



## CONCEPT NOTE PROPOSAL FOR SINGLE COUNTRY

### PART I: PROJECT/PROGRAMME INFORMATION

**Title of Project/Programme:** Strengthening the Resilience of Oasis Ecosystems and Improving the Adaptive Capacity of Communities in the Draa Basin to Climate Change

**Country:** Morocco

**Thematic Focal Area:**

**Type of Implementing Entity:** National Implementing Entity

**Implementing Entity:** Agricultural Development Agency

**Executing Entities:** Office de Mise en Valeur Agricole de Ouarzazate

**Amount of Financing Requested:** 9 981 000,00 (in U.S Dollars Equivalent)

**Project Formulation Grant Request (available to NIEs only):** Yes ☒ No ☐

**Amount of Requested financing for PFG:** 150 000,00 (in U.S Dollars Equivalent)

**Letter of Endorsement (LOE) signed:** Yes ☒ No ☐

*NOTE: LOEs should be signed by the Designated Authority (DA). The signatory DA must be on file with the Adaptation Fund. To find the DA currently on file check this page:*

<https://www.adaptation-fund.org/apply-funding/designated-authorities>

**Stage of Submission:**

☐ This concept has been submitted before

☒ This is the first submission ever of the concept proposal

In case of a resubmission, please indicate the last submission date:

**Please note that concept note documents should not exceed 50 pages, including annexes.**



## Project/Programme Background and Context:

*Provide brief information on the problem the proposed project/programme is aiming to solve. Outline the economic, social, development and environmental context in which the project would operate.*

### **Morocco at the centre of climate and environmental vulnerability**

Morocco is considered as a "climate hotspot," highly exposed to the effects and impacts of climate change. The country has experienced pronounced warming trends since the 1960s, with an average observed increases of 0.2°C per decade, exceeding the global average. Nine of the ten warmest years on record in Morocco have occurred in the last two decades. Precipitation has followed a general downward trend, with increasingly irregular patterns. These changes are expected to increase over the coming decades.

Morocco is one of the countries most affected by climate change (CC) and faces extreme weather events with wide variations in temperature, leading to persistent droughts in semi-desert plains and floods in coastal plains. These events impact water availability, significantly affecting natural resources, ecosystems, and, above all, people's access to water, whether for drinking or for irrigating agricultural land (CNM-CCNUCC, 2021).

### **Warming trends**

Morocco's climatic data over the last quarter of a century shows that the country's climate is highly variable, with notable warming trends and rainfall deficits. Overall, the temperature in Morocco, across all seasons, has been increased by an average of +0.6 to +1.4°C, depending on the region, over the last 40 years. This increase has been particularly marked since the 1980s and 1990s, a period during which warming became more pronounced as droughts became more frequent.

Climate projections based on annual changes in precipitation and average temperatures according to the IPCC's optimistic scenario, RCP 2.6, as revealed in the IPCC's 5<sup>th</sup> report that:

- Average annual temperatures are projected to rise by 0.5 to 1°C by 2020 and by 1 to 1.5°C by 2050 and 2080, across entire country.
- This rise in average annual temperature will be even greater under the pessimistic RCP 8.5 scenario, reaching around 2100:
  - Between 5 and 7°C in the south-east of the Atlas Mountains,
  - Between 4 and 5°C in the Mediterranean regions, the Atlantic regions and the center of the country,
  - Between 3 and 4°C in the Saharan provinces.

The period from 2019 to 2022 was the driest since the 1960s, according to the Directorate General of Meteorology. In 2023, which was also marked by low rainfall, Morocco experienced five heat waves, including an absolute record of 50.4°C in Agadir in August.

### **Water shortages, drought and reduced snow cover**

Morocco is one of the most water-poor countries in the world and is rapidly approaching the absolute water shortage threshold of 500 m<sup>3</sup> per person per year.

According to a preliminary climate and environmental vulnerability assessment, based on a review of reports and analyses by the Intergovernmental Panel on Climate Change, the United Nations and the Moroccan government, the country is in a drought situation<sup>1</sup>, with a rainfall deficit of 32% since 2019 (MEE, 2023).

Morocco's total water resources are estimated at 22 billion cubic meters (m<sup>3</sup>), comprising 18 billion m<sup>3</sup> of surface water (on average for the available time series) and 4 billion m<sup>3</sup> of groundwater. Since the late 1970s, water inflows from surface water have decreased, from an annual average of 22 billion m<sup>3</sup>

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<sup>1</sup>In its 5th report, the IPCC emphasized that, for all time horizons, there is a downward trend in annual cumulative rainfall, varying between 10 and 20% and reaching 30% in the Saharan provinces by 2100.

between 1945 and 1978 to an annual average of 15 billion m<sup>3</sup> between 1979 and 2018. Between 1960 and 2020, the per capita availability of renewable water resources fell from 2,560 m<sup>3</sup> to around 620 m<sup>3</sup> per person per year, placing Morocco in a situation of structural water stress (less than 1,000 m<sup>3</sup>), and rapidly approaching the absolute shortage threshold of 500 m<sup>3</sup> per person per year. As a result, pressure on groundwater has increased considerably, reaching a level of overexploitation estimated at almost 30%, especially during dry years. The challenge of water scarcity is compounded by deteriorating water quality affecting both groundwater and surface water.

Morocco is experiencing increasingly recurrent and severe droughts. The country has faced more than forty years of various types of droughts, accompanied by excessive temperature variations, marking the last century. Morocco is heading for a sixth consecutive year of drought. The period from 2019 to 2022 was the driest since the 1960s, according to the Directorate General of Meteorology. In 2023, also marked by low rainfall, Morocco experienced five heat waves, including an absolute record of 50.4°C in Agadir in August.

At the same time, Morocco will also see a reduction in snow cover as a result of climate change. The amount of snow in the mountains will be significantly reduced, resulting in less water stored in the form of snow to feed the springs. According to the latest IPCC assessment report, by 2100 Morocco can expect a 15% or even 20% reduction in precipitation, which will double the amount of available water.

### **Flooding**

Paradoxically, there will be a very significant increase in stormy rainfall. Due to its geographical location, high variability of rainfall and its topography, Morocco will experience extreme precipitation events leading to flooding, landslides and a large amount of sediment carried down rivers. This will further silt up dams and cause massive destruction various roads and rail infrastructures. . Between 2000 and 2021, twenty major flooding events were recorded, causing average direct losses estimated at \$450 million per year.

Morocco has developed a disaster risk management (DRM) system based on innovative mechanisms, particularly the *Fonds de lutte contre les effets des catastrophes naturelles* (FLCN). Initially created to finance post-disaster reconstruction, then transformed into a mechanism that co-finances investments in disaster risk reduction and preparedness at local level.

## **Morocco rethinks its development model**

### **Policies for a resilient, low-carbon transition**

Water scarcity could affect almost every aspect of Morocco's future socio-economic development. The increasing frequency and severity of droughts are already major sources of macroeconomic volatility and pose a threat to national food security. Looking ahead, reduced water availability and lower agricultural yields due to climate change could potentially reduce GDP by up to 6.5%.

**Rain-fed agriculture (bour)** is particularly vulnerable to droughts and water shortages: Despite accounting for 80% of the country's cultivated area and employing the majority of farm workers, climate-induced changes in water availability and crop yields could potentially contribute to the rural exodus of 1.9 million Moroccans (equivalent to 5.4% of the total population) by 2050.

**The deployment of large-scale hydraulic infrastructures<sup>2</sup>** has been a key factor in Morocco's recent development. This infrastructure has enabled a shift towards more productive crops and nearly doubled real agricultural value added over the past two decades. Morocco has introduced an ambitious water investment plan for the period 2020-2050 known as the "Plan National de l'Eau (PNE)", aimed at bridging the gap between water supply and demand.

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<sup>2</sup> Since the late 1960s, the Kingdom has built more than 140 large dams, increasing its total water mobilization capacity tenfold (from 2 to nearly 19.1 billion m<sup>3</sup>). It has also developed drip irrigation.

The drip irrigation target to manage water resources in an optimal way. The situation of the oases of southern Morocco is dramatic, as it is facing a dire situation, exacerbating desertification effects. This results in the degradation, eventual loss, and abandonment of productive ecosystems that play significant social, ecological, and economic roles in the region. In oasis area, the water management is a must to be followed in order to preserve resources. This became even more critical during a period of drought, which reveals the weaknesses in the current nationwide system. The oases are therefore not only the first to bear the brunt of climate change impacts but also represent the country's final frontier against desertification.

Climate and development

### **A New Development Model (NMD)**

Morocco recently unveiled a New Development Model (NMD) aimed at achieving socio-economic transformations. The NMD revolves around four transformation axes and outlined ambitious goals, such as doubling GDP per capita by 2035. Achieving this requires maintaining an average annual growth rate of around 7% over the next 12 years, which will only be possible if the country diversifies its sources of growth beyond the accumulation of public capital. Recent simulations suggest that the Moroccan economy will only be able to grow at such rate if the country gives priority to actions conducive to a process of structural transformation favoring increased productivity and a rebalancing of investment towards the private sector; remove barriers for women and youth in the job market; and bolster human capital through improved education and healthcare services (World Bank, 2022).

### **Oases in Morocco: a natural and human setting**

Oases are usually defined as intensively cultivated areas in a desert or highly arid environment (Lacoste, 1985). They are "important socio-agro-ecological ecosystems that provide economic, ecological, social and cultural services in the world's drylands" (FAO, 2020). These ancient landscapes and heritage that have existed for centuries in most of the world's vast drylands. Historically, they were caravan and trade routes that evolved into cultivated areas as nomadic populations settled down. In Morocco, the oases are located within to the arid zone, one of the four primary regions making up the national territory. This zone includes the Anti-Atlas dir, the Drâa valley, Ziz, Dades, Tafilalet and Figuig. Oasis zones cover an area of 48,000 ha, constituting 15% of the national territory. They account for 1.5% of total UAA and 5.9% of farms, hosting over 1.7 million inhabitants at a density of 15 inhabitants per square kilometer.

#### **Weather conditions**

#### **Temperature and rainfall**

Oases are arid areas, characterized by high continental temperatures in summer and very low temperatures in winter, often accompanied by dry winds that create a substantial gap between rainfall and evaporation. The climate in Moroccan oases is continental, with high temperatures between June and September and high evapotranspiration in summer.

Due to their geographical location oasis areas are subject to a considerable temperature variation, with extremely hot summers averaging around 42°C. During the hottest months, temperatures frequently exceed 40°C, making the climate very arid and difficult to bear without proper acclimatization. Winters are cold, with an average temperature around -0.5°C. The difference in temperature between summer and winter is significant, reflecting the thermal amplitude typical of desert climates.

**On average, the region receives less than 80 mm of rainfall per year**, highlighting its scarcity. Rainfall is not only limited, but also irregular, both temporally and spatially. Nevertheless, certain valleys have microclimates characterized by reduced aridity attributed to the presence of vegetation and the shelter provided by high relief in these valleys.

The region is characterized by periods of highly unpredictable and sometimes severe flooding, which can cause considerable damage. These events result from localized episodes of rain and storms,

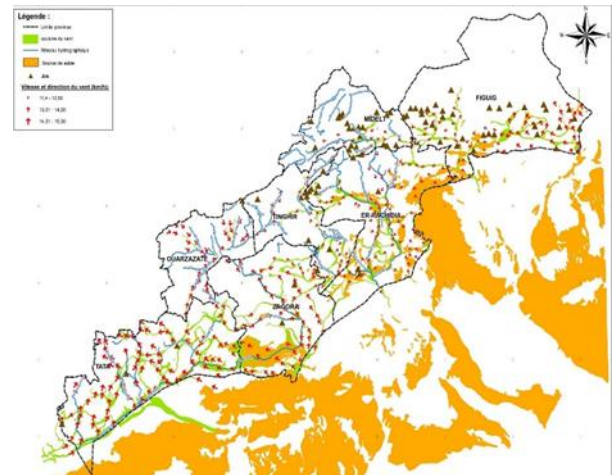
becoming more frequent as one moves from east to west. The construction of reservoir dams such as Mansour Addahbi on the Oued Drâa and Hassan Addakhil on the Oued Ziz has reduced the risk of these floods and has enabled the main palm groves of the Drâa and Tafilelt to be supplied regularly. However, it has also severely limited the recharging of groundwater, particularly affecting water tables along riverbeds and low-lying areas.

While temperatures remain relatively stable from year to year, rainfall shows significant irregularity with high inter-annual variability. The inevitability of floods and droughts has left its mark on people's minds. Farmers live with the expectation of a beneficent rainfall while simultaneously fearing the disruptive impacts of floods and droughts.

## **Wind**

the oasis zones are influenced by two types of winds: continental winds from the east and south-east, which are hot and dry, and which have a drying and burning effect on the vegetation as they contribute to increasing evapotranspiration. W-NW oceanic winds from the Atlantic and Mediterranean coasts. These winds are generally moderated by the Atlas walls and foothills.

The power of the winds increases the evaporative capacity of the atmosphere and activates the transport of sand, which threatens valuable sites (Ksour, roads, farmland, irrigation infrastructure, etc.). This situation gives the area the following overall characteristics: an arid climate and poor soils; intense Saharan influences including wind erosion, sandstorms, drought and desertification; insufficient underground water resources, with high rates of evaporation and evapotranspiration; a remarkable diversity of flora and fauna, characterized by a dominance of endemic species.



## **Vegetation**

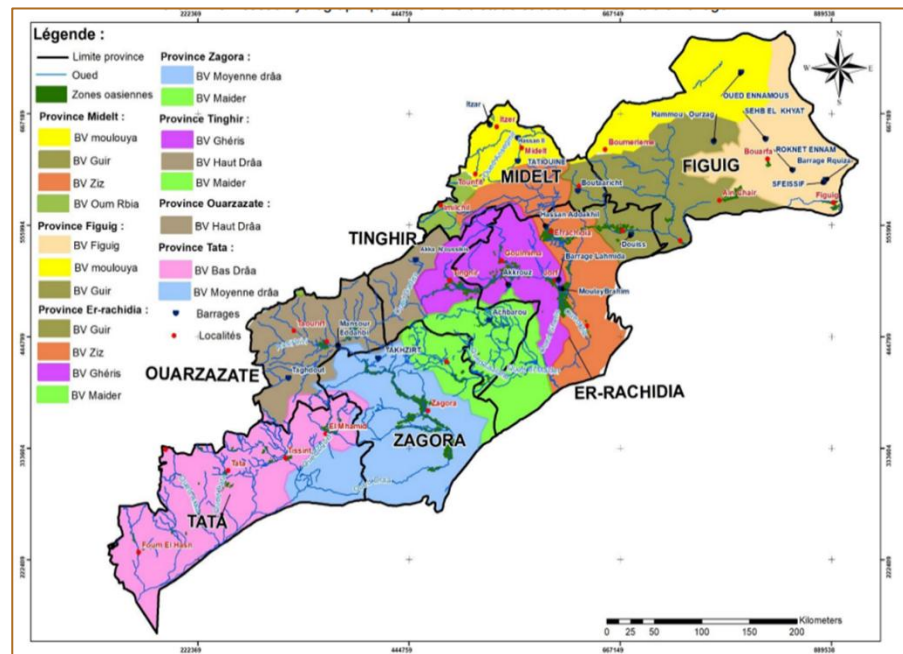
The region features plant formations adapted to semi-desert and Saharan conditions, such as fruticose, acacias (*Acacia raddiana*), esparto grass and forest species such as juniper and thuja. Oases, primarily dominated by date palms, form microsystems favorable to various crops and livestock. Sparse vegetation cover accentuates soil degradation, wind erosion and the formation of various dune types.

## **Water resources**

The region is drained by 5 major wadis: from west to east, the Drâa, the Rheriss and Maïder, the Ziz and the Guir. With a surface area of 115,563 km<sup>2</sup> and an average flow rate of 25 m<sup>3</sup> /s, this region accounts for only around 4% of Morocco's surface water resources and only 5.7% of its total resources. 93% of the resources are mobilized, which means that the hydraulic system in place is operating at full capacity and that the existing balance between population growth and resource use.



Uncontrolled population growth or the implementation of large-scale irrigation projects could jeopardize this fragile balance. Out of the 1102 million m<sup>3</sup> mobilized in the oasis area, 98% is allocated to agriculture (covering 75% of needs) and the rest is reserved for drinking water. Given the scarcity of resources and the difficulty of mobilizing additional supplies, water-saving techniques, particularly in agriculture, need to be implemented as soon as possible, making water conservation a strategic objective for safeguarding oasis areas.



### Irrigation system and agricultural production

The survival of oasis areas depends on the mobilization of water in different ways, traditionally associated with ancestral know-how and complex forms of social organization. This is done either by diverting water from rivers or by pumping groundwater. Water is also mobilized by draining groundwater located upstream of the oasis using underground galleries known as khetaras. The Moroccan oasis is distinguished by the uniqueness and attractiveness of its natural landscape, formed by the small family farms that make up most of the ancient oases.

The production system in oases is essentially based on crops and livestock. There are generally three types of crop in oasis areas: Date palms, fruit trees and underlying crops including fodder crops, which are of great interest in these farming systems, vegetables and cereals. Fodder crops, notably alfalfa, barley and maize, in the oases help to improve the structure and fertility of the soil and increase income. Livestock farming is renowned for the very high prolificacy of sheep and goat breeds. Recently, a number of activities have developed alongside phoeniculture, including beekeeping, camel farming and Saharan eco-tourism.

**Oasis agriculture is exposed to the threat of deterioration.** A study notes that the combination of predicted changes in temperature and rainfall over the time horizons selected (2015, 2045 and 2075) would result in a significant increase in crop irrigation water requirements (+8% for Ouarzazate and +2% for Zagora). It also recognizes that the water needs satisfaction index (WSI) will be more affected in terms of cultivated land in the oases. Crops such as alfalfa, palm trees, fruit trees and summer crops will suffer the most in terms of water balance.

### Vulnerability of oasis ecosystems to climate change:

The oases are located in the south and south-west of Morocco covering around 29% of the country. Six per cent of the population live in oases. Because of their biological, cultural and architectural diversity,

these oases offer exceptionally rich and varied landscapes, perform numerous environmental functions and provide a multitude of social, ecological and economic goods and services.

**Two-thirds of Morocco's oases have disappeared over the last century.**<sup>3</sup> The main obstacles to the sustainable development of oases are: (i) unsustainable land and agricultural management practices, including intensive monoculture; (ii) water scarcity and unregulated water management, including unregulated digging of artisanal wells and overexploitation of groundwater ; (iii) limited institutional capacity to implement nature-based and geo-dependent oasis management systems and to use participatory methods for integrated oasis management planning; (iv) overexploitation of existing natural resources; and (v) climate change.

In 2021, the poverty rate among oasis dwellers was 16%, compared with a national average of 9%. The oasis population is vulnerable to climate change. This population is currently immersed in a vicious cycle combining ecological degradation and impoverishment.

In recent years, the oases have undergone profound changes in their characteristics, with **a drop in groundwater levels** (on average between -15 and -20 m) and **a fall in date production** (around 34%). But what is most striking is the population trend, which has increased by half in twenty years, against an economic backdrop that is tending to deteriorate, leading to an urban exodus, particularly among young people.

Projections for the oasis zones suggest that climate change will have a major **impact on their water resources**. In Zagora area, the threshold of water stress would be reached between 2040 and 2050 and in Ouarzazate, the threshold of water shortage would be reached between 2030 and 2050. The water availability indicator will continue to rise, resulting in a high level of water stress. Drinking water requirements in the oasis zone are also set to increase from 50% to almost 130% in 2030 and from 67% to almost 380% in 2050, due to population growth. Climate change would thus exacerbate the **deterioration of the water situation** in the oases. The result would be overexploitation of the aquifers, a fall in their piezometric levels, increased costs and a fall in the flow of springs and khetaras, or even they're drying up. If this were to happen, the oases would disappear in the more or less long term. If confirmed, this disappearance of one of Morocco's most important heritages would have serious social, economic and environmental consequences.

Climate change is expected to exacerbate the risk of fires and diseases (notably Bayoud disease, which destroyed 10 million palm trees in a century)<sup>4</sup>.

**Although palm grove fires** are much less deadly than most other natural disasters, they are no less dangerous and have a real economic and environmental impact, given the importance of the date palm in the survival of the oasis ecosystem and in maintaining its population. Each fire attacks an average of 0.6 ha and affects 75 date palms: For example, 35,905 date palms were burnt in the province of Tata in 2018 as a result of 30 fires, giving an average of 1,197 palms burnt per fire (a figure well above the average), bearing in mind that 19,500 palms were affected by a single fire in the Aguerd oasis on 09/07/2018 over an area of 65 ha, not to mention the damage caused to infrastructure and the resources mobilized to extinguish the fire.

### **Women at the heart of oasis ecosystems**

In oasis areas, women are particularly exposed to the consequences of climate change (desertification, arid climate, water shortages, etc.). The effects of dwindling natural resources and environmental stress

<sup>3</sup>ANDZOA. 2016. "COP22: Presentation of the Sustainable Oasis Initiative by the Minister of Agriculture." <http://andzoa.ma/fr/2016/11/15/cop22-presentation-de-linitiative-oasis-durables-par-m-le-ministre-de-lagriculture/>

<sup>4</sup>Bouhlali EDT, Derouich M, Ben-Amar H, Meziani R, and Essarioui A. 2020. "Exploring the potential use of bioactive plant products in the management of *Fusarium oxysporum* f. sp. albedinis: the causal agent of Bayoud disease on date palm (*Phoenix dactylifera* L.)". *Beni-Suef University Journal of Basic and Applied Sciences*. 9(1) : 1-9.



affect oasis women more than men. Indeed, the already established inequality and unequal access to production factors (water, land, capital, etc.) are exacerbated by the difficulties associated with climate change. To cope with these disruptions, women are learning and developing new skills and strategies to adapt to their oasis environment.

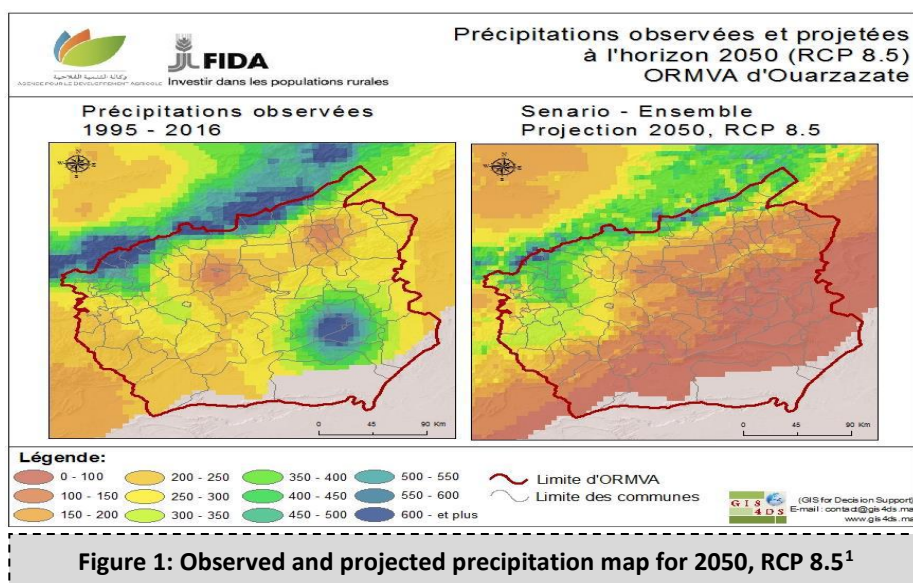
Around 1.1 million women live in oases, representing 51% of the total oasis population. A significant 61% of these women live in rural areas, while the remaining 39% live in urban areas. Forty-seven per cent of oasis women are illiterate. In contrast, 89% of oasis girls (aged between 7 and 12) have access to primary education. The employment rate for oasis women is just 14.4%, which is more an indication that the household, agricultural and livestock work they do is undervalued than their actual contribution. Of the active population, only 17% (96,633 women) are engaged in working life. Oasis women face many obstacles to achieving higher social status, including the cultural rules of oasis society, high illiteracy rates, limited access to education, restricted land rights and limited access to the means of agricultural production, including financial resources. They are also excluded from decision-making, both within the home and in the public sphere, and are under-represented in paid employment.

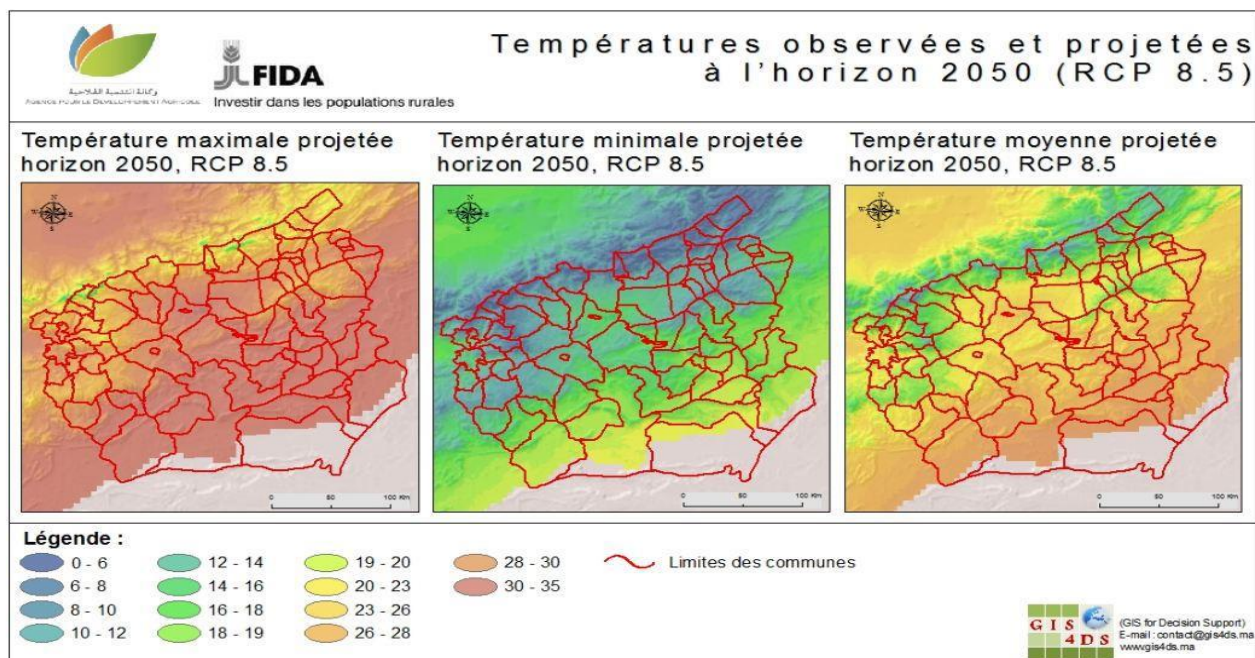
### Project area :

The project's area includes the oasis ecosystems belonging to the ORMVAO's action zone, which encompasses the greater part of the Draa hydraulic basin (the Upper Draa and Middle Draa sub-basins) and the upstream part of the Maider sub-basin within the Ziz-Ghris basin.

The oases of the Draa basin are very fragile ecosystems and are currently facing severe constraints due to climate change, aggravated by demographic pressure. The target population is among those most affected by the effects of "CC" climate change in Morocco. The Draa oases are very fragile ecosystems and are currently facing multiple obstacles and risks due to the combined impacts of climate change and human factors. The area is made up of the upper Draa and Middle Draa zones, encompassing 3 provinces (the province of Ouarzazate, the province of Zagora and part of the province of Tinghir). The main constraints and obstacles observed and identified include Water stress and scarcity, groundwater salinity, flooding and violent floods, soil degradation and erosion, degradation of palm groves, agricultural and social infrastructure, forests, rangelands and silting of dams.

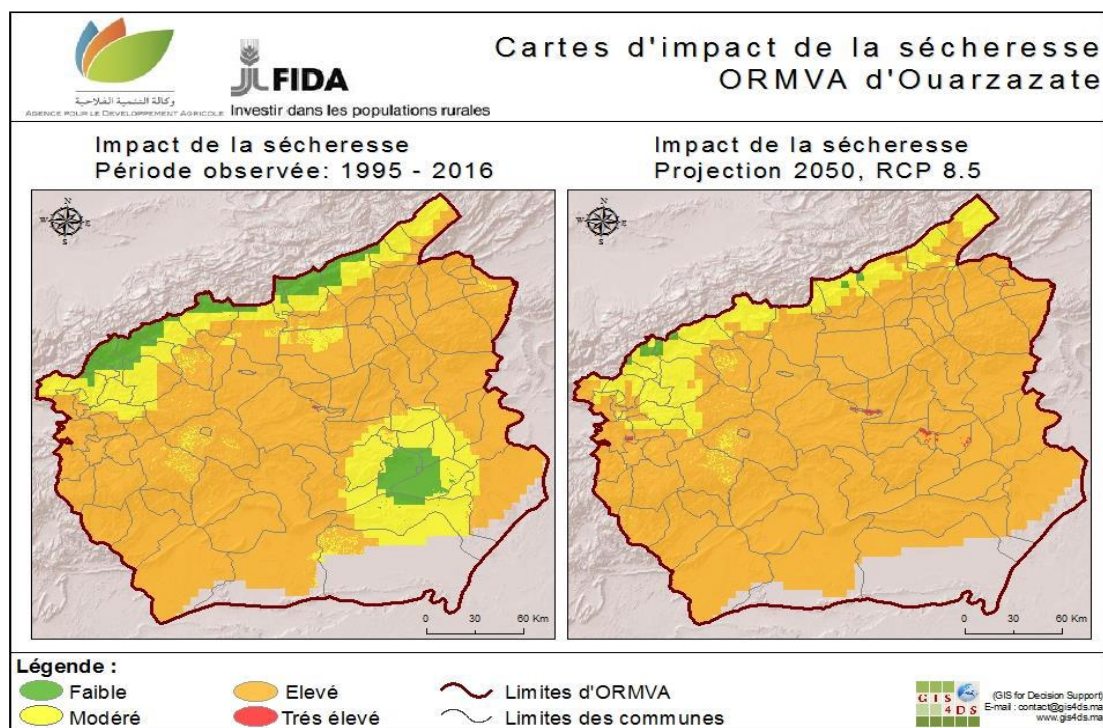
**Water stress:** the water situation is very alarming due to the combined effect of climate change and management methods based on excessive use of this scarce resource. Excessive pumping of groundwater in the Skoura, Nkob, Tazarine, Taghbalte, Fezouata and Ouhmidi palm groves has led to a drop in the water table and the drying up of certain khetaras.





**Figure 2: Map of observed and projected temperatures to 2050, RCP 8.5**

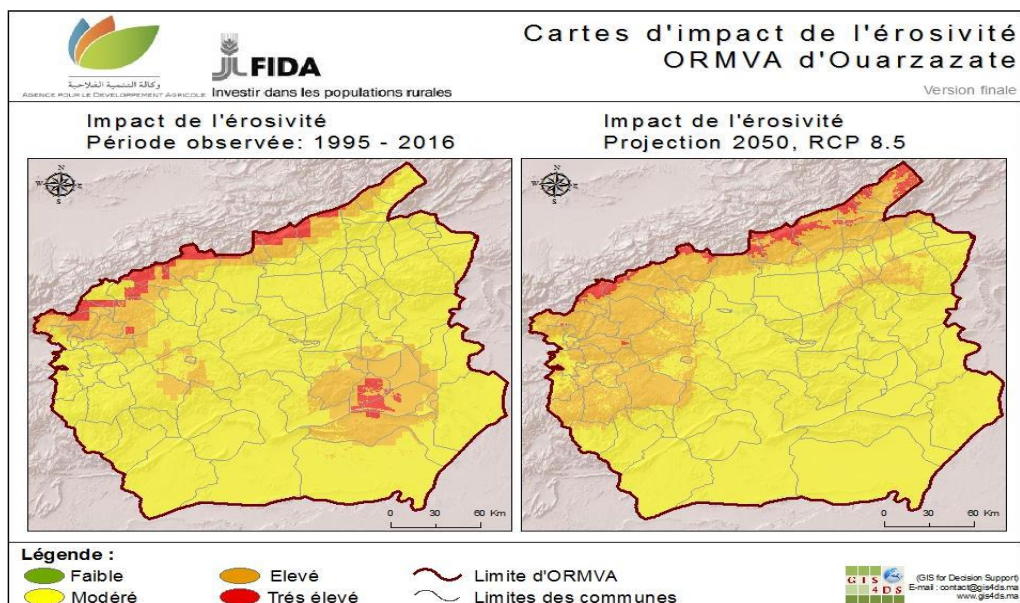
**Water salinity:** the problem of salinity affects the palm groves of Skoura, Tazarine, Taghbalte, Ktaoua and M'Hamid. This constraint, combined with the inadequacy of water resources, amplifies the problem of water stress and, as a result, reduces the productivity of the palm groves and weakens the availability of domestic water.



**Figure 3: Drought impact map in Ouarzazate ORMVA area**



**Flooding, high water and erosion:** These phenomena have become frequent, strong and unpredictable, causing considerable damage to the palm groves of Skoura, Tarmigte, Mezguita, Tinzouline, Ternata, Fezouata, Tazarine, Taghbalte and Ouhmidi, to farmland (undermining of banks) and hydro-agricultural structures (undermining of banks and silting up of irrigation canals and dams), as well as destroying infrastructure (tracks, roads, tc.) and pose a serious threat to the oasis population.



**Figure 4: Erosivity impact map of the Ouarzazate ORMVA area**

**Degradation of forests and rangelands:** the over-exploitation of forests for firewood, combined with the effects of climate change, is accentuating the phenomena of desertification and the silting up of dams. This phenomenon has been observed in mountainous areas upstream of the Oued Dades, Mgoun, Ouarzazate and Oued El Hajjaj, and in the vicinity of the Fezouata palm grove (Drâa Valley).

Spatial and temporal changes in rainfall patterns, desertification, the irrational exploitation of spontaneous MAPs and changes in the use of grazing land have also contributed to a significant deterioration in biodiversity. Observation and studies carried out on the dynamics and floristic richness of these ecosystems have shown a clear decline in the range and abundance of certain pastoral species native to the area, such as sagebrush, Alfa and Acacia.

**Degradation of palm groves:** In addition to the problem of water shortages, palm groves are increasingly being abandoned due to the spread of diseases and pests. Bayoud disease remains the most serious scourge, destroying more than two-thirds of the date palms in the project area. It has therefore been unanimously confirmed that all the traditional palm groves are potentially affected by Bayoud (all the palm groves in the Draa valley, the Maïder, Skoura, Tarmigt and Ghassate and Ouhmidi palm groves). Unfortunately, the best-quality varieties were the most susceptible to the disease, namely Majhoul, Bouffegous, Bouskri and Jihel. The main factor in the spread of this disease is the irrigation water supplied to the old palm groves via communal canals. However, the newly extended plantations, equipped with localized irrigation and managed individually, have been qualified as Bayoud-free.

## Project/Programme Objectives:

*List the main objectives of the project/programme.*

### General Objective

The overall objective of the project is to strengthen the resilience and adaptation capacity of oases to the climate change impacts.

### Specific objectives

1. Improve the adaptation capacities of the water sector.
2. Promote water and soil conservation and nature-based solutions.
3. Support earlier firefighting management.
4. Develop resilient oasis agriculture and strengthen entrepreneurship around oasis activities.
5. Diversify of income's sources particularly of women and young people.

The proposed actions have been identified using a participatory approach and in consultation with stakeholders at local level, considering the interactions between the different elements of the area (Population-Water-Agriculture-Ecosystem).

The overall cost of the project is USD 9,981,000.00. Its two components are as follows

1. Strengthening the capacity for adaptation and resilience of the oasis ecosystem.
2. Strengthening community resilience and diversifying socio-economic activities.

The Office Régional de la Mise en Valeur Agricole (ORMVAO) is the project executing entity and the Agence pour le Développement Agricole (ADA) is the entity accredited by the Adaptation Fund.

The main stakeholders in the project are as follows:

- L'Agence Nationale pour le Développement des Zones Oasiennes et de l'Arganier (National Agency for the Development of Oasis Areas and the Argan Tree): Ensures the protection and integrated development of oasis areas and the Argan tree grove, and is the beneficiary of a project financed by the Adaptation Fund<sup>5</sup> ;
- Agence du Bassin Hydraulique de Draa Oued Noun (Délégation de Draa): Responsible for the planning and management of water resources throughout the region;
- The High Commission for Water and Forests (Provincial Directorates of Ouarzazate and Zagora): Manages forest resources and watershed development;
- The Ministry of Tourism, Crafts, Air Transport and the Social Economy (Provincial Delegation) : Will coordinate and promote tourism initiatives and local craft products.

Implementation will be based on a collaborative and contractual approach between the various players in the area, with a view to converging initiatives, optimizing resources and ensuring the long-term impact of the project.

## Project/Programme Components and Financing:

*Fill in the table presenting the relationships among project components, activities, expected concrete outputs, and the corresponding budgets. If necessary, please refer to the attached instructions for a detailed description of each term.*

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<sup>5</sup> This is the project to adapt to climate change in oasis zones -PACCZO

Project/Programme Components	Sub-components	Expected Outcomes	Expected Concrete Outputs	Amount (US\$) per outcomes
<b>C1 Strengthening the adaptation and resilience of the oasis ecosystem</b>	<b>1.1 Mobilizing water resources and conserving water and soil</b>	1.1 Conventional water resources mobilized and groundwater recharge reinforced	1.1.1: Construction and reinforcement weirs, community boreholes, rainwater structure and rehabilitation of degraded khettaras	3 540 000,00
		1.2 Reducing flood damage and protecting farmland	1.2.1: Construction of 2 flood control weirs and protection of agricultural land against flooding	2 500 000,00
	<b>1.2 Preventive fire-fighting management</b>	1.3. Maintained and developed palm groves	1.3.1: oasis area management through maintenance of palm clumps, improve road and water access and install pilot fire alert system	1 290 000,00
		1.4. Public awareness and involvement in firefighting	1.4.1 fire risk management	90 000,00
	<b>1.3 Implementing nature-based solutions</b>	1.5. Support for silting control	1.5.1: Combating silting and creation of added value from local product	375 000,00
		1.6. Enhanced plant biodiversity	1.6.1 Promoting local crops and aromatic and medicinal plants	200 000,00
<b>C2. Strengthening community resilience and</b>	<b>2.1. Adding value to oasis products and disseminating good practices</b>	2.1. Promoting local and agricultural products	2.1.1: Training in techniques for water management and improve market access for local products	90 000,00
		2.2. Best practices disseminated	2.2.1 Organic farming, local products promoted	210 000,00
	<b>2.2. Strengthening oasis-based entrepreneurship and supporting women's</b>	2.3. Entrepreneurship projects based on agricultural trades supported	2.3.1 sustainable agriculture project supported and training session for cooperative, young and women related to business development.	265 000,00

<b>diversifying socio-economic activities</b>	<b>economic empowerment</b>	2.4 Innovative initiatives to empower women and young people supported	2.4.1. Promotion of oasis trades, ecotourism, self-employment for young people and women and innovative projects	165 000,00
		4. Project/Programme Execution cost		820 000,00
		5. Total Project/Programme Cost		8 756 000,00
		6. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)		405 000,00
		<b>Amount of Financing Requested</b>		<b>9 981 000,00</b>

## Projected Calendar:

*Indicate the dates of the following milestones for the proposed project/programme*

<b>Milestones</b>	<b>Expected Dates</b>
Start of Project/Programme Implementation	January 2026
Mid-term Review (if planned)	January 2028
Project/Programme Closing	January 2030
Terminal Evaluation	July 2030

## PART II: PROJECT / PROGRAMME JUSTIFICATION

**A. Describe the project/programme components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.**

The overall objective of the project is to strengthen the resilience and adaptation capacity of oases to the climate change impact.

The proposed project comprises two interrelated components: (i) Strengthening the adaptive capacity and resilience of the oasis ecosystem (ii) Strengthening community resilience and diversification of socio-economic activities.

In short, the project will effectively bring together all the key interventions to develop a specific model for adapting to climate change. The project will adopt an ecosystem-based approach based on integrated and participatory management, considering all the components of the ecosystem, including the human element, which is at the heart of the concerns. This approach consists of consolidating two fundamental elements that



are closely linked: (i) the first is the management of the ecosystem and the preservation of its structure and diversity through management measures relating to the biophysical components. The second is the development of economic activities enabling the most vulnerable rural populations (particularly young people and women) to adapt to the effects of climate change. In concrete terms, the project will intervene through :

- Strengthening the adaptation and resilience of the oasis ecosystem, particularly in terms of sustainable mobilization of conventional water resources, protection of palm groves against flooding, preventive management against oasis fires, promotion of nature-based solutions and the development of oasis agriculture that is resilient to climate change.
- Supporting local dynamics and initiatives in oasis ecosystems to preserve biodiversity and natural resources while improving the livelihoods and incomes of local people.

The project is structured around 2 components:

## **Component 1: Strengthening the adaptive capacity and resilience of the oasis ecosystem**

### **Sub-component 1.1 Mobilization of water resources and water and soil conservation**

#### **Outcome 1.1: Conventional water resources mobilized and groundwater recharge strengthened**

- **Output 1.1.1: Construction and reinforcement weirs, community boreholes, rainwater structure and rehabilitation of degraded khetaras**

This involves the construction of 4 diversion weirs and the reinforcement of 1 other in the Draa valley. There are also plans to build 10 community boreholes, which will help to meet the population's drinking water, irrigation and livestock watering needs.

This will involve the rehabilitation of khetars<sup>6</sup> and the construction of rainwater collection works over a 20 km stretch in the Bida and Tansifte areas. This system allows water to be mobilized by gravity, is more environmentally friendly and enables groundwater to be used more efficiently.

#### **Outcome 1.2: Flood damage mitigated, and protection of agricultural land supported**

- **Output 1.2.1: Construction of 2 flood control weirs and protection of agricultural land against flooding**

This involves the construction of 2 flood control weirs. These structures will be located upstream of areas frequently threatened by flooding. Their role is to reduce river flows as much as possible during floods, and they will also play the dual role of mobilizing additional water for irrigation and helping to recharge the water table.

There are also plans to protect 10 km of farmland exposed to the risk of flooding in traditional palm groves. Various techniques will be used, including gabions and protective masonry walls.

### **Sub-component 1.2: Preventive fire-fighting management**

#### **Outcome 1.3: Palm groves maintained and developed**

- **Output 1.3.1: oasis area management through maintenance of palm clumps, improve road and water access and install pilot fire alert system.**

Oasis maintenance aimed at cleaning 30,000 clumps of date palms in the valley's 6 palm groves. The main aim of this operation is to reduce flammable biomass by eliminating plant debris and dried-out parts of the palm

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<sup>6</sup> The khettara is a drainage gallery that brings groundwater to the surface of the soil by gravity for irrigation and drinking water purposes. This traditional irrigation technique was introduced by the farmers of Tafilalet in the 12th century.

trees. At the same time, this action helps to maintain the optimum health of the palm trees, thereby helping to reduce the risk of fires spreading to the oases.

The construction of access roads inside oases enables emergency teams to intervene quickly and efficiently in the event of a fire. These roads also facilitate the evacuation of inhabitants and the protection of property and crops.

Strategic water points, including wells, hydrants and hydrants, will be created to ensure that a source of water is always available and accessible. These water points are essential for putting out fires quickly and limiting their spread.

This outcome is also aimed at carrying out a feasibility study and setting up a warning system to anticipate the risk of fire.

#### **Outcome 1.4: Population aware and involved in fire fighting**

##### **- Output 1.4.1: fire risk management**

Around 15 fire-fighting kits will be distributed to the public. These kits are essential for preventive, immediate and effective intervention as soon as a fire breaks out.

Raising awareness is at the heart of the fire prevention strategy. At least 15 training sessions will be organized, and 120 fire prevention signs will be put up to raise awareness of fire risks and preventive measures. The emphasis is on the rational use of natural resources and collective responsibility for preserving our oases.

#### **Sub-component 1.5: Implementing nature-based solutions**

#### **Outcome 1.5: Fight against silting and development of *accacia radiana* promoted**

##### **- Output 1.5.1: Combating silting and creation of added value from local product**

The aim is to contribute to the Government's efforts to combat silting-up and protect farmland and traditional irrigation infrastructure, particularly in the downstream palm groves (M'hamid and Ktaoua) covering 300 hectares.

Adding value to *Acacia radiana* products (seeds, gum and honey) will help to diversify local communities' sources of income by supporting local entrepreneurship, while at the same time encouraging communities to adopt sustainable practices for exploiting *Acacia radiana* resources.

#### **Outcome 1.6: Safeguarding biodiversity supported**

Promoting local crops and aromatic and medicinal plants will help to strengthen biodiversity and diversify sources of income for communities, while enhancing native biodiversity and strengthening food security.

### **Component 2: Strengthening community resilience and diversifying socio-economic activities**

#### **Sub-component 2.1: Adding value to oasis products and disseminating good practices**

#### **Outcome 2.1: Agricultural and local products promoted**

##### **- Output 2.1.1: Training in techniques for water management and improve market access for local products**

The promotion of organic farming and the labelling of local products will increase the added value of local products and improve the incomes of vulnerable groups, particularly women and young people.

The aim of improving the marketing of oasis products is to increase producers' incomes and strengthen the

economic resilience of oasis communities. This will be achieved by improving product quality, access to markets and promotion and marketing.

### **Outcome 2.2: Good practices disseminated**

- **Output 2.2.1 Organic farming, local products promoted.**

By spreading good practice, oasis farmers can increase the added value of their products while ensuring environmental sustainability.

Particular attention will be paid to cultivation techniques that improve water management, reduce water losses and ensure sustainable agricultural production even in conditions of limited water resources.

### **Sub-component 2.2: Strengthening oasis-based entrepreneurship and supporting women's economic empowerment**

### **Outcome 2.3: Entrepreneurship projects based on agricultural trades supported**

- **Output 2.3.1 sustainable agriculture project supported and training session for cooperative, young and women related to business development.**

The aim is to support these organizations in improving their management and ensuring effective marketing of their products, so that they can strengthen the resilience of their members.

This will involve support for professional agricultural organizations to improve competitiveness and productivity through pre- and post-creation training, as well as the organization of hackathons and exchange trips based on success stories in the various trades identified. The project will also support agricultural entrepreneurship projects through calls for projects for the benefit of applicants selected on the basis of criteria that will be in line with the Adaptation Fund's guidelines in this area.

### **Outcome 2.4: Innovative initiatives to empower women and young people supported**

- **Output 2.4.1: Promotion of oasis trades, ecotourism, self-employment for young people and women and innovative projects.**

This result will help to diversify and improve the livelihoods of vulnerable groups, in particular rural women and young people, by supporting innovative solutions for new and existing businesses, in particular through calls for projects. Economic diversification will focus on non-agricultural activities (ecotourism, crafts, etc.) that are less sensitive to the effects of the climate.

**B. Describe how the project/programme provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project/programme will avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.**

In terms of adaptation, the project will directly target 516,000 people and indirectly 860,224 people belonging

to communities in the oasis ecosystems of the Draa. The proportion of women and young people among the beneficiaries is 40% and 20% respectively. There are 83,000 heads of household, the absolute majority of whom are poor small-scale farmers.

Carrying out the activities associated with this project could have a significant impact in terms of job creation, stimulating local initiatives, strengthening the oasis community's ability to adapt to climate change and improving the resilience of the ecosystem.

The project activities are expected to generate a number of sustainable development co-benefits:

- **Economic benefits :**

The project will help to diversify the sources of income of direct beneficiaries and communities in the oases bordering the project area. By supporting the development of oasis products and entrepreneurship around alternative economic activities such as sustainable ecotourism, crafts and other oasis trades, the project will help to reduce dependence on agriculture, which is vulnerable to climate fluctuations.

Additionally, by supporting activities to mobilize and improve the management of water resources, it will reduce water-related costs and increase agricultural yields and the incomes of local farmers.

Furthermore, temporary jobs will be created during the implementation of project planned activities.

- **Social co-benefits :**

Morocco's pre-Saharan oasis communities have a unique social characteristic. The project will strengthen the preservation of traditional agricultural practices, support the existing organizational fabric and contribute to the diversification of means of subsistence, particularly for the most vulnerable groups, including the elderly, young people and people with disabilities.

- **Environmental co-benefits :**

The environmental benefits relate to better management of the components of the oasis ecosystem and the maintenance of their ecosystem services through climate-resilient techniques and practices in terms of water resource management, groundwater recharge, water and soil conservation and flood damage control, preventive management against palm grove fires, and the enhancement of biodiversity and local cultures.

- **Impact on gender-sensitive development :**

Project activities will be implemented in an inclusive and gender-sensitive manner. A gender analysis was carried out during the project design phase, involving extensive consultations to ensure the meaningful participation of women and other vulnerable groups in project activities.

The project aims to benefit 40% of women and 20% of young people.

- **Alignment with Adaptation Fund policy**

Project activities have been designed in alignment and compliance with several Adaptation Fund policies, particularly the Environmental and Social Policy (ESP) and the Gender Policy and Action Plan (GPAP).

The analysis of the compliance of the environmental and social aspects of the project with the ESP is set out in part II, section B of this concept note. With regard to the project's alignment with the GPAP, the key elements have already been presented in greater detail in part II, section E of this note.

- **Avoiding or mitigating negative impacts**

The following measures will ensure that project activities are implemented in a manner that avoids or mitigates adverse social or environmental impacts.

- In terms of compliance with environmental and social policies (ESP), during the formulation phase of this project concept note, a screening of environmental and social risks was carried out, in accordance with the principles of the Adaptation Fund. During the implementation of the project, each activity presenting moderate to substantial risks will be subject to an environmental and social impact assessment. Environmental and social risk management plans, proportional to the assessed risks, will be developed at the project formulation stage.
- As far as stakeholder consultation and participation are concerned, representatives of the beneficiary community are involved in the design of the project. They will be closely involved during the project implementation and monitoring phase. Similarly, an accessible and lucid complaints management and feedback mechanism will be put in place to record, process and respond to stakeholders' complaints and claims.
- With regard to the alignment and collaboration of government structures, the project's objectives have been integrated into regional, provincial and local development plans.
- In terms of specific measures, the results of component 1 involve the sustainable mobilization of water resources, rainwater harvesting and groundwater recharge. In addition, water and soil conservation actions are planned using good ancestral practices. Component 2 aims to promote the diversity of local crops and aromatic plants, as well as enhancing the value of local products and those made from acacia radiana.
- The gender aspects are strongly integrated in the concept note and will be fully developed during the formulation of the project with a detailed action plan to achieve the objectives detailed above.
- Cross-cutting actions will be planned to ensure monitoring and surveillance as well as training and awareness-raising on the various themes and issues addressed by the project, i.e. water-saving cultivation practices, fire prevention, pre- and post-creation training, etc.

### **c. Describe or provide an analysis of the cost-effectiveness of the proposed project/programme.**

The benefits expected to be generated by the project are: the benefits of investments in the improvement of traditional oasis systems and the local benefits associated with the project's investments, namely: (i) improved production of oasis agricultural products, in particular dates; (ii) reduced land erosion; (iii) improved water collection and retention; and (iv) improved products and services (increased ancillary products from restored oasis systems).

### **d. Describe how the project/programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national adaptation plan (NAP), national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programmes of action, or other relevant instruments, where they exist.**

#### **Strategies to combat climate change**

Over the past two decades, Morocco has taken steps to combat climate change. Adaptation has been identified as a key priority for Morocco. According to the Climate Action Tracker (CAT), Morocco's climate

objectives and policies are considered "almost sufficient"<sup>7</sup> and the targets set as part of its unconditional commitment correspond to its fair contribution under the Paris Agreement.

The sustainable development of oases is enshrined in the National Sustainable Development Strategy (NSSD)-2030 and in the various sectoral strategies and action plans. The activities of this project are particularly well aligned to promote the resilience of communities and their adaptation to CC. For example

- At the end of the 2000s, Morocco launched two emblematic programmes to meet the climate challenges at sectoral level: the Green Morocco Plan (PMV) to support climate-smart agriculture and the Moroccan Solar Plan (since transformed into the National Energy Strategy) to deploy renewable energies.
- In 2017, Morocco adopted the 2030 National Sustainable Development Strategy (NSSD)<sup>8</sup>. In 2019, it launched the 2030 National Climate Plan (PCN 2030), based on five pillars: i) establishing stronger climate governance; ii) building resilience to climate risks; iii) accelerating the transition to a low-carbon economy; iv) including territories in the climate dynamic; and v) building human, technological and financial capacities.
- In 2020, various sectoral strategies and action plans were launched, including (i) the national water strategy and the national drinking water and irrigation programme 2020-2027, (ii) the new Moroccan forestry strategy 2020-2030 and (iii) the new "Generation Green 2020-2030" strategy.
- In 2021, Morocco has revised its Nationally Determined Contribution (NDC) with an improved mitigation target. This revised NDC intensifies action by strengthening its objectives in the four sectors covered by the 2016 NDC (agriculture, water, fisheries and aquaculture, and forestry), and adds other sectors and territories: sensitive areas (coastline, mountains and **oases**), urban and rural planning and health. The NDC targets a 45.5% reduction in greenhouse gas emissions by 2030 compared with the reference scenario (under the revised NDC, 18.3% of this target is unconditional, and the remaining 27.2% is conditional on obtaining international aid), representing an overall increase of 3.5 percentage points in its mitigation target compared with the 2016 NDC.
- In February 2021, Morocco also launched a National Strategy for Natural Risk Management (2020-2030), which sets out a comprehensive approach to disaster and climate-related risk management.
- In June 2021, Morocco began preparing a long-term Low-GHG Emissions Development Strategy (2050-LEDS). It then began work on modelling development trajectories and emissions, together with an analysis of sectoral dynamics.
- In January 2022, Morocco adopted the National Strategic Adaptation Plan (NSAAP), which provides a roadmap for 2020-2030, with a concerted and inclusive framework to support adaptation planning and priority actions to make the population and the territory more resilient to climate change.

### **Institutional arrangements for implementing climate policy :**

Morocco has put in place new institutional arrangements for governance and technical and financial capacity building to make its ambitions feasible and realistic:

- Institutionalization of the National Commission on Climate Change and Biological Diversity.

This commission is placed under the government authority responsible for the environment and is a consultation and coordination body for monitoring the implementation of the commitments set out in the

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<sup>7</sup> This rating indicates that Morocco's climate policies and commitments are almost in line with the 1.5°C temperature limit set by the Paris Agreement and could achieve this compliance with moderate improvements.

<sup>8</sup> The Government recently launched a review of the Strategy, the new version of which should be available by mid-2024. This revised version will incorporate the notion of carbon neutrality and the deployment of green finance.



international conventions and their protocols relating to climate change and biological diversity. This commission comprises two sub-commissions: (i) the "Biological Diversity" sub-commission and (ii) a "Climate Change" sub-commission, which is made up of 4 working groups based on the challenges of climate change (Negotiation, Adaptation, Mitigation and Finance);

- The institutionalization of the National Commission for Sustainable Development, chaired by the Head of Government, with two committees: the "Committee for monitoring and steering the implementation of the national sustainable development strategy" and the "Committee for monitoring and supporting the sustainable development objectives";
- Setting up the National GHG Inventory System (SNIGES). The agreed institutional framework comprises a National Inventory Commission (CNI), a National Inventory Unit (UNI), a National Coordinator, five Sectoral Coordinators, Inventory Officers and Focal Points.

## Oases among the Moroccan government's priorities

Preserving the oasis ecosystem is one of the Moroccan government's priorities. To this end, the Agence Nationale pour le Développement des Zones Oasiennes et de l'Arganier (ANDZOA) (National Agency for the Development of Oasis and Argan Zones) was created in 2010 with the mission of coordinating and steering sectoral policies and improving the living conditions of oasis populations by promoting integrated and sustainable oasis management, with a focus on water resource management, agriculture and ecotourism.

In 2023, a new strategy for the development of the oasis and argan zones by 2030 was drawn up, based on three strategic guidelines:

1. *Increasing the resilience of territories* and ecosystems to climate change;
2. *Improving the social well-being of people* in rural and urban areas;
3. *Diversify the region's economy* to make it more competitive and focus on high value-added sectors.

These strategic guidelines are broken down into the following strategic actions:

Increasing regional resilience	<ol style="list-style-type: none"> <li>1. Increase the mobilization of conventional and non-conventional water resources in the area to support its development.</li> <li>2. Encourage the adoption of solar energy as the main source of electricity in buildings and economic activities and support energy efficiency programmes in all areas;</li> <li>3. Accelerate wastewater treatment programmes through the widespread construction of wastewater treatment plants (WWTPs) in the zone's major conurbations;</li> <li>4. Develop a waste treatment, recycling and recovery programme;</li> <li>5. Strengthen the drive to characterize and develop plant-growing resources and extend actions to other local genetic resources, in particular legumes, cereals and local animal breeds;</li> <li>6. To institute the Water-Energy-Agriculture-Food-Ecosystem Nexus approach as a tool for analyzing, assessing and engineering development projects;</li> <li>7. Initiate institutional consultations for the revision and operationalization of the framework plan for the Argan Biosphere Reserves and the Oasis Biosphere Reserve.</li> </ol>
Improving people's social well-being	<ol style="list-style-type: none"> <li>1. Combating all forms of social exclusion through specific, tailored and targeted programmes based on rational priority criteria;</li> <li>2. Accelerate the upgrading and opening up of rural areas, particularly mountain areas (health, education, water, electricity, sanitation, roads, transport, etc.);</li> <li>3. Giving greater importance to border municipalities;</li> </ol>

	4. Preserving traditional ways of life and local know-how, while ensuring their enhancement, and using tangible and intangible heritage as a lever to perpetuate community initiatives for local development.
Diversifying the zone's economy	<ol style="list-style-type: none"> <li>1. Diversify the area's economy and focus it on sectors with high added value (renewable energies, mining, tourism, organic farming, the knowledge economy, etc.);</li> <li>2. Improve infrastructure, national and international connectivity and provide the area with high-quality public facilities to boost its appeal.</li> <li>3. Develop the towns in the area in order to structure the territory, stabilize the population and reduce economic and social disparities.</li> <li>4. Supporting the integration of young people and women into economic activities.</li> <li>5. Promote the social and solidarity economy in the area in appropriate niches.</li> <li>6. Enhance the value of the mountains as part of an economic model that exploits the opportunities offered: ecotourism, crafts, organic farming, renewable energies.</li> </ol>

**E. Describe how the project/programme meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.**

Morocco has a clear and comprehensive legal framework. Since the late 1980s, numerous laws and administrative provisions have been promulgated by the competent administrative authorities and covering a wide range of topics related to environmental protection and improvement , sanitation, classification and management of solid waste, disposal methods, the conservation of protected areas and historical monuments and sites, inscriptions, artworks and antiquities.

The main texts and regulations of the general legal framework relevant to the Project's activities are presented in the table below:

**Relevant legal framework for the Project**

Law	Description and relevance to project activities
<b>Framework law n°99-12 on the National Charter for the Environment and Sustainable Development</b>	This law reflects Morocco's determination to place its economic, social, cultural and environmental development efforts within a sustainable framework, by ensuring that the planned sectoral strategies, programmes and action plans are implemented with strict adherence to environmental protection and sustainable development principles.
<b>Law 11-03 on the protection and enhancement of the environment</b>	This law establishes guiding principles for protection and management of the environment, providing the overall legislative framework for its conservation. Sector-specific implementing regulations further specify the content and application of these principles. .
<b>Law 12-03 on environmental impact assessments</b>	Environmental impact assessment is one of the modern tools designed to facilitate the implementation of preventive measures aimed at protecting the environment and integrating environmental concerns into economic and social development processes. This forms the essence of the Environmental Impact Assessment Act, which mandates an environmental impact assessment for any project or structure that , due to its nature, size or potential impact on the natural environment, is likely to affect the environment.

<b>Law no. 49-17 on environmental assessment</b>	<p>The various articles of the new law introduce requirements for strategic environmental assessments, environmental impact studies, environmental notices and environmental audits.</p> <p>It addresses gaps left by the former EIA Act 12-03, particularly regarding the exclusion of many polluting projects from EIA requirements and the inadequacy of the monitoring system to align with environmental enforcement changes. This new law institutionalizes environmental auditing and strategic assessment, while also updating the list of projects subject to EIA (pending updates to decree).</p>
<b>Law n°36-15 on water</b>	<p>The most important objectives of this new law are to build upon the achievements of former law 10-95, to promote governance in the water sector by simplifying procedures and strengthening the legal framework for rainwater and wastewater reclamation, establish a legal framework for sea water desalination, strengthen the institutional frameworks and mechanisms for protecting and preserving water resources, and improve conditions for protection against extreme phenomena associated with climate change.</p>
<b>Dahir 1-69-170 of 10 Joumada I 1389 (25 July 1969) on soil protection and restoration</b>	<p>This dahir contains rules relating to authorizations and bans on the exploitation of natural resources. The dahir regulates authorizations for work carried out within soil defense and restoration perimeters and authorizations for the establishment of certain polluting facilities. It also imposes a fairly large number of prohibitions, particularly in the most important sectors of the natural heritage.</p>
<b>Decree no. 2-14-782 of 30 rejab 1436 (19 May 2015) relating to the organisation and operating procedures of the environmental police.</b>	<p>The environmental police established by article 35 of framework law no. 99-12 on the national charter for the environment and sustainable development is responsible for :</p> <ul style="list-style-type: none"> <li>- Controlling, inspecting, researching, investigating, recording offences and issuing fines in accordance with the provisions of the above-mentioned laws 11-03, 12-03, 13-03 and 28-00;</li> <li>- Providing the necessary support to enhance the capacity of relevant administrations in enforcing environmental protection provisions contained in any other specific legislation.</li> </ul>
<b>Law n°01-06 on the sustainable development of palm groves and the protection of the date palm "phoenix dactylifera".</b>	<p>Its sole and main objective is the protection of date palm by describing the administrative procedure for this protection, which should result in designating a geographical area (or zone) with a significant density of date palms per hectare as a "protected palm grove" and a "sustainable development" area (Art. 3).</p>
<b>Law no. 65-99 on the Labour Code and its implementing regulations</b>	<p>These application texts concern, among other things, indications on the members of the occupational medicine and occupational risk prevention council, general and specific application measures relating to the principles set out in articles 281 to 291 of the Labour Code concerning health and workplace safety, etc. They also include specific provisions relating to protection against the dangers of certain hazardous materials and agents and safety in certain sectors of activity (construction, mining, maritime fishing, tourism, energy sector, transport of materials, etc.). They also include specific provisions relating to protection against the dangers of certain hazardous materials and agents as well as safety in specific sectors of activity such as construction and public works, mining, maritime fishing, tourism, energy, transportation of hazardous materials.</p>

<b>Dahir No 1-13-59 of 8 Shaaban 1434 (17 June 2013) promulgating Act No 16-12 approving Convention No 187 on the Promotional Framework for Occupational Safety and Health</b>	Law 16-12 approves Convention No. 187 on the Promotional Framework for Occupational Safety and Health, adopted in Geneva on 15 June 2006 at the ninety-fifth (95th) session of the General Conference of the International Labour Organization.
<b>Act No. 18-12 amending and supplementing Act No. 06-03 on compensation for accidents at work</b>	This law determines the calculation of the annuity allocated to a victim with a permanent disability. .
<b>Organic law 113-14 on communes</b>	This law is the legislative text that establishes all the rules concerning the organization of the municipality. It specifies the composition of the Communal Council outlines its powers, as well as those of its President.
<b>Dahir of 1914 on the public domain</b>	<p>This text considers that there is a category of assets that cannot be privately owned because they are for the use of all, and whose administration belongs to the State as guardian of the community. It is important to specify the nature and legal status of assets remaining in the public domain as well as the rules governing their management.</p> <p>This Dahir also stipulates that the public domain is inalienable and imprescriptible. However, areas recognized as not serving a public purpose can be declassified by decree.</p>
<b>Law no. 22-07 on protected areas</b>	<p>The objective of Law 22-07 is to preserve and safeguard a protected area as part of our country's commitment to a sustainable development policy, which aims to safeguard our biological diversity and protect endangered species, and which is gaining increasing support from international organizations. A protected area is classified by the relevant authority, according to its characteristics, purpose and socio-economic importance, in one of the following categories:</p> <ul style="list-style-type: none"> <li>- National park ;</li> <li>- Natural park ;</li> <li>- Biological reserve ;</li> <li>- Nature reserve; and,</li> <li>- Natural site.</li> </ul>
<b>Framework Law No. 97-13 on the protection and promotion of the rights of people with disabilities</b>	<p>Framework law n°97-13 sets out the fundamental objectives to be achieved by the State in the field protection and promotion the rights of people with disabilities. These objectives are as follows:</p> <ul style="list-style-type: none"> <li>- Guaranteeing effective protection and promotion of the rights and freedoms of people with disabilities;</li> <li>- Preventing and diagnosing disability and raising awareness about preventive measures;</li> <li>- Rehabilitating and reintegrating people with disabilities to enable them to achieve the highest possible level of autonomy in their lives ,benefit from their qualifications, by strengthening their abilities and skills , thereby facilitating their social participation. - Facilitating their social integration and ensuring their full and equal participation in all aspects of life without any discrimination.</li> </ul>
<b>Law no. 103.13 on combating violence against women</b>	This law represents a revolution in the Moroccan legal framework, as it has given the Kingdom a comprehensive approach to

	combating violence against women in all its forms. Its primary objective is to provide legal protection to women who are victims of violence, focusing on four dimensions :prevention, protection, combating impunity and ensuring quality care.
<b>Law 42-16 approving the Paris Agreement on climate change</b>	As stipulated in its sole article, this law approves the Paris Agreement on climate change adopted in Paris on December 15, 2015.
<b>Law 07-81 on expropriation for public use and temporary occupation</b>	This law regulates expropriation and the temporary use of land.
<b>Law 22-80 (dahir 1-80-341 of 25 December 1980) on cultural and historical heritage, as amended and supplemented by Law 19-05 (dahir 1-06-102 of 8 June 2006)</b>	Law no. 22-80 on the conservation of historic monuments and sites: This law sets out very clear requirements for all parties involved in the conservation and preservation of sites that have already been listed or that may be discovered during development or construction work. Article 8 of law no. 11-03 emphasizes the national interest in protecting, conserving and promoting historical and cultural heritage, and sets out legislative provisions setting out the various measures to be taken to achieve these objectives.
<b>Law 31-13 on the right to information</b>	Law 31-13 regulates citizens' access to information held by public administrations. The purpose of this law is to grant citizens access to information held by specific legal entities governed by public law, such as the House of Representatives, the House of Councillors, public administrations and the courts. This initiative aims to promote and good governance.
<b>Law 09-21 on Social Protection</b>	This law introduces a social reform that marks a pivotal moment in the overall reform of Morocco social protection system. Its primary goal is to enhance the system's direct impact on citizens by reducing poverty, addressing vulnerability and supporting household purchasing power. The main objective is to protect poor and vulnerable groups as well as low-income families from risks related to childhood illness, old age and unemployment ..

## **F. Describe if there is duplication of project/programme with other funding sources, if any.**

The project will help to strengthen the dynamics of integrated territorial development in the oases and will complement actions already undertaken, completed or planned (i) by the Moroccan Government as part of the Regional Agricultural Plan drawn up as part of the new Agricultural Strategy for 2030 "Generation Green", particularly the programme for the Draa basin, (ii) projects financed within the framework of multilateral or bilateral cooperation, in particular with the World Bank, the International Fund for Agricultural Development, the Millennium Challenge, Belgian Technical Cooperation, Japanese cooperation, the Green Fund for Cimat, etc...

More specifically, the implementation of this project will be closely based on the achievements of the Adaptation to Climate Change in Oasis Zones (PACCZO) project financed by the Adaptation Fund.

### **Project for Adaptation to Climate Change in the Oasis Zones (PACCZO) :**

#### **Overview :**

Financed by the Adaptation Fund with USD 9.97 million allocated for the period 2015-2020, the PACCZO aims to strengthen the resilience of the populations and agro-ecosystems of Morocco's oases in the face of climate change.

The final evaluation of the PACCZO project, carried out by the ADA, highlighted the positive outcomes despite the unfavorable climatic and economic conditions such as recurrent drought and inflationary pressure.

**Synergy :**

The project draws on the lessons learned from the PACCZO, particularly in terms of methodologies and strategies for adapting to climate change. However, there is no direct duplication as our project extends to other specific areas and uses an updated approach based on the results and evaluations of the PACCZO.

The project builds on the profound change brought about by the PACCZO in the oasis populations and capitalizes on the synergy created between decentralized structures to promote cross-sectoral integration, **as mentioned in the final evaluation of this project.**

In the same vein, the project concept draws on lessons learned from a number of similar initiatives in the region:

**The "revitalization of oasis agro-ecosystems through a sustainable and integrated landscape approach in the Draa-Tafilalet region (OASIL)" project:**

**Overview :**

This five-year project (2017-2021), financed by the Global Environment Facility (GEF) and co-financed by the FAO and the Ministry of Agriculture, aims to revitalize oasis agro-ecosystems in the Drâa-Tafilalet region.

The OASIL project operates in the field through pilot sites identified on the basis of a regional analysis of the Drâa-Tafilalet region, adopting an integrated landscape approach rooted in multi-level, multi-sector and multi-stakeholder participation and considering the carrying capacity of the natural resource base of the oasis agro-ecosystem (land, water, biodiversity).

**Synergy :**

Building on the results and best practices of the OASIL project, in particular the study on the typology of existing oases (conducted by the FAO), our project aims to strengthen sustainable resource management initiatives in oasis areas. This enables close coordination to maximize impact without unnecessary duplication.

**The "sustainable management of oasis ecosystems in Morocco" project**

**Overview :**

This project, which will begin in 2024 with USD 12 million in funding from the World Bank, aims to strengthen the sustainable management of oasis ecosystems for climate resilience in the Aoufouss and Akka oases.

**Relationship :**

The project is unique in its specific target on the Draa Basin region and its implementation of complementary activities. We plan to collaborate with this new project to share knowledge and resources, maximizing the overall impact.

**g. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.**

NA



## **H. Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.**

Several consultations were held with stakeholders and beneficiaries during the preparation phase of the concept note.

The identification of actions is based on an analysis of the constraints identified and the conclusions and recommendations of previous programmes.

This analysis of constraints has enabled us to identify the objectives and results to be targeted, as well as the activities to be carried out.

An initial stage of identifying project activities was carried out by ORMVAO in consultation with the local population and stakeholders.

Following this initial consultation phase, a second mission took place from Tuesday 11 to Friday 14 June 2024. The mission included two fieldwork days on 12 and 13 June, accompanied by two meetings with the managers of the Ouarzazate ORMVA. The first meeting for consultation and orientation occurred on the afternoon of Tuesday 11 June and the second meeting for feedback and fine-tuning was held on the morning of Friday 14 June.

### **ON-SITE PROSPECTING**

An agricultural engineer with expertise in oasis areas has been appointed by the consultant to conduct a fact-finding tour and identify the constraints currently affecting the Draa Valley. The goal is to determine actions and projects that can be implemented to adapt to climate changes, which are significantly impacting the economic, social and environmental life of the oasis populations.

During this mission, the expert was accompanied by agents from ORMVAO's head office and field staff from Zagoura. They visited various palm groves in the valley to observe and note both the general constraints affecting all groves and those specific to each grove due to its geographical location and its soil, climate, and environmental characteristics.

### **OASIS ADAPTATION AND RESILIENCE ACTIONS AND PROJECTS**

Examination of the situation in the Draa Valley has revealed ecosystemic and socio-economic constraints that need to be addressed and overcome via two main components, namely :

***C1: strengthening the ecosystem's capacity to adapt and resilience.***

***C2: strengthening community resilience by diversifying socio-economic activities.***



The first component, C1, focuses first and foremost on mitigating the effects of drought through any action capable of improving the potential of usable water resources and their optimum conservation, in addition to soil restoration and protection against both water and wind erosion. The second ecosystemic sub-component concerns the preventive management of the fight against palm grove fires, which are increasingly becoming a scourge fuelled by the dry state of the palm trees (photo No. 1), which are producing nothing and are of no interest to farmers. Finally, a third sub-component within this framework would relate to the implementation of nature-based solutions, in this case the fight against the silting up of hydraulic infrastructures and cultivated land, the promotion of aromatic and medicinal plants, etc...

The second component, C2, relates more to the resilience and development of oasis agriculture in its various aspects: organic, local products, etc. on the one hand, and the development of entrepreneurship around oasis trades and the strengthening of the economic empowerment of women and young people on the other.

#### **II-3.1 Strengthening the adaptation and resilience of the oasis ecosystem**




By crossing the Draa valley palm groves from upstream to downstream, we were able to make the observations listed below and propose priority actions in consultation with ORMVAO managers, as shown in the Excel table in the Appendix:

- The gradient of drought and desiccation of palm trees increases from north to south (i.e. from upstream to downstream of the oued Draa);

	
<p>Photo 2: Mezquita palm grove (Upstream from the valley)</p>	<p>Photo 3: Ktaoua palm grove (down valley)</p>

This situation indicates that the cleaning of date palm clumps and the development of access to the palm groves are much more of a priority in the oases downstream of the valley than upstream. In addition, a total of **30,000 clumps** to be cleaned are proposed for the valley's six palm groves, together with the development of **100 km of** access tracks equipped with public solar lighting and spread across all the palm groves. **15 first-response fire-fighting kits are** to be made available to local associations and cooperatives, in addition to training and raising awareness among local people about the risks of fire and the precautions to be taken at all times to prevent them. In addition, the installation of a large number of prevention signs and pictograms along roadsides and access tracks to palm groves would be very useful in instilling environmental education in the local populations and various users of these infrastructures. A feasibility study of a fire warning system could also be considered in this context with a view to avoiding or at least minimizing the potential damage from such disasters.

- Bank erosion is much more pronounced upstream of the valley and in the intermediate basin (four out of six palm groves), whereas it is almost non-existent downstream (M'hamid and Ktaoua palm groves);

		
<p>Photo: 4 Erosion of banks in the Tarnata palm grove</p>	<p>Photo 5: Erosion of banks in the Oulad Lhaj Tarnata area</p>	<p>Photo 6: Erosion of the water table by gravity irrigation of plots in the fezouata palm</p>

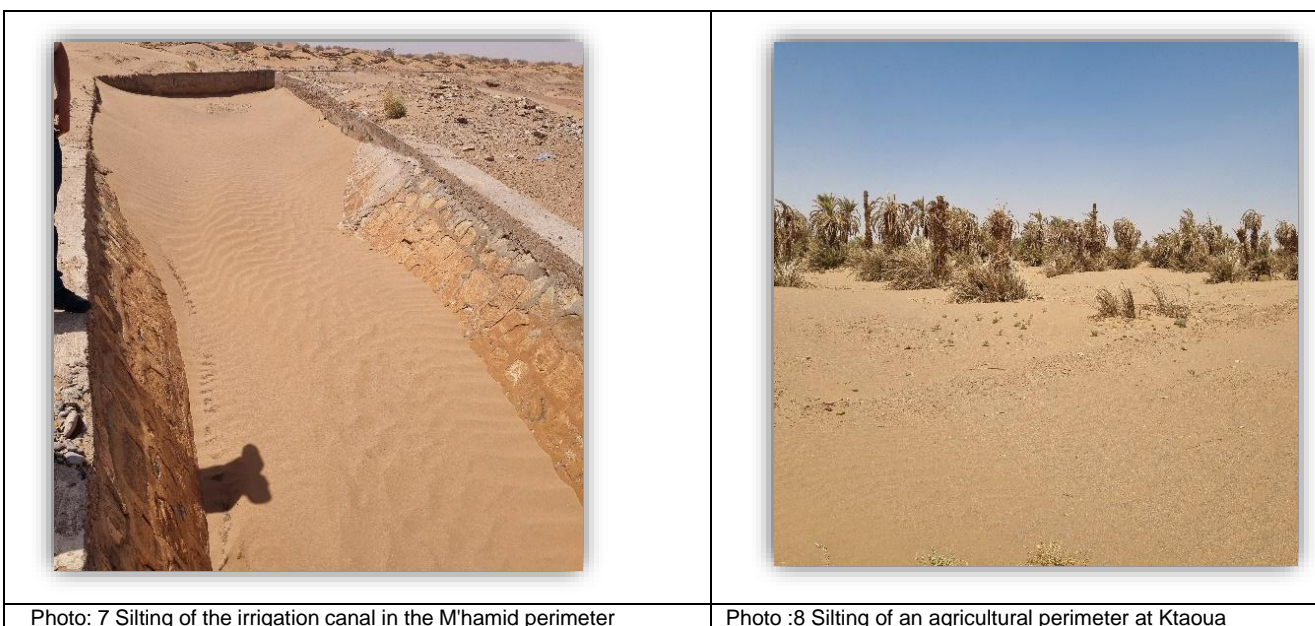
		grove.
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The work planned under this scheme involves the construction of **10 km of** protective walls made of masonry or dry stone gabions to stabilize the land against water erosion caused by violent, short-lived wadi flooding.

- Groundwater salinity is very pronounced in the downstream palm groves (M'hamid and Ktaoua), reaching levels of 6 to 10 g/l and even higher in downstream areas;

Hence the importance of carefully selecting salinity-tolerant plant species for cultivation, and of considering the installation of desalination units for irrigation water in the two palm groves affected by this phenomenon.

- The phenomenon of silting up of irrigation canals and cultivated land is also only found in the M'hamid and Ktaoua palm groves.

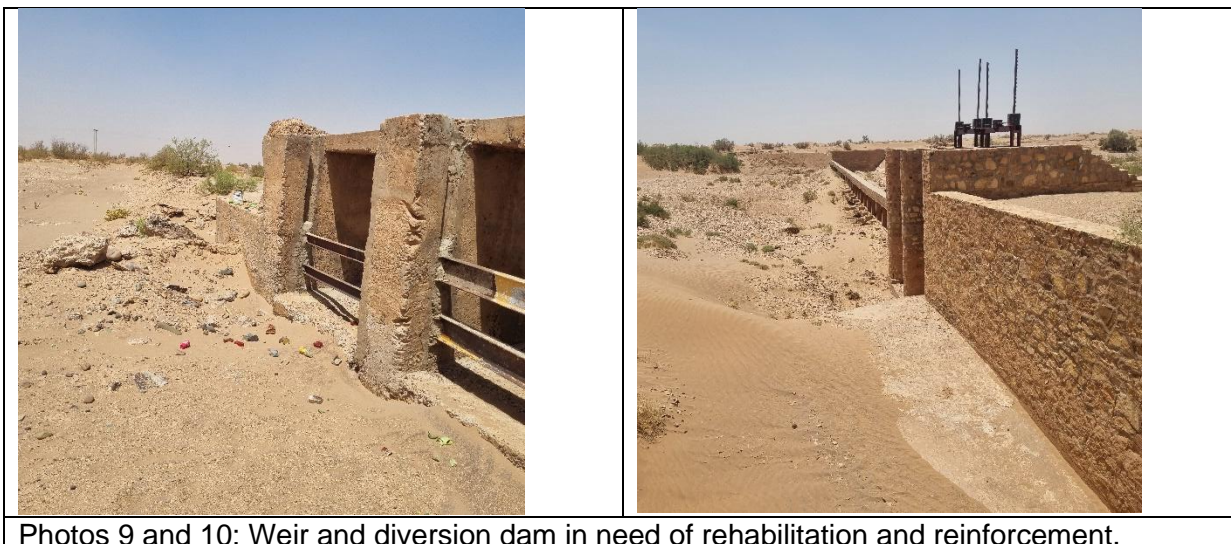


This natural scourge can only be combated by fixing the dunes mechanically (using a grid of dry palm fronds) and biologically (planting trees and shrubs suited to the area's dry climate). In this context, it is proposed to treat **1,000 hectares** by fixing the dunes in and around the invaded palm groves and on either side of the irrigation canals, which are under constant threat.

- The water diversion weirs, both for floods and dam releases, play a very important role in the rational management of surface water, but also in recharging the water table by infiltration of a significant proportion of the water by slowing down the flow of water on the wadi bed.

The construction of four weirs and the reinforcement of six others already existing along the Draa valley are therefore envisaged, taking into account other programmes already decided by the ORMVAO (see photos 9 and 10 below):





Photos 9 and 10: Weir and diversion dam in need of rehabilitation and reinforcement.

A number of earthen irrigation channels within the valley and khetaras on the Tansifte and Blida outside the valley need to be rehabilitated in order to increase their efficiency and enable significant water savings, which are highly valuable.. The flow rates of the khetaras can be improved by building structures to collect rainwater and recharge the aquifer. All the palm groves are suffering to varying degrees from a lack of irrigation water, causing their crops to dry up further day by day due to prolonged water stress. This leaves no choice but to dig and equip at least 30 wells or boreholes with solar energy, which will serve for supplemental irrigation and fire-fighting interventions in the palm grove when necessary, as well as for potential uses. This type of initiative has already been launched by ORMVAO and some private entities, and has already shown positive results (see photos 11, 12 and 13 below).





Photos 11, 12 and 13: Creation of solar-powered pumping stations for back-up irrigation and other uses.

## **STRENGTHENING COMMUNITY RESILIENCE.**

Understanding the socio-economic constraints significantly impacting the development pace of village communities in the valley necessitates enhancing their resilience through diversifying socio-economic activities, thereby generating additional household income, particularly for rural women and youth. In this context, the actions to be undertaken focus closely on the plot and rural household level, that are directly impacting people as well as agricultural and para-agricultural activities.

The first area of action focuses on the resilience and development of oasis agriculture through :

- Training farmers in the various techniques available for water-saving irrigation and maximizing the use of this vital resource;
- Improving marketing channels for oasis agricultural products;
- Promoting organic products especially dates, for future national and global market value.
- Labelling and developing the market for local products, particularly "Tahlaoute" date syrup;
- By-products from the oases can be recycled as compost, animal feed or materials to combat water evaporation in the field, to save water.
- The second strand of actions for this component relates more to the development of entrepreneurship around oasis trades and the empowerment of rural women and young people through the following:
  - Support for initiatives to create income-generating projects and organization of training and capacity-building sessions for women and young people.
  - Support and capacity building for professional agricultural organization.
  - Promoting agricultural trades and encouraging self-employment among rural women and young people (e.g. creating marketing showcases for agricultural and craft products);
  - Support for guest infrastructures, ecolodges and catering centers as part of the development of agro-ecotourism;
  - Capacity building for tourist guides and escorts.
  - Support and financial backing for the implementation of innovative project ideas for the benefit of rural women.

## **I. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.**

According to the IPCC's 4<sup>ème</sup> climate assessment report, many countries have stressed that the major challenge for the future is the need for international support for the implementation of their National Adaptation Plans (NAPs) and Nationally Determined Contributions (NDCs).

In terms of mitigation, Morocco has set a target of reducing its GHG emissions about 45.5% by 2030, through support from the international community. Morocco has also committed an unconditional target of reducing GHG emissions by 18%. The overall target of 45.5% requires an investment estimated at around US\$50 billion between 2010 and 2030:

The conditional target requires the mobilization of an investment estimated at US\$24 billion and is conditioned by access to new sources of financing and additional support, compared to that received in recent years.

For the period 2020-2030, Morocco has estimated that the cost of implementing adaptation programs in the water, forestry and agriculture sectors, which are the sectors most vulnerable to climate change, requires more than 35 billion US dollars. Morocco's Green Investment Plan focuses on an urgent need that concerns approximately 2.5 billion USD.

Morocco's oases in general, and those in the project area (Draa Valley) in particular, are being heavily impacted by the effects of climate change. Indeed, the degradation of Moroccan palm groves has accelerated sharply over the last 10 years, with the loss of almost 2/3 of their palm trees and a third of their production. The factors causing the oases degradation include :

- Water scarcity, conditioned upstream by the persistence of recurrent droughts and amplified if situ by certain failures in hydro-agricultural and water supply systems.
- The advance of silting, to the detriment of roads, farmland and the efficiency of water circulation networks (clogging).
- The shortage of human and financial resources available to operators and local players concerned about the sustainable development of their area.

The constraints have contributed to an erosion of the livelihoods of the most vulnerable populations and to an acceleration in the abusive extraction of natural resources, which will logically significantly increase the costs of inaction in the short and medium term.

Maintaining the ecosystem services of oases and their economies is crucial and requires major investment. Public action currently remains the only lever for mitigating the risks of an irreversible situation with regard to safeguarding these ecosystems and the many formal and informal jobs linked to them, particularly in the agriculture and ecotourism sectors.

### **Component 1: Strengthening the adaptive capacity and resilience of the oasis ecosystem**

#### **Trend scenario**

The survival of oasis areas depends on the mobilization of water using various techniques. On average, the region receives less than **80 mm of rainfall per year**. 98% is used for agriculture (75% of needs are met). Climate change is expected to exacerbate the risk of fire and disease (notably Bayoud disease, which destroyed 10 million palm trees in a century). Similarly, in the project area, extreme events such as droughts and floods are already common and are expected to become more frequent, reducing soil moisture, accelerating desertification, negatively impacting agricultural productivity and exerting additional pressure on limited groundwater resources.



## **Scenario with the Project**

Component 1 of the project aims to support activities to adapt and improve the water balance through the sustainable use of conventional water, rainwater harvesting and groundwater recharge. The project will also support activities to combat flood damage, which threatens agricultural land and water infrastructures, as well as concrete actions to prevent fires.

The budget allocated by the AF will enable the financing of the full costs of concrete adaptation measures by improving the efficiency and sustainability of groundwater catchment and irrigation, as well as the sustainable intensification of agricultural production, namely:

- (i) the construction and reinforcement of 10 diversion weirs, (ii) the construction of 20 community boreholes to meet the population's needs for drinking water, irrigation water and livestock watering, (iii) the rehabilitation of traditional hydraulic structures (khetaras) in association with rainwater collection structures.
- (iv) the construction of 4 flood control weirs and (v) the protection of 15 km of traditional palm groves.
- (vi) Cleaning date palms to reduce flammable biomass and minimize the risk of fires spreading, (vii) Building access roads inside oases to enable emergency teams to intervene quickly and effectively in the event of a fire, (viii) Installing wells, hydrants and fire hydrants that are permanently accessible, (x) distributing 30 fire-fighting kits to the population to ensure immediate, preventive intervention as soon as a fire breaks out, and lastly (xi) raising public awareness of fire risks and preventive measures, the rational use of natural resources and collective responsibility for preserving our oases.

## **Component 2: Strengthening community resilience and diversifying socio-economic activities**

### **Trend scenario**

In 2021, the poverty rate among the inhabitants of the oases was 16%, compared to a national average of 9%. The oasis population is vulnerable to climate change. This population is currently trapped in a vicious cycle combining ecological degradation and impoverishment.

In the project area, the economic activities that contribute most to the livelihoods of the population (including arboriculture, livestock farming, tourism, crafts and energy) depend on the continuity of the essential functions fulfilled by the oases in the face of the effects of climate change and other threats.

Without urgent investment in strengthening climate-sensitive livelihood activities, the repercussions of the acute and chronic impacts of climate change will severely affect the ability of vulnerable communities in the oasis to secure their livelihoods. These problems are exacerbated by limited access to financing and other sources of income, particularly for women, youth, the elderly and people with disabilities.

### **Scenario with the FA Project**

To address this situation, component 2 of the FA project will fund the full costs of adaptation to diversify more climate-resilient livelihood activities and catalyze income generation by prioritizing vulnerable groups.

The project actions proposed under component 2 will help to develop more climate-resilient livelihoods in the Draa oases. The logic is to target actions that will have a positive impact on the most vulnerable populations by promoting the products, knowledge and heritage characteristic of oasis environments.

Indeed, activities such as disseminating good practices, building the capacities of professional organizations and project leaders, promoting organic farming, labeling local products and improving their marketing will (i) increase the added value of the targeted agricultural products and value chains, (ii) improve competitiveness and productivity and (iii) improve the incomes of vulnerable groups, particularly women and youth. Economic diversification will focus on non-agricultural activities (ecotourism, crafts, etc.) that are less sensitive to the effects of the climate.

## **J. Describe how the sustainability of the project/programme outcomes has been taken into account when designing the project/programme.**

The sustainability of the results of the project/programme was a central aspect considered during the design of the project. This sustainability was approached from an institutional, technical and environmental perspectives.

In terms of institutional sustainability, the project will focus on the following aspects:

- Identifying and analyzing stakeholders with a view to their empowerment by means of an agreement and contract (beneficiaries and possibly other partners).
- The use of existing institutions, at central and local level, in the supervision and implementation of the project, which ensures the sustainability of the results after project completion. ;

Regarding the environmental sustainability of the project's actions, it will be pursued using interventions adapted to the climatic context of the area in terms of sustainable mobilization of water resources, which are highly threatened by the effects of climate change, as well as rainwater harvesting and water and soil conservation. Similarly, fire protection and prevention measures will be implemented to preserve oasis ecosystems and improve their resilience, with strong involvement from beneficiaries.

As for the technical sustainability of the project's actions, the activities were chosen to be adapted to the oasis context and aligned with ancestral know-how.

## **K. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project/programme.**

The following table reviews the potential environmental and social impacts:

<b>List of environmental and social principles</b>	<b>No conformity assessment required</b>	<b>Justification Potential risks / impacts - assessment required for compliance</b>
<i>Compliance with the law</i>	x	All the proposed components/activities comply with Moroccan laws on the environment, natural resource management, particularly water resources, and citizens' rights (see section E). They also adhere to the principles of international standards in this area (e.g. World Bank Operational Policies, IFC Performance Standards).
<i>Access and equity</i>	x	The inclusive and participatory approach advocated by the project will involve all stakeholders. Communication about the project is disseminated transparently and is accessible to everyone . However, the risks identified in the matrix below would be mitigated through the proposed mitigation measures. A dialogue with these populations will be ensured by the executing entity (UGP).
<i>Marginalised and vulnerable groups</i>	x	Marginalized and vulnerable groups are identified and integrated throughout the project cycle with very specific measures for each category.

<i>Human rights</i>	x	The project helps to satisfy the human rights of vulnerable populations, particularly the right to food and potable water.
<i>Gender equality and women's empowerment</i>	x	Gender approach and respect for gender equality are two fundamental principles used in the development and implementation of the participatory approach. Women are particularly targeted by the project (component 2).
<i>Fundamental labour rights</i>	x	Fundamental labor rights will be respected in all proposed activities, particularly under Component 1.
<i>Indigenous peoples</i>	x	Not applicable
<i>Involuntary relocation</i>	x	Not relevant to the Project
<i>Protecting natural habitats</i>	x	No natural habitats are threatened by the project.
<i>Conservation of biological diversity</i>	x	Positive impact insofar as the project contributes to the preservation of oases. Better management of water resources, protection of agricultural lands against water and wind erosion, protection and promotion of local crops and SMEs will contribute to the improvement of biodiversity conservation in oasis areas.
<i>Climate change</i>	x	Overall positive impact. Some greenhouse gas emissions may occur during the construction phase.
<i>Pollution prevention and resource efficiency</i>	x	Disseminating the good practices set out in components 1 and 2 will help to prevent pollution and improve resource efficiency.  Some minor risks could arise in : <ul style="list-style-type: none"> <li>- Modification in surface runoff, which could negatively impact downstream areas of the interventions</li> <li>- Changes in the water quality of the wadis along the segments affected by the construction of infrastructure..</li> <li>- Potential pollution during the construction phase.</li> </ul> Close monitoring and surveillance of these risks/impacts will be carried out during the construction phases. If necessary, mitigation measures will be taken (see table below).
<i>Public health</i>	x	Positive impact. Improving water resource management will notably reduce the risk of waterborne diseases related to drinking water quality. Maintaining date palm clumps will reduce the risk of fire and also the transmission of plant diseases such as Bayoud. Promoting organic and agro-ecological farming will reduce the use of pesticides and herbicides harmful to health.
<i>Physical and cultural heritage</i>	x	Positive impact. The landscape potential and cultural heritage of the Oases will be rehabilitated and enhanced as part of the project.
<i>Land and soil conservation</i>	x	Positive impact. Rainwater harvesting, combating water erosion and floods, and fighting against sand encroachment will ensure the long-term conservation of land and soil in these oases.

"Indeed, it is clear that the impacts of this project are mostly temporary and/or localized, and of low severity.

The benefits, risks and mitigation measures are detailed in the following table:

	Positive spin-offs	Risks (Potential negative impacts)	Proposed mitigation and/or accompanying measures
<b>C1 Strengthening the adaptation and resilience of the oasis ecosystem</b>			
	<b>S/C 1.1 Mobilisation of water resources and water and soil conservation</b>		
<b>1.1 Conventional water resources mobilised and groundwater recharge reinforced</b>	<ul style="list-style-type: none"> <li>Improving adaptive capacities for better management of water resources in oasis zones.</li> <li>Improving the efficiency of use of traditional hydraulic infrastructures (seguia, diversion and recharging sills, etc.).</li> <li>Helping to save the oases.</li> </ul>	<ul style="list-style-type: none"> <li>Risk associated with the social acceptability of the planned hydraulic developments.</li> <li>Infrastructure management and operation risk.</li> <li>Risk of non-compliance with E&amp;S requirements during the works phase.</li> </ul>	<ul style="list-style-type: none"> <li>Support for the participation of the populations concerned in the selection of locations for the planned hydraulic facilities.</li> <li>Consideration of management and operating methods.</li> <li>Strengthening the grievance mechanism.</li> <li>Integration of contractual clauses for compliance with E&amp;S requirements for all service providers involved).</li> <li>E&amp;S monitoring of works.</li> </ul>
<b>1.2 Reducing flood damage and protecting farmland</b>	<ul style="list-style-type: none"> <li>Protecting oases from damage caused by soil erosion.</li> <li>Improving water and soil conservation.</li> <li>Protection of arable land: perimeter protection (retaining walls, gabions, etc.).</li> </ul>	<ul style="list-style-type: none"> <li>Risk of non-adherence and/or low participation by local people in the planned erosion control measures (poor anchoring could have a negative impact).</li> <li>Appropriateness of the techniques proposed.</li> <li>Risk of non-compliance with E&amp;S requirements during the works phase.</li> </ul>	<ul style="list-style-type: none"> <li>Support for an eco-design approach to erosion control.</li> <li>Integrated design of erosion control measures (Combining mechanical and biological actions to combat erosion).</li> <li>Raising awareness and training farmers to combat water erosion.</li> <li>Integration of contractual clauses to ensure compliance with E&amp;S requirements and E&amp;S monitoring of works.</li> </ul>
	<b>S/C 1.2 Preventive fire-fighting management</b>		
<b>1.3. Palm groves maintained, developed and equipped</b>	<ul style="list-style-type: none"> <li>Strengthening preventive risk management and fire-fighting measures.</li> <li>Helping to protect oases from the risk of fire.</li> <li>Improved accessibility to oasis areas, which will make them more attractive.</li> <li>Connectivity improvement for local populations .</li> <li>Access to social and economic services (health, schools, souks, etc.), particularly for women.</li> </ul>	<ul style="list-style-type: none"> <li>Risks related to the social acceptability of access developments within oases (issues related to involuntary land acquisition for road infrastructure within palm groves, associated social conflicts, economic displacement, etc.).</li> <li>Risk of neglecting E&amp;S aspects and their inadequate consideration during technical studies and/or preparing unsatisfactory (specific) environmental studies or not including appropriate E&amp;S requirements in the bidding documents (DAO) .</li> <li>Risk of non-compliance with E&amp;S requirements during the works phase.</li> </ul>	<ul style="list-style-type: none"> <li>Support for prior consultations with the population concerned for access developments within the oases (</li> <li>Amicable arrangement between beneficiaries).</li> <li>Prioritizing the choice of existing access points within oases.</li> <li>Strengthening the grievance mechanism.</li> <li>Use of solar lighting for access roads.</li> <li>Consideration of how to maintain the trails.</li> <li>Integration of contractual clauses for compliance with E&amp;S requirements for all contractors and E&amp;S monitoring of works.</li> </ul>
<b>1.4. Public awareness and involvement in fire-fighting</b>	<ul style="list-style-type: none"> <li>Creation of water points (wells, hydrants and hydrants)</li> </ul>		
	<ul style="list-style-type: none"> <li>Helping to save the oases.</li> </ul>		
	<b>S/C 1.3 Implementation of nature-based solutions</b>		
<b>1.5. Combating silting and promoting the use of acacia radiana</b>	<ul style="list-style-type: none"> <li>Protecting oases from wind erosion.</li> <li>Protection of farmland and waterworks</li> </ul>	<ul style="list-style-type: none"> <li>Risks relating to the social acceptability of access developments within oases (issues relating to the involuntary acquisition of the land needed to build tracks within palm groves, related social conflicts, economic displacement, etc.).</li> </ul>	<ul style="list-style-type: none"> <li>Support for prior consultations with the population concerned for access developments within the oases (</li> <li>Amicable arrangement between beneficiaries).</li> <li>Prioritizing the choice of existing access points within oases.</li> <li>Strengthening the grievance mechanism.</li> </ul>

		<ul style="list-style-type: none"> <li>▪ Risk of neglecting E&amp;S aspects and taking little account of them when carrying out technical studies and/or preparing unsatisfactory (specific) environmental studies or not including appropriate E&amp;S requirements in the bidding documents (DAO).</li> <li>▪ Risk of non-compliance with E&amp;S requirements during the works phase.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of solar lighting for access roads.</li> <li>▪ Consideration of methods for the maintenance and upkeep of the constructed roads.</li> <li>▪ Integration of contractual clauses to ensure compliance with E&amp;S requirements for all contractors and E&amp;S monitoring of works</li> </ul>
<b>1.6. Safeguarding and supporting biodiversity</b>	<ul style="list-style-type: none"> <li>▪ Promoting local crops and aromatic and medicinal plants</li> <li>▪ Strengthening biodiversity</li> <li>▪ Diversifying sources of income for communities, while enhancing native biodiversity and strengthening food security.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Risk of non-adherence and/or low participation by beneficiaries.</li> <li>▪ Sustainability risk for selected projects.</li> <li>▪ Risk of not meeting the required hygiene quality standards.</li> <li>▪ Risk of non-compliance with E&amp;S requirements during the works phase.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Support for prior consultations with the population concerned about developments</li> <li>▪ Integration of contractual clauses to ensure compliance with E&amp;S requirements for all service providers;</li> </ul>
<b>C2. Strengthening community resilience and diversifying socio-economic activities</b>			
	<b>S/C 2.1. Adding value to oasis products and disseminating good practice</b>		
<b>2.1. Promoting local and agricultural products</b>	<ul style="list-style-type: none"> <li>▪ Promoting good practice in sustainable water and soil management in oasis areas.</li> <li>▪ Enhancing the ecological potential of oasis areas, particularly high value-added forest species (acacia radiana)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Risk of non-adherence and/or low participation by beneficiaries.</li> <li>▪ Sustainability risk for selected projects.</li> <li>▪ Risk of not meeting the required hygiene quality standards.</li> <li>▪ Risk of non-compliance with E&amp;S requirements during the works phase.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Support for prior consultations with the population concerned about developments</li> <li>▪ Integration of contractual clauses for compliance with E&amp;S requirements for all service providers.</li> </ul>
<b>2.2 Good practices disseminated</b>	<ul style="list-style-type: none"> <li>▪ By spreading good practice, oasis farmers can increase the added value of their products while ensuring environmental sustainability.</li> <li>▪ Special attention will be given to cultivation techniques that improve water management, reduce water losses and ensure sustainable agricultural production even under conditions of limited water resources.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Risk of non-adherence and/or low participation by beneficiaries.</li> <li>▪ Sustainability risk for selected projects.</li> <li>▪ Risk of not meeting the required hygiene quality standards.</li> <li>▪ Risk of non-compliance with E&amp;S requirements during the works phase.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Support for prior consultations with the population concerned about developments</li> <li>▪ Integration of contractual clauses for compliance with E&amp;S requirements for all service providers.</li> </ul>
	<b>S/C 2.2. Strengthening entrepreneurship around oasis trades and supporting women's economic empowerment</b>		
<b>2.3. Entrepreneurship projects based on agricultural trades supported</b>	<ul style="list-style-type: none"> <li>▪ Positive impact on the most vulnerable sections of the population by promoting the products, knowledge and heritage characteristic of oasis environments.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Risk of non-adherence and/or low participation of women.</li> <li>▪ Sustainability risk for selected projects.</li> <li>▪ Risk of not meeting the required hygiene quality standards.</li> <li>▪ Risk of non-compliance with E&amp;S requirements during the works phase.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Consideration of project management and operating procedures.</li> <li>▪ Integration of contractual clauses for compliance with E&amp;S requirements for all service providers.</li> </ul>
<b>2.4 Innovative initiatives to empower women and young people supported</b>	<ul style="list-style-type: none"> <li>▪ Contribution to the economic empowerment of vulnerable categories, particularly young people and women in the oases.</li> <li>▪ Revitalization of local economic activity and diversification of income sources for women.</li> <li>▪ Contribution to the development of local products marketing and the improvement of the marketing offer for oasis products.</li> </ul>		<ul style="list-style-type: none"> <li>▪ E&amp;S monitoring of works.</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Restoring the traditional oasis landscape</li> <li>▪ Contribution to the creation of employment opportunities in the project area.</li> </ul>		
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## PART III: IMPLEMENTATION ARRANGEMENTS

### A. Demonstrate how the project/programme aligns with the Results Framework of the Adaptation Fund

The general and specific objectives of the proposed project, as well as its expected results, are favorably aligned with several Fund outcomes (4 and 6) and outputs (4.0 and 6.0)

The table below maps the objectives and outcomes of the proposed project to the Fund's respective outcomes and outputs:

Project Objective(s) <sup>1</sup>	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Strengthening the capacity for adaptation and resilience of the oasis ecosystem	Number of oases and palm groves whose adaptive capacities have been strengthened and which have taken measures to reduce threats and preserve their heritage.	Outcome 4: Increased adaptive capacity within relevant development sector services and Infrastructure assets	4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	7 995 000,00
Strengthening community resilience and diversifying socio-economic activities	Diversification of socio-economic activities	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.2. Percentage of targeted population with sustained climate-resilient alternative livelihoods	961 000,00
Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
1.1 Conventional water resources mobilized and groundwater recharge reinforced	Number and type of water diversion, rainwater collection and groundwater recharge structures built	Output 4: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by sector and scale)	3 540 000,00
1.2 Flood damage mitigated and agricultural land protection supported	Number of perimeter and palm groves protection structures built			2 500.000,00
1.3 Palm groves maintained, developed and equipped	Number of date palm clumps cleared and linear access roads constructed and maintained			1 290 000,00

1.4 Population sensitized and integrated in the fight against fires.	Number of fire-fighting kits for local first responders distributed			90 000,00
1.5 combating silting up and promoting the use of acacia radiana	Number of hectares to combat silting			375 000,00
1.6 Plant biodiversity promoted	Number of crop species and local aromatic and medicinal plants promoted			200 000,00
2.3. Entrepreneurship projects based on agricultural trades supported	Number of people benefiting from project	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.2.1. Type of income sources for households generated under climate change scenario	265 000,00
2.4 Innovative initiatives to empower women and youth supported	Number of women and youth benefiting from empowerment initiatives			196 000,00

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<sup>1</sup> The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still apply

## PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

### A. Record of endorsement on behalf of the government<sup>2</sup>

*Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:*

(Enter Name, Position, Ministry)	Date: (Month, day, year)
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**B. Implementing Entity certification** *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (.....list here.....) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy and the Gender Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.

<sup>6</sup> Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.



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To : The Adaptation Fund Board  
c/o : Adaptation Fund Board Secretariat  
Email: [secretariat@adaptation-fund.org](mailto:secretariat@adaptation-fund.org)  
Fax : 2025223240/5

**Subject:** Endorsement for “Strengthening the Resilience of Oasis Ecosystems and Enhancing the Adaptive Capacities of the Draa Basin Communities to Climate Change”.

We would like to refer to the project “Strengthening the Resilience of Oasis Ecosystems and Enhancing the Adaptive Capacities of the Draa Basin Communities to Climate Change,” which is included in the funding proposal submitted by the Agency for Agricultural Development (ADA).

In our capacity as the Adaptation Fund Focal Point for Morocco, we acknowledge having reviewed the proposal and hereby endorse the proposed project as outlined in the Concept Note.

By conveying our endorsement, we wish to clarify that:

- The Government of Morocco certifies that the project is a national priority and has its full support.
- The project, as presented in the Concept Note, aligns with Morocco’s National Strategic Adaptation Plan.
- The project, as outlined in the Concept Note, complies with relevant national laws and regulations and adheres to the Adaptation Fund’s environmental and social safeguards.

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

Please accept our kind regards.

Mr Mohammed BARAOUI  
Director of Climate and Biodiversity

Directeur du Climat et  
de la Diversité Biologique

Mohammed BARAOUI

<i>Name &amp; Signature</i> Implementing Entity Coordinator	
Date: <i>(Month, Day, Year)</i>	Tel. and email:
Project Contact Person:	
Tel. And Email:	



**Revised PFG Submission Form<sup>1</sup> (additions in red)**

**Project Formulation Grant (PFG)**

**Submission Date:**

**Adaptation Fund Project ID:**

**Country/ies:** Morocco

**Title of Project/Programme:** Strengthening the Resilience of Oasis Ecosystems and Improving the Adaptive Capacity of Communities in the Draa Basin to Climate Change

**Type of IE (NIE/RIE/MIE):** NIE

**Implementing Entity:** Agricultural Development Agency (ADA)

**Executing Entity/ies:** ORMVAO

**A. Project Preparation Timeframe**

<b>Start date of PFG</b>	1 <sup>st</sup> April
<b>Completion date of PFG</b>	1 <sup>st</sup> October

**B. Proposed Project Preparation Activities (\$)**

<b>List of Proposed Project Preparation Activities</b>	<b>Output of the PFG Activities</b>	<b>US\$ Amount</b>	<b>Budget note<sup>2</sup></b>
Project Feasibility study including : <ul style="list-style-type: none"><li>• Deep Consultation locally to develop activities identified during the concept note stage</li><li>• Technical feasibility study for all project's activities</li><li>• </li></ul>	Feasibility study of the project	100 000	The project feasibility study will be assigned to a local/ international firm with an expertise and track record on similar project. The team will be minimum 5 senior experts (2 Civil Engineer, Hydraulic Engineer, Economist and Agronomic Engineer). The duration will be 6 months. The budget is

<sup>1</sup> As presented in AFB/PPRC.33/40 Annex 1.

<sup>2</sup> The proposal should include a detailed budget with budget notes indicating the break- down of costs at the activity level. It should also include a budget on the Implementing Entity management fee use.



			including the implementing entity fees (10%)
Environmental and Social Assessment impact and mitigation	Environmental and social Impact Assessment	50 000	The assignment involves a consultancy firm to develop the environmental impact assessment study for the project. The duration will be 3 months with a mobilization of 2 experts (Environmental and Social/ Gender)
<b>Total Project Formulation Grant</b>		150 000	

Please describe below each of the PFG activities and provide justifications for their need and for the amount of funding required:

Proposed activity	Budget Note
Feasibility study	5 Seniors Experts during 6 months with an average of 900 USD/ DAY 5 workshops consultations (each 7 000 USD) Travels Costs (Rabat- Ourazate) : Each 200 USD for an estimate of 100 days
ESIA	2 Seniors Experts during 3 months 2 workshop consultations (each 7 000 USD)

### C. Implementing Entity

This request has been prepared in accordance with the Adaptation Fund Board's procedures and meets the Adaptation Fund's criteria for project identification and formulation

Implementing Entity Coordinator, IE Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
ADA Morocco					

## Appendix 1

Figure 6: Map of poverty and vulnerability of the population of the southern Moroccan oases biosphere reserve

