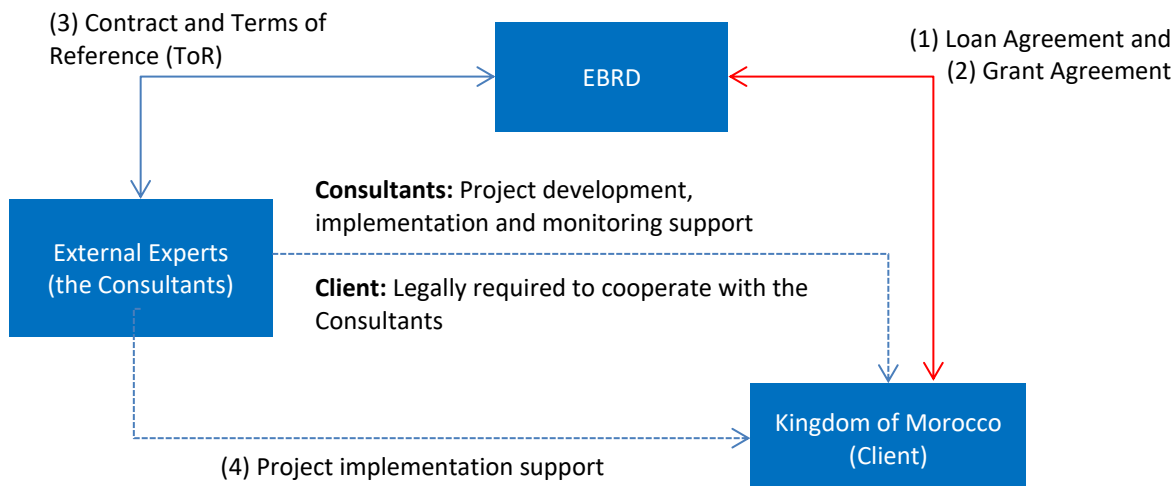
Figure 4. Indicative structure of the OPD



3. EBRD Internal arrangements

The internal implementation structure foreseen for the Project is present below.

Figure 5 EBRD internal arrangements



The Project will be led by the Municipal Infrastructure (MEI) team, Energy Efficiency and Climate Change (E2C2) team, and the EBRD Resident Office in Casablanca.

- MEI team is a group of 50 bankers and project managers, including more than 10 professionals working exclusively for the Northern Africa region. Members of the MEI team structure investments, oversee its portfolio of investments, and the use of proceeds, etc.
- E2C2 team is a group of 40 engineers, finance specialists, marketing experts and policy experts. 6 staff of the team is dedicated to manage and oversee municipal water infrastructure investments (2 at senior level, 2 managers and 2 analysts).
- Staff at Resident Offices meet clients (PFIs), monitor portfolio of investments and manage risks associated with it.

The EBRD teams will oversee the implementation of the project, including inter alia the execution of the loan and grant agreements, the execution of the TC grant agreements, the oversight on the work of the Consultants, and the monitoring of the Project.

C.8. Timetable of Project/Programme Implementation

The Project involves three key phases:

- Phase 1: Implementation (2017 – 2021) – the project's components and key investments will be installed over this time period,
- Phase 2: Repayment (2017 – 2035) – beneficiaries will repay EBRD's loan financing, and
- Phase 3: Operation (2022 – 2052) – the project will be fully operational, initially under a PPP arrangement lasting 30 years.

An indicative project implementation timetable is provided below.

Description	Estimated Value	Financing source	Time Schedule						2035	2052
			2017	2018	2019	2020	2021	2022		
Phase 1: Implementation										
Monitoring, Reporting and Evaluation										
Mid-term evaluation										
Final Evaluation										
CapEx										
Construction of intake and of water transfer pipeline of 3000 to 3,200 mm on 17 km	59,310,000	Saudi Fund for Development								
Construction of water transfer pipeline of 3000 to 3,200 mm and civil works on 45 km	76,020,000	EBRD loan, GCF, Kingdom of Morocco								
Construction of main distribution pipeline of 3000 to 3,200 mm and civil works on 90 km	127,800,000	EBRD loan, GCF, Kingdom of Morocco								
Irrigation network	138,200,000	Kingdom of Morocco, private sector								
Total CapEx	401,330,000									
Technical assistance										
Supervision Engineering	4,000,000	EBRD loan								
PIU support and Participant Participation Programme	1,700,000	GCF								
Environmental monitoring of the Saiss water table and institutional measures	700,000	EBRD TC								
PPP Certification Programme	30,000	EBRD IPPF								
Support programme for farmers	150,000	EBRD TC								
Women Economic Inclusion	275,000	GCF								
Total Technical assistance	6,855,000									
TOTAL	408,185,000									
Phase 2: Repayment										
Phase 3: Operation										

A mid-term evaluation will be carried out by an independent evaluator within 3 years of Project being effective.

An independent final evaluation will be carried out at the Project completion stage of within few months from the date of the Project completion.

D.1. Value Added for GCF Involvement

The GCF's involvement in the proposed Project is critical and is expected to make an important contribution towards improving Morocco's preparedness for climate change and reducing climate change-induced social, economic and environmental vulnerabilities. However, this impact can only be achieved through the mobilisation of significant amounts of finance of which an appropriate proportion must be concessional in order to address the affordability constraints experienced in Morocco (a lower middle-income country) and to off-set the additional costs associated with the introduction of necessary climate resilience measures. Given the scale of the finance required, the GCF is the only climate finance mechanism that is able to mobilise the scale of funding that is needed for a major climate-resilient infrastructure investment of this kind. There are no other financing mechanisms accessible to Morocco that could achieve this.

More general reasons for the need for GCF involvement in the project include the following.

- (i) **Additionality:** The construction of new irrigation infrastructure is crucial for Morocco's economy and to conserve highly exploited groundwater resources in the Saïss plain. The challenges of a changing climate puts additional burden onto the country. A long-term perspective needs to be taken to address these challenges. The GCF involvement guarantees that this long-term investment can be done in a climate-resilient way.
- (ii) **Scale:** After initial pilot projects undertaken by the Government to promote climate resilience irrigation in infrastructure, investments need to be scaled up to address the critical challenges that climate change poses. The GCF is the only fund able to address these at the scale needed to significantly contribute to the climate resilience of the Morocco agriculture sector and thus the country's economy.
- (iii) **Importance of sector:** The centrality of the agriculture sector for the economy of Morocco in this case and other countries more generally make the involvement of the GCF even more important. This Project can show how an integrative approach combining capacity building and infrastructure development can further the climate resilience in the sector and in the whole community. Stronger climate resilience translates into higher economic well-being and more sustainable societies.
- (iv) **Knowledge sharing:** involvement of the GCF will facilitate the development and sharing of best practice across similar projects in Morocco, ensuring that activities do not remain in silos but can be replicated throughout the country. It will also enable the comparison of different approaches and developing of lessons learned regarding particular successes or shortcomings to enable future projects to draw on these. This is the case in particular in stakeholder participation, gender considerations, and private sector involvement.

With the GCF's involvement the Project can demonstrate a successful implementation and can aid in scaling up climate resilience in the sector in Morocco and beyond. The GCF's resources on technical support will ensure the stakeholder participation and bring behavioural changes with regards to water use by end-users (farmers) and in the agriculture value chain more broadly. Through the construction of a new water transfer scheme as well as implementation of it through PPP, the GCF will be able to maximise the impact of its proceeds. In addition to significantly leveraging its finance, the GCF can ensure the sustainability of the irrigation services after its intervention.

In addition, the GCF's involvement will also add significant value in terms of broadening the replication potential of the project, through lesson sharing and horizontal learning with other AEs active in the irrigation sector in Morocco and in other countries. This will create important opportunities for ensuring that the lessons emerging from this Project will be fed into other irrigation and water conservation projects in the future.

D.2. Exit Strategy

The long-term sustainability of the Project is a core consideration in the design and implementation of this proposed Project; therefore the Project will be delivered through a structured approach comprising of technical assistance, policy dialogue and infrastructure investments to help established foundations for country's transition to a more sustainable and climate resilient irrigation water service delivery. In particular:

- The design of this Project focuses on building technical and institutional capacities and governance amongst Morocco national and regional authorities for integrating climate resilience into water resources management in a systematic way; and
- The specific investment and technical assistance components are being designed in such a way that factor future impacts of climate change on the sector. By provision of irrigation water infrastructure and encouraging water use efficiency, the Project is expected to demonstrate good management and financial practices that will enable local communities and farmer to continue to access water resources even in the face of predicted climate change impacts.

This exit strategy of the development finance will be realised through the repayment of the EBRD loan. GCF grants will remain in the Project. Contractual obligations regarding the long term maintenance of the physical assets (over 30 years) will be inserted in the contract of the private operator, ensuring the long term sustainability of the project.

Finally, as explained in section C.3, the Project will provide dedicated support for developing an exit strategy as part of the support package to the OPD, including the estimates of the O&M cost and responsibilities to be provided for the different project component outputs, such as: (i) aquifer contracts compliance, (ii) aquifer monitoring, transfer and distribution pipes, and (iii) the PPP scheme maintenance financing approach. This will outline measures that need to be undertaken in order to ensure a smooth exit, and to ensure that the OPD is able to function without any additional support following the end of the Project.

E.1. Impact Potential

Potential of the project/programme to contribute to the achievement of the Fund's objectives and result areas

E.1.1. Mitigation / adaptation impact potential

Adaptation potential

The Project will make a major contribution towards improving the climate resilience of the agricultural production systems and population of the Saïss plain in the following ways:

- Reducing pressure on highly vulnerable groundwater resources by enabling the transfer of 90-110 Mm³/year of water from renewable and sustainable sources.
- Supporting the adoption of efficient drip-irrigation techniques under the PPP scheme with estimated increase of area under drip-irrigation from 7,114 ha (36% of PPP area) to 21,600 (100% of PPP area).
- Improving the efficiency of the irrigation system from 59% (without a Project) to 69% (with a Project), which is obtained with the spread of localised irrigation to the entire Project scope, with annual water savings of 11.2 Mm³.
- Preventing the depletion of the Saïss aquifer basin that provides water for 1.8 million people (indirect beneficiaries).
- Providing climate resilience awareness and knowledge sharing campaigns that reach 350,000 people (direct beneficiaries in the Saïss plain region).

E.1.2. Key impact potential indicator

Provide specific numerical values for the indicators below.

GCF core indicators	• Expected total number of direct and indirect beneficiaries, disaggregated by gender (reduced vulnerability or increased resilience); • Number of beneficiaries relative to total population, disaggregated by gender (adaptation only)	Total	• Direct: 350,000 (including approximately 175,000 women/girls) • Indirect: 1.8 million (including approximately 0.9 million women/girls)
		Percentage (%)	• Direct beneficiaries amount to 19.5% of the total population of the Saïss plain • Gender disaggregation: approximately 175,000 female direct beneficiaries; and 200 farms that are owned or led by women
Other relevant indicators	• The Project will support 2,849 commercial and subsistence farms in the Saïss Plain.		2,849 commercial and subsistence farms
			• 40% of the total number of farms in the Saïss Plain with existing private irrigation and • 12% of all farms in the Saïss Plain.

Methodology used for adaptation calculations

Information on the number of farms was taken from the most recent agricultural census, completed in 1996. Plus estimates from the Regional Department of Agriculture. Further information on the population of the Saïss plain, size of farms (subsistence/commercial) and the types of irrigation systems used were taken from the Feasibility Study (see Annex II).

Other relevant methodologies

Calculation of female owned/led farms: generally less than 10% of farms within the Saïss Plain are led/owned by women. This means that within the Project area, there is likely to be no more than an estimated 200 farms led by women.

Describe how the project/programme's indicator values compare to the appropriate benchmarks (i.e. the indicator values for a similar project/programme in a comparable context).

Adaptation issues and priorities are usually highly context specific, due to the generally localised and contextualised nature of climate risks. Therefore these values are highly specific to the specific Project location and cannot be compared meaningfully with other irrigation projects.

E.2. Paradigm Shift Potential

Degree to which the proposed activity can catalyze impact beyond a one-off project/programme investment

E.2.1. Potential for scaling up and replication (Provide a numerical multiple and supporting rationale)

The potential for scalability of the proposed Project is significant. It is expected that the Project will open the way for greater private sector involvement across Morocco by introducing efficient, high quality, best-practice irrigation services to the region which suffer acute water stress. The Project will result in significant physical improvements in water use at a level that achieves demonstration impact beyond the specific transaction.

Replication in other river basins in Morocco: the water transfer scheme from M'Dez dam to Sebou-Saïss river basin will ensure the sustainable delivery of fresh-water without the ongoing depletion of scarce groundwater resources in the region, as such not only increasing the efficient use of valuable resources, but also contributing towards climate resilience. This will include improving productivity as well as the efficiency and sustainability of water-use in agriculture. Specifically, the Sebou-Saïss basin is one of eight river basins in Morocco that could potentially benefit from improvements to water transfer and distribution systems, switching to drip irrigation and the introduction of improved management practices, according to analysis by the United Nations Food and Agriculture Organisation (FAO)⁸.

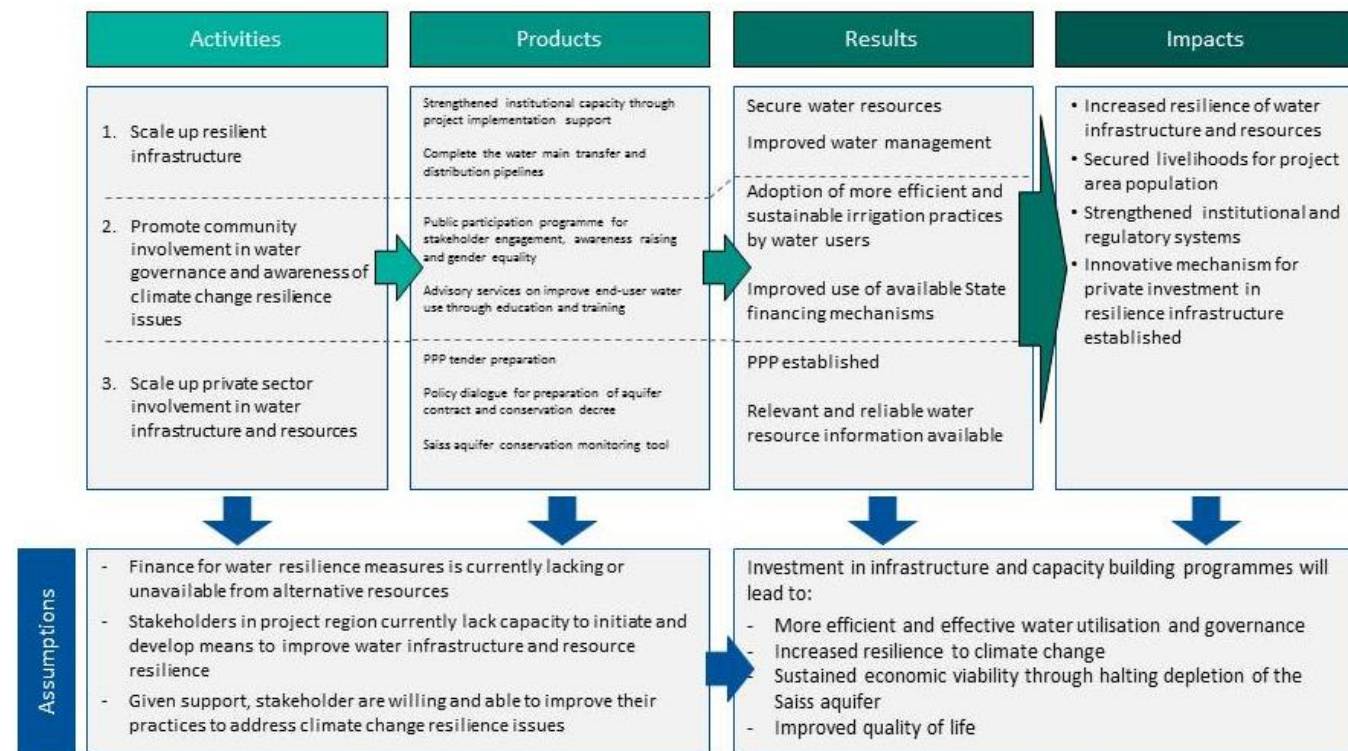
Scaling up investment through innovative financing mechanisms: the Project has great potential for scaling up and replicating the use of PPP schemes for catalysing investment (including private investment) in irrigation improvements. The Project will have a powerful demonstration impact across the irrigation sector and across multiple countries by illustrating how PPPs can facilitate private sector involvement. This will increase the sustainability of such irrigation investments as private partners have strong incentives to maximise the operational performance of the irrigation system through proper maintenance of the equipment and infrastructure.

Replication of the project approach beyond Morocco: the Project will also contribute to EBRD's work to scale up investment in irrigation upgrades across its countries of operations, including by (i) rolling out the technical approach on irrigation financing that has been developed through the EBRD's technical with the FAO on preparing investments in irrigation upgrades including water-efficient technologies and techniques in the agriculture sector, and (ii) documenting and institutionalising Project's soft measures, including the potential environmental fiscal reforms, improved agricultural practices, women involvement, aquifer contracts and management. It is expected that the approaches develop under the proposed Project will benefit the management of the other large irrigation schemes in Morocco and beyond. The Project has also significant potential for replicability as it is piloting integration of climate resilience into infrastructure investment planning. Morocco is amongst the first countries with experience in irrigation. Within the EBRD's region of operation alone, the proposed structures and approaches could potentially be replicated in Egypt and Kazakhstan.

⁸ <http://www.fao.org/nr/water/aquastat/irrigationmap/mar/MAR-gmia.pdf>

A theory of change diagram for the project is presented below

Figure 6. Theory of Change for Saïss Water Conservation Project



E.2.2. Potential for knowledge and learning

The Project offers a large potential for learning in several dimensions:

- The Project will help to strengthen and structure the PPP processes in the irrigation sector. This reference, along with the El Guerdane case and the other ongoing PPPs in irrigation will be of prime importance for future projects, considering that several other governments have a similar demand for irrigation investments and public budget constraints.
- The higher complexity of the SaïssSaïss water conservation project must be underlined as the agricultural pattern (crops and size of farms) in the concerned area is greatly diversified, when the El Guerdane area produces only citrus for exports. Having a private partner involved at the investment stage in such a complex project will constitute a relevant and innovative case that could be replicated in similar projects.
- The preparation of the Project's structure will include a thorough review of (i) the validity of the allocation of risk and (ii) of the results in the El Guerdane project. For instance, the mechanism set for the management of the risk of water availability will certainly be adjusted for the project. The revised scheme, if successful, could then be useful for the successful preparation of PPP structuring for irrigation projects.
- EBRD will provide support to MAMF to implement the new legal framework of Law 36-15 on water in the Saïss plain. The new law strengthens the integrated and participatory approach to the management of water supply, the role and expertise of the dedicated institutions, and includes new obligations and prescriptions to which water users are subject, as well as increased sanctions. The expertise mobilised by the Bank to fast track the implementation of the new legal requirements will contribute to the success of the Project and the experience of the Saïss plain will be duplicated by MAMF in other regions of Morocco.
- Specifically, the Bank will provide TC to establish the tools and mechanisms to control the level of the Saïss water table: on the one hand the technical and IT systems to monitor the aquifer, on the other the regulatory and contractual instruments (such as the aquifer contract) to manage and strictly control water extraction from the multiple stakeholders using groundwater. This innovative approach has a high potential for knowledge sharing.
- In addition, In addition, the EBRD will seek opportunities for horizontal coordination and knowledge sharing with other relevant projects and initiatives in the irrigation sector, including those implemented by other AEs such as AFD and ADA in other river basins under the framework of the PMV. The learning and knowledge outcomes of the Project will be monitored and evaluated to ensure the success and better transferability of the approach.

E.2.3. Contribution to the creation of an enabling environment

Enabling environment at national level: the Project will directly contribute towards an improved enabling environment for the successful implementation of national policies in the areas of climate change, water resource management and sustainable agriculture. This will support the delivery of Morocco's IDNC⁹ and Pan Maroc Vert (PMV), which contain clear commitments to the modernisation of the agricultural sector to make it more competitive and integrated in the global market to create wealth over the entire value chain. It also supports the delivery of the Water Strategy and the new National Water Plan. The horizontal coordination in irrigation financing with other development partners (e.g. AFD and ADA), which is being facilitated by the PMV framework, will contribute towards joined-up efforts to improve the national level enabling environment for irrigation improvements.

⁹ <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Morocco/1/Morocco%20INDC%20submitted%20to%20UNFCCC%20-%205%20June%202015.pdf>

Enabling environment for community involvement in water governance at the local level: the proposed Project will promote effective community and civil society involvement in water governance and improved awareness of climate resilience issues among end users of water services. The Project will deliver extensive stakeholder participation and advisory services on improved water use by end-users (farmers) and in the agriculture value chain.

Enabling environment for private sector involvement in irrigation financing: the Project will create improved conditions for private sector involvement in the management of irrigation systems by providing the infrastructure needed to transfer water to and through the Saïss Plain, which is a crucial prerequisite to enable an economically and environmentally feasible upgrade of the irrigation framework that can attract private sector interest under a PPP tender. The Project will bring expertise to develop a sophisticated PPP scheme that will crowd in private investment and private sector expertise, thus ensuring that scaled-up financing and successful implementation. The PPP will involve maintenance and operation of all the assets of the Project over 30 years and as such its scale and its complexity requires international expertise for a successful and replicable structuring.

E.2.4. Contribution to regulatory framework and policies

The design of the Project aims to provide further support to strengthening of the national regulatory and legal framework in the water sector. It will also help to fast track the implementation of existing and emerging new legal requirements in a way that has the potential to be replicated in other regions of Morocco, including through effective horizontal coordination and knowledge sharing with other national and international agencies active in the irrigation sector (including AEs such as AFD and ADA).

Moreover, the Project will highlight the new Water Law to demonstrate how to comprehensively address a development path in a climate change context. The new Water Law applies to all activities involving the use of water or likely to have an impact on the water resource's physical or bio-chemical characteristics. Consequently, the Project, like all activities related to the aquifer will be subject to this law. The Water Law is very similar to the EU Water Framework Directive, and the organization of water management in Morocco, through basin agencies, also mirrors the EU organization. The Law will lead to the development and implementation of water permitting and pricing regimes that will be based on stakeholder input. The loan agreement between EBRD and the Government of Morocco establishes two covenants to ensure this:

1. Implement the tools to monitor the level of the Saïss water table in line with the relevant legal and regulatory framework in the Kingdom of Morocco.
2. Implement the required measures under the applicable legal and regulatory framework in the Kingdom of Morocco to promote a sustainable usage of water in the Saïss plain and to prevent the depletion of the Saïss water table.

EBRD will provide technical assistance to MAMF to establish the tools and mechanisms to control the level of the Saïss water table: on the one hand, the technical and IT systems, including an hydrogeological model, to monitor the aquifer, on the other, the regulatory and contractual instruments (such as the aquifer contract and the new legal framework of Law 36-15) to manage and strictly control water extraction from the stakeholders using groundwater.

The removal of subsidies of pumping fuel mentioned in the feasibility study is a measure currently considered by the Kingdom of Morocco, which falls out of the scope of the proposed Project.

Implementation of the PMV: A major objective of the PMV is to develop financially viable irrigation infrastructure in order to integrate Moroccan agriculture into national and international markets. This objective notably relies on the introduction of private financing in the agricultural sector through Public-Private schemes (PPP). The programme's rationales for a delegated management of irrigation are:

- Modernization of the irrigation perimeters;
- Improved sustainability of the irrigation facilities;
- Improved water efficiency;
- Optimisation of water resources and operating and maintenance costs;

- Improved water services delivery;
- Strengthened local agricultural governance;
- Clearer distinction between the actors involved in the water sector;
- Employment growth;
- Mobilization of private financing and the reduction of budget transfers from the state.

Implementation of the Water Law: the Project is in line with a gradually changing institutional and legislative framework for water resource management and will support the implementation of the new Law 36-15 on water in the Saïss plain. The new law strengthens the integrated and participatory approach to the management of water supply, the role and expertise of the dedicated institutions, and includes new obligations and prescriptions to which water users are subject, as well as increased sanctions. As such, it has the opportunity to demonstrate how to comprehensively address a development path in a climate change context.

Establish new aquifer protection tools: the Project will introduce new aquifer protection tools as stated in the new Water Law following the finalisation of the aquifer contract and conservation decree. These will enable improvements in the control and monitoring of the aquifer and the irrigation scheme. This includes the design of a GIS for the Saïss plain.

E.3. Sustainable Development Potential

Wider benefits and priorities

E.3.1. Environmental, social and economic co-benefits, including gender-sensitive development impact

The Project is rated 'B' under the EBRD's Environmental and Social Policy, and although there is potential for some environmental and social impacts, there is a significant net positive impact in improving the reliability and quality of the irrigation water supply. With regards to the potential adverse impacts, these are considered to be minor under appropriate mitigation and management. The Project has multiple and wide ranging economic, social, environmental and gender co-benefits as detailed below:

Economic co-benefits: It is estimated that the Project region would lose EUR 150 million in gross revenues a year without the Project.

Social co-benefits: The Project area includes about 2,849 commercial and subsistence farms. The project's potential for job creation or avoiding job losses is significant. By addressing the water stress of the Sebou-Saïss basin that provides water for 1.8 million people, the Project will have a positive socio-economic impact, and improve the security of water resources particularly for those dependent on its availability. In addition, the Project will include dedicated community and stakeholder involvement activities (see section C.3) that will build local ownership and ensure the longer-term sustainability of the social co-benefits. This will enable greater confidence in longer term planning, investment and ultimately regional productive capacity.

Environmental co-benefits: Surface waters in the Saïss water table are greatly reduced, more and more wells are dug at deeper levels, and at current exploitation rates the aquifer will be completely depleted within 25 years and the plains transformed into a high desert plateau. The project intervention is necessary to avoid such consequences.

Gender sensitive development impact: Gender equality for agricultural development is crucial. Project decisions have the potential to have a differential impact on women and men, even when such an effect was neither intended nor envisaged. Therefore, it is important to assess these and identify the potential negative consequences and opportunities from a gender perspective to enhance the environmental and social sustainability of the project. Where possible, social impacts and benefits have been assessed according to gender, several mitigation measures have been proposed to allow for gender

equality in terms of employment in the Project and also inclusion in the Project. A series of specific measures will further support the delivery of improved gender outcomes, as set out below:

- At least 20 ‘trainers of trainers’ trained on technical aspects of sustainable agriculture and business management skills for agribusiness, and operating in women’s cooperatives in the SaïssSaïss Plain;
- At least 350 women, 30% of those from the unpaid family employment category, being trained through the programme on technical aspects of sustainable agriculture and business management;
- At least 70 new women-led MSMEs created by women having participated in the programme;
- At least 10% of women-led enterprises participating in the programme have received an external investment by one-year after completion;
- At least 30% of women-led enterprises participating in the programme have achieved increases in turnover one-year after completion.

E.4. Needs of the Recipient

Vulnerability and financing needs of the beneficiary country and population

E.4.1. Vulnerability of country and beneficiary groups (Adaptation only)

The impacts of climate change are already visible in Morocco. Morocco is already a water stressed country according to the definition of the United Nations (threshold is 1,000 m³ per capita per year) and this is intensifying further as a consequence of climate change. Morocco is divided into six 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% of national resources. The Government of Morocco has made great efforts in mobilizing water resource and since 1960 135 large dams have been constructed and put into service for domestic or industrial water supply, irrigation, and hydropower and flood control.

The Sebou-Saïss basin represents 11% of Morocco’s annual water endowment, providing water for 1.8 million people. This Saïss water table has experienced in the last 15 years unsustainable levels of water overexploitation with a net loss of 100 M m³/year, due both to long-term decreases in precipitations in a context of climate change and increases in water demand. Surface waters are greatly reduced, more and more wells are dug at deeper levels, and at current exploitation rates the aquifer will be completely depleted within 25 years and the plains transformed into a high desert plateau. If this were to happen there would be severe social and economic consequences. Over 82% of the water is used for agriculture in the Sebou-Saïss basin and the agricultural sector would thus be lost, resulting in the disappearance of 3 million workdays a year in the region and contribute to increased unemployment and social instability.

E.4.2. Financial, economic, social and institutional needs

The population of the Saïss agricultural plain suffers from a lack of employment opportunities leading to rural depopulation. Household living conditions tend to be poor and access to essential public services is limited, further exacerbating the low quality of life. This is further shown in the census data related to education levels, particularly for women. The further development of agricultural production systems and the rural economy is of fundamental importance for the economic and social progress of the population of the Saïss plain, and yet this is severely compromised by the deteriorating access to water resources and the progressive depletion of the Saïss aquifer.

In response to these severe needs, the Project will contribute towards improved agricultural livelihoods in the long-term in the project region. The Project will reverse the process of depletion of the Saïss plain, preserving the Saïss aquifer, and supporting the agricultural sector within the region – which in turn supports 3 million workdays annually on the region. This could lead to an increase in revenue for the agricultural workers, enhancing quality of life and reducing current trends of rural depopulation.

Through its targeted support for improved institutional arrangements for scaling up private investment irrigation equipment and for improving local water governance, the Project will contribute towards an increase in education levels in the region and a diversification of employment opportunities in the agricultural sector and in the wider economy, which will contribute towards improved rural livelihoods and the sustainable development of the local economy in the Saïss plain.

E.5. Country Ownership

Beneficiary country (ies) ownership of, and capacity to implement, a funded project or programme

E.5.1. Existence of a national climate strategy and coherence with existing plans and policies, including NAMAs, NAPAs and NAPs

The proposed Project will contribute to meeting beneficiary countries' nationally set climate targets and policy priorities by upscaling private sector financing in water scarce and climate vulnerable region of Morocco, channelling climate finance into investments that encourage greater private sector participation and building local capacity and awareness on addressing climate change risks.

The Government of Morocco strongly supports the proposed Project which aims to rationalize the use of water resources for irrigation. Morocco ratified the UNFCCC in 1995 and the Kyoto Protocol in 2008. It hosted the COP7 in 2001, and established a National Committee for Climate Change the same year. The Clean Development Mechanism (CDM) was set up between 2003 and 2005, and Morocco is leading in number of CDMs in the Middle East and North Africa – a portfolio of 40 projects and Programmes. In 2009, a National Plan of Action against Climate Change (PNRC) was presented at COP15 in Copenhagen, which focused on developing renewable sources of electricity generation and investing in energy efficiency. The Action Plan is supported by a range of sectoral strategies, such as “Morocco Green Plan” for agriculture that encourages sustainable management of natural resources. Morocco adopted the “National Charter for Environment and Sustainable Development” in 2012, which was followed by a Framework Law, enacted in 2014, to help the implementation of the Charter. The “National Waste Recovery Programme” and “National Liquid Sanitation and Wastewater Treatment Programme (NSP)” also sets out specific targets in the waste and wastewater sectors. The German development agency GIZ has been supporting Morocco in setting up a climate competence centre that aims to define roles and tasks at regional and national level. Monitoring and evaluation tools are also being developed under a Climate Change Policy (PCCM).

Over the past few years, Morocco has intensified its efforts to promote its climate resilience, in particular with regards to water resource. Agriculture accounts for 92% of water consumption in the country and is central to Morocco's climate resilience actions. In light of reduced water resource, the Morocco Ministry of Agriculture and Maritime Fisheries (MAMF) is putting in place incentives, investments, and institutional reforms in the agriculture sector to ensure greater returns at the farm and overall economy levels. This is done through two synergic strategies:

- The Morocco Green Plan (“Plan Maroc Vert” or “PVM”) aims to double the agriculture sector's value-added and create 1.5 million jobs by 2020, thus transforming the sector into a stable source of growth, competitiveness, and broad-based economic development; and
- 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.

Additionally, in the run-up to Paris COP21, Morocco submitted its Intended Nationally Determined Contributions (INDC) to the UNFCCC. The country's INDC has a strong focus on building climate resilience, in particular with regards to water efficiency and irrigation system reform. Morocco's adaptation goals for 2020 include:

- the substitution of water withdrawal from over exploited aquifers by withdrawals from surface water (the expected outcome of the project); and
- an increase of the current area under drip irrigation from 154,000 ha at present to 555,000 ha.

E.5.2. Capacity of accredited entities and executing entities to deliver

1. Capacity of the accredited entity (EBRD)

General

The European Bank for Reconstruction and Development (EBRD) was established in 1991 to nurture a new private sector in a democratic environment. EBRD provides project financing for banks, industries, and businesses, both new ventures and investments in existing companies. It also works with publicly owned companies, to support privatization, restructuring state-owned firms and improvement of municipal services. EBRD uses its close relationship with governments in the region to promote policies that will support the business environment. EBRD also has a strong environmental mandate and is committed to financing projects that are environmentally sound and sustainable. Finally, gender and economic inclusion are integral to the Bank's operations¹⁰¹¹.

The comparative advantage of the EBRD for the GCF lies in EBRD's experience and track record in market creation and transformation, and ensuring sustainability through private sector and municipal environmental infrastructure projects at the country and regional level in the countries of eastern and central Europe and central Asia. The EBRD recognized from the start the strategic importance of municipalities in the transition and in the financing of projects with significant environmental benefits in the district heating, water, and waste sectors. Over recent years EBRD has developed considerable expertise in the area of climate change mitigation and energy efficiency, for example through its Sustainable Energy Initiative. EBRD is also interested in becoming active in the field of climate change adaptation as well as forming new partnerships with other agencies to address the challenges of climate change adaptation in the EBRD region. Finally, the EBRD recognises civil society as a key stakeholder and partner in achieving its mandate and has extensive experience in engaging with local and international CSOs¹².

Regional

EBRD has a strong, well-established presence in the SEMED region and is therefore uniquely well placed to contribute to the challenge of climate change adaptation in the region. It has a network of around 200 professional staff located across the region to support project development, implementation and monitoring, together with sustained policy dialogue and business relationships with governments, local institutions, industry, banks, utilities and investors. The EBRD currently operates in 35 countries within the region and has at least one resident office within each of these. Some larger countries, such as Kazakhstan and Turkey, also have sub-regional offices to bring EBRD staff closer to the business needs. Regional offices are typically staffed by a mixture of international and national staff and provide an in-depth knowledge of the social, economic, and political conditions within the country and help to generate and implement new projects as well as monitor existing operations, and facilitate dialogue and business relationships with governments, local institutions, industry, banks, utilities, and investors.

Sectoral

EBRD has extensive experience of providing targeted finance for public and private investments in the agribusiness sector, having signed more than more than 500 agribusiness investments with a total financing amount in excess of EUR 7.7 billion. EBRD pays close attention to the urgent need to improve water use in agribusiness value chains, and has provided dedicated technical advice and investment in water conservation and water use optimisation technologies. The EBRD is able to leverage on its long term experience in the agribusiness sector to ensure the proposed Project and irrigation approach overall fits with the agricultural policy of the Country and how it promotes water efficient and highly added value crops. Furthermore, in recent years EBRD has begun to finance large-scale irrigation upgrade investments, with a particular focus on water-stressed countries where irrigation is fundamental for agricultural production and food security and where significant improvements in water efficiency in irrigation are badly needed. EBRD established a technical partnership with the United Nations Food & Agricultural Organisation (FAO) to develop a specialised approach for identifying and financing investments in irrigation upgrades. As a

¹⁰ <http://www.ebrd.com/strategic-gender-initiative.html>

¹¹ <http://www.ebrd.com/what-we-do/projects-and-sectors/economic-inclusion.html>

¹² <http://www.ebrd.com/who-we-are/civil-society-overview.html>

result of this partnership, the EBRD has developed a healthy pipeline of irrigation investments that are now under development and intended to be financed within the next 1-2 years. These are summarised in the below table. In addition, further irrigation sector investment opportunities are now being explored by the EBRD in Armenia and Kosovo. This pipeline of future investment projects will benefit from knowledge to be generated from this Project, including important lessons on strengthening the enabling environment for scaled up investment in improved irrigation systems and for better local water governance, including the application of gender-sensitive approaches and community involvement.

2. Capacity of the executing entity (MAMF)

The MAMF is the highest authority in charge of irrigation related issues in Morocco. It takes the lead in organising the use of water resources for irrigation and has experience in implementing water transfer schemes. MAMF has an important role in the overall delivery of the PMV, which in turn provides effective coordination of initiatives for improving irrigation systems, as demonstrated by the way in which the GCF-supported EBRD and AFD project proposals have been set up to cover different river basins, under the overall oversight and leadership of MAMF. Within the MAMF, the Directorate of Irrigation, Land and Agricultural Area (DIAEA), is in charge of the irrigation and land use planning. DIAEA is responsible for the preparation and delivery of the Saïss Water Conservation Project as follows:

- The Division of Hydro-agricultural Facilities Works is in charge of the technical studies and the supervision of works,
- The Division of the Promotion and Regulation of PPP in irrigation is in charge of the PPP feasibility study.

The MAMF has previous experience in implementing similar water transfer projects and PPP distribution mechanisms, including the recent Guerdane irrigation project (10,000 ha), which will be used to inform the Saïss project. Considering the important level of investment from the Moroccan State for the Saïss project, and in order to support and facilitate an efficient implementation of the project, the MAMF has decided to create an Operational Project Direction (OPD) that will be responsible for the management of the Project.

E.5.3. Engagement with NDAs, civil society organizations and other relevant stakeholders

The Project's design and implementation are consistent with the GCF's requirements for stakeholder engagement and disclosure and in line with the GCF's Criteria for Programme and Project Funding.

A thorough review of on-going activities in the sector was conducted and consultation with stakeholders was undertaken during the time on site in order to understand the preferred forms of engagement and communication (see Annex II). Stakeholder consultation took place at different stages during environmental and social due diligence:

- Initial site visit by EBRD on 04-07.04.2016 (meeting with 3 farmers and key institutional stakeholders);
- Three site visits by EBRD's consultant on 27-30.06.2016, 11-15.07.2016, and 05-09.09.2016;
- A public consultation meeting on 15.09.2016 was organised by the Regional Directorate of Fès-Meknès, and included 52 participants, including about 30 farmers or farm managers, representatives of farming associations or cooperatives, representatives of the regional agricultural directorates, the Directorate of irrigation, land and agriculture, EBRD and EBRD's consultants.

The consultations conducted were designed to develop a number of recommendations for the Stakeholder Engagement Plan to set out how communities, farmers, water user associations, civil society organisations (CSOs) and other stakeholders within the projects' zone of influence will be involved in the implementation of the Project. These recommendations include, *inter alia*:

- Identification of key stakeholders;
- Specific considerations for vulnerable groups;
- Adoption of a formal grievance mechanism;
- Formal documentation process for engagement activities;
- Disclosure of information at appropriate locations;
- Important information for disclosure was found to include – development plans and design, project timeline, water

availability and tariffs.

In addition, the Project will ensure that all future consultations with stakeholders to be designed in a gender responsive way and women will be equally consulted and participate in all discussions related to the Project. This approach will be incremental and would set a proper benchmark for other projects to follow.

The Project was endorsed by the Government of Morocco and the NDA for GCF on 27 July 2016. Please refer to Annex IX for the No-Objection Letter provided by the Moroccan NDA.

Finally, as outlined under Component 2, capacity building support will be provided to civil society organisations in order to enable them to meaningfully contribute to improved inclusive water management practices through: awareness raising and community outreach, skills transfer and monitoring activities, as well as the promotion of innovative technologies. Beneficiaries will primarily be local civil society organisations, in particular membership-based and service-providing groups, which have the most direct link to water users.

E.6. Efficiency and Effectiveness

Economic and, if appropriate, financial soundness of the project/programme

E.6.1. Cost-effectiveness and efficiency

The financial structure of the proposed Project is based on a carefully-designed EBRD model of combining grant and loan finance in order to reach an appropriate level of concessionality that overcomes climate change-induced social, economic and environmental vulnerabilities while addressing Morocco's affordability constraints of farmers, communities and households. GCF's grant is critical in the financing of an infrastructure that is essential for improving water resource management and climate resilience in the Sebou-Saïss water basin.

Given the difficult economic conditions in the Saïss plain region, the affordability constraints that limit the ability of farmers to comply with water tariff increases, and the consequent challenges for ensuring sufficient tariff revenues to cover operational and maintenance costs, the proposed GCF grant of EUR 31.97 million (which represents 15 % of the total project costs (EUR 203 million)) is reasonable and necessary in order to achieve the Project's objectives. GCF is the only climate finance mechanism that is able to mobilise the scale of funding that is needed for a major climate-resilient infrastructure investment of this kind. There are no other financing mechanisms accessible to Morocco that could achieve this.

The GCF's involvement in the Project will contribute to the affordability of water services for the end-user as it will allow for the availability of sufficient public subsidies under the PPP scheme. A preliminary financial model developed for the PPP scheme includes public subsidies of EUR 112 million and an increase in the average tariff to MAD 1.8 / m³, which is the cost of drawing water from the basin. Without public subsidies, the average tariff would have to be set at MAD 3.9 / m³, which will breach the affordability constraints of the farmers.

The implementation of the Project will be supported by extensive technical assistance and policy advice elements. These elements will cover skills transfer, capacity building and institutional development activities that will promote the sustainable use of the water resource and irrigation infrastructure, including the integration of climate resilience into the management and delivery of irrigation infrastructure and services.

The Project will also enable the development of a wider infrastructure water scheme, which will involve an irrigation network to be design, built, operated and maintained by a private operator under a PPP scheme. The PPP contract will be signed by 2021, as soon as the water transfer pipeline is operational. This PPP will facilitate further investment in the irrigation network of approximately EUR 140 million, to be financed by public and private sector partners, which will be parallel financing alongside the project. A detailed economic analysis and financial analysis for the Programme are included in the Annex IV Financial Model.

Costs and Benefits

A diagnosis of the baseline situation in the Saïss plain shows that the total annual gross benefit generated by the total agriculture area is currently around EUR 57 million, where EUR 50 million is designated for the irrigated area and EUR 7 million for the rain fed agriculture production. Working days are estimated at around 2.5 million working days per year. Major benefits are currently in the arboriculture production which supplies 45% of the total annual works in the sector. The implementation of this Project will have significant costs and benefits, that can be separated into 3 main categories:

1. Financial costs and benefits

The financial costs of the project are investment costs for both transfer and irrigation infrastructure. For the collective welfare calculation of costs and benefits, only the following inflows and outflows have been considered:

- Inflows: Fees paid by the private partner to the delegating authority representing 1% of the turnover. These fees are considered as revenues from the project to the PA (Public Authority);
- Outflows: Investment costs of the mains distribution infrastructure plus investment subsidy to the private company, € 112 million. These flows are considered as part of the investment costs financed by the PA.

2. Economic costs and benefits

- Surface of the irrigated area: the Project will induce a shift to a more efficient water allocation and an expansion of the irrigated area of 3,100 additional hectares, resulting in 21,600 ha compared to 18,500 ha without the project.
- Agriculture productivity: another impact of the project is an enhancement of the agriculture productivity, more specifically in the production of market garden, fodder and olive trees. The total annual growth of income for farmers (point a (surface) + point b (productivity)) that is generated by the project has been evaluated at EUR 19 million in the irrigated sector and EUR 1 million in the rain fed sector. Total benefits are expected to reach EUR 77 million per year (+35%),
- Number of working days: the number of working days is expected to increase by 20%.

3. Environmental and social costs and benefits

The Project will allow a reduction of the water abstraction from the aquifer. A reduction of the rate of nitrate contamination is also expected since fewer fertilizers are needed when using drip irrigation. A consolidated economic analysis has been carried out in order to measure the global economic and financial impacts of the project. The environmental costs and benefits have not been evaluated due to the lack of data. The results of this analysis are the following:

- The Financial Net Present Value (FNPV) is negative when calculated based on financing options both with and without the GCF grant. This result shows that the project could not be entirely financed by the private sector and requires public funding.
- The Economic Net Present Value (ENPV) of the project is positive, which means that the direct and indirect benefits justify the implementation of the project. The economic benefits from the project are larger than the costs. Major benefits are in the agriculture sector, for famers and workers, and the project clearly enhances the climate resilience of the sector.
- The Economic Internal Rate of Return (EIRR) is between 7.11% and 8.37%, and the Benefit/Cost Ratio (BCR) is between 1.11 or 1.18.

As a conclusion, the grant from GCF significantly enhances the FNPV, the ENPV and the B/C ratio.

E.6.2. Co-financing, leveraging and mobilized long-term investments (adaptation only)

The Project will leverage significant co-finance from EBRD and the Kingdom of Morocco. The following table details the resources and co-finance ratios from the funding GCF resources would support.

Table 3. Project Co-finance

Source of funding	GCF	EBRD	Kingdom of Morocco	EBRD & Morocco
Amount (€ million)	31.97	120.88	53.82	174.70
Co-finance ratio with GCF	-	3.78	1.68	5.46

Please see Section E.6.5 for more details on co-financing.

E.6.3. Financial viability

The returns of the Project are environmental and social, hence the decision of the Kingdom of Morocco to provide the financing for the water transfer infrastructure (co-financed by EBRD) and the need to leverage grant funding from GCF. From a financial point of view, the Project is sound as the Kingdom of Morocco, which is directly contracting the debt, is investment grade and has track record in honouring its commitments to external creditors.

From the point of view of the PPP contract, it is too early to assess its financial viability. The bidding process to select the private sector partner will open a phase of negotiations between MAMF and the winning bidder, which results will influence the financial equilibrium of the PPP contract. It should be noted that both MAMF and the winning bidder will need to work on finding a common ground to make the PPP financially viable, otherwise the contract will not be signed. Early estimate indicate that the financial equilibrium will be obtained through a mix of public subsidy and revenues from the provision of irrigation services. These revenues will depend on the volume of water available for irrigation, on the demand for water and on the tariff and collection rate.

The subsidy required to ensure the financial feasibility of the PPP given the target average tariff of 1.8 MAD/m³ represents 76% of the initial investment, which is what MAMF has envisaged in the current financial plan. The amount of subsidy is MAD 1,213 million (EUR 112 million). Without public subsidy, the average tariff would have to be set at 3.9 MAD/m³.

E.6.4. Application of best practices

The Project will ensure the application of best practices in the following ways:

- **Sustainable water resource management:** reversing the depletion of an aquifer is an extremely complex process, and the Project will need the best tools and mechanisms in place to monitor the level of the water table over time. EBRD will provide TC to establish these tools and mechanisms. As such, the Project will apply the best practices available.
- **Improved regulatory arrangements:** EBRD will also provide support to MAMF to implement the new legal framework of Law 36-15 on water in the Saïss plain. The new law strengthens the integrated and participatory approach to the management of water supply, the role and expertise of the dedicated institutions, and includes new obligations and prescriptions to which water users are subject, as well as increased sanctions. Law 36-15 on water largely compares to the EU Water Framework Directive 2000/60 which is considered as best practice in terms of promoting water conservation measures and integrated management.
- **Private section involvement:** As developed above, private sector involvement in irrigation is a very innovative

approach for the sector. Private sector participation will increase the sustainability of the project as the private partner will have a strong incentive to maximise the operational performance of the irrigation system through a proper maintenance of the equipment and infrastructure, including the main transfer pipeline. Given the sophistication of the contractual arrangements involved by such a complex PPP contract over 30 years, the Project will build on international best practices.

- **Replicability and lessons learned:** the EBRD will ensure that horizontal coordination and knowledge sharing with other relevant projects and initiatives in the irrigation sector, including those implemented by other AEs such as AFD and ADA, results in the wider dissemination of best practices across the irrigation sector in Morocco and beyond.

E.6.5. Key efficiency and effectiveness indicators

GCF core indicators	Estimated cost per t CO ₂ eq, defined as total investment cost / expected lifetime emission reductions (mitigation only)
	Not applicable
	Expected volume of finance to be leveraged by the proposed project/programme and as a result of the Fund's financing, disaggregated by public and private sources (mitigation only)
	The GCF's EUR 31.97 million of resources in the form of grants are expected to leverage EUR 120.88 million of EBRD finance, of which EUR 120 million will be in the form of commercial finance (EBRD's ordinary capital resources) and EUR 0.88 million will be in the form of grants. The Kingdom of Morocco will contribute an additional EUR 53.82 million of loan financing. Thus, the GCF's leverage ratio to EBRD and Moroccan finance is 1: 5.46.
Other relevant indicators (e.g. estimated cost per co-benefit generated as a result of the project/programme)	

F.1. Economic and Financial Analysis

1. Economic analysis

An Economic Internal Rate of Return (EIRR) was calculated for the Project as part of an external technical due diligence. The EIRR covers the 30 year period between 2016 and 2046 inclusive.

The economic benefits include:

- Increase of the irrigated area. The Project will induce a shift to a more efficient water allocation and an expansion of the irrigated area of 3,150 additional ha, resulting in 21,600 ha compared to 18,450 ha without the project.
- Increase of the income for the farmer of the Saïss plain generated from the uses of the volume of water being transferred from the M'dez dam to the irrigation perimeter of the project (21,600 ha). The project will enhance the productivity of the agriculture within the Saïss plain, more specifically, the production of market garden, fodder and olive trees, as seen in the table below. Total benefits are expected to reach EUR 76 million per year (a 35% increase vs. the baseline).
- The creation of 524 thousand working days per year, evaluated on an average salary of 80 dirham per day (average salary of 10 dirham / hour at an 8 hour working day). The number of working days per year is expected to increase by 20% vs. the baseline.

The Saïss water table (benefitting other users of the water) is counted as a benefit for the whole economy in the economic analysis. The Saïss plain is one of Morocco's main agricultural areas, where any loss in productivity will affect Morocco's national agricultural output. The sustainability of the region both in terms of water resources is critical to maintaining a vital part of the local economy. Indirectly, replenishment of the aquifer will benefit all potential users such as the urban populations of Fes and Meknes and any other local populations or industry that need access to the basin's water resources.

Table 4. Economic Benefits of Saïss Water Conservation Project

Production			Baseline				Project				Difference			
	Area (ha)	Area (ha)	Gross benefit (EUR million)			Number of working days (1000 days)	Gross benefit (EUR million)			Number of working days (1000 days)	Gross benefit (EUR million)			Number of working days (1000 days)
	Irrigated baseline	Irrigated project	Irrigated	Rainfed	Total		Irrigated	Rainfed	Total		Irrigated	Rainfed	Total	
Cereals	918	773	0	4	4	176	0	3	3	133	0	-1	-1	-43
Leguminous	114	97	0	1	1	43	1	0	1	36	0	0	0	-7
Plants	1,332	1,675	7	0	7	186	9	0	9	234	2	0	2	48
Onion	1,681	2,109	6	0	6	261	7	1	8	330	2	0	2	69
Market garden	399	384	1	0	1	40	1	0	1	38	0	0	0	-2
Fodder	1,848	1,711	1	0	1	110	1	1	2	101	0	0	0	-9
Olive trees	5,448	6,630	4	2	6	362	8	2	10	448	3	1	4	86
Wines	849	916	4	0	4	212	5	0	5	238	1	0	1	26
Arboculture	5,875	7,303	27	0	27	1,175	37	1	38	1,531	10	1	11	356
Total	18,464	21,598	50	7	57	2,565	69	8	77	3,089	18	1	19	524

The EIRR results in 7.11% (without the grant) and in 8.37% (with the grant). The grant from GCF enhances the EIRR by 18%.

2. Financial analysis

As set out above, the return of the Project are environmental and social, hence the decision of the Kingdom of Morocco to provide the financing for the water transfer infrastructure (co-financed by EBRD) and the need to leverage grant funding from GCF.

The preliminary financial model for the PPP scheme assumes an average tariff of 1.8 dirham / m³ and public subsidies of EUR 112 million. However, this mix of public subsidies and revenues will be negotiated between the private partner and the MAMF

in order to make the PPP financially viable, otherwise the contract will not be signed.

The preliminary model assumes only the sale of water only for irrigation purposes, approximately 80 % of water being transferred from the M'dez dam to the Saïss basin. The tariff policy assumes: i) a fixed tariff set to cover the fixed costs and ii) a variable tariff per m³ of water transferred in order to cover variable costs (mainly, energy costs) per m³. The preliminary model envisages a project financing structure of 70 % debt and 30 % equity.

3. Additional information

For the above economic and financial analysis, it should be also noted that:

- a) Currently, farmers are pumping water directly from the water table, so there is no water tariff per se but there is a cost of water for the farmer related mainly to drilling infrastructure costs, maintenance costs and energy costs mainly.

This cost of water was assessed by MAMF and its adviser for the structuring of the PPP and is estimated as follows:

Size of the farms	Cost of water in DH/m ³		
	Min	Moy	Max
< 5 ha	0.95	1.36	1.98
5 - 15 ha	1.00	1.56	2.28
15 -50 ha	1.74	2.03	2.20
> 50 ha	1.81	2.38	2.95
Total	0.95	1.83	2.95

This figure is based on a representative sample of farms of the Saïss plain. It shows a relatively large range of water cost, from DH 1.4 per m³ for small farms to above DH 2 per m³ for the larger farms. MAMF, as for the previous project it successfully implemented (such as Guerdane) considers that these amounts represent the minimum capacity of payment by the farmers.

MAMF approach for this Project, as for Guerdane and other irrigation PPPs being structured, is that farmers are ready to pay slightly more than the current cost of water in exchange of a higher quality of service. For the farmers of the Saïss plain, the main issue is availability and reliability of access to water, in a context where the Saïss aquifer is being overexploited and close to complete depletion. The high volatility of water availability prevents farmers from planning their investment on several years (investing in citrus for example) and from investing in higher yield crops.

Finally, it should be noted that for the poorer farmer support will be provided through State investment grants, in the frame of the Moroccan Green Plan. Poorer farmer will thus benefit from upgraded and more efficient irrigation networks (such as drip irrigation equipment), financed by the Government of Morocco, and which should impact positively the overall cost of water for them while giving them access to a more reliable source of water.

- b) Gross revenues include sale of water for irrigation purposes only. There is a fixed tariff and a variable tariff. The variable tariff per m³ is set in order to cover the variable costs (energy per m³). The fixed tariff is set to cover fixed costs.

- c) The financial model only refers to the PPP irrigation scheme which is not being financed by the EBRD loan. Therefore there is no EBRD loan included in the model. A commercial loan is assumed to be repaid over a 14 year period.
- d) The timeline of the projections is 30 years as the PPP life.
- e) A discount rate of 5% was used based on guidance provided by EBRD's economists on public sector infrastructure projects in Morocco.
- f) With regards to the demand for water and the tariff, it was assumed that the volume of water available for irrigation is 72.5 million m3 since 2022 onwards, and a tariff of 2 dirham / m3 in 2021 increased by inflation annually.
- g) Neither EBRD's financial analysis nor the feasibility study assumes that the gas subsidy will be removed. Instead, a conservative approach has been so that any such subsidy removal will result in a more positive economic outcome.
- h) The possibility of not reaching a 100% subscription rate will be included in the PPP contract. During the preparation of the PPP agreement, the different risks will be taken into account. The demand risk will most probably not be taken by the private operator.

It should also be noted that should the PPP contract not be signed, other implementation mechanisms will be envisaged. However, the risk of the PPP irrigation mechanism not materialising is very limited given Morocco's track record in irrigation PPPs and the implementation of the PPP contract is covenanted in the Loan Agreement.

F.2. Technical Evaluation

Project costs: Analysis carried out as part of the Feasibility Study showed a possible undervaluation of costs related to the adductor and primary network. This will need to be confirmed and will depend on actual market costs at the tender stage. Furthermore, the adjustment of certain assumptions or design principle, (reviewed in the light of the previous recommendations) taking into account constraints that were not considered until now will likely contribute to increase the costs of proceedings. In conclusion, the order of magnitude of costs is deemed correct; with a potential undervaluation of 10%.

The O&M costs for the main transfer and distribution pipelines will be included in the PPP contract, i.e. O&M costs will be covered by the tariff paid by the end-users, and O&M will be under the responsibility of the private partner selected for the PPP. This decision was taken by MAMF to ensure the sustainability of the project. Costs for O&M for phases 1 and 2 were estimated as follows:

	Cost in million Dh/year
Tunnels (phase 1)	2.25
Main transfer pipes	16.36
Roads	4.25
Buildings	0.04
Total M DH excl. taxes	22.91

Project benefits: The principal risk concern the water supply from M'Dez dam's transfer, in particular during the first years, as the reservoir filling will depend on hydrological variability. The minimum flow that will be released from Mdez dam is also yet to be determined in application of the requirement of the new water law. Of interest, the principle of a minimum flow is new in Morocco, and the Project will therefore assist the Water Basin Agency and the MAMF to define a relevant value. Overall, the average inflow to the dam is 137 Mm3 if one follows a conservative approach and considers only the recent and dryer years. Evaporation and infiltration losses were estimated to 12 Mm3, which leaves an average available volume of 125 Mm3. A typical minimum flow figure would be around 10% of the annual inflow (13 Mm3), which would leave around 112 Mm3 for the transfer. According to future climate change projections for precipitation and temperature in Morocco, annual total rainfall is expected to decrease nationally by 21 % by the 2060s, and the 112 Mm3 might reduce to 90 Mm3: this is why the Project is

presented as having the potential to supply 110 to 90 Mm³ per year, which matches the estimated aquifer deficit: 100 Mm³.

It should be also noted that:

- The objective to reverse the process of Saïss aquifer depletion could be achieved with a reduced average volume of water supply for irrigation of 90 Mm³ from M'Dez transfer because of the further decrease of abstraction for drinking water supply from the Saïss table procured by the constructions of Ouljet Soltane dam and Idriss 1er transfer. Ouljet Soltane dam as well as the transfer from Idriss 1st dam are already under construction.
- The M'Dez river is in a different sub-catchment area and is not directly feeding the Saïss aquifer. Therefore, under the proposed Project it is not expected that the recharge of the Saïss aquifer will be impacted.
- The recharge of the Saïss plain aquifer is a permanent (although seasonal) process mainly from rainfalls and surface water (small streams) flowing to the Plain. The aquifer was affected by the fact that water was pumped from it faster than the natural recharge process could occur. Drip irrigation is the appropriate technology to be used in the Saïss Plain (and more generally is promoted in Morocco for irrigation) because it allows reducing the volume of water consumed to irrigate plants by minimizing infiltration and evaporation losses. As indicated in the technical due diligence report (Annex II, Table 6), water supply from the aquifer for Meknes and Fes amounted 49 Mm³ (= half of the 100 Mm³ deficit) and this will be reduced to 0 Mm³ (zero) by 2025 thanks to the construction of other water infrastructure in the Sebou basin.
- The Project and more generally the water management actions planned at the basin level do not include measures solely aimed at recharging the aquifer, such as injecting or forcing the infiltration of surface water in the aquifer.

F.3. Environmental, Social Assessment, including Gender Considerations

An Environmental & Social Assessment of the Project has been conducted by independent consultants on behalf of the EBRD. A gap analysis has been conducted against the EBRD Performance Requirements (PRs) and IFC Performance Standards (PSs). An environmental and social action plan was prepared for the project in order to ensure compliance with the Lenders Requirements. (See Annex VII. Environmental and Social Appraisal and Action Plan) In particular, key Project benefits include:

- the Project will protect existing employment in the Saïss agricultural plain, and is also anticipated to have a corollary effect in stimulating further growth (providing that the project supply of water and drip-irrigation techniques do not result in a materially lower labour-intensive method);
- the Project will reduce pressure on underground water resources;
- the Project, in parallel with associated initiatives, will improve regulation, control and protection of water abstraction generally within the Saïss plain;
- the Project will fundamentally complement the parallel initiative of conversion to drip-irrigation techniques throughout the Saïss Plain. This should result in a reduction in overall water abstraction (groundwater and surface water), through significant efficiency savings over the traditional irrigation methods;
- In relation to Cultural Heritage, it could be stated, given the Saïss Plain history as one of the major contributors to Morocco's GDP through its agricultural production, that its overwhelming intangible cultural identity as a farming area will be protected and enhanced by the Project, albeit by replacing traditional methods of irrigation with drip-feed technology;
- Through providing access and increased availability of water, it is envisaged that there may be a benefit to child education, in reducing the distance and time required to collect water (it was reported that teenage girls tend to be the ones sent to collect water, preventing them from going to school);
- the Project will improve women farmers' economic inclusion in the Saïss plain by supporting them to access economic opportunities in commercial agriculture; and,

From an environmental point of view, the Project is located in two areas that present different conditions: the first 60 km are located across a hilly and uniform landscape, mostly used for grazing, with a low density of population and agriculture. The

following 90 km are in the Saïss Plain, which is dominated by agricultural activities. There is no environmentally protected area in the vicinity of the water transfer pipeline corridor and no sensitive habitat was identified during the ESDD. The only protected area located close to the potential coverage area of the future distribution network is the Dwiya site in the Northern part of the Saïss Plain: Dwiya is a 200 ha royal farm and an “Important Site for Biodiversity and Ecology” as per the Morocco legislation, as well as an “Important Birds Area” recognized by Birdlife international. The protected nature of the site—it is a ‘Domaine Royal’ with no public access—means that birds are largely undisturbed, and it is therefore of great importance to migrating waterfowl and other species. Around 180 species have been recorded, of which up to 80 are definite or potential breeders. Although it is unlikely that the Project will impact the Dwiya area, a specific mitigation measure was included in the environmental and social action plan – requiring the involvement of an ornithologist if any works are planned in the vicinity of Dwiya site. (See Annex VII. Environmental and Social Appraisal and Action Plan)

The impacts of the Project are mostly associated with the construction phase: the water transfer pipeline will be underground and will therefore require a rolling worksite, with an open trench around 1 km long. The construction will be managed by a dedicated unit under the Ministry in charge of agriculture. The Project is developed following the mitigation hierarchy:

- The possible alignment of the pipeline was defined in order to avoid physical resettlement.
- After the construction, agricultural activities and grazing will be tolerated above the pipeline (to the exception of trees), and permanent agricultural losses will therefore be limited.
- The exact location of the pipeline is yet to be determined, and will be done taking into account E&S risks, in order to avoid or minimize impacts.

Environmental impacts associated with the Project’s operation are mainly connected to the reduced flow downstream Mdez dam: the newly water law adopted in Morocco imposes the application of a minimum flow to preserve aquatic ecosystems, and support will be provided by EBRD through Technical cooperation to determine this minimum flow in the context of the Project.

The EIA for the M’Dez dam was reviewed during the ESDD preparation, and taken into account for the environmental and social risks review of this facility. The EIA for M’Dez dam was subject to consultation in accordance with the Moroccan legislation before approval. EBRD was provided the EIA by our counterparts in the Moroccan government. We unfortunately are not in a position to circulate it without the consent of our counterparts.

As part of the due diligence, the Bank engaged external consultants who visited the site and conducted an audit of the environmental & social (E&S) risks, which included a media search for the project as well as issues associated with the M’Dez dam. This is a highly visible project which is subject to a lot of media attention. During the course of the due diligence, no NGO concerns, or E&S concerns in general were identified.

With regards to the social aspects of the audit, land acquisition, economic displacement is identified as the main risks during the construction phase of the project. A Land Acquisition and Compensation Framework (LACF) has been prepared in accordance with IFC Performance Standard / EBRD Performance Requirements 5 that provides a framework to guide the overall process and the standards that livelihood restoration and compensation process must meet in the future (Annex XIV). Furthermore, a Stakeholder Engagement Plan has been prepared to ensure key stakeholders are engaged in a timely manner with respect to the potential impacts and benefits of the project, in accordance with IFC Performance Standard / EBRD Performance Requirement 1.

Labour and working conditions have also been considered as part of the Environmental and Social Due Diligence (ESDD) undertaken, and recommendations made to ensure compliance with national and international law, as well as IFC Performance Standard / EBRD Performance Requirement 2.

Recommendations were made as part of the ESDD to address current participation barriers and promote gender equality, in accordance with the Fund’s Gender Policy and Action plan. The gender baseline assessment to be undertaken at the beginning of the project will aim to identify specific barriers to women’s participation in commercial agriculture by taking into account, inter alia, women’s significant role in securing water for productive, economic and household purposes and the associated time burden of women. Furthermore, the gender baseline assessment will aim to collect data on women’s membership in WUAs and

decision-making power, based on which specific measures to promote women's participation in WUAs such as quotas may be established.

Finally, it should be noted that the impact discussion in the ESAAP is focused on the direct project impacts, i.e. those resulting from the construction and operation of the transfer pipeline. The detailed assessment of impacts resulting from the distribution of irrigation water through the PPP cannot be assessed at this stage due to the nature of the PPP (the exact beneficiaries are not known yet and will be selected on the basis of demand through the subscription process). Risks associated with the distribution are mostly related to the construction phase (and to the related land use) and are covered through the LACF and SEP.

F.4. Financial Management and Procurement

FINANCIAL MANAGEMENT

1. Financial reporting of the GCF resources

As stated in Article 10 of the Agreement Establishing the EBRD, *Separation of operations*, the 'ordinary capital resources' of the EBRD and the GCF resources as 'Special Funds resources' of the EBRD shall at all times and in all respects be held, used, committed, invested or otherwise disposed of entirely separately from each other. EBRD will thus establish the GCF Special Fund ('the Special Fund') internally, through which all payments from the GCF and repayments to the GCF will pass.

Financial Reporting on the GCF Special Fund will be provided on an annual basis as standard, covering the period January to December inclusive. If more frequent financial reporting is required, this will be subject to negotiations at the time of signing of the relevant funding agreement. The GCF Board recently approved the GCF-EBRD SEFF Programme. In its funding proposal, similar financial reporting was agreed.

- The Special Fund will be audited on an annual basis. Auditors sign-off will be provided by April each year with the accounts approved by the Board of Governors at the Annual General Meeting of the EBRD. For the Financial management of the Green Climate Fund, International Financial Reporting Standards (IFRS) will be used.
- Portfolio reporting on the use of proceeds of the financing to the Kingdom of Morocco is reported on the basis of portfolio reporting provided by the Kingdom of Morocco as governed by the relevant Grant and Loan Agreements. By compiling the portfolio reporting and financial reporting on the Special Fund, EBRD will provide a Project-level financial reporting to GCF.

2. Governance of the GCF Special Fund

In using the resources of the GCF ('Special Fund resources') for this Project, the EBRD will apply the same internal financial management policies and procedures as are applied when administering technical assistance from any other internal or external source. The EBRD will exercise the same amount of care and diligence to 'Special Fund resources' as for its own capital resources. Compliance to the EBRD policies and requirements will be monitored and reported by the EBRD Office of the Chief Compliance Officer (OCCO).

The Special Fund resources will be governed by the EBRD throughout its lifecycle, from receipt, to disbursement, to repayment (where applicable). Relevant teams at the EBRD for such governance are the Donor Co-Finance team (DCF), Office of the General Counsel (OGC), Funds Accounting team, the Municipal and Environmental Infrastructure (MEI) team and the Risk department.

- 1) The primary control management is exercised by the **DCF team** within the EBRD's Policy and Partnerships Vice Presidency;
- 2) The **OGC** will assist the DCF for institutional and legal oversight;
- 3) The **Funds Accounting team in the Controller department** under Finance VP will oversee financial flows and accounting; financial activities with the GCF proceeds will be audited and reported on an annual basis. Auditors sign-off will be provided with the accounts approved by the Board of Governors at the Annual General Meeting of the EBRD.

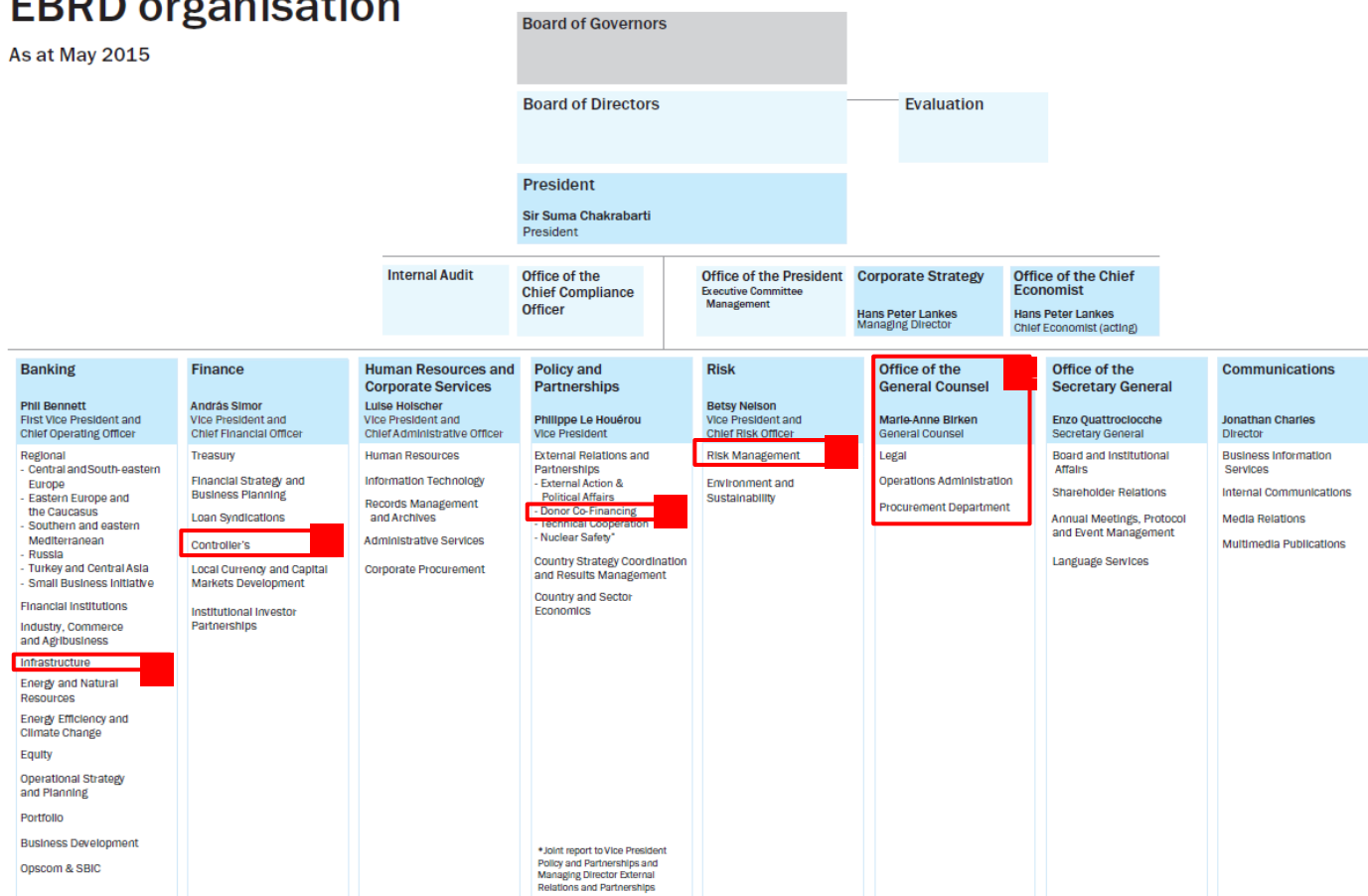
- 4) The **Municipal and Environmental Infrastructure (MEI) team** will work on the development and structuring of the sub-projects to be funded with the GCF and EBRD resources under the Project. In addition, MEI team will conduct operational monitoring for the Project.
- 5) **Risk department** will be involved from the Project design stage to assess the level of risks and prepare mitigation measures (e.g. pricing, etc.). Risk team will monitor and report activities and factors that can affect the health of the Project.

Figure 6 sets out the structure.

Figure 6. EBRD organisational structure and the governance of the GCF Special Fund

EBRD organisation

As at May 2015



3. Disbursement of the Special Fund resources

The EBRD has an internal control mechanism to ensure that, before the disbursement of the resources of the GCF and the EBRD, the Kingdom of Morocco comply with the applicable conditions. The process of the disbursement is as follows:

- The EBRD's loan agreement with the Kingdom of Morocco and grant agreements specify Conditions of Effectiveness that have to be met before making the loan or grant available.
- Evidence of compliance must be provided including legal opinions.
- Based on the Grant Agreement with the EBRD, the Kingdom of Morocco will prepare a Drawdown Application to drawdown

the loan or grant resources for eligible expenditures. The drawdown application will be immediately recorded in the relevant EBRD systems.

- The authenticity of the Drawdown Application and supporting documents are checked for accuracy and completeness.
- The Operation Administration Department (OAD), a dedicated disbursement control team under the Office of the General Counsel at EBRD, coordinates the processing of each Drawdown Application by checking whether all applicable conditions have been met, any limits adhered to, obtaining all required internal approvals and ultimately authorising to proceed with the drawdown.
- The OAD's functions are supported by bank-wide information systems, which record all the operations data and provide the basis for all general portfolio reporting within the EBRD. Such systems enable bankers and management to access timely and accurate information regarding asset quality and make informed decisions.

Further information may be found in the Disbursement Handbook for Public Sector Loans:
(<http://www.ebrd.com/downloads/research/guides/disburse.pdf>).

4. Compliance monitoring of the Special Fund resources

Compliance to the applicable policies and requirements of the EBRD and the GCF will be monitored and reported throughout the entire Project lifecycle.

- Before the signing of grant agreement: through robust due diligence including environmental and social, financial and integrity and AML/CFT. This has already been already completed.
- Post signing: compliance check and credit risk monitoring before the processing of each Drawdown Application (disbursement request).

5. Internal control system of the EBRD

EBRD is committed to the highest standards of corporate governance and applies internationally recognized best practice internal control framework - "Internal Control - Integrated Framework"¹³ issued by the Committee Of Sponsoring Organisations of the Treadway Commission (COSO)¹⁴. Based on the criteria for effective internal controls over financial reporting described in the paper, the EBRD assesses its internal controls over resources including Special Funds and other fund agreements. As part of the controls, the President and Vice-President Finance sign an assertion in the Annual Financial Statements of the EBRD¹⁵ that they have assessed the EBRD's internal controls over financial reporting and regard them as being effective. This is subject to scrutiny by the External Auditors who publish an attestation in the Annual Financial Statements commenting on the Management's assertion.

PROCUREMENT

1. EBRD's Procurement Policies and Rules (PP&R)

Procurement will be carried out in line with EBRD's Procurement Policies and Rules and other related EBRD policies (<http://www.ebrd.com/work-with-us/procurement/policies-and-rules.html>), which are designed to promote efficiency and effectiveness and to minimise credit risk in the implementation of the EBRD's lending operations. Among the EBRD's PP&R, three are of particular relevance to this Project:

1. Procurement Rules for Public Sector Operations;
2. Procurement in the Private Sector; and

¹³ http://www.coso.org/documents/990025P_Executive_Summary_final_may20_e.pdf

¹⁴ <http://www.coso.org/default.htm>

¹⁵ <http://www.ebrd.com/news/publications/financial-report/financial-report-2015.html>

3. Procurement Rules for Consultant Services.

2. Procurement Plan for goods and services

A draft procurement plan specifying the contract type and procurement method for each component of the Project will be prepared by the EBRD procurement specialist and verified by the Borrower prior to commencement of procurement. Any amendments will be subject to the EBRD prior review and approval.

2. Event of violation of procurement policies and EBRD Enforcement Policy and Procedures

The EBRD requires that clients as well as tenderers, suppliers, contractors, concessionaires and consultants under EBRD-financed contracts, observe the highest standard of transparency and integrity during the procurement, execution and implementation of such contracts. In pursuance of this policy, the Bank defines prohibited practices, namely coercive practice, collusive practice, corrupt practice, fraudulent practice and theft (PP&R Section 2.9).

Any occurrence, or suspected occurrence, of a Prohibited Practice in the procurement, award, or implementation of a Bank-financed contract in the context of an EBRD transaction shall be dealt with in accordance with the provisions of the Bank's Enforcement Policy as defined in the EBRD's Enforcement Policy and Procedures.

These rules will be included in the loan agreements with the Kingdom of Morocco in any contracts selected under this Project.

G.1. Risk Assessment Summary

The level of key risks that will affect the Project's performance are generally moderate and expected to be mitigated to a substantial degree by the Project's structure and capacity building initiatives. Key risks to this Project are:

Sovereign risk

The risk is mitigated by (i) small size of loan relative to overall country outstanding debt and the composition of Morocco's sovereign debt which is largely comprised of either domestic MAD denominated borrowing or long-term concessional IFI loans; and (ii) Morocco's track record in honouring its commitments to external creditors.

Implementation of the PPP structure

One risk to achieving the objective of the Project is a potential reluctance to follow through or implement the PPP. To mitigate the risk of delays, launching the PPP tender process by 31st December 2017 and signing the PPP contract with the selected private operator by 31st December 2020 will be covenanted. In addition, the risk is mitigated by Morocco's track record in irrigation PPPs. In 2004, it launched its first irrigation PPP in the world, in the citrus production perimeter of Guerdane. Other PPPs are at various stages of preparation (Azemmour Bir Jdid, Dar Khrofa, Chtouka).

Environmental risk from water resource use

If estimates suggest that the Project will provide enough water to replenish the Saïss aquifer, the exact impact of climate change on the Saïss Plain aquifer as well as the evolution of the aquifer's water balance remains a risk. This risk is first mitigated by the support provided by the Bank to monitor the Saïss aquifer and to establish institutional measures to ensure extraction is kept under control. The Bank will covenant the development and implementation of these tools. EBRD will also covenant the implementation of the required measures by the Kingdom of Morocco to prevent the depletion of the Saïss water table.

Affordability and tariff risk

Affordability constraints limit the ability of farmers to tolerate water tariff increases, and consequently create challenges for ensuring sufficient tariff revenues to cover operational and maintenance costs. The GCF's involvement in the Project will contribute to the affordability of water services for the end-user as it will allow for the availability of sufficient public subsidies under the PPP scheme. The financial structure of the proposed Project is based on a well-tested EBRD model of combining grant and loan finance in order to reach an appropriate level of concessionality that overcomes climate change-induced social, economic and environmental vulnerabilities while addressing Morocco's affordability constraints of farmers, communities and households.

Implementation risk

This is MAMF's first project with the Bank and therefore it is not yet familiar with the Bank's PP&R. To ensure smooth procurement implementation, the Bank has mobilised TC donor funds for procurement support to assist the PIU in the procurement process. Regarding implementation risk, MAMF has experience in implementing similar water transfer projects, such as the recent Guerdane irrigation project (10,000 ha).

G.2. Risk Factors and Mitigation Measures

Sovereign Risk

Description	Risk category	Level of impact	Probability of risk occurring
The Kingdom of Morocco's capacity to service the loan	Financial	High (>20% of project value)	Low

Mitigation Measure(s)

The risk is mitigated by (i) small size of loan relative to overall country outstanding debt and the composition of Morocco's sovereign debt which is largely comprise of either domestic MAD denominated borrowing or long-term concessional IFI loans; and (ii) Morocco's track record in honouring its commitments to external creditors. The above factors were reflected in Moody's upgrade of Morocco's outlook from negative to stable in September 2015.

Implementation of the PPP structure

Description	Risk category	Level of impact	Probability of risk occurring
Potential reluctance to follow through or implement the PPP	Technical and operational	Medium (5.1-20% of project value)	Low

Mitigation Measure(s)

To mitigate the risk of delays, launching the PPP tender process by 31st December 2017 and signing the PPP contract with the selected private operator by 31st December 2020 will be covenanted. In addition, the risk is mitigated by Morocco's track record in irrigation PPPs. In 2004, it launched its first irrigation PPP in the world, in the citrus production perimeter of Guerdane. Other PPPs are at various stages of preparation (Azemmour Bir Jdid, Dar Khrofa, Chtouka).

Environmental risk from water resource use

Description	Risk category	Level of impact	Probability of risk occurring
Environmental risks from water demand and availability risk can be induced by two factors: If the water tariff is not affordable for the farmers, the private partner could face a loss of income. Another factor is the competition with the use of the water table for irrigation. Indeed, an important feature of the Saïss hydro-agricultural development project is the use of two water resources for crop irrigation: surface water from the transfer supplemented by extraction from the water table. If agricultural takings from the water table remain too high, the objective of the project could be threatened and the private partner could face a loss of income.	Technical and operational	Medium (5.1-20% of project value)	Medium

Mitigation Measure(s)

The assumption made for the water availability (90Mm3) seems to be sensible and prudent at this stage of the project. However, despite this, occurrence of dry years cannot be excluded and this could negatively impact the project, especially during the first years when the inter-annual reserve has not been reached yet. Accurate measures should be provided for in the public service contract in order to allocate the risk between the private partner and the public authority in case of water scarcity.

The economic viability of the tariff is in principle “guaranteed” by the fact that the tariff will be defined by the successful private operator, in its financial offer.

If the tariff resulting from the procurement process for the Public Service Contract does not seem socially acceptable, then the MAMF will pursue the project under a global public ownership. Moreover, an accurate enforcement of the aquifer contract and the strengthening of water controls should prevent from abusive extractions in the water table.

Affordability and Tariff Risk

Description	Risk category	Level of impact	Probability of risk occurring
Local affordability constraints create challenges for raising tariffs to appropriate levels to recover investment costs	Financial	Medium (5.1-20% of project value)	Low

Mitigation Measure(s)

The proposed GCF grant of EUR 31.97 million, which represents 15 % of the total project costs (EUR 206.67 million), is reasonable and necessary in order to achieve the Project’s objectives. The GCF’s involvement in the Project will contribute to the affordability of water services for the end-user as it will allow for the availability of sufficient public subsidies under the PPP scheme. A preliminary financial model developed for the PPP scheme includes public subsidies of EUR 112 million and an increase in the average tariff to MAD 1.8 / m3, which is the cost of drawing water from the basin. Without public subsidies, the average tariff would have to be set at MAD 3.9 / m3, which will breach the affordability constraints of the farmers.

Implementation Risk

Description	Risk category	Level of impact	Probability of risk occurring
Beneficiaries’ limited capacity or experience to a. implement water conservation measures; b. improve financial and operational performance; c. Bring tariff or institutional reform	Technical and operational	Medium (5.1-20% of project value)	Medium

Mitigation Measure(s)

This is MAMF’s first project with the Bank and therefore it is not yet familiar with the Bank’s PP&R. To ensure smooth procurement implementation, the Bank has mobilised TC donor funds for procurement support to assist the PIU in the procurement process. Regarding implementation risk, MAMF has experience in implementing similar water transfer projects, such as the recent Guerdane irrigation project (10,000 ha).

Other Potential Risks in the Horizon

Not applicable.

H.1. Logic Framework.

H.1.1. Paradigm Shift Objectives and Impacts at the Fund level¹⁶

Paradigm shift objectives

Increased climate-resilient sustainable development

The Project will help to secure water resources and increase the resilience of the Saïss Plain community and aquifer by providing water conservation infrastructure. Water resources will become more resilient and practices will improve through both the Project's investment and capacity building efforts. The Project creates an enabling environment for enacting the practices necessary to effectively adapt to the challenges of climate change. The capacity building and training programmes necessitate local stakeholder engagement to build the Plain community's adoption and sense of 'ownership' of the new resilience measures. Additionally, the role of the Project's policy and strategy support includes supporting gender equality along with innovative investment mechanisms. These new paradigms will be foundational for successful climate change adaptation as they affirm the strategic vision and local buy-in needed to effectively secure the sustained viability and productivity of the Saïss Plain.

The Project's outputs and outcomes are connected through the Project's components. Project implementation support will ensure that the 2,849 farms projected to benefit from improved adaptive capacity will be positively impacted by the project. Women's economic inclusion initiatives will promote gender friendly policies, while education and training programmes will increase local awareness of climate threats. These outputs will be critical benchmarks to achieving the project's outcomes and impacts, and have an appropriate level of detail at the GCF PMF level.

Expected Result	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term	Final	
Fund-level impacts						
A1.0 Increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions	A1.2 Number of individuals and percentage of population (and relative disaggregation of women and men) adopting climate-resilient livelihood options (including fisheries, agriculture, tourism, etc.)	EBRD Board Document; Consultant report	0		350,000	- Project area population; - Good receptiveness and engagement of individuals is assumed
A3.0 Increased resilience of infrastructure and the built environment to climate change	A3.a Number of physical assets constructed and / or made more resilient to climate variability and change	EBRD Board Document; Consultant report	0		i) 45 km transfer pipeline ii) 90 km distribution pipeline	
A3.0 Increased resilience of infrastructure and the built	A3.b Value of physical assets constructed and /	EBRD Board	0		€203.82 million	- The reliability and quality of the

¹⁶ Information on the Fund's expected results and indicators can be found in its Performance Measurement Frameworks available at the following link (Please note that some indicators are under refinement):

http://www.gcfund.org/fileadmin/00_customer/documents/Operations/5.3_Initial_PMF.pdf



<i>environment to climate change</i>	<i>or made more resilient to climate variability and change</i>	Document; Consultant report				infrastructure is proportional to the value of the physical asset made climate resilient
--------------------------------------	---	--------------------------------	--	--	--	--

H.1.2. Outcomes, Outputs, Activities and Inputs at Project/Programme level

Expected Result	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term	Final	
Project/programme outcomes	Outcomes that contribute to Fund-level impacts					
A5.0 Strengthened institutional and regulatory systems for climate-responsive planning and development	A5.1 Number of gender-friendly policies, institutions, coordination mechanisms and regulatory-frameworks that improve incentives for climate resilience and their effective implementation	Consultant report; EBRD project monitoring reports	0		5	- Macroeconomic conditions remain sufficiently stable for scaled up investment in the sector - TCs with sub-Components 1.1, 2.1, 2.2, 3.1 and 3.2
A7.0 Strengthened adaptive capacity and reduced exposure to climate risks	A7.1 Use by vulnerable household, communities, businesses and public-sector services of Fund supported / developed tools, instruments, strategies, and activities to respond to climate change and variability	Consultant report	0		2,849 commercial and subsistence farms	- Assumes that tariffs remain affordable for the majority of the population
A8.0 Strengthened awareness of climate threats and risk-reduction processes	A8.1 Number of males and females made aware of climate threats and related appropriate responses	Consultant report	0		8,640	- Typical figures considering a ratio of 2.5 ha per worker
Expected Result	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term	Final	
Project/programme outputs	Outputs that contribute to outcomes					
1.Project Implementation Support	% completion	Consultant Reports	0		100	
2.1 Public Participation Programme	Success indicator for information campaign to be developed by consultant	Consultant Report	TBD		TBD	
2.2 Women’s Economic Inclusion in the Saïss Plain	Six indicators selected. Refer to Section E.3.1	Consultant Report	0 or 0%		See Section E.3.1	
2.3 End-user Education and Training Programme	Training workshops for: a. Administrative and technical support to farmers to access existing subsidies for	Consultant reports, press release	0		a. 10 b. 10	

	drip irrigation					
	b. Education and Training Programme to promote water efficient practices					
3.1 Environmental Monitoring of the Saïss Aquifer	GIS successfully implemented	Consultant reports	0		1	
Activities	Description	Inputs		Description		
1.1 Implement project	• Provide project management support to the PIU to co-ordinate, manage, monitor and evaluate all aspects of the Project • Review and refine Procurement Plan • Support prequalification preparation, if any, and tender documents for procurement of works and goods; • Support the Expression of Interest preparation and Request for Proposal for the Consultancy Service Contracts to be procured from the Loan proceeds • Arrangement of the tendering procedures for the loan financed contracts including evaluation of tenders and drafting tender evaluation reports; and submit the necessary documents to the EBRD, requesting the issue of “no objection” statements as required; • Arrangement of timely disbursement • Prepare an integrated time schedule and prepare, attend and document progress meetings with the various parties; • Assist the PIU in meeting reporting obligations under its loan agreement with EBRD and under its investment grant with GCF.	Financial resources and policy / technical expertise to be deployed		€ 900,000		
2.1 Implement Public Participation Programme	• Raise customer awareness through information campaigns • Facilitate dialogue between end users of water services and relevant government authorities	Financial resources and policy / technical expertise to be deployed		€ 800,000		
2.2 Formulate a programme focused on the promotion of women-led agribusiness in the Saïss plain	• Conduct a baseline assessment to identify overall barriers to entrepreneurship and business creation in commercial agriculture by women • Conduct an institutional assessment including a stakeholder mapping of local institutions relevant for the agro-industry as well as existing programmes • Conduct research on best practices within Morocco to promote and support women’s participation in entrepreneurship and business development in sustainable commercial agriculture • Conduct market research to identify market opportunities for women’s participation in	Financial resources and policy / technical expertise to be deployed		€ 270,000		

	agri-business and agri-business supply chains • Organise and facilitate a planning workshop with relevant institutional stakeholders in the Saïss plain to discuss findings • Formulate and support the implementation of a 3 year programme to facilitate women-led businesses participation in sustainable commercial agriculture		
2.3 Provide administrative and technical support to farmers, and establish an education and training programme to promote water efficient practices	• Set up a programme to train community trainers to support the population of eligible farmers in processing administratively and technically their financing requests to the Government • Prepare a brief note of the situation of water usage practices within the Saïss plain, formulating recommendations on the main potential improvements which could be promoted through training • Design of a programme to train community trainers in the teaching of water efficient practices from a technical (equipment, methodologies, etc) and agricultural (crops, methodologies, etc.) point of view • Carry out the training programme for community trainers and supervise the trainings provided to the farmers • launch mutual learning exercises to insure farmer-to-farmer transmission of lessons and experience	Financial resources and policy / technical expertise to be deployed	€ 150,000
3.1 Implement a Saïss aquifer conservation monitoring tool	• List all information and data available on the use of water within the Saïss plain; • Identify information gaps required to establish an effective water management system in the Saïss plain; • Identify missing infrastructure (hydrological measurement sections, piezometers, meteorological stations) required to close the information gap to increase certainty and confidence in the Saïss aquifer monitoring and management; • Propose a suitable institutional arrangement, including the creation of a Steering Committee, to share information and make recommendations for decision making, • Assist MAMF and the ABH on the implementation of the new requirements included in Law 36-15, • Develop the structure required to effectively monitor and manage the Saïss plain using a GIS platform and the support information systems needed. The outputs should be agreed amongst stakeholders, • Prepare tender documents needed to implement the system (software, hardware and infrastructure).	Financial resources and policy / technical expertise to be deployed	€ 700,000

H.2. Arrangements for Monitoring, Reporting and Evaluation

1. Monitoring and reporting

All monitoring, reporting and evaluation arrangements for the proposed Project will comply with the relevant GCF policies, including MAF and AMA. The implementation of the Project will be managed and monitored by EBRD staff and the OPD. EBRD has dedicated staff in its Municipal and Environmental Infrastructure (MEI) team, risk departments and Regional Office in Casablanca that will conduct due diligence and monitor project risks and prepare mitigation measures throughout the Project lifecycle. The project will be monitored on an annual basis through a project monitoring report circulated to the relevant units of EBRD. The monitoring of the MoV will thus be done on an annual basis. During the Project's implementation phase (Phase 1), the Project Implementation Unit (PIU) will be responsible for monitoring and reporting. In the repayment phase (Phase 2), EBRD's portfolio management department will provide regular monitoring and reporting.

As specified in Loan Agreements between the borrowers and EBRD, the borrower is obliged to report on the use of proceeds of the Project and the environmental and social performance of the Project to the EBRD on annual basis. The OPD will provide EBRD with:

- (i) semi-annual progress reports;
- (ii) consolidated annual reports including
 - a. progress achieved by output as measured through the indicator's performance targets
 - b. key implementation issues and solutions
 - c. updated procurement plans; and
 - d. updated implementation plan for next 12 months; and
 - e. a project completion report within 6 months of physical completion of the works.

EBRD will undertake one Project review a year to assess progress of Project implementation activities against the agreed outcomes and outputs, compliance with covenants and project agreements. The monitoring review will cover the following items:

- i) financial standing of the Client,
- ii) Project implementation progress,
- iii) environmental, social and gender issues and improvements,
- iv) implementation of technical assistance;
- v) progress in corporate development and policy dialogue; and
- vi) status of indicator tracking.

The logic framework in section H of this document will be used to evaluate the outcome of this Project. EBRD will provide a Project-level report to the GCF.

In addition, as part of the Project's Public Participation Programme, an advisory committee will be established that will meet at OPD's premises every three months and will include all client groups, i.e. local industry and local authorities. The Advisory Committees will discuss any issue that may arise. If several Advisory Committees are created, the Consultant will agree with OPD, ABH and MAMF a frequency at which these Committees shall meet (not less than once a year) in order to exchange their experiences and views. Minutes of the meetings will be distributed / published to consumers and other stakeholders (industries, OPD, ABH, MAMF, media, local authorities, women associations, local associations, youth associations, religious leaders and any other relevant groups).

2. Evaluation

Throughout the Project lifecycle, both the EBRD in-house staff and OPD will evaluate the success and risks of Project in line with EBRD and GCF policies.

A mid-term evaluation will be carried out by an independent evaluator within 3 years of Project being effective or at any time that the Government of Morocco or EBRD consider it necessary. The mid-term review mission will:

- (i) review institutional, administrative, organisational, technical, environmental, social, economic, and financial aspects of the Project based on the assumptions and risks included in the design and monitoring framework;
- (ii) review covenants to assess whether they are still relevant or need to be changed, or waived due to changing



- (iii) circumstances; and
update the Project's design and monitoring framework if restructuring or reformulation is necessary.

An independent final evaluation will be carried out at the Project completion stage of within few months from the date of the Project completion.

I. Supporting Documents for Funding Proposal

Mandatory supporting documents submitted alongside the proposal:

1. Annex I. Maps indicating the location of the Project
2. Annex II. Feasibility Study
3. Annex III. Procurement Plan
4. Annex IV. Financial Model
5. Annex V. EBRD Confirmation letter or letter of commitment for co-financing commitment
6. Annex VI. Project Draft Term Sheet
7. Annex VII. Environmental and Social Appraisal and Action Plan
8. Annex VIII. Gender assessments of Morocco
9. Annex IX. NDA No-objection Letter
10. Annex X. Public Information and Consultant Activities
11. Annex XI. Stakeholder Engagement Plan
12. Annex XII. Gender Action Plan
13. Annex XIII. Procurement Plan
14. Annex XIV. Land Acquisition and Compensation Framework
15. Annex XV. EBRD Board Approval Confirmation
16. Annex XVI. Financing Instrument Justification



No-objection letter issued by the national designated authority

Ministère délégué auprès du Ministre de l'Energie,
des Mines, de l'Eau et de l'Environnement,
chargé de l'Environnement

La Ministre

المملكة المغربية
ⵜⴰⴳⴷⴰⵢⵜ ⵏ ⵍⵎⵎⵓⵔ
Royaume du Maroc



الوزارة المنتدبة لدى وزير الطاقة والمعادن
والماء والبيئة، المكلفة بالبيئة
ⵜⴰⴳⴷⴰⵢⵜ ⵏ ⵍⵎⵎⵓⵔ ⵏ ⵍⵎⵎⵓⵔ ⵏ ⵍⵎⵎⵓⵔ
ⵏ ⵍⵎⵎⵓⵔ ⵏ ⵍⵎⵎⵓⵔ ⵏ ⵍⵎⵎⵓⵔ

الوزيرة

Ms. Hela Cheikhrouhou
Executive Director of the Green Climate Fund
Sondgo Business District
175 Art Center daero Yeonsu-gu Incheon 22004
Republic of Korea

Rabat, 27 July 2016

Re: Funding proposal for the GCF by the European Bank for Reconstruction and Development ("EBRD") regarding the Saïss Water Conservation Project.

Dear Mrs. Cheikhrouhou

We refer to the Saïss Water Conservation Project ("the project") in Morocco as included in the funding proposal submitted by the EBRD to us on 21 March 2016. The proposal envisages up to US\$ 30.0 million grant financing from the GCF, for improvements in water infrastructure and water use in agricultural production systems in the Saïss river basin.

The undersigned is the duly authorized representative of the Ministry of Energy, Mining, Water and the Environment of the Government of the Kingdom of Morocco, the National Designated Authority/focal point of Morocco.

Pursuant to GCF decision B.08/10, the content of which we acknowledge to have reviewed, we hereby communicate our no-objection to the project as included in the funding proposal.

By communicating our no-objection, it is implied that:

- (a) The government of the Kingdom of Morocco has no-objection to the project as included in the funding proposal;
- (b) The project as included in the funding proposal is in conformity with Morocco's national priorities, strategies and plans;
- (c) In accordance with the GCF's environmental and social safeguards, the project as included in the funding proposal is in conformity with relevant national laws and regulations.

We also confirm that our national process for ascertaining no-objection to the project as included in the funding proposal has been duly followed.

We acknowledge that this letter will be made publicly available on the GCF website.

Sincerely,

Mrs. Hakima El Haité
Minister delegate in charge of Environment
Le Ministère de l'Énergie, des Mines, de l'Eau et de
l'Environnement, Chargé de l'Environnement

Hakima EL HAITE

Environmental and social report(s) disclosure

Basic project/programme information	
Project/programme title	Morocco Saïss Water Conservation Project
Accredited entity	European Bank for Reconstruction and Development (EBRD)
Environmental and social safeguards (ESS) category	Category B

Environmental and Social Impact Assessment (ESIA) (if applicable)	
Date of disclosure on accredited entity's website	2016-09-30
Language(s) of disclosure	English and French
Link to disclosure	http://www.ebrd.com/what-we-do/get/knowledge-hub.html The ESAAP below contains an impact assessment (ESIA) consistent with the requirements of PS1 for a category B project.
Environmental and Social Management Plan (ESMP) (if applicable)	
Date of disclosure on accredited entity's website	2016-09-30
Language(s) of disclosure	English and French
Link to disclosure	http://www.ebrd.com/what-we-do/get/knowledge-hub.html The ESAAP below contains a management plan (ESMP) consistent with the requirements of PS1 for a category B project.
Resettlement Action Plan (RAP) (if applicable)	
Date of disclosure	n/a
Any other relevant ESS reports and/or disclosures (if applicable)	
Description of report/disclosure	Environmental and Social Appraisal and Action Plan As the project has been classed as Category B in line with EBRD's Environmental and Social Policy (2104), the ESS document was prepared for GCF and is aimed at providing GCF and the public with relevant information regarding (i) the environmental and social assessment carried out by the European Bank for Reconstruction and Development (EBRD) and (ii) the resulting environmental and social action plan discussed with the Ministry in charge of Agriculture in the frame of the Saïss Water Conservation Project in Morocco.
Language(s) of disclosure	English and French
Link to disclosure	http://www.ebrd.com/what-we-do/get/knowledge-hub.html