CONCEPT NOTE PROPOSAL FOR SINGLE COUNTRY

PART I: PROJECT INFORMATION

Title of Project:	Strengthening adaptive capacity and livelihood security in the most vulnerable oases of the Governate of Tozeur
Country:	Tunisia
Thematic Focal Area:	Multi-sector projects
Type of Implementing Entity:	Multilateral Implementing Entity
Implementing Entity:	World Food Programme
Executing Entities:	Ministry of Environment
Amount of Financing Requested:	9 997 000 (in U.S Dollars Equivalent)

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

Amount of Requested financing for PFG: 0 USD (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: 8/4/2023

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

Project/Programme Background and Context:

Overview of the project country and context

Geography

Tunisia is a North African Country situated along the southern shore of the Mediterranean Sea. It is the smallest country in North Africa occupies an area of approximately 164 000 km^2, sharing land borders with Algeria to the west and Libya to the southeast (Figure 1[1]). It has an elongated shape, oriented from North to South, and can be considered to have several distinct geographic zones. These include a mountainous northern zone, a semi-arid central plateau that dominates the western portion of the country and a low-lying fertile coastal zone that abuts the Mediterranean in the east of the country.

Demographic and socioeconomic indicators

Tunisia has a population of approximately ~11.8 million people[2] and has been governed as a unitary presidential republic following a constitutional referendum in 2022. The political structure is highly centralised, although the country is divided into 24 governorates that hold regional authority.

The southern, Saharan areas of the country are sparely populated as a result of high aridity, water scarcity and limited economic opportunities.

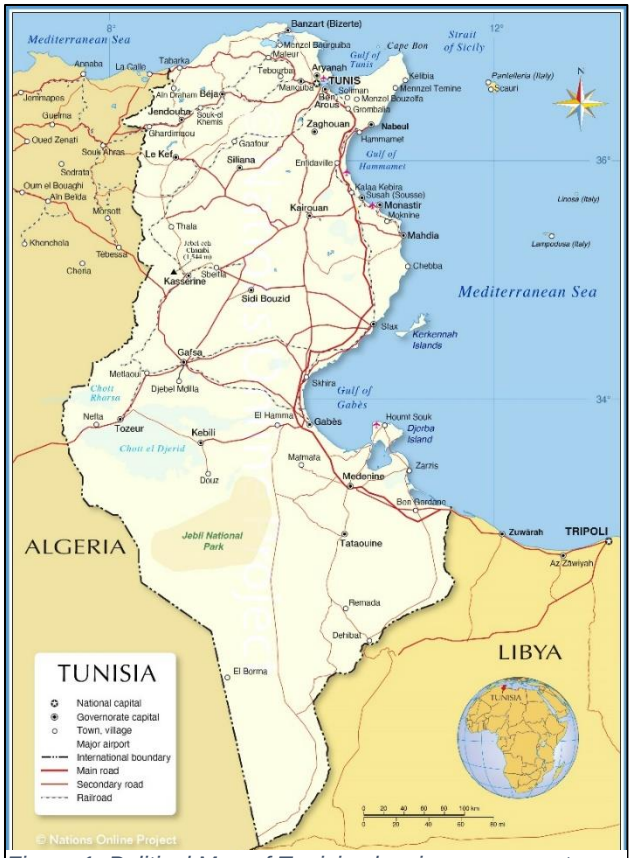


Figure 1. Political Map of Tunisia showing governorates and major urban centres

The country can be described as falling into the lower-middle income band, with a per capita GDP of ~$3800 and an HDI of 0.731, ranking it 97 out of 191 countries[3]. It has a Gini coefficient of 33, indicating relatively low levels of inequality. The country had a GDP of $46 billion in 2021 and has recorded limited economic growth since 2011, with an average growth rate of 1,9% between 2011 and 2019[4]. This poor economic performance, which is associated with the political shift to a democratic state, was exacerbated by the onset of CoViD-19 and the World Bank projects limited growth prospects up until 2030[5]. Tunisia has a fairly diversified mixed economy with major sectoral contributions coming from services (~64%), manufacturing (~26%) and agriculture (~10%). Although agriculture only generates one tenth of GDP occupies more than a 25% of the country's total area and accounts for almost 80% of national water usage[6]. However, agriculture is also a critical sector for food security, provides jobs for ~14% of the population and is seen to be a particularly important contributor to employment in rural areas where there are few other economic opportunities[7,8]. Tourism is another notable contributor to employment across Tunisia and provides ~6% of employment opportunities and ~14% of GDP. it is critical source of employment in rural areas and equally important for its contribution to national food security[9]. Tourism is another notable contributor to employment across Tunisia and provides ~6% of employment opportunities and ~14% of GDP.

The country has numerous development challenges, including high levels of unemployment, poverty, gender disparities, internal migration, and poor economic growth. Poverty, as a result of limited economic opportunities is relatively widespread and fluctuates but has remained relatively stable at ~15% since 2015[10]. Migration is a further notable socioeconomic trend in Tunisia. This is particularly apparent in the more sparsely populated southern regions. These areas have seen a constant trend of internal outward migration since the 1970s, which is often linked to a search for improved economic prospects[11]. This trend is particularly noticeable amongst men and youths and has

impacted the sex-ratio of the governate, resulting in a higher proportion of women and women-headed households[12].

Gender disparities are another development concern in the country. It has a gender gap index score of 0.64 points and ranks 120 out of 146 countries worldwide[13]. While the country scores well compared to other North African nations and has made significant gains to close the gender gap in certain areas, such as health and education, gender inequalities remain widespread in other areas, including political representation and representation in the job market, i.e., economic opportunities[14].

Institutional landscape

As previously described, Tunisia is a unitary presidential republic following a constitutional referendum in 2022. This means the country's administrative systems are highly centralised. Governorates, which represent sub-national administrative zones are managed by governors who are appointed by the central authority, while municipal councillors and mayors are directly elected by local populations. This two-tiered structure concentrates power in the hands of the central authority and its appointed representatives, while devolving day-to-day administrative activities to locally elected representatives.

In the context of climate change, the government of Tunisia has been progressive in its approach to relevant issues, particularly when compared with its neighbouring countries. The 2014 constitution enshrines several environmental principles and enables increased citizen participation in decision-making processes for relevant social, economic and environmental issues. The country is a signatory to several frameworks on climate change and includes climate change considerations in many of its strategic policy documents. The National Coordination Unit on Climate Change (UGPO) within the Ministry of Environment is the government entity with the mandate to coordinate climate change and adaptation. However, several other ministries and specialized agencies are in charge of climate-sensitive sectors and adaptation measures within these sectors, in particular, the Ministry of Agriculture — which is also in charge of water resources — the Ministry of Tourism, the Ministry of Health, as well as the Agency for Coastal Protection and Planning. To-date, adaptation planning and action in Tunisia has been primarily accomplished through a sectoral approach. Until recently one of the main challenges for addressing climate change was the absence of a cross-sectoral steering and coordinating body of climate policy and planning[15].

Regarding the effectiveness of Tunisia's overall institutional arrangements, the World Bank Group's worldwide governance indicators[16] suggest that the country's governance performance is moderately effective overall, with its best performance occurring in the rule of law indicator. The most recent data for Tunisia show that in 2021, the country's percentile rank[17] for government effectiveness was 45.67; for regulatory quality it was 38.46; and for rule of law the percentile ranking for Tunisia was 54.81. Figure 2 shows a time-series trend for the abovementioned indicators between 1996 and 2021, highlighting the consistent improvement in Tunisia's performance for the rule of law indicator. Conversely, the effectiveness of Tunisia's government and regulatory quality have both declined steadily since 1996, with both indicators well below the 50th percentile globally. The scenario described above highlights the country's needs with regard to improved governance and technical capacity development to ensure more effective governance across sectors.

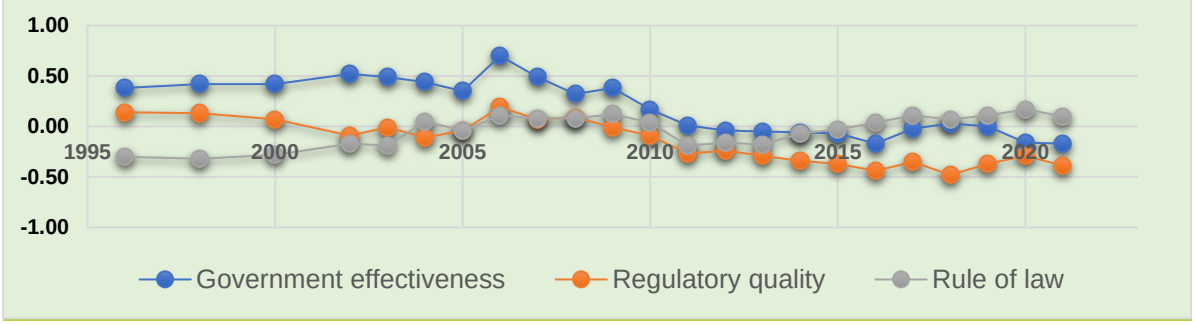


Figure 2. Analysis of Tunisia's governance effectiveness between 1996 and 2021[18]

Adaptation capacity gaps

Tunisia's Updated Nationally Determined Contribution (NDC) estimates that the country needs a total of USD 700 million for capacity development to implement the mitigation and adaptation components of the NDC[19]. Regarding the public sector gaps in capacity for climate change adaptation, the National Capacity Building Plan for Tunisia (2017) identified 13 priority areas for technical and governance capacity development. Similarly, in 2019, Tunisia's first NDC highlighted 10 thematic areas for capacity development as part of a roadmap to achieve the National Plan's objectives. The table below compares these areas.

Table 1. Summary of adaptation capacity gaps for Tunisia[20]

National Capacity Development Plan (2017)	NDC roadmap (2019)	International investment for the implementation of Tunisia's NDC[21]
– Basic climate change concepts – Strengthening the strategic and legislative framework – Institutional governance – Integration of adaptation into decision-making processes – Economic analysis of climate change and adaptation – Financing modalities of climate change adaptation – Development of climate services and products – Organization and support for research on adaptation – Tools for observing and monitoring the effects of climate change and MRV – Information and knowledge management – Education and continuing education – Tools and technologies for adaptation	– Monitoring and reporting – Education, awareness of the effects of climate change, and good adaptation practices – Integration of climate change into development planning – Management of genetic resources (collection, conservation, valuation) – Negotiations on climate change – Drafting of climate financing requests – Rehabilitation of local know-how and spin-offs – Monitoring and sustainability of works – Conflict management and mediation – Strengthening the human and material resources of the various key institutions	– Identification of climate action in Tunisia for political engagement and the urgency of action – Sectorial orientation identified and planned – Urgency to implement effective and sustainable policies to reduce vulnerability and adapt to climate change – Transformational vision – strengthening Tunisia's resilience to climate change – Vision for climate finance

Climate baseline in Tunisia and Tozeur

Tunisia is classified as an arid country with hot dry summers and wetter, cooler winters. Data from the World Bank Group's Climate Change Knowledge Portal indicates it has a mean annual temperature of 19.4°C with summer and winter mean temperatures of 28°C and 10°C respectively[22]. On the whole the country receives an average of 263mm of rainfall annually, with the bulk of this occurring in the wetter winter months[23] (September – April).

Although Tunisia is classified as an arid country, its climate demonstrates as much regional diversity as its geography. The proximity of the country to the Mediterranean Sea, combined with its specific topography results in five distinct climate zones (Table 2) that roughly overlay its geographic regions.

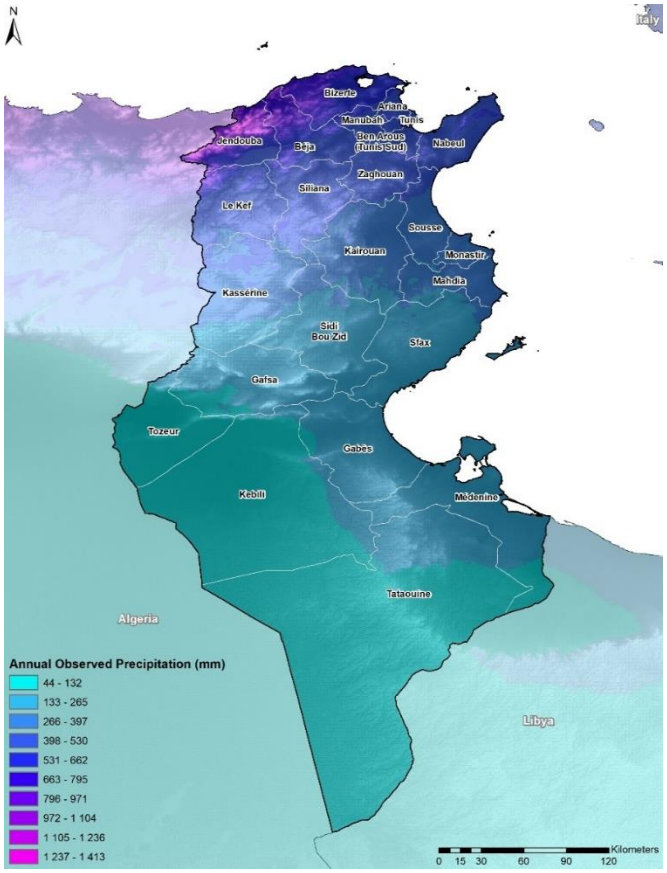
Table 2. Overview of Tunisia's climatic zones

Climate zone	Description
Northern mountainous region	Characterized by a Mediterranean climate with warm summers of up to 22°C and cool wet winters. Annual average precipitation often exceeds 700mm.
Central plateau	Dominates the west of the country and is predominately arid with mean annual temperatures of 18°C. Average annual precipitation in this area often exceeds 200mm.
Eastern low-lying coastal zone	An arid steppe climate with mean temperatures exceeding 18°C but significantly more rainfall when compared with the rest of the country. Average precipitation is variable in this region but generally greater than 200mm and less than 400mm per annum.
Cold arid desert	Low levels of rainfall and temperatures seldom exceed 18°C. Average annual rainfall here is less than 100mm, much like the rest of the south.

Climate zone	Description
Hot arid desert	Covers much of the southern extent of Tunisia. This area extends into the northern Sahara, receives less than 100 mm of precipitation annual and experiences the highest temperatures in the country with temperatures routinely exceeding 35°C in the summer months.

Climate trends

Tunisia experiences significant inter-annual variability. Despite this, there are several clear trends in precipitation and temperature; the data indicates that the first half of the 20th century was relatively stable in terms of climate, with more significant changes having occurred over the last 30 years[24].



Precipitation

Tunisia receives mean annual precipitation of 263.5mm, with significant inter-annual variability[25] (Figure 3). There are also great regional differences in annual precipitation and the southwestern areas of the country are exceptionally dry. In these regions average rainfall seldom exceeds 100mm annually[26,27]. Observed changes to Tunisia's precipitation patterns have been few and include a more recent decreasing trend over the last 30 years. During this period annual precipitation has declined by 3% across the country. This trend has been accompanied by an increase in dry spells and reduction in water availability, particularly in the southern regions.

Temperature

Observed changes to Tunisia's mean temperatures were relatively minor in the first half of the 20th century. However, significant increases have been observed in the last 30 years, with the temperature increasing at a rate of approximately 0.4°C per decade. Overall mean annual temperatures have increased by 1.4°C since 1901 for the country as a whole, with some regions experiencing far greater increases. For example, the northern areas of Tunisia have experienced increases of approximately 2°C with more notable increases in the summer months[28].

Observed subnational trends

Downscaled climate analyses have been undertaken for the region of Tozeur, covering the period 1990 – 2021. These observations indicate a notable increase in mean maximum temperatures (~1°C). This is an increasing and sustained trend for all the delegations of Tozeur. Precipitation has also been observed to be constantly decreasing, but decreases are more pronounced in some delegations. This is the case for Tameghza and Dguech, for example, which have observed average decreases of ~7mm and ~5mm respectively. Drought has increased significantly in recent years and has been more pronounced during the years when rainfall disturbances were strongest (between 2000-2010). Cold and hot spells have both demonstrated a notable trend, with cold spells decreasing and hot spells increasing currently[29].

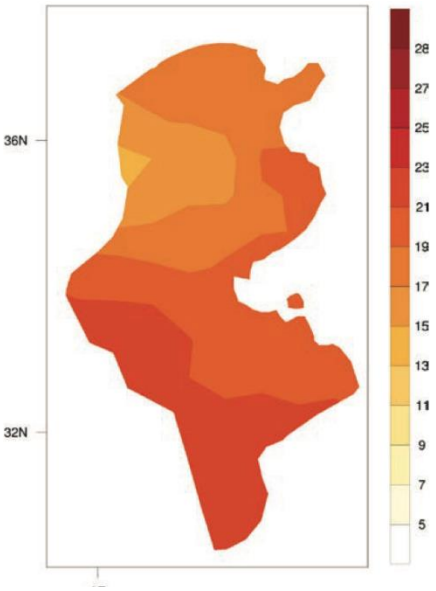


Figure 4. Observed temperature map of Tunisia

National climate projections

At a national level, projections for precipitation indicate a decreasing trend overall of between 4.1% and 6.7% by 2050, with some inter-regional variability predicted[30]. Minor increases are projected in the north and east of the country and minor decreases projected in the south. The overall decreases, when paired with the inherent interannual variability of the region means that the likelihood and duration of droughts are expected to increase which will exacerbate existing water stress.

Projected subnational trends in Tozeur

The Governate of Tozeur, much like the rest of Southern Tunisia, is likely to be subject to the changes described above, which include decreasing and irregular precipitation, increasing temperature and an increase in the likelihood, intensity and duration of heat waves and droughts. These projections are likely to contribute to increased water stress across the governate. Downscaled projections for the for the area support this trend and indicate a decrease in annual precipitation by 14 to 22 mm respectively by 2050 compared to the period 1980-2010, which represents a ~20% reduction overall. Additionally, the most significant increases in mean annual temperature are expected in the south of the territory, where the Delegation of Tozeur and its oasis ecosystems are located, with a maximum increase that could reach +2°C in 2050 under a high emissions scenario[31]. A further localized projection is the formation of

Climate impacts and vulnerability

Tunisia has a high baseline vulnerability as a result of numerous development, geographic and climate factors. It is a lower-middle income country that is contending with numerous development challenges. The region is also subject to a range of natural disasters, including flooding, sandstorms, and earthquakes. Its southern areas are extremely arid and extend into the northern Sahara, meaning there is low annual rainfall. The region also experiences high interannual variability in its precipitation patterns, resulting in frequent drought periods. These trends are particularly pronounced in the south and southwestern governorates, where temperatures could increase as much as 5.3°C by 2050[32] in Tozeur Governorate, resulting in a climate vulnerability hotspot.

Under current climate change conditions there are numerous impacts which are likely to severely impact the country. These include decreased precipitation, increased temperatures, sea-level rise (SLR) and an attendant increase in the impact of storm surges. SLR and storm surges will have major impacts in the economically critical coastal Sahel zone by affecting tourism and accelerating salinization, which will impact agricultural productivity in the region. In the northern areas rainfall is projected to increase, resulting in increased erosion and a higher likelihood of flash flooding[33].

Increased temperatures across the country and an associated increase in the number of hot days will result in significant impacts for human and animal health, agriculture water resources and ecosystems[34]. Additionally, the overall water balance for the country is expected to decrease due to

longer periods between water recharge for shallow aquifers and will result in greater reliance on non-renewable deep (fossil water) aquifers, particularly in the south of the country.

In the southern areas, already common droughts are projected to become more frequent, reducing soil humidity, accelerating desertification, negatively impacting agricultural productivity and placing further pressure on limited groundwater resources[35]. Oases are likely to be acutely affected by these impacts, as identified in Tunisia's 3rd National Communication acknowledged by UNFCCC in 2019. Oasis ecosystems, particularly traditional ones have been included as a strategic priority in Tunisia's SNBC-RCC as a result of their extreme vulnerability. These ecosystems are of particular concern given their socio-economic importance in otherwise arid and marginal areas. The combination of all of these climate impacts is likely to lead to a range of consequential socioeconomic impacts, including reduced food security and economic development, fewer livelihood opportunities and an increase in conflict over already scarce resources. For Tunisia, the following projected temperature and rainfall trends are expected by mid-century:

- A **reduction in annual precipitation** of between -14 and -22 mm by 2050 compared with the 1980-2010 period.
- The greatest **increases in mean annual temperature** are expected in the south of the region, where the Governorate of Tozeur and its oasis ecosystems are located, with a maximum of up to +2°C in 2050 under Representative Concentration Pathway (RCP) 8.5.

These climate changes are leading to worsening drought and accelerating desertification, threatening the integrity of the region's ecosystems, particularly the oases, and undermining the water, food, and economic security of local populations. The risk to water resources available for agriculture is increasing, and modelling indicates a potential drop of between 20% and 33% in conventional water resources in southern Tunisia by 2050[36] .

Oasis ecosystems

Oases are unique natural landscapes found in the arid regions of Tunisia and are of particular importance in the southern Saharan region[37]. One of the defining features of oases is the presence of water, which is crucial for sustaining these unique ecosystems and renders them sensitive to changes in water availability and quantity. This water is typically derived from underground sources, such as natural springs or groundwater reservoirs. In addition to their contribution to food security and income generation, oases play an important socio-cultural role in Tunisia[38], where activities in and around these systems have sustained a traditional way of life for centuries. Similarly, in Morocco, traditional oasis agroecosystems have emerged as critical centres for agrodiversity conservation and the preservation of traditional knowledge[39].

Tunisian oases support a diverse range of plant and animal species, including date palms (*Phoenix dactylifera*), which are an iconic and economically important crop in the region. Other common species found in oases include olive trees, fig trees, pomegranates, citrus trees, and various shrubs and grasses. The oases also provide habitats for a variety of wildlife, including birds, reptiles, small mammals, and insects. Tunisian oases are categorised either as traditional (natural) or modern (anthropogenic), but the biophysical characteristics of both are near enough as to be identical. Traditional oases represent unique forms of adaptation to extreme environmental conditions, in particular the case of olive trees in Degache delegation of Tozeur present traits of adaptation and resilience to the Harsh environmental conditions that could be useful for breeding varieties more resilient to drought[40].These oases developed through the centuries by local farmers to support their livelihood, combining different crops (date palms, fruit trees, vegetables, and fodder) with livestock breeding[41].

There are a total of 267 oases in Tunisia, 126 of which are traditional (53%) and 141 are modern (47%)[42,43], which are either fed by underground rivers originating in the Atlas Mountains (natural), or via groundwater extracted[44] from deep non-renewable aquifers (modern). Tunisian oases provide valuable ecosystems goods and services that generate heritage, agricultural, tourism, cultural, historical, and environmental benefits. The general differentiating features between traditional and

modern oases are commonly accepted and confirmed by research and fieldwork[45]. Their main characteristics are summarised in the table below.

Table 3. Summary of the characteristics of traditional and modern oases in Tunisia[46]

Characteristic	Traditional oasis	Modern oasis
Morphology/layout	Fragmented and small farms	Contiguous, larger farms
Palm tree density	High density (> 200 trees/ha)	Medium density (100-150 trees/ha)
Date varietals	Mostly common varieties	Mostly commercial varieties
Land tenure	Sharecropping (*khemassat*[47])	Wage-earning and direct farming methods
Intensity	High density and wide species diversity	Extensive and organised, fewer species
Intercropping	Vegetable and forage crops	Monoculture
Irrigation	Surface irrigation network of earthen canals	Modern irrigation network with concrete or PVC pipes, water-saving systems
Historical use	Subsistence-focused	Commercialised

The soil found in traditional oases is generally described as being anthropomorphised because of centuries of cultivation. This human intervention has shaped the structure and productivity of the oases, leveraging the oasis effect and availability to water to enable the establishment of sustainable agricultural systems in the harsh desert environment. In this regard oases can be considered as engineered agro-ecosystems developed by populations around water points. The governate of Tozeur has 29 traditional oases extending over 3,400 ha, which represent approximately 40% of the total area of oasis-dependent farms in the region.

Threats to oasis ecosystems

In reference to the projected risks for crop production in the Mediterranean Basin[48] in the 5th IPCC report, the irrigation requirements for date palms in Tunisia under RCP8.5 could increase by 34% in 2050 from present to sustain date production with adverse effects on groundwater resources. In addition, the combination of high temperatures and high relative humidity can be dangerous for livestock and has already decreased dairy production in Tunisia[49].

Similarly, Table 4 overleaf shows the historical climate hazard trends and resultant extreme events that have been observed in Tozeur Governorate. This analysis is complemented by a summary of the projected changes for each parameter under the Representative Concentration Pathway (RCP) 4.5 and 8.5 scenarios until mid-century. The parameters have been selected based on their effects on the ecosystem services provided by oases (traditional and modern).

Table 4. Overview of observed and projected trends in selected climate hazards for the Tozeur Governorate[I]

Climate hazards			Variables and corresponding indicators	Observed 1990 - 2021	Projections RCP 4.5 (2050)	Projections RCP 8.5 (2050)
TREND		Increased temperature	Minimum, average, and maximum annual temperatures	Min. 14.92 Avg. 21.3 Max.27.8	Min. 15.9 Avg. 22.3 Max. 28.78	Min. 16.14 Avg. 22.5 Max. 29
			Potential evapotranspiration	-1305	-1327	-1362
		Decreased rainfall	Cumulative annual precipitation	108	102	99
EXTREME EVENTS		Meteorological drought	WSDI heat wave index	24.5	46	49
			Index of consecutive dry days CDD	89	93	97
			Index of consecutive rainy days CWD	2.9	2.6	2.5
		Agricultural drought and water stress	Water balance from October to May	-1206	-1230	-1250
		Intense rainfall	Number of days with heavy to extreme rainfall	0.6	0.8	1
		Heatwaves	Number of days of extreme heat between June and August	65-75	87-94	94-100

Tunisia's oases are climate-sensitive due to the vulnerability and exposure of their natural resource base (particularly their soils and water[51]) to environmental hazards. Changes in temperature and rainfall also have an impact on the soil, with a reduction in water reserves due to an increase in evapotranspiration. In addition, the increased intensity of extreme events, such as heavy rainfall and prolonged drought, will increase the risk of degradation and erosion, leading to a decline in the ecosystem services provided by oases[52]. Figure 4 shows an increasing trend in the water requirements under RCP4.5 and RCP 8.5 compared to the baseline scenario for the target oases within Tozeur Governorate, while Figure 5 compares the rising irrigation deficit in these areas under both warming scenarios.

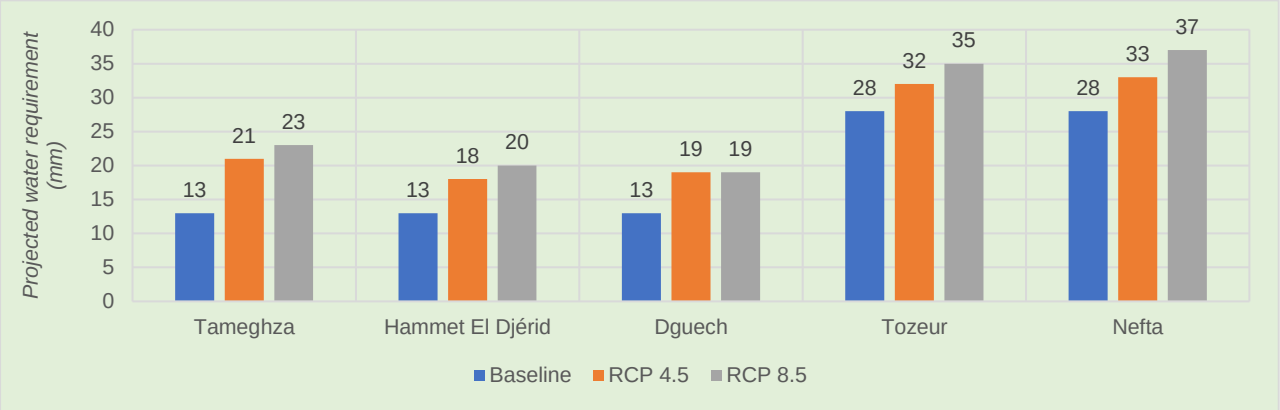


Figure 4. Baseline and projected additional water requirements (mm) for the oases in each delegation by 2050 and RCP scenario[53]

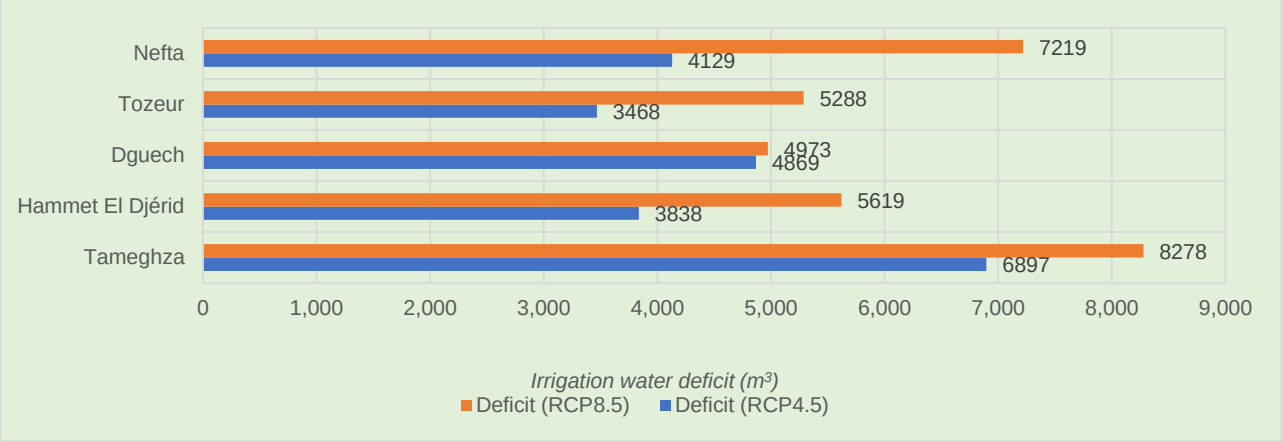


Figure 5. Projected increases in the irrigation water deficit (m^3/ha) for the oases in each delegation by 2050 and RCP scenario[54]

Global rates of the degradation of agrobiodiversity[55,56]are as high as 75%, according to the Food and Agriculture Organization (FAO) of the United Nations[57]. The degradation of rangelands (including oasis ecosystems) in the central and southern interior regions of Tunisia is mainly the result of decreasing and more-variable rainfall, coupled with the eradication of natural vegetation and subsequent erosion[58]. Furthermore, the high risk of genetic erosion and disappearance is an additional impact on agrobiodiversity that is driven by centuries of agricultural selection and development by farmers[59]. Recent research into the factors that jeopardise ecosystem supply in traditional oases shows that despite their social, economic, and cultural importance, these oases are currently facing multiple socio-environmental threats[60]. Of these, water-related issues — including desertification, drought, salinization, or overexploitation — represent the main threat, followed by decreases in agrobiodiversity, primarily due to the spread of monocultures of commercial date varieties. Oasis ecosystems are also threatened by social transformations such as depopulation, traditional knowledge as well as loss of cultural heritage[61], that lead to decrease in adaptive capacity

of communities as loss of traditional water systems based on groundwater, such as *foggar* in Tunisia.[62]

Tozeur Governorate

The Governorate of Tozeur is the county's westernmost governate with an area of ~5,600km^2 and a population of ~108,000, which represents approximately 1% of the total population. It is divided into five delegations, namely: Tozeur; Nefta; Tameghza; Dguech (or Degache)[63] and Hazoua (Figure 6). The governate falls into the Northern Saharan region and can be described as having hot desert climate[64]. It generally receives less than 100mm of rainfall per annum, resulting in an area that is extremely arid and has a high dependence on the extraction of underground water resources to meet its water requirements. Over 70% of Tozeur's population lives in urban areas, despite the governate having both the lowest absolute population (107,912) and 3rd lowest population density (~23/km^2) of all Tunisia's governorates. This trend in Tozeur is largely as a result of limited water availability and helps demonstrate the critical importance of reliable access to water in the region.

Geographically the governate is low lying, relatively flat and almost completely below 100m above mean sea-level (amsl). Forty-five percent of its area is comprised by two large dry saline lakebeds that form a portion of the low-lying *Chott el Djerid* — the country's largest body of saline water. The dominance of these geographic features on the landscape influences many aspects of the Governorate including the types of economic activities that are practiced, the relative agricultural potential of different areas and notably the population distribution of the governate as a whole.

Regarding bulk infrastructure in the region, improvements have been noted in recent decades in transportation of people, goods, animals, fodder, and conveyance of water[65]. However, rural transportation infrastructure was seen to have declined during this time period, predominantly as a result of poor maintenance following flood events[66].

As a result of Tozeur's inherent aridity the area has a low population density with uneven distribution, much like the Tunisia's other southern regions. Major economic activities in the region are linked to the availability of water, and most inhabitants reside in major towns or aggregate around its oasis ecosystems, which are critical resources for its population. Its economy is centred on agriculture and tourism, with the cultivation and production of dates supporting livelihoods throughout the governorate. In 2016 alone, the 29 oases within Tozeur's five delegations produced almost 20 000 tons of dates (Figure 7). More than half of these (54%) were produced in the delegation of Tozeur (being the largest), with the remaining 46% produced in Déguech and El Hamma el Jerid (15% each), Tamaghza (10%), and Nefta (6%).

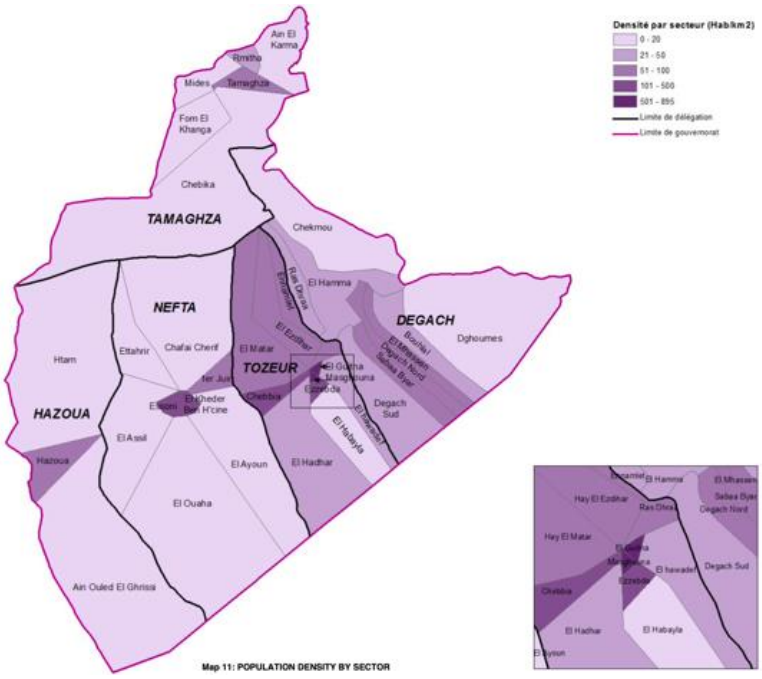


Figure 6. Population density of the Governorate of Tozeur

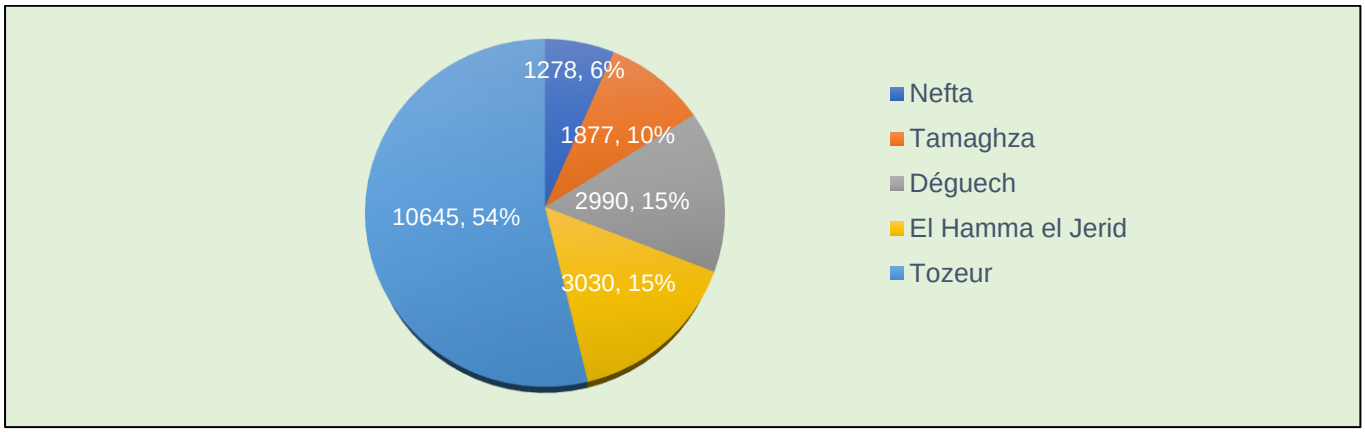
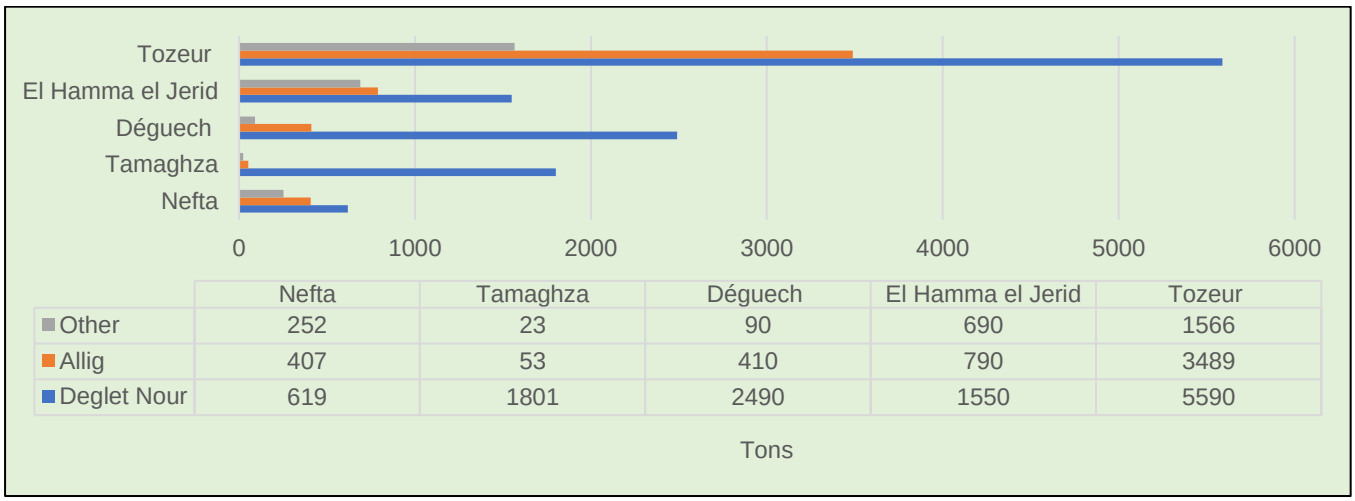


Figure 7. Annual date production (tons) and % contribution to total production in the five delegations of Tozeur Governorate[67]

Southern Tunisia is an area known for its production of the economically important *Deglet nour* date varietal, which accounted for ~82% of date palm cultivars in Nefzaoua region in 2015[68]. The delegations within Tozeur Governorate show a similar dominance of this varietal as shown by Figure 8 where the proportion of *Deglet Nour* relative to other date varietals ranged between 48% and 96% in 2016.



	Nefta	Tamaghza	Déguech	El Hamma el Jerid	Tozeur
Other	252	23	90	690	1566
Allig	407	53	410	790	3489
Deglet Nour	619	1801	2490	1550	5590

Figure 8. Average annual production (tons) of Deglet nour, Allig, and other date varietals in the five delegations[69]

Unemployment

The unemployment rate has increased from 15.4% (2014) to 24.8% in 2019, with the rate for higher education graduates very high (over 26%). Until the end of 2015, the labour market in Tunisia suffered from a structural imbalance that lasted under the effect of the slowdown in economic activity. In all delegations of the Governorate of Tozeur, the unemployment rate is still higher for women than for men. The disparities are even more pronounced for higher education graduates, where the rate of unemployed women graduates is almost double that of men in all the intervention areas.

Migration

The Governorate of Tozeur has a migration deficit that reveals the socio-economic changes and the difficulties of integrating young people into the labour market. The region of Tozeur and the South-West in general is a sparsely populated region that is gradually losing its active elements. Unemployment and underemployment are the two main factors fuelling migratory flows and explain the slowdown in the region's demographic growth. Two delegations out of five have recorded a negative migratory balance, namely Tozeur (-562) and Tameghza (-34). The importance of

migratory income and the development of informal oases are replacing the traditional source of agricultural income and constitute the main source of income in the region.

Gender, socioeconomic, and social inclusion in Tunisia, Tozeur

Climate change impacts in Tunisia are not gender-neutral. Specific inequalities in men and women's access to the assets, opportunities, and decision-making power that would enable them to successfully adapt to new climate conditions and the differential social roles of men and women in Tunisia, particularly in rural areas, result in differential vulnerabilities and adaptive capacity[70]. In addition, in Tozeur, the indigenous Amazigh community grapples with different challenges, of geographical presence due to their urban migration due to the harsh environmental conditions in the region, eroding their cultural practice and crafts[71]. The drivers of gender-based vulnerability to climate change in Tunisia can be separated into three general areas of inequality: i) access to resources; ii) opportunities for improving existing livelihoods and developing alternative livelihoods; and iii) participation in decision making[72].

Women's access to land in Tunisia is limited despite being guaranteed by law. Indeed, land is not seen as an asset that can be bought or sold, but is managed according to family and kinship structures, marriage and religious customs and inheritance laws. As a rule, men control land and women only have access to it through their male relatives. This prevents them from using the land more profitably and jeopardizes the growth of rural women's income. Without land and tenure security, a woman can neither access credit nor belong to agricultural associations, especially those dealing with the processing and marketing of products. This obstacle prevents them from accessing funding and enjoying their rights. In some cases, however, women have gained better access to land[73].

In the Tozeur region, as heads of household increasingly abandon certain oases for lack of profitability or limited financial means, women's contribution to the composition of family income has expanded into new (previously unexplored) areas, including paid work outside the oasis[74]. This type of employment is becoming of major importance, firstly to show their presence in the household but also to contribute to household resources. In addition to the traditional responsibilities of housework and child-rearing, in many household's oasis women must oversee the household budget and manage and certain decision-making. Lifestyles, customs, behaviour, and even economic activities vary greatly. In the urban areas of Tozeur and Nafta, for example, a certain discrimination between agriculture and domestic life is very clear. Women in these areas generally do not work in the fields, as the tasks are considered difficult. In the mountainous areas of Tameghza, where the way of life is semi-rural, women are involved in the work in the lower fields of the oasis (irrigation, hoeing, weeding, harvesting, packaging, conservation of local seeds, processing for family consumption, henna crops, summer crops such as fodder and medicinal plants). Women are also sometimes responsible for the management of the herds, employed as family helpers or as workers in the date packaging workshops; and in the informal and precarious sector, which is characterised by difficult working conditions and the virtual absence of social rights, where, moreover, compliance with sanitary and phytosanitary measures is not systematic[75]. Their remuneration varies from 15 to 20 dinars (USD 6.38 USD per day, 2022 rate). In terms of health, women suffer from chronic illnesses, sometimes directly linked to climatic conditions and unsuitable working conditions. This situation very often pushes women into poverty and social exclusion, accentuating their vulnerabilities because they have no resources or alternative solutions to remedy them. Table 5 below summarises the gendered nature of climate change risks and impacts within the Governorate of Tozeur.

Table 5. Overview of gender issues relative to climate change risks and impacts in the Governorate of Tozeur[76]

Theme	Climate change impacts	Gender issues and risks
Living conditions	Agriculture and food insecurity: The irregularity of the rains strongly disrupts the cropping calendar which has consequences on agricultural production (fall in production,	Issue**:** Increased pressure on women's capacities to produce crops, to fulfil their responsibility for food and the health of children within the household. Risks: Deterioration of the economic and health

Theme	Climate change impacts	Gender issues and risks
	or even production reduced to nothing).	situation through an increase in malnutrition and economic and social inequalities between the sexes.
	Health: Increase in epidemic and endemic risks due to the deterioration of environmental conditions (water quality due to the drying up of springs, floods, etc.). For example, women in Tozeur report that the length of the dry spell leads to persistent coughs.	Issue: Women are considered responsible, within the household, for health care to be provided to the various members of the family and in particular to children and the elderly, the negative impact on the health status of the population has consequences on women's workload and their own health status. Risks: Deterioration in the state of health of the population, especially children (malnutrition, diarrhoea) and increase in health expenditure.
	Diversification of economic activities: The irregularity of harvests due to the vagaries of the weather forces us to diversify activities to secure resources.	Issue: The diversification of activities in addition to agriculture and livestock (handicrafts, trade, mica mines) can certainly be considered as an adaptation strategy, but it also constitutes an additional workload carried out to the detriment of other tasks and/or well-being. Risks: This increase in the workload of women results in a reduction in the time available for the care of children with the risk of deterioration of their state of health (particularly nutritional). They are also exposed to various forms of violence, including exploitation.
Water supply	Water and sanitation: Climate change affects the availability and quality of water,	Issue: Increased pressure on the resource leads to an increase in the workload of women and girls, who are often responsible for collecting water in households. This can reduce their time available for productive and educational activities, as well as their health and well-being. Risks: women's workload increases and their time available for education and other productive activities is reduced.
Access to and control of natural resources	Land insecurity: Droughts and episodes of torrential rain contribute to soil degradation (erosion, landslides) and indirectly increase land pressure.	Issue: More difficult access to land for women and young people. The plots available to women are often of poorer quality (quality of land, access to water) and more vulnerable to climate change. Due to land insecurity (women not inheriting land), women do not invest in the plots they use and do not practice adaptation techniques such as soil conservation that would reduce climate risks. Risks: Increase in inequalities and precariousness; Pressure on resources aggravating climate change.
	Degradation of natural resources: Deterioration and more difficult access to certain resources including water, fruits, etc.).	Issue: Increase in the arduous nature of the work and the time required for collection and picking, mostly carried out by women. Risks**:** Loss of income, sources of food diversification, means of subsistence.

Project area

The economic, social, environmental, and cultural importance of traditional oasis ecosystems is well established. Based on the climate trends described above, as well as the socioeconomic factors of the southwestern parts of Tunisia and Tozeur's emergence as a climate vulnerability hotspot where temperatures could increase as much as 5.3°C by 2050[77], the governorate of Tozeur was selected as the target project site. Five of the governorate's six delegations are home to traditional oases. For the purpose of this project, only the five delegations where the traditional oases exist are mentioned, namely: Degueche, Hamet Jerid, Nefta, Tamaghza and Tozeur. These oases are particularly vulnerable to the impacts of climate change according to a study led by the Ministry of Environment between 2022 and 2023[78]. The proposed project will be implemented in 29 traditional oases within five delegations of the Governate of Tozeur (Figure 9). These 29 traditional oases are home to ~7500 farms, i.e., about 40% of the oasis farms of the governorate, producing ~75% of the total amount of dates.

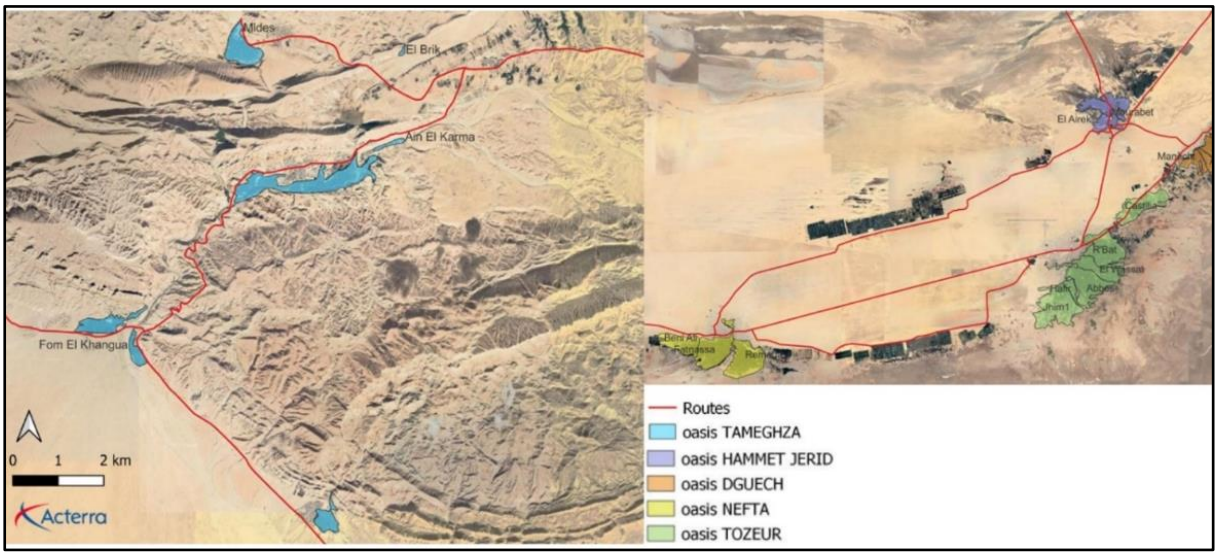


Figure 9. Aerial view of the oases of the Governorate of Tozeur[79]

The proposed project will be implemented in these 29 traditional oases, covering a total area of ~3500 ha. Table 6 below defines the three categories of project beneficiaries, followed by an estimation of beneficiaries for each delegation targeted by the project.

Table 6. Description of project beneficiary categories[80]

Beneficiary category	Description
Participant	An individual who physically takes part in a project activity and directly receives equipment, training, or other assets from the project. Project participants are automatically considered direct beneficiaries, while not all direct beneficiaries are participants. For instance, the members of the household of a project participant will be direct beneficiaries.
Direct beneficiary	Individuals or households who will benefit from project activities although not as explicitly as project participants. For example, non-participant farmers in the project area will benefit from the improvements to irrigation efficiency and the spread of good practices promoted by the project.
Indirect beneficiary	Individuals who will benefit from the project but not as participants or as direct beneficiaries are considered indirect beneficiaries. For instance, the total population of a municipality within which project activities take place can benefit indirectly from project activities such as improved agricultural production which contributes to the local economy and may increase employment opportunities.

Considering the abovementioned categories, proposed project participants will comprise ~3800 smallholder farmers, i.e., 50% of the total number of farmers in the 29 oases. Direct project beneficiaries consist of all farmers in the project area, approximately 7600 individuals. The project will indirectly confer indirect adaptation benefits on ~110 000 vulnerable people, this being the total population of the five delegations within the Governorate of Tozeur. Table 7 below shows the spread of oases between the five delegations, as well as the average size of oasis per delegation, and the size of each individual oasis. Oases that are less than 10 hectares (ha) in size are indicated in red; those between 10 and 50 ha in orange; between 50 and 150 ha in yellow; between 150 and 300 ha in light green; and those oases larger than 300 ha in extent are shown in dark green as per the legend below. Table 7 also shows the number of participants, direct beneficiaries, and indirect beneficiaries per delegation as per the categorisation in Table 6 above.

Within the five target delegations, there are only three oases that are larger than 300 ha and three that are smaller than 10 ha. For the remaining 23, four are between 150 and 300 ha; 12 between 50 and 150 ha; and seven between 10 and 50 ha (Figure 10 overleaf).

Table 7. Overview of the project area's geography, demographics, and beneficiaries

Legend	0-10 ha	10-50 ha	50-150 ha	150-300 ha	300+ ha

Delegation	Oasis	Size (ha)	Participants	Direct beneficiaries	Indirect beneficiaries
Nefta 4 oases 215 ha average	Remada	352	905	1810	22 575
	Fatnassa	280			
	Beni Ali	210			
	Ras El Ain	20			
Tameghza 6 oases 47 ha average	Ain El Karma	88	461	921	6 631
	Tamaghza	87			
	Fom Elkhanga	48			
	Mides	29			
	Chebika	25			
	El Brik	3			
Dguech 10 oases 86 ha average	Sabaa Abar	337	1306	2611	22 809
	Mahassen	145			
	Ain Torba	94			
	Ain Rebah	62			
	Bouhlel	60			
	El Manechi	55			
	Ouled Hmida	50			
	Zaouiat Al Arab	45			
	Dghoumes Mountain	9			
	Tazarit Mountain	6			
El Hamma el Jerid 3 oases 114 ha average	El Erg	123	392	783	7 104
	Ennamlet	120			
	Mouhareb	100			
Tozeur 6 oases 178 ha average	Ouassat	304	738	1475	50 744
	Rabbat	291			
	Abbes	273			
	Hafir	84			
	Castilia	74			
	Jhim	43			
29 oases 117 ha average	**Grand totals**	**3 417 ha**	**3800**	**7600**	**109 863**

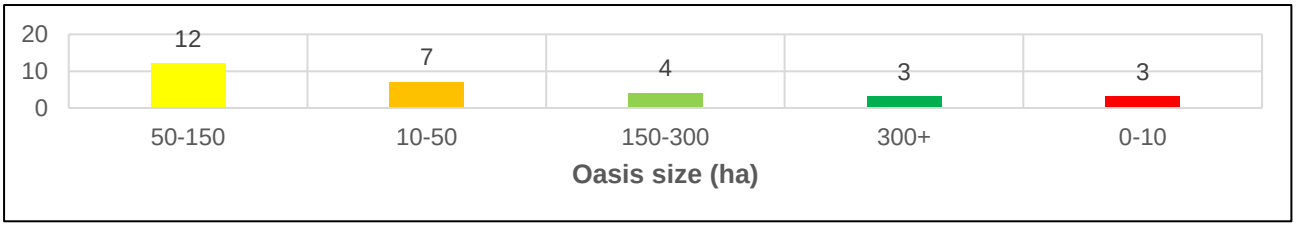


Figure 10. Summary of oasis extent per delegation

Project/Programme Objectives:

To address the risks and challenges described under the background and context section, the proposed project employs an overarching objective and three specific objectives as described below.

General Objective

If cross-sectoral climate change adaptation strategies, training and concrete adaptation projects are mainstreamed into the management of traditional oases of the Governorate of Tozeur, then the vulnerability of communities in traditional oases to the effects of climate change will be reduced because of the diversified and enhanced livelihoods opportunities and improved adaptive capacity of communities and institutions of Tozeur.

Specific objective 1

Strengthen institutional and technical capacity for oasis management in the public sector and civil society (Component 1).

Specific objective 2

Implement concrete adaptation activities that promote the adoption of climate adaptation and livelihood enhancement measures (Component 2).

Specific objective 3

Improve communication and the evidence base for good practices in climate adaptive management of traditional oases (Component 3).

Project/Programme Components and Financing:

Table 8 below and overleaf summarises the proposed project's components, outputs, outcomes, and corresponding budget allocation.

Table 8. Overview of project components, expected outputs, outcomes, and budget

Project Components	Expected Concrete Outputs	Expected Outcomes	Amount (US$)
Component 1: Institutional capacity building	1.1.1. Five delegation-level plans updated through stakeholder consultation 1.1.2 National-level workshop for all relevant institutions and actors to present the climate change adaptation plans held. 1.1.3. Cross-sectoral capacity building activities for national and subnational institutions and stakeholders undertaken. 1.1.4. Capacity assessment and strengthening of existing CSOs in targeted oases for climate change adaptation management.	1.1. Capacity of national and sub-national institutions strengthened through development of plans and trainings to promote climate adaptative management of oasis ecosystems	1 475 000
Component 2: Concrete adaptation projects	2.1.1. Low-carbon, climate-smart irrigation systems developed. 2.1.2. Drought-adapted local biodiversity conserved through improved tools and	2.1. Improved capacity for efficient and climate-smart management of water, biodiversity, and agricultural resources	6 170 000

Project Components	Expected Concrete Outputs	Expected Outcomes	Amount (US$)
	practices. 2.1.3. Pilot farms with training programmes on oasis agriculture developed. 2.2.1. Traditional good practices in oasis agriculture captured and disseminated. 2.2.2. Platform for the marketing of oasis products developed. 2.3.1. Capacity assessment and strengthening for climate change adaptation of existing CSOs in targeted oases. 2.3.2. Calls for proposals for concrete adaptation interventions developed, advertised, and awarded for implementation	2.2. Livelihoods enhanced through income diversification, market access, and skills development of oases communities 2.3. Support provided for locally implemented interventions at selected oases, prioritizing ideas which can be replicated in other oases in and beyond the Governorate of Tozeur	
Component 3: Data, knowledge and communication management	3.1.1. Information platform on new technologies and good practices in climate adaptative oasis management developed 3.1.2. Action plan and communication tools developed and implemented. 3.1.3. Regular events to share results and evidence for climate adaptative management of oasis ecosystems organized and held. 3.1.4. Exchange missions for dissemination of good practice in climate adaptative management of oasis ecosystems organized and held	3.1. Improved knowledge management and learning for climate adaptative management of oasis ecosystems	675 000
6. Project Execution cost			889 000
7. Total Project Cost			9 209 000
8. Project Cycle Management Fee charged by the Implementing Entity (if applicable)			788 000
Amount of Financing Requested			**9 997 000**

Projected Calendar:

Table 9. Milestones and projected calendar for the project

Milestones	Expected Dates
Start of Project Implementation	January 2026
Mid-term Review (if planned)	June 2028
Project Closing	December 2029
Terminal Evaluation	September 2030

PART II: PROJECT 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 proposed project comprises three interrelated components: 1) institutional capacity building; 2) concrete adaptation projects ; and 3) data, knowledge and communication management. The project aims to mainstream cross-sectoral climate change adaptation strategies, training, and concrete adaptation projects into the management of the traditional oases of the Governorate of Tozeur. The project's ultimate goal is to reduce the vulnerability of communities in traditional oases to the effects of climate change through diversified and enhanced livelihoods opportunities and improved adaptive capacity of communities and institutions in Tozeur. The project theory of change is included as Annex 1 to this Concept Note.

Concerning site selection, the project will be implemented in the 29 traditional oases[81] in Tozeur Governorate. These sites were selected based on their vulnerability to the impacts of climate change as described in Part I of this Concept Note.

Component 1: Institutional capacity building

The project's first component will focus on strengthening cross-sectoral technical capacity and refining the local climate change adaptation plans for the five delegations within Tozeur Governorate. The rationale for this component is to build on existing work undertaken by the Ministry of Environment and others to improve technical capacity for climate adaptive oasis management for institutions at national and subnational levels. Improved technical capacity will assist with coordination and promote extended collaboration between national and subnational government in Tunisia, as well as between stakeholders from various sectors, i.e., public, private, civil society, and non-governmental organizations (GDAs and other NGOs). Similarly, capacity development under this component will generate co-benefits for stakeholders involved in natural resource management in other areas and sectors, i.e., not just oases. Interventions under this component will also focus on the adaptation capacity gaps defined in Tunisia's NDC[82]. Component 1 comprises one outcome and four outputs, as well as several activities which are described below. The activities of Component 1 will be implemented and coordinated centrally, by the National Project Management and Coordination Unit which will be established at the level of the National Climate Change Coordination Unit, Ministry of Environment.

<u>Outcome 1.1 Capacity of national and sub-national institutions strengthened through development of plans and training to promote climate adaptative management of oasis ecosystems</u>

This outcome will use project funds to refine and update the five delegation-level climate change adaptation plans developed during 2022. Similarly, activities under this outcome will identify the national and subnational stakeholders and actors involved in the management of oases in Tunisia and Tozeur, targeting them with capacity development and the promotion of good practices in climate adaptive oasis management that can be duplicated in the prioritized oases targeted for concrete adaptation projects under Component 2.

Output 1.1.1. Five delegation-level plans updated through stakeholder consultation

Project funds will be used under this output to review and update the five climate change oasis management plans that were developed in 2022 for the delegations of Nefta, Tameghza, Dguech, El Hamma el Jerid, and Tozeur[83], respectively. This output will build on the original plans and refine them as necessary based on the outcomes from stakeholder engagement and other project activities. The plans will contribute in a bottom-up fashion to integrating climate change adaptation into policies and regulations for oasis management in Tunisia. Activities under this output are:

- Undertake stakeholder engagement and consultations to determine updated needs and priorities for the oases within the five delegations
- Review and update the plans based on the previous activity and other project activities

Output 1.1.2 National-level workshop for all relevant institutions and actors to present the climate change adaptation plans held

Output 1.1.2 will utilise two primary methodologies to strengthen institutional technical capacity for stakeholders mandated to undertake oasis management, including local non-governmental organisations (NGOs) and/or civil society organizations (CSOs), as well as agricultural cooperatives and development groups (*Groupement de Development Agricole*, GDAs). The two engagement methodologies are: i) cross-sectoral technical training; and ii) community-based participatory planning (CBPP). Institutional priorities for technical capacity development have been defined in Tunisia's Updated NDC (2021), of which activities proposed under this output will focus on: i) integration of adaptation into decision-making processes; ii) tools for observing and monitoring the effects of climate change (as they pertain to oases); iii) monitoring and reporting; iv) education, awareness of the effects of climate change, and good adaptation practices; and vi) institutional governance.

Output 1.1.3. Cross-sectoral capacity building activities for national and subnational institutions and stakeholders undertaken.

This output will employ several interventions that support community development, livelihoods, and oasis ecosystem function by strengthening technical capacity at the community level. Project activities will ensure that beneficiaries have adequate knowledge and skills to sustain the benefits of project interventions through CBPP. For the public sector, institutional capacity development will focus on technical training of national and subnational departments in climate-adaptive management of oasis ecosystems. For the NGO sector, local NGOs, CSOs, and GDAs will be capacitated to undertake improved management of oasis ecosystems in their respective mandates and projects, alongside the public and private sectors. Output 1.1.3's activities include:

- Develop and deliver cross-sectoral training events (4 each year) to project participants, and government stakeholders on sustainable practices for climate-adaptive oasis ecosystem management, including tools for observation and monitoring, as well as integration of climate change adaptation into decision-making for oasis management.

Output 1.1.4. Capacity assessment and strengthening of existing CSOs in targeted oases for climate change adaptation management.

Recognising the critical role that these organizations play in oasis agriculture and community organization, this output focuses on CSOs and community-based organizations including agricultural cooperatives and development groups (*Groupement de Development Agricole*, GDAs).

- Undertake a capacity assessment for the CSOs active in the project area
- Develop and deliver cross-sectoral training events tailored to the needs of oasis CSOs on sustainable practices for climate-adaptive agriculture and integration of climate change adaptation into decision-making for agriculture and livelihoods.

Component 2: Concrete adaptation projects

Climate change is affecting the ability of oasis agricultural systems and ecosystems to provide ecosystem services. To address climate-induced ecosystem degradation and mitigate climate-related risk, the focus of this component of the project is to improve the efficiency of agrosystems and ecosystem function in the selected traditional oases, particularly related to water scarcity. The pilot farms aspect of Outcome 2.1 will demonstrate climate-smart oasis agriculture techniques. Since the location of the farms is not yet determined, the activities under Outcome 2.1 are considered

unidentified sub-projects (USPs) and therefore subject to the requirements of the AF's Updated Guidance on USPs. In terms of this guidance, these activities are categorised as '*Partially unidentified: specific activity identified, location to be determined*'. Similarly, the activities under Outcome 2.3 (call for proposals) are also USPs with the same category. USP-related risks under Component 2 will only include those risks associated with the project/programme's already fully identified activities. Project funds will support three outcomes and six outputs under this component.

Outcome 2.1: Improved capacity for efficient and climate-smart management of water, biodiversity, and agricultural resources

Output 2.1.1. Low-carbon, climate-smart irrigation systems developed.

The objective of this output is to implement interventions that address inefficiencies in the use of water for domestic and agricultural purposes. At the planning level, a detailed irrigation and abstraction feasibility study will be undertaken. The outcomes of this study will be complemented by the co-design and implementation of water-smart irrigation infrastructure and soil moisture conservation to ensure that abstracted water is used efficiently for agricultural purposes. Project funds will also be used to upgrade and replace open earthen canals with watertight irrigation pipes. Output 2.1.1's list of activities is:

- Undertake an irrigation and abstraction feasibility study for prioritised oases.
- Design and install water-efficient irrigation infrastructure at prioritised oases.
- Implement soil moisture conservation techniques such as mulching

Output 2.1.2. Drought-adapted local biodiversity conserved through improved tools and practices.

This output's objective is to improve oasis biodiversity and agricultural productivity in prioritized oases focusing on date palms, fruit trees, vegetable, and fodder crops, as well as livestock production. The emphasis under this output is on identifying local varieties and cultivars that are drought-resistant and specifically conditioned for water scarcity. New or hybrid varieties will be tested at pilot farms under Output 2.1.3. The activities under Output 2.1.2 are:

- Identify and procure drought-resistant crop, fruit, and fodder varieties
- Develop trials for the new varieties at the pilot farms

Output 2.1.3. Pilot farms with training programmes on oasis agriculture developed.

Climate change is increasing the vulnerability of climate-sensitive agriculture in Tozeur's traditional oases. Pilot farms will therefore be developed under this output to trial and demonstrate the drought-resistant varieties from Output 2.1.2, along with training programmes that promote specific skills, good practice, and traditional knowledge in oasis agriculture such as safe date palm harvesting and water-efficient irrigation techniques and tools. Partially USPs are recognized, from an environmental and social safeguards and gender policy perspective (refer to Part II, Section K), only locations that are of equal or lower ESS risk to defined activities will be approved for development of pilot farms. Output 2.1.3's activities are:

- Undertake a feasibility and prioritization study to determine the best location for the pilot farms
- Develop and equip the farms
- Develop and undertake the training programmes for climate adaptative oasis agriculture

Outcome 2.2: Livelihoods enhanced through income diversification, market access, and skills development of oases communities

The diversification of climate-sensitive livelihood activities in traditional oases is an essential aspect of reducing vulnerability to the impacts of climate change at the community level. Outcome 2.2

employs two outputs to diversify livelihoods in prioritized oases as described below.

Output 2.2.1. Traditional good practices in oasis agriculture captured and disseminated.

Through the participative stakeholder engagement process under Component 1, this output will co-design a training programme on climate adaptive good practices in oasis agriculture based on traditional knowledge. The activities under this output are:

- Capture good practice examples from the broader stakeholder engagement and CBPP processes under Component 1
- Design a training programme and dissemination strategy to be implemented at the pilot farms under Output 2.1.3

Output 2.2.2. Platform for the marketing of oasis products developed.

To strengthen the value chain of the produce from oasis agriculture and products from traditional crafts in the prioritized oases, Output 2.2.2 will establish a platform for the marketing of oasis products that focuses on improved product quality, value-adding aspects, packaging, diversification of by-product recovery activities, and the promotion of ecotourism. The activities under this output are:

- Undertake consultations at the community level (particularly the private sector) to determine the needs of local producers and business owners regarding the marking platform
- Design, develop, and launch the platform

Outcome 2.3: Support provided for locally implemented interventions at selected oases

Project funds will be used to provide capacity strengthening and financial support for concrete adaptation activities at the community level and through CSOs under this outcome. . Activities that can be replicated in other oases in and beyond the Governorate of Tozeur will be prioritised for implementation. There are two outputs under Outcome 2.3.

Output 2.3.1. Capacity assessment and strengthening for climate change adaptation of CSOs *in targeted oases*.

Recognising the critical role that CSOs play in oasis agriculture and as community convenors, this output focuses on improving their capacity for community organization and efficient functioning. The activities under this output are:

- Capacity assessment of all CSOs in the prioritised oases to determine capacity development needs
- Develop a training and support programme for CSOs

Output 2.3.2. Calls for proposals for concrete adaptation interventions developed, advertised, and awarded for implementation

A competitive grant facility that will finance concrete income-generating activities for communities will be established under Output 2.3.2. The call for proposals activity is also recognized as partially USPs and will target disproportionately-vulnerable groups such as women, youth, and the elderly to promote more climate-resilient livelihood activities at the community level by providing financial and technical support for specific local adaptation projects and capacity development in proposal development for community projects and initiatives. While the specific concreate adaptation activities to be funded will be defined at project inception, beneficiary communities will only be able to apply for financial support to implement local initiatives that mirror relevant activities already being implemented under the project. This approach allows for efficient replication and upscaling of project activities, while ensuring that the project funds only a specific set of activities that have been assessed and approved before implementation commences. From an environmental and social

safeguards and gender policy perspective (refer to Part II, Section K), only activities that are of equal or lower ESS and gender-related risk to defined activities will be approved for funding. Selection criteria for the grant include but are not limited to: activities and projects that respond to a shared need of a large number of targeted traditional oases; require a relatively high level of technical expertise; exceed the technical capacity of local actors; and whose implementation at the regional level offers an interest in optimizing financial resources. The specific themes of each call for projects and the funding criteria will be better identified during the preparation of the fully developed proposal. Similarly, the call for proposals will prioritise disproportionately vulnerable groups to diversify livelihood activities and catalyse income generation in traditional oases. Alignment with Tunisian legislation and safeguards concerning the economic and social empowerment of women will be ensured though a cross-cutting approach to gender and women's empowerment (GEWE) to guide the mechanism's approach to planning, programming, and budgets. Activities under this output are proposed as follows:

- Establish a grant facility for funding of adaptation projects and define selection criteria
- Selection and funding of beneficiaries through a transparent call for proposals process based on the Operational Guide of the project.

Component 3: Data, knowledge, and communication management

The final component under the proposed project comprises one outcome and four outputs and has been refined to include additional information on how the project aims to contribute to the existing body of knowledge on climate-adaptive oasis management and the types of knowledge gaps that the proposed project will address. Activities under this component aim to support future replication and upscaling of similar projects in Tunisia through knowledge management and effective communication targeting national and subnational government, NGOs/CSOs, civil society, and the education sector.

Project funds will be used to achieve this goal through building the evidence-base for climate-resilient management of oasis ecosystems through careful documentation of the processes and results of project implementation, and dissemination of these results through knowledge exchange missions, a communication plan and material, as well as an information portal. Unlike previous components, this component will target oasis stakeholders beyond Tozeur and promote the exchange of knowledge and data that supports climate adaptative planning between Tozeur and the governorates of Kebili, Gafsa, and Gabes.

<u>Outcome 3.1: Improved knowledge management and learning for climate adaptative management of oasis ecosystems</u>

Documenting and recording of both the process and results of project activities is critical to ensuring that good practice examples and lessons learned can be used in future projects in similar contexts. There are four outputs dedicated to this goal under Outcome 3.1: i) an information platform; ii) a communication action plan and communication tools; iii) knowledge sharing events; and iv) exchange missions.

Output 3.1.1. Information platform on new technologies and good practices in climate adaptative oasis management developed

To ensure that the project's results and outcomes are appropriately documented and disseminated, knowledge products will be integrated into existing information platforms[84] in Tunisia where such integration is feasible and thematically aligned. If such integration is not possible, a new information platform will be developed using project funds. This output supports the above objective through the following activities:

- Integrate with an existing or develop a new information portal and communication material on lessons learned in climate adaptive oasis agriculture and management

Output 3.1.2. Action plan and communication tools developed and implemented.

A co-designed communication action and awareness-raising campaign will ensure that the results of components 1 and 2 are appropriately disseminated and will catalyse access to knowledge on oasis management. The following activities are proposed under this output:

- Co-design and implement communication action plans and awareness raising campaigns to facilitate cross-sectoral access to knowledge on oasis management

Output 3.1.3. Regular events to share results and evidence for climate adaptative management of oasis ecosystems organized and held.

Under this output, regular knowledge-sharing and awareness-raising events will be held at national and subnational levels in line with the objectives of the project. These events will include technical workshops, exhibitions, and conferences to facilitate the exchange of experiences, information, and communication. Activities under this output are proposed as follows:

- Financial and logistical support for workshops, meetings, exhibitions, and conferences
- Documentation and capture of event processes and outcomes

Output 3.1.4. Exchange missions for dissemination of good practice in climate adaptative management of oasis ecosystems organized and held.

In addition to the capture and storage of project knowledge and information, it is important to ensure that this knowledge is widely disseminated to facilitate upscaling and replication. This output aims to achieve that objective by convening cross-sectoral knowledge exchange missions and a technical workshop in Tozeur with national and subnational stakeholders from other governorates. The activities under this output are:

- Undertake knowledge exchange missions on oasis management
- Host a national-level workshop in Tozeur to promote replication and upscaling in other regions of Tunisia

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.

By implementing concrete adaptation projects, the proposed project will directly benefit ~7 600 vulnerable people (~2000 households) in the Governorate of Tozeur[85]. Strengthened national capacity for knowledge management, awareness-raising and lessons learned from the project regarding climate-resilient livelihoods, improved agricultural output, and climate-adaptive management of oasis ecosystems will indirectly benefit the country's entire population. Moreover, these interventions have been designed to be scaled up and replicated both nationally and across similar contexts in the region. The specific economic, social, and environmental benefits expected from the project are presented below.

Economic benefits

The anticipated direct economic benefits of the project are discussed in detail under Section C. Indirectly, the conservation of oasis biodiversity and water resources through the project will benefit multiple economic sectors — particularly tourism and agriculture — by supporting healthy ecosystems that in turn provide ecosystem services and support extractive and non-extractive

livelihoods such as sustainable/regenerative agriculture and ecotourism, respectively. More climate-resilient and diversified livelihoods will in turn decrease the reliance of communities in the targeted oases on the state to provide social safety net services. Similarly, the proposed project will improve the ability of participants to generate income.

Social benefits

Social benefits are also expected to accrue to project beneficiaries, particularly in the agricultural and tourism sectors. The promotion of climate-resilient agriculture and the preservation of traditional agricultural activity is one of the project's key objectives; project interventions will contribute to maintaining and improving small-scale agricultural activity, sustainable and efficient use of scarce water resources, as well as technical capacity development and skills transfer for climate-resilient agriculture. Regarding livelihoods, the project will support the diversification of livelihoods in traditional oases by funding micro-projects and strengthening value chains by providing a platform to market oasis products. An additional social benefit will be driven by the project's cross-cutting focus on gender and social inclusiveness (GESI) by promoting more inclusive livelihood practices in traditional oases that will benefit disproportionately-vulnerable groups such as the elderly, youth, and people with disabilities (PWDs)Environmental benefits.

The project is expected to generate numerous environmental benefits, particularly with regard to the preservation of water resources through improved water efficiency, and reduced abstraction for irrigation, but also with regard to the improvement of oasis ecosystem services by conserving local biodiversity. Similarly, the preservation of traditional oases (notably those of Dguech, Tozeur and Nafta), and the maintenance of their ecosystem services will support the protection of the Chott Djérid Ramsar site by preventing downstream siltation. However, since the project includes USPs-eligible activity under Output (2.1.3 – pilot farms for climate-smart oasis agriculture, considered as *Partially unidentified: specific activity identified, location to be determined*), there is a degree of environmental-related risk regarding encroachment on protected areas and negative impacts on local biodiversity. This activity will therefore be thoroughly screened at project inception and any site-related aspects/no-go areas will be included in the environmental and social management plan (ESMP) that will be developed during the fully-developed proposal phase.

Gender considerations

The project activities will ensure that all stakeholders (local communities, marginalized groups, and women) have equitable access to the benefits of the project. Where barriers have been identified that prevent women and other vulnerable groups from accessing project-derived benefits, mitigation measures for these barriers will be included as part of the Project Management Unit's Procedural Guide. Project implementation will likewise align with WFP's Gender Policy.

During project design, a gender analysis was developed following extensive consultation (refer to Part II, Section C for elaboration on the consultative process undertaken during project development) and participatory planning that facilitated dialogue and ensured that women and other disproportionately-vulnerable groups participated meaningfully in the design of project activities. This includes but is not limited to the proposed grant facility for adaptation projects to diversify local livelihoods opportunities, prioritising women (Output 2.3.2). The consultation process in September 2023 found that although many women are not directly involved in oasis agriculture, they often follow ancestral agricultural practices for other tasks, such as to preserve and process dates and to make date-based soap, as well as to use local plants for medicine practices. Yet, there is no space or venue dedicated to women in which they can express their opinions on issues such as land management and agricultural practices, hence there is a risk that women cannot express their concerns openly because there is no appropriate space for this. To mitigate this risk, female beneficiaries will be encouraged and incentivised to join the CSOs and join or establish women's associations.

Under Component 3, focusing on knowledge management and learning (KML), the project will

ensure a gender mainstreaming approach to KML by using the baseline studies on women's needs in oases in Tozeur to knowledge products that adequately include a gender lens. The project will employ a gender expert to oversee gender-specific project activities, as well as to ensure that gender considerations are integrated throughout the project in an appropriately cross-cutting manner.

Alignment with Adaptation Fund policy

Project interventions have been designed in alignment with several key Adaptation Fund policies, including the Environmental and Social Policy[86] (ESP), Gender Policy and Action Plan[87] (GPAP), as well as the Updated Gender Guidance Document for Implementing Entities on Compliance with the Adaptation Fund Gender Policy[88]. The environmental and social aspects of the project and their continuity with the ESP are elaborated in Part II, Section K of this document. Similarly, the project's alignment with the GPAP is discussed in the previous subheading.

Avoiding or mitigating negative impacts

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

- There will be genuine, not just tokenistic, inclusion of community representatives in project design, implementation, and monitoring. This is enabled through WFP's experience in Community-based Participatory Planning (CBPP) exercises.
- Government collaboration and alignment will be enhanced through the integration of project goals with local development and adaptation plans.
- Technical support will be sought especially in relation to sensitive or specialised services. Examples include gender issues, grant-financed projects, and irrigation.
- Grievance and feedback mechanisms will be developed, and communities encouraged to understand and use them.
- During the fully developed project formulation stage, an environmental and social risk assessment will be performed, in accordance with the Adaptation Fund's 15 principles.
- There will be activity-level environmental and social screening for the components' activities at project implementation stage. The ESMP will be reviewed during project implementation for consistency and alignment of proposed mitigation measures with AF ESP. Unidentified Sub-Projects (USPs) will be defined at project inception in coordination with local stakeholders.
- Environmental and social risk management plans, commensurate with the risks assessed, will be developed at project formulation stage.
- Planning, implementation and monitoring of necessary mitigation measures will be identified by means of activity-level environmental and social screening.

C. Describe or provide an analysis of the cost-effectiveness of the proposed project/programme.

Project interventions have been designed to be cost-effective and efficient to ensure that maximum adaptation benefits are conferred to project beneficiaries, and the project will identify and use appropriate pathways that will allow for replication and scaling up so that more climate vulnerable people across the governorate can benefit. This section describes the project's cost-effectiveness approach, which will be expanded to a detailed analysis in the fully-developed proposal phase.

The project is also designed to complement and enhance the efficacy of previous and ongoing initiatives in the country by integrating with and drawing on experiences and lessons learned. This

approach is strengthened by Component 3's approach to facilitating knowledge management, enabling the activities under components 1 and 2 to become more scalable and sustainable. The project will also map additional stakeholders and partner with a diverse and cross-sectoral range of actors in the private, and civil society sectors, such as CSOs and NGOs, as well as public sector institutions, under components 1 and 2. This will ensure that institutions involved in previous projects of a similar nature help to capitalising on lessons learned from those projects. The project will therefore not have to begin with testing and developing new tools, systems, and approaches that can be costly and timely to adjust into successful models.

Similarly, under components 1 and 2, the project will use a Training of Trainers (ToT) approach to maximize the number of farmers reached through capacity development activities and to ensure long- term sustainability and scalability beyond the project target areas. The project also proposes the rehabilitation and upgrade of existing irrigation systems, an approach which has community buy-in and which has been shown to be more cost-effective than the installation of new infrastructure in the same localities.

Regarding the USP activities under outputs 2.1.3 and 2.3.2 that will be defined at project inception, cost-effectiveness will be a key criterion when defining the location and nature of the activities under these outputs.

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 programs of action, or other relevant instruments, where they exist.

The project aligns with several national policies related to climate change adaptation, agriculture, and development in Tunisia. Table 10 presents an abridged summary[89] of how the proposed project aligns with and can contribute to achieving the objectives of key national policies, including the National Adaptation Plan (NAP), Nationally Determined Contribution (NDC), as well as the national Strategic Development Plan.

Table 10. Summary of project alignment with selected national policy

Policy	Summary	Project alignment
Tunisian Constitution of 2022[90]	The Tunisian Constitution of 2022 refers to the environment, climate, and natural resources in several of its articles. Key aspects established by the Constitution are: i) environmental rights and duties; ii) the principles of sustainable development, intergenerational equity, and non-regression; iii) the right to environmental information and education; iv) the principles of participation, prevention, and the precaution; and v) the polluter pays principle, the principle of repairing environmental damage, and the right of access to justice in environmental matters.	The project aligns with the Tunisian Constitution in several ways as it promotes and supports climate change adaptation, sustainable development, prevention of environment damage, preservation of water resources as well as gender equality, intergenerational equity, and women's rights.
National Ecological Transition strategy[91]	The national ecological transition strategy goals are, to Establish systematic, cross-sectoral, and territorial institutional governance, and provide appropriate and accessible financing mechanisms. Also, strengthen the adaptation and resilience capacities of sectors, environments, and populations, and reduce carbon intensity to achieve neutrality by 2050.	The project aligns with the national ecological transition strategy in the importance of cross-sectoral governance, institutional resilience, and adaptation capacity development.

Policy	Summary	Project alignment
Tunisia's Nationally Determined Contribution (NDC) 2021[92]	Tunisia submitted its first NDC to the UNFCCC in 2015 and updated it in 2021. The NDC includes both mitigation and adaptation actions for an estimated USD 20 billion in international funding needed for its implementation. The list of required adaptation measures includes activities related to water resources, agriculture, coastal zones, and tourism, in addition to other cross-cutting measures relating to land-use planning, technology transfer and awareness raising. The updated version of the NDC is gender sensitive and has reflected this dimension in almost all the measures envisaged.	The proposed project aligns with several cross-cutting aspects of the NDC, particularly with objectives for the sectors under consideration by the proposed project such as water resources management, climate-resilient agriculture, and food security.
Strategy for carbon neutrality and resilience to climate change climate change by 2050 (SNBRCC) 2022	This strategy promotes a low-carbon approach to development that is resilient to the effects of climate change for the key sectors of the Tunisian economy. The adaptation objectives and targets identified include the oasis landscapes that are the focus of this project. The eight-pointed resilience star addresses some of the issues facing oasis ecosystems such as water resources, biodiversity, and the energy transition for water extraction.	The proposed project may realise mitigation and decarbonisation co-benefits through livelihood diversification and the potential reduction of wildfire-related emissions under Output 2.3.
Tunisia's 4th National communication as part of UNFCCC[93]	The 4th National Communication from Tunisia provides a clear roadmap for the country's climate action plan from 2022 to 2030. Along with the Third Communication in 2019, The most relevant aspects are: i) the assessment of vulnerability to climate change impacts and the effectiveness of implemented and yet to be adopted adaptation measures; ii) the overview, and assessment of additional needs in terms of research, awareness, information, and capacity building; and iii) the identified additional needs in terms of governance, funding, and technology transfer.	The project aligns with the fourth national communication in adaptation and gender principles.
National Climate Change Strategy for Tunisia (NCCS) 2012[94]	In 2012, Tunisia developed the NCCS, in which it presents the possible future climate scenarios facing the country and the energy, agricultural and water strategies that will be needed for a national climate change adaptation and mitigation strategy. Water management is of great importance in changing farmers' approach to water management and use. The national objective is to encourage farmers to make better use of water, reduce water losses and raise awareness of the importance of water conservation. The NCCS promotes nationally appropriate mitigation measures (NAMAs), with a strong emphasis on employment creation and poverty reduction as a means of adapting to climate change.	The project will be aligned with the NCCS through the promotion of increased water availability, improved water management and awareness among farmers as well as the promotion of alternative livelihoods that help farmers better adapt to climate change.
Strategic Development Plan (SDP) 2016-2020	The Economic and Social Development Plan 2016-2020, drawn up by the Tunisian Ministry of Development, Investment, and International Cooperation, is the country's main development strategy. The PSD defines five pillars: 1) improving good governance, administrative reform and the fight against corruption; 2) accelerating the adoption of crucial reforms to develop a higher value-added economy; 3) developing human capital and promoting social inclusion; 4) reducing regional disparities; and 5) making the green economy a pillar for sustainable development.	The proposed project is aligned with three of the five SDP pillars, namely 3, 4 and 5, through the promotion of basic infrastructure upgrades; capacity building of vulnerable households; promotion of sustainable natural resource management; strengthening of farmers' organisations; and monitoring of groundwater levels and institutional capacity development.
Strategy for the Management and Conservation of Agricultural Land 2017	The strategy has five main objectives: i) protecting and regenerating soils; ii) combating soil erosion; iii) using sustainable soil and water management to protect and add value to agricultural land; iv) using runoff and increasing surface, soil and deep-water storage; v) contributing to biodiversity conservation and promoting sustainable	The project is aligned with the strategy through its promotion of more efficient irrigation and intensified agricultural production, improved groundwater regeneration, and skills transfer to

Policy	Summary	Project alignment
	environmental management for climate change adaptation.	smallholder farmers in oasis agroecosystems.
Stratégie de Développement Durable des Oasis en Tunisie-2015 [95]	This strategy aims to restore oasis ecosystems and enhance the livelihoods of local communities. Key elements included community-managed agricultural cooperatives, restoration of irrigation infrastructure, economic opportunities, biodiversity conservation, and a focus on climate resilience. Prioritizing climate adaptation, the strategy promotes reversing soil degradation, promoting water efficiency, and ensuring the long-term health of its oases.	The proposed project is aligned with this strategy under output 2.1.1, output 2.1.3, output 2.2.1 and output 2.2.2 in link with oasis ecosystem enhancement.
Tunisia - National Drought Plan, 2020 [96]	The National drought Plan for Tunisia, prepared within the framework of the UN Convention to Combat Desertification (UNCCD), addresses the critical issue of drought management, that emphasizes climate adaptation. Its objectives include sustainable water use, soil conservation, and resilience-building measures to combat the impacts of drought on Tunisia's ecosystems and communities	The proposed project is aligned with this strategy under output 2.1.2 on drought-adapted local biodiversity conserved.

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.

The proposed project is aligned with the requirements of the Environmental and Social Policy (ESP) of the Adaptation Fund as well as the AF's guidance on unidentified sub-projects (USPs). Since the location of activities under output 2.1.3 and the nature of output 2.3.2's activities are undefined, compliance with national technical standards will form part of the risk screening exercise at project inception, as well as the environmental and social management plan (ESMP) that will be developed during the fully-developed proposal stage.

In addition, as the Multilateral Implementing Entity (MIE) for the project will ensure that the proposed project is implemented in accordance with the procedures outlined in the ESP. This includes the requirement that project activities funded by the Adaptation Fund reflect local circumstances and adaptation needs as well as draw upon national actors and capabilities. In line with the prevailing national legislation in Tunisia, impact assessments will be undertaken for the relevant project activities as per the identified risks (refer to Part II: Section K). This may include but is not necessarily limited to Environmental Impact Assessments (EIAs), and Social Impact Assessments. The proposed project's activities are in line with national social norms, including gender equality and equal access to adaptation benefits. Table 11 summarises the main technical and regulatory standards that the project will align with.

Table 11. Summary of applicable national standards and project alignment

Regulation/standard	Summary	Project alignment
Environmental Impact Assessment Decree (No. 91-362 of 1991, amended by Decree 2005)	This decree lists the activities and installations that require environmental impact assessment (EIA) under Tunisian law.	The proposed project has been screened for potential EIA triggers during design and development. No EIA triggers have been identified within the proposed activities, but this will be confirmed during development of the full Funding Proposal[97].
Development Plan Law	Law n°2017-28 of 25 April 2017, approving the 2016-2020	Th proposed project is aligned with the development plan law

Regulation/standard	Summary	Project alignment
	Development Plan. This law makes it possible to integrate sustainable development objectives into national objectives.	through the translation of the sustainable development objectives into national objectives for a resilient socio-economic and ecological systems.
Water Code (1975, as amended)	This code is the overarching legislation governing the water sector in Tunisia. It covers aspects such as the sector's organisation, rights to water, the protection of water resources and the penalties that should be applied should its principles be breached. The 1975 Water Code has undergone numerous amendments, most recently in 2016, the most relevant of which are regarding: i) the fixed tariffs and subscriptions for the price of drinking water; ii) on fixed fees for drinking water subscriptions.	The proposed project is compliant with the Water Code, the main objective being to reduce water losses in the agricultural sector, to promote groundwater replenishment and to raise awareness of the importance of sustainable water management, in particular as a means of building resilience to climate change.
Government Decree No. 2016-626 on Equal Opportunities for Women and Men (2016)	The main objective of this decree is to promote the integration of a gender lens in planning, programming, evaluation and budgeting by adopting a participatory and interactive approach between all actors of public structures and associations active in the field. In August 2022, the Council approved the National Plan "Gender and Climate Change" aimed at ensuring women's economic empowerment through new programmes and projects that enshrine the interdependence between social and climate change.	Procedures for implementing project activities will ensure that all stakeholders, including local communities, marginalized groups and women, have equitable access to project benefits. The project will seek to reduce barriers that may prevent these groups from accessing project benefits, such as access to natural resources, participation in decision-making, or access to employment and income generated by the project as defined in the Project Management Unit's Procedural Guide.
Environmental Code (Draft bill)[98]	The Environment Code project in Tunisia, published on the website of the Ministry of the Environment on August 3rd, 2023, aims to enhance resilience face of climate change, and promote sustainable development model. Through an applicable text that guarantee the implementation of the international climate engagement. In addition, the establishment of a National Forum for Climate Change Adaptation that will foster coordination national efforts for an effective adaptation intervention.	The proposed project is compliant with the objectives of the Environmental Code, the main objective to enhance the resilience in face of climate change through applicable text that translate the international and national engagement toward climate adaptation and transparency.

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

Since the 1970s, the targeted oases of Tozeur have been the recipients of several socio-economic development projects. These projects have focused primarily on water resources as a basis for dealing with the degradation of oases and improving agricultural output, particularly of Deglet Nour dates. More recent projects have focused on inclusive, participatory development and towards the agroecosystem oasis concept of oases, which highlights the dual biodiversity and agricultural production functions. A brief inventory of the main projects implemented and/or planned is presented in Table 12 order to explore opportunities for synergy with the present climate change adaptation programme and to ensure no duplication.

Table 12. Summary of past and ongoing projects and alignment with the proposed project

Project	Summary	Synergy with the proposed project
Climate change adaptation project in oasis zones – PACC-ZO (2015) Adaptation Fund	In southern Morocco, an innovative Adaptation Fund project is helping oasis residents to better cope with drought, returning to the traditional system of underground canals, originally designed by Berber populations almost 2,000 years ago. This rainwater and groundwater collection device, or *khettara*, built in first century AD, still partially functioning. The project plans to rebuild these canals, strengthen, and extend them to allow irrigation of the land arable crops and the supply of local communities.	The proposed project will not be implemented in Morocco. Many of the lessons learned from the implementation of this project that also support climate-resilient management of oases
Addressing Climate Change Vulnerabilities and Risks in Vulnerable Coastal Areas of Tunisia (2014) Ministry of Environment, Coastal Protection and Planning Agency (APAL), Government of Tunisia United Nations Development Programme (UNDP) Global Environment Facility (GEF)	The project is designed to address the main national adaptation priority on integrated coastal zone management and takes a three-pronged approach for building long term resilience of the coast. It revises critical national regulations on coastal zoning based on impact scenarios generated by coastal models and develops local adaptation plans for Tunisia's most vulnerable coastal locations.	The proposed project will not be implemented in any coastal areas of Tunisia, so while there is no spatial overlap, many of lessons learned during this GEF project can be integrated into the design stage of the funding proposal. In particular, the GEF project's knowledge management and local adaptation planning aspects.
Hydraulic infrastructure in the oases of southern Tunisia (2019) European Bank for Reconstruction and Development (EBRD) Ministry of Agriculture, Hydraulic Resources and Fisheries	Project to restore and strengthen the resilience of 37 oasis ecosystems and improve access to water resources in the four southern governorates. The Project will improve access to irrigation water for more than 30,000 farmers and their	Large-scale hydraulic and hydro-agricultural infrastructure project. Complementarity and synergy will be achieved in the interweaving of large-scale water infrastructure and community-based climate resilience projects, the actions of which will be lessons learned by the populations for

Project	Summary	Synergy with the proposed project
	immediate families living in the basin concerned and will bring considerable economic and social benefits.	future "climate-smart" good practices in response to climate disruption
Improving the sustainable management of natural resources and promoting the diversification of livelihoods in targeted traditional oases (2020) GDEO Ministry of the Environment Government of Tunisia, GEF World Bank	The project is structured around six priority areas, selected within the framework of a participatory and constructive approach, and capitalises on the results of the various studies carried out on oasis development issues, the achievements of the Sustainable Management of Oasis Ecosystems (GDEO) project and the multi-stakeholder consultations.	The project was completed in 2020 and has several lessons learned that will be taken into account during development of this project.
Towards climate-resilient agriculture and livelihoods in Southern Tunisia Green Climate Fund (GCF) Funding Proposal under consideration (2023) FAO, Ministry of Agriculture, Hydraulic Resources and Fisheries	The project proposes to provide water-related infrastructure to the Tameghza region of Tozeur, including cisterns, wells, and boreholes for drinking water supply. The project will also develop watersheds through water and soil conservation works and flood risk reduction.	Complementary with the Water Infrastructure in the Oases of Southern Tunisia project, in the sense that the PRAC and PAC (water resources) proposals in Tozeur are climate resilience actions and good practices for the efficient management of the resource at the community level.
Economic, Social and Solidarity Insertion for Resilience in the Governorate of Kairouan (2021) Adaptation Fund Ministry for Agriculture Water Resources and Fisheries (MAWRF) International Fund for Agricultural Development	The goal of the project is to contribute to poverty eradication in the Kairouan region through providing the rural poor the means to adapt to climate change through sustainable environmental management and livelihoods. The project will protect against the negative climate change impacts by simultaneously improving ecosystem functions, promoting sustainable land management (SLM) and protecting rural climate vulnerable livelihoods.	There is complementarity with several of the proposed project's activities and outcomes, without any spatial duplication. Lessons learned will be taken into account during development of this project.

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

Component 3 of the proposed project is dedicated exclusively to knowledge management and learning. The primary objective of this component is to support future replication and upscaling of similar projects in Tunisia through sustainable data, knowledge, and communication management.

Project funds will be used to achieve this goal through building the evidence-base for climate-resilient management of oasis ecosystems through careful documentation of the processes and results of

project implementation, and dissemination of these results through knowledge exchange missions, communication material and an information portal. The activities under this component of the project recognise that project-related knowledge must be co-generated in a bottom-up fashion if the knowledge products are to be authentic and achieve the required impact. The project therefore emphasises a co-development process that closely involves beneficiaries and participants in both the generation and dissemination aspects of knowledge management and learning. In addition, a centralised knowledge management portal will be established under the project to ensure that knowledge and lessons generated through the project are widely accessible, adopted and used beyond the project lifespan.

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.

Consultation process and timelines

The proposed project has adopted a consultation process based on inclusive and participatory methods to ensure buy-in and ownership of project interventions at beneficiary level. Between May and November 2022, an intensive, cross-sectoral consultation exercise was undertaken at the community level in the 29 traditional oases of the Governorate of Tozeur (Figure 11). This approach has allowed the project to prioritise the needs of individual oases and select appropriate locations for each intervention, as well as to ground-truth secondary data and generate new primary data to inform project design. Similarly, consultation with government and non-government project partners has been extensively undertaken during the development of the proposed project.

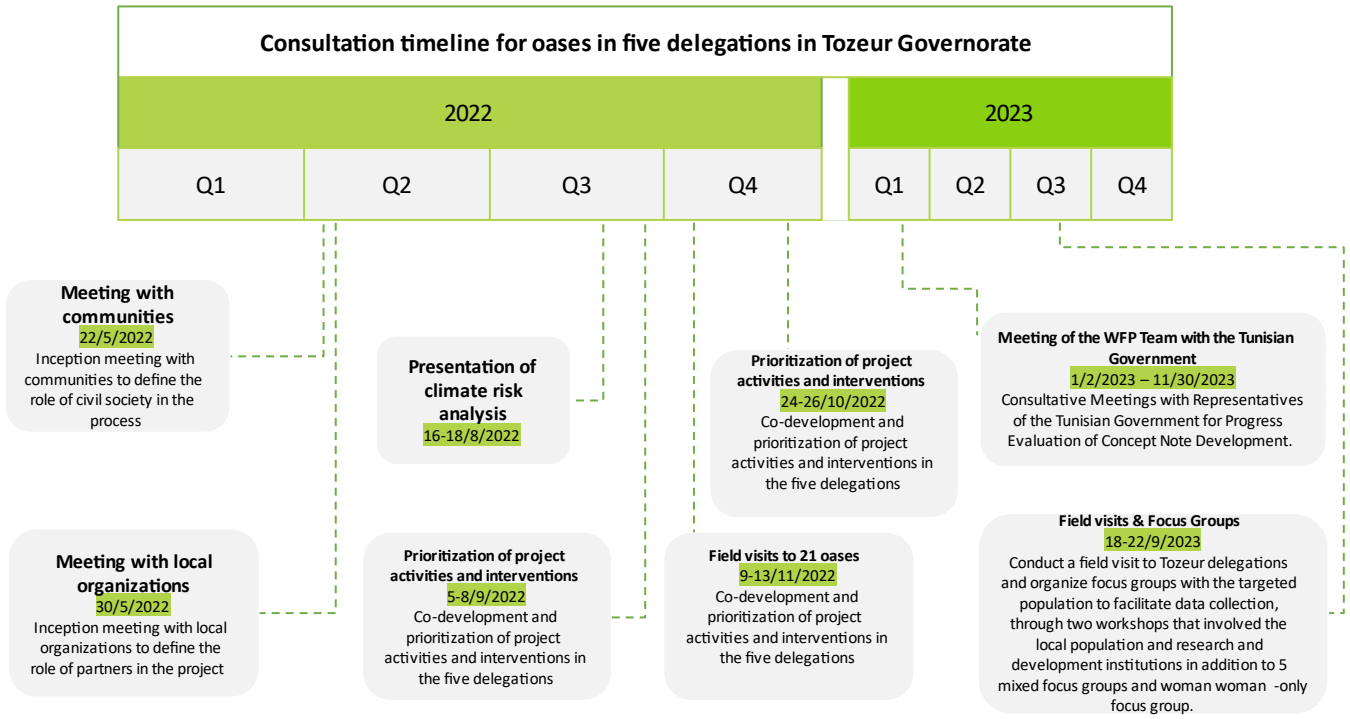


Figure 11. Consultation timeline for the 29 traditional oases of the Governorate of Tozeur

Consultations for the optimisation of the project design

Following consultations with representatives of the Tunisian Government to optimise the design of the project activities and prioritize areas of interventions, an additional field consultation package was carried out, after consulting with the Tunisian Government. Subsequently in the five target delegations in the governorate of Tozeur during September 2023. The stakeholders' and field consultation package was implemented helped to collect gather additional data and information to strengthen the development of the funding proposal and validate the relevance of the proposed activities to the target population. Two workshops were co-organised with the National Coordination Unit on Climate Change (UGPO-CC) to engage co-facilitated two workshops to involve concerned relevant public, community, and research and development institutions. In addition, focus group discussions (FGDs) were organised held to collect feedback from the smallholder farmers and rural women who are the main target group of the project.A summary table of the constitution structure, components and key findings is provided below.

Table 13. Summary of the structure and key findings of the consultation missions for optimisation of the project design

Workshop aspect	Summary of approach and outcomes
Structure and components	A two-day workshop and two FGDs per delegation (total 10) were conducted in the five target delegations in Tozeur. In selecting participants for the FGDs, priority was given to smallholder farmers in vulnerable oases. These farmers were contacted through local associations, GDAs[99]. Gender balance was prioritised to gain insights on how to target programmes are relevant and would affect both men and women of different age groups. Four main groups of stakeholders were identified for this project that include: - National Coordination Unit on Climate Change (UGPO-CC) (Government) - Scientific research centres (Universities/research centres) - Civil society, GDAs/Agricultural Coops, experts, activists, women's associations (NGOs/CSOs) - World Food Programme (Development actor) - Entrepreneurial and SMEs financial institutions (Private sector) - Community representatives For a relevant and inclusive stakeholders' consultation, basic principles were adhered to, to the extent possible, in engaging the participants during the meetings, workshops, and group discussion. These included organising mixed and female-only focus groups in respect of cultural norms and local tradition; considering appropriate timing, location, format, ways of communication, form and media; ensuring balanced representation of all concerned gender and age groups in meetings; engaging key gender-focused stakeholders and expertise; and partnering with women's associations and local institutions. The workshop discussed in the first day the impacts of CC on oasis ecosystems and solutions envisaged to strengthen their resilience, which included a group work session to develop a matrix for the output from four working groups that answers or provide feedback, with substantiating evidence, on proposed activities, targeting and selection, cross-cutting issues (environment, gender, and youth), and main suggestions and key concerns. Building on the key takeaways from the first day, a more technical consultation was held at the Regional Center for Research in Oasis Agriculture in Deguache (CRRAO) on the following day to discuss the role of scientific research in the planning and implementation of adaptation actions for oasis ecosystems. A total of over 45 male members and 15 female members participated in the workshop. In parallel and in following days, two FGDs were carried out in the each of the five target delegations that included a women-only focus groups to discuss issues that are affect women more and what are the potential solutions that are gender-sensitive and gender-transformative. The FGS engaged 29 male and 37

Workshop aspect	Summary of approach and outcomes
	female community members in local associations, in pilot demonstration plots, or in their farmers in the oases.
Analysis and key findings	These consultations were particularly enriching because, although other consultations had already taken place, over time and in view of the changing priorities of the communities, it was realized that some activities needed to be changed. For this reason, a revised logframe is included in this version of the concept note. The participants in the workshop and FGDs discussed about A) main sources of livelihoods and decision-making over HH and communal resources; B) participants' perception of impact of climate change; and C) consultation on proposed project components and expected outcomes, taking into consideration the potential of target group(s) and environmental and social risks. <u>Key findings:</u> - The participants agreed that most HHs in the region depend on agriculture and ecotourism for income. Every HH has someone who does farming and animal husbandry, while ecotourism helps HHs who have low oasis productivity or developed tourism value chains. The main income sources for the FGDs communities were date farming and handicrafts linked to tourism. However, these activities suffered from the drop in tourism due to political, health and climate crises. The traditional oases have a three-level system of date trees, crops and shrubs, and herbs or livestock. This system aims to increase productivity, profitability and sustainability by creating diversity and resilience. - Farmland management mainly depends on whether the household is headed by a woman or a man. However, participants, both men and women, reported that agriculture remain a male-dominated business. The attitudes towards women's involvement in agricultural land management varied from family to family in the same oasis. - The oases ecosystem supports people's livelihoods through the simultaneous provision of different products, services and materials. In addition to having ecotourism and aesthetic value. The participants reported high perception of the high vulnerability of their oasis systems to impact of the climate change on the system ability to natural resources and services necessary to their dependant livelihoods. This is observed in agricultural production, eco-tourism, handicrafts and traditional activities - Participants noted how climate change, combined with the 2011 revolution, COVID-19 and the Ukraine crisis, is driving a change in income opportunities in the oases. Main climatic risks highlighted were the increasing frequency of extreme weather events; and water scarcity. - Communities reported their main concerns for the next 6 years are about extreme heat during summer, water scarcity, level of food security, emerging diseases due to climate change, and migration of the youth to the north for income opportunities.

<u>Gender-focused consultations and outcomes</u>

Supplementary gender-focused consultations were undertaken in September 2023 and complemented the 2022 consultations. We wanted to ensure that women representing all the different groups were consulted, therefore we carried out Focus Group Discussions (FDGs) in five delegations in the Tozeur Governorate (the five delegations that have traditional oases). In this way, we were able to perceive similarities and differences between the five delegations. These consultations took gender considerations into account, adhering to several principles:

- Need for mixed and female-only focus groups, respecting cultural norms and local traditions - 5 mixed groups and 5 female-only focus groups were organised.
- Appropriate timing and location of consultation meetings- these were held in the morning as women had then more time, and in places close to where they lived, so that they could reach these places easily.
- Consider gender differences in knowledge and priorities and appropriate ways of communication (form and media) - the FDGs were organised through women's associations or local institutions in contact with relevant women's groups that knew how to reach a diverse group of women through the right channels.
- Consider setting minimum quota and progress targets for the balanced participation of all gender groups in meetings – we made sure that there were women of different ages, marital status, and socioeconomic class.
- Consider appropriate meeting formats – most of these female-only FDGs were conducted by female staff to increase women's level of comfort to actively participate.
- Make a targeted effort to include key stakeholders that bring a gender perspective and broad gender expertise – these FDGs included women who were the gender focal points in regional and local institutions, as well as women representing women's civil society groups or gender rights advocacy organizations and networks.

Through these consultations, we were able to better understand the problems of women of different ages, marital status, and socioeconomic class. We perceived certain gender norms deeply embedded in society. For instance, related to tasks associated with men and not women. Most of the women who participated in these focus groups are not directly involved in agriculture, but rather in handicrafts and/or other by-products made from the raw materials extracted in the oases. Some women are engaged in the production of aromatic and medicinal plants-based products. Women, like men, consider that women are privileged because they do not have to be involved in difficult agricultural tasks. Women also do not normally manage their own land when they inherit it, but rather their husbands do it for them. Based on the information gathered during these consultations, and using an intersectional transformative gender approach, this project will ensure the creation of inclusive and enabling environments where women can explore other opportunities available and make a more conscious choice of the type of livelihood activities they prefer to undertake, and if they want to manage their land or not. In this way, the project will sustainably change power structures by transforming harmful gender norms.

Identified needs

Prospective project participants and beneficiaries expressed several interrelated needs during the abovementioned consultations. These needs are summarized[100] below:

- Assistance with technical capacity development for climate-resilient oasis agriculture, (addressed by the proposed project under components 1 and 2) with focus on key crops, in particular palm dates;
- Provision of equipment and infrastructure for more efficient irrigation, use of clean energy and improved soil management (addressed by the proposed project under component 2); and
- Diversification and strengthening of climate-sensitive livelihoods (addressed by the proposed project under component 2 and 3) that include women-focused interventions.
- Enhance capacities of local community-based organisations and institutions to deliver climate-adaptive services and solutions in the Tozeur region.

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

Component 1: Institutional capacity building for oasis management in the public sector and civil society

Baseline scenario (without Adaptation Fund resources)

The national government and regional bodies in Tunisia are aware of the threats posed by climate change to the sustainable development of the region. While constituting technically skilled calibres, the government of Tunisia currently has limited capacity to systematically implement tangible adaptation solutions for improved management of oasis ecosystems. This is largely because national- and local-level decision-makers, as well as vulnerable communities, have stretched resources and limited institutional capacity for the effective and efficient implementation of these solutions.

Moreover, given the magnitude of social (high poverty rates, limited access to public services, social unrest in some parts of the area) and economic (balance of payments, budget deficits, high unemployment, and limited access to public services) problems, there is less concerted action to promote adaptation efforts to the inevitable consequences of climate change. Given the constrained policy framework and limited technical and institutional capacity of the public sector in Tunisia as well as vulnerable communities to adapt to climate change threats, it is unlikely that effective on-the-ground adaptation actions will be implemented in the absence of external support.

Additionality (with Adaptation Fund resources)

AF resources will be used to strengthen the technical and institutional capacity of national and subnational government, as well as vulnerable community levels for improved management of oases ecosystems. This will be achieved through cross-sectoral capacity-building initiatives, which will be implemented at national, delegation, and governorate levels and within vulnerable communities in the oases of Tozeur. The project will produce a strengthened evidence base for sustainable management of oasis ecosystems, as well as knowledge products that can contribute to the revision of key policies on biodiversity conservation and water management. AF resources will be essential to invest in these efforts, which will not be undertaken in their absence, given the limited resources available to the Tunisian government as a whole.

Component 2: Concrete adaptation activities that promote the adoption of climate adaptation and livelihood enhancement measures

Baseline scenario (without Adaptation Fund resources)

Climate change impacts are intensifying in the region, making climate-sensitive livelihoods like agriculture increasingly marginal. In the southern areas of Tunisia, already common droughts are projected to become more frequent, reducing soil humidity, accelerating desertification, negatively impacting agricultural productivity, and placing further pressure on limited groundwater resources[101]. Oases are likely to be acutely affected by these impacts, as is identified in Tunisia's 3rd and 4th National Communications which is of particular concern given their socio-economic importance in otherwise arid and marginal areas. The combination of all of these climate impacts is likely to lead to a range of consequential socioeconomic impacts, including reduced food security and economic development, fewer livelihood opportunities and an increase in conflict over already scarce resources. Without urgent investment into strengthening climate-sensitive livelihood activities, the knock-on effect of acute and chronic climate change impacts will severely affect the ability of vulnerable oasis communities to sustain their livelihoods. These issues are compounded by limited access to finance and alternative sources of income, limited levels of awareness on climate change, as well as the disproportionate vulnerability of women, the youth, the elderly, and people with disabilities.

Additionality (with Adaptation Fund resources)

Proposed project interventions under Component 2 will contribute to developing more climate-resilient livelihoods in the oases of Tozeur. By improving the efficiency and sustainability of irrigation, as well as promoting good practices in agricultural production and financial support for similar concrete adaptation sub-projects, AF resources will contribute to a transformative shift in the climate resilience of communities that rely on the oasis ecosystems. Similarly, the project will strengthen the supply of ecosystem goods and services provided by oasis ecosystems in Tozeur through the introduction of drought-resistant crops and the conservation of local oasis biodiversity. Further activities funded under Component 2 that will decrease the reliance on climate-sensitive agriculture is the income diversification by establishing a call for proposals, prioritising disproportionately-vulnerable groups, for projects to diversify livelihood activities and catalyse income generation in traditional oases.

Component 3: Data, knowledge, and communication management

Baseline scenario (without Adaptation Fund resources)

The evidence base for sustainable use of oases and climate-resilient livelihoods is scarce in the Tunisian context. Without concerted effort behind and investment in strengthening technical capacity for improved governance of oasis agroecosystems, as well as supporting efforts to reduce the climate-sensitivity of the livelihood activities of the most vulnerable communities, the opportunity to develop a robust evidence base for these kinds of interventions will not be realised. It is therefore likely that there will be no action under the baseline scenario, to promote efficient water resource use that could illustrate the costs and benefits of such adaptation measures over time in oases.

Additionality (with Adaptation Fund resources)

AF resources would facilitate the engagement of local communities and the dissemination of information generated on the cost-effectiveness of different interventions on the ground, enabling government and regional bodies to integrate nationally and regionally appropriate adaptation knowledge into their climate change strategies. This will facilitate the translation of conceptual adaptation measures into action on the ground, thereby increasing the resilience of vulnerable populations in oases to climate change threats. The results of the activities and interventions under Component 3 will allow the project to be upscaled and/or replicated in other parts of Tunisia and the region.

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

Long-term sustainability has been addressed in the project design by: i) actively involving prospective project beneficiaries in the co-design of proposed activities and implementation arrangements through a series of consultations in 2022 and 2023[102]; ii) targeting technical capacity at the community level to ensure that stakeholders have adequate knowledge and skills to sustain the benefits of project interventions; iii) targeting community training extensively on climate-resilient techniques for water and agricultural management specifically adapted to oases; and iv) maintaining skills in water-efficient irrigation technology, including maintenance and upkeep of this infrastructure and equipment. The project ensures sustainability through the community-based participatory approach promoted in all project activities, which enables communities and local authorities to take ownership of the project results. The sustainability of the project is enhanced by the sustainable land management and soil and water conservation approaches that are promoted and form the core of the sustainable environment and resource management approach to building resilience to future climate shocks.

Long-term sustainability will be pursued through institutional development and capacity-building programs designed to create a critical mass of effective practitioners and users, and among all

actors, from public sector institutions to grassroots organizations and civil society. This is supported by the analysis of country-level adaptation capacity gaps under Part I, which defines thematic capacity development needs as defined in Tunisia's NDC and National Capacity Building Plan for Tunisia. Several project activities address the needs defined in these policies. Replicability of the project's outcomes will be ensured through the dissemination of lessons learned from the field demonstration trials and locally adapted management systems adopted by the beneficiaries, with the capture and curation of this ensured by the information portal to be developed under Component 3.

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

A preliminary screening of the potential environmental and social impacts and risks that may arise as a result of the proposed project is presented below, with an overall ESS rating of Category B (activities with potential limited adverse environmental or social risks and/or impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures). The ESS screening was undertaken in accordance with Adaptation Fund's Environmental and Social Principles and Gender Policy, as well as WFP's ESS screening tool. Gender-differentiated risks are also be reflected in the table below. ESS Category B is also applicable because the project includes two outputs (2.1.3 and 2.3.2) with USP activities, which means that only locations and activities that are of equal or lower ESS risk to defined activities will be approved. At fully-developed proposal stage, an environmental and social management plan (ESMP) will be developed and include but not be limited to: i) risk mitigation measures (and monitoring and reporting thereof) for the risks identified through the risk screening and assessment of the proposal; and ii) procedures for the screening, assessment and mitigation of the USPs under Component 2 during the implementation of the project.

Table 14. Environmental and social impacts and risks identified

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law		**X (no risk)** The proposed project will be implemented in climate-vulnerable areas. A preliminary assessment of Tunisia's legislative framework has been undertaken to identify relevant legislation with which the project will comply. The legislation relevant to the proposed project is presented in Part II, Section D of this Concept Note. During full project formulation, extensive stakeholder engagements will be conducted with relevant national and local governments to ensure that the project meets all relevant legal requirements of the country. This preliminary assessment has also included the analysis of gender laws, including the Law on Eliminating violence against Women no.58 of 2017 (preventing violence against women, protecting survivors, and prosecuting abusers). We acknowledge that women should be protected against violence and understand that, in the case of the few women working in agriculture, security risk level is mainly gauged by proximity of the farm parcel to the residency area and that there are

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
		measures that need to be in place to minimize this risk. This can encourage more women to work in agriculture.
Access and Equity		**X (low risk)** The proposed project is not expected to prevent beneficiary communities from accessing basic health services, clean water and sanitation, energy, education, housing, nor adversely affect working conditions and land rights. Project beneficiaries of the proposed project are decision-makers, first responders and climate vulnerable local communities. Within these groups, there is a risk that certain decision-makers and community members may benefit more than others, as a result of entrenched systems of privilege, access, and authority. For instance, the presence of women in local governance and the political scene in the Governorate of Tozeur remains weak, despite their important contribution to the local economy and the preservation of the oases' biodiversity[103] For example, specific female-only FDGs were organized to understand context-specific gender norms and inequalities and how to avoid the risks to increase these inequalities. These engagements will be continued during the development of the full proposal to ensure that project activities deliver equitable adaptation benefits to all.
Marginalized and Vulnerable Groups		**X (low risk)** There is a risk that vulnerable and marginalised groups will have disproportionate constraints on their access to project activities. For instance, the legal situation and customary norms are major obstacles that women face because there are certain gender norms deeply embedded in society which do not allow women to control resources or have decision-making positions, marginalizing them even more. This risk has been considered during the development of this Concept Note and mitigation measures will develop further during full funding proposal to ensure that marginalised and vulnerable groups, particularly women, the youth and people living with disabilities, will not be adversely affected by project activities. Instead, these marginalised groups will be prioritised to benefit from responsive climate change adaptation interventions implemented under the project. To avoid the exclusion of marginalised communities, these groups have been involved during Concept Note Development and will be involved in the community consultations carried out during the preparation of the full project proposal to ensure equitable participation and that social impacts do not unjustly impact on marginalised and vulnerable groups.

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
		Additionally, these marginalized and vulnerable groups will be directly and actively involved in decision-making throughout project implementation, allowing their perspectives to be prioritised and, therefore, ensuring they have access to project activities.
Human Rights	**X (no risk)** No activities are or will be included in the design of the proposed project that are not in line with established international human rights and that discriminate against women because of their sex. Moreover, the proposed project will promote the basic human rights of access to food, water, and information.	
Gender Equality and Women's Empowerment		**X (moderate risk**) This project acknowledges that there are a set of issues specific to women in the traditional oases of Tozeur, which need to be highlighted because of their vulnerability to climate change. For instance, women and women-headed households are most affected by a drop in income due to the impact of climate change on agricultural production, as they depend on income from their handicrafts and by-products they produce and sell. Moreover, although many women are not directly involved in some agricultural tasks, they often follow ancestral agricultural practices for other tasks, such as to preserve and process dates and to make date-based soap, as well as to use local plants for medicine practices. Yet, there is no space or venue dedicated to women in which they can express their opinions on issues such as land management and agricultural practices, hence there is a risk that women cannot express their concerns openly because there is no appropriate space for this. To mitigate this risk, women will be encouraged to join the CSOs , and to join women's associations. Also, since the proposed project is targeting communities where men occupy most of the leadership positions, there is a risk that women will not receive equitable adaptation benefits under the proposed interventions. To mitigate this risk, gender equality

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
		and women's empowerment will be promoted and include more details during the development of the full proposal and further stakeholder consultations. Furthermore, proposal preparations and project activities have been designed to encourage and enable the meaningful participation of women, as well as the active participation in technical assessments and capacity-building activities.
Core Labour Rights		**X (no risk)** National- and local-level governments as well as vulnerable communities will be involved in the operation and maintenance of project interventions. Although unlikely, these individuals may be exposed to the risk of accidents in implementing project interventions. Core labour rights will be respected and considered in project design and implementation. All relevant project stakeholders will be involved in the design of project activities to ensure that relevant labour legislation is adhered to.
Indigenous Peoples		**X (no risk)** Tunisia has gone through a long process of assimilation of different ethnic groups, such as the Amazigh population, into the culture and civilisation of the Arab and Muslim identity. These communities continue to co-exist and are not generally discriminated against. In the Governorate of Tozeur, groups ethnically different from the Arab majority are integrated into society and were consulted throughout the design of project interventions. As a result, the project activities are reflective of the needs of all of these communities. The project will make sure that different groups, regardless of their ethnicity, are able to participate during all stages, from project design to implementation, ensuring that indigenous people are equal to all other people and that there is no risk of discrimination Furthermore, this project poses no threat to indigenous peoples' right to maintain and strengthen their distinct political, legal, economic, social and cultural institutions.
Involuntary Resettlement	**X (no risk)** No activities are or will be included in the project design that will result in involuntary resettlement.	
Protection of Natural Habitats		**X (low risk)** The project is not expected to have any negative impact on natural habitats, including those: i) legally protected; ii) officially proposed for protection; iii) recognised by authoritative sources for their high conservation value, including as critical habitat; or iv) recognised as protected by traditional or

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
		indigenous local communities. However, since the project includes a USP output with undetermined locations/target sites (Output 2.1.3 – pilot farms for climate-smart oasis agriculture), prospective target sites will be assessed from a protected areas (PAs) perspective to ensure that no PAs are negatively impacted by the pilot farms. Similarly, project activities will avoid introducing invasive plants by only using local and indigenous species.
Conservation of Biological Diversity		**X (low risk)** Tunisia is party to the United Nations Convention on Biological Diversity, and the project has been designed to align with those principles. The action plans developed under the project will require only indigenous species to be used in all restoration activities to ensure minimal ecological impacts. However, since the target sites for pilot farms under USP-eligible Output 2.1.3 are undetermined, they will be screened to determine whether the proposed locations threaten local biodiversity in any way, and the pilot sites (re)located accordingly.
Climate Change	**X (no risk)** The project will contribute to climate change adaptation efforts in Tunisia and has been designed in line with national priorities established in the country's NDC, NAP and the National Climate Change Strategy for Tunisia.	
Pollution Prevention and Resource Efficiency	**X (no risk)** The project will contribute to resource efficiency and pollution prevention and has been designed in line with national priorities established in the country's NDC, NAP and the National Climate Change Strategy for Tunisia.	
Public Health	**X (no risk)** Project activities will have no foreseeable negative effect on public health. Activities under Component 2 will likely improve public health through the improvement of water quality and improved food security from increased agricultural productivity and livelihood diversification.	
Physical and Cultural Heritage	**X (no risk)** A central aspect of the project's objective is to preserve the function of traditional oases in Tozeur. Proposed project interventions are therefore not expected to cause any	

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
	damage to physical and cultural heritage. Moreover, the participatory approach to project design has used local knowledge to ensure that physical and cultural heritage is not negatively affected by on-the-ground activities. The location of physical and cultural heritage sites will be considered during site selection to reduce the likelihood of negative impacts of project intervention on local heritage.	
Lands and Soil Conservation	**X (no risk)** Proposed project interventions will promote improved land use management under future climate change conditions. No project activities are expected to result in the degradation of lands. Rather, project activities are anticipated to contribute to reducing degradation of oasis agroecosystems in Tozeur, particularly under Outcome 2.2.	

PART III: IMPLEMENTATION ARRANGEMENTS

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

The proposed project's overall and specific objectives, as well as the anticipated project outcomes align favourably with several Fund outcomes (2, 3, 6 and 8) and outputs (2.2, 3.2, 6.0, and 8.0). Table 15 cross-references the objectives and outcomes of the proposed project to the respective fund outcome and output, including the relevant project and fund indicators and the corresponding amount of funding requested.

Table 15. Overview of alignment between the project's objectives and outcomes with the Adaptation Fund Results Framework

Project Objective(s)	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Specific Objective 1: Strengthen institutional and technical capacity for oasis management in the public sector and civil society (Component 1)	Number of people with enhanced capacity for climate adaptive oasis ecosystem management	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	2.1. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased	1 475 000

Specific Objective 2: Implement concrete adaptation activities that promote the adoption of climate adaptation and livelihood enhancement measures (Component 2)	Number of project participants benefitting from concrete adaptation assets and activities	Outcome 8: Support the development and diffusion of innovative adaptation practices, tools and technologies	8. Innovative adaptation practices are rolled out, scaled up, encouraged and/or accelerated at regional, national and/or subnational level	6 170 000
		Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.1 Percentage of households and communities having more secure access to livelihood assets	
			6.2. Percentage of targeted population with sustained climate-resilient alternative livelihoods	
Specific Objective 3: Improve communication on and the evidence base for good practices in climate adaptive management of traditional oases (Component 3)	Proportion of beneficiaries with enhanced knowledge on climate adaptive practices in traditional oases	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	675 000
Project Outcome(s)	**Project Outcome Indicator(s)**	**Fund Output**	**Fund Output Indicator**	**Grant Amount (USD)**
1.1. Capacity of national and sub-national institutions strengthened through plan development and training to promote climate adaptative management of oasis ecosystems	Number of people with enhanced capacity for climate adaptive oasis ecosystem management	Output 2.1: Strengthened capacity of national and sub-national centres and networks to respond rapidly to extreme weather events	2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events (by gender)	1 475 000
2.1. Improved capacity for efficient and climate-smart management of water, biodiversity, and agricultural resources	Number of people benefiting from innovative climate adaptation practices	Output 8.0: Viable innovations are rolled out, scaled up, encourages and/or accelerated	Indicator 8.1. No. of innovative adaptation practices, tools and technologies accelerated, scaled-up and/or replicated	1 570 000
2.2. Livelihoods enhanced through income diversification, market access, and skills development of oases communities	Number of assets built, restored or maintained by targeted households and communities, by type and unit of measure	Output 6.0: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1 No. and type of adaptation assets created or strengthened in support of individual or community livelihood	1 750 000

			strategies	
	Number of people benefiting from livelihood assets		6.2.1. Type of income sources for households generated under climate change scenario	
	Increase in income level, by source of income and number of households			
2.3. Support provided for locally implemented interventions at selected oases, prioritizing idea which can be replicated in other oases in and beyond the Governorate of Tozeur	Number of people benefiting from support for local adaptation projects	Output 8.0: Viable innovations are rolled out, scaled up, encourages and/or accelerated	Indicator 8.1 No. of innovative adaptation practices, tools and technologies accelerated, scaled-up and/or replicated	2 850 000
3.1. Improved knowledge management and learning for climate adaptative management of oasis ecosystems	Number of communication tools developed	Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	3.2.2 No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders	675 000

B. Management arrangements

The proposed project will be executed over a four-year period by the Tunisian Ministry of Environment (MoEnv; The Ministry), through the National Coordination Unit on Climate Change (UGPO-CC), in collaboration with the World Food Programme (WFP).

Implementing Entity (MIE)

WFP is submitting this project as an accredited Multilateral Implementing Entity (MIE) for the AF. In its capacity as MIE, WFP will be in charge of the project cycle management, overseeing overall project progress, including financial oversight, monitoring and evaluation support, as well as technical backstopping and reporting to the AF. At the national level, the project will be coordinated through support of the WFP Tunisia Country Office. Additionally, technical support will be provided as required by the WFP Regional Bureau in Cairo, and WFP Headquarters in Rome, Italy.

Executing Entity (EE)

The Executing Entity (EE) will be the Ministry of Environment, the Government entity responsible for management of the national climate change agenda in Tunisia. Through the coordination function of the UGPO-CC, the Ministry will be responsible of effective and efficient delivery of the project outputs and ensuring objectives and outcomes are achieved as per the project document. In this regard, the Ministry will coordinate and collaborate with other governmental bodies and non-governmental organizations at the national, regional/governorate, and delegation/district levels for the implementation of the Project activities. The following are some of the entities identified as key partners and potential members of the project's National Steering Committee: Ministry of Local Development, Ministry of Tourism, Ministry of Agriculture and Water Resources, Ministry of Social Affairs, Ministry of Cultural Affairs, Ministry of Vocational Training and Employment, in addition to partner community-based organizations (CBOs) and private sector in the oases of the Tozeur Governorate.

Project Management Unit (PMU)

Upon receipt of funding, the Project will set up a Project Management Unit (PMU) to manage all execution responsibilities and be responsible for the progress reporting on all field-level activities. The PMU will be tasked with the day-to-day operations and management of the Project activities under the direct supervision of the National Project Manager (PM). A fulltime PM will be hired and will be supported by Project Regional Coordinator (PRC) and a team for administration and financial matters. To ensure strong coordination and close interaction with both national level discussions and filed-level execution, the PMU will operate at two levels. The PM will be stationed in the Capital for close liaison with the national governmental agencies and other stakeholder partners present there. At the regional/governorate level, the PMU will be established, and operations will be coordinated by the PRC and will have their office located in Tozeur Governorate. As part of the proposed governance mechanism for oases ecosystems management and to enhance community-level ownership of project activities, Project Field Facilitators will be hired in each of the five delegations/districts in Tozeur Governorate from its residents. These coordinators will be assigned the responsibility of facilitating the communication and direct interaction with local cooperating partners (CPs) and beneficiaries on behalf of the PMU. The PMU will solicitate consultancy services and technical expertise for specialised support to initiation and implementation of the Project activities (in addition to M&E, gender, and environmental and social safeguards).

National Steering Committee

The National Steering Committee (NSC) will constitute representation from the concerned ministries and Government authorities to provide overall guidance and policy support to the Project execution. The NSC and the PMU functions will be supported by the establishment of a Sub-technical Secretariat, affiliated from the NSC and composed of nominated technical experts from Government entities, universities, and research institutions. The role of the Sub-technical Secretariat of the NSC will be to provide specialized advice on technical issues and specific technicalities to support the PMU on ensuring technical soundness of the project interventions.

Local Project Committee

The Local Project Committee (LPC) will include representatives of different local authorities at delegation/district level, as well as Community-based Organizations (CBOs) and other representatives from the supported communities. The LPC aims to strengthen community ownership and participatory planning through supporting continuous engagement and open communication channels between the PMU and Project Field Facilitator(s) and the beneficiaries receiving direct and indirect support through the project activities. The proposed project’s governance structure, including flow of funds and reporting lines, is shown below in Figure 12.

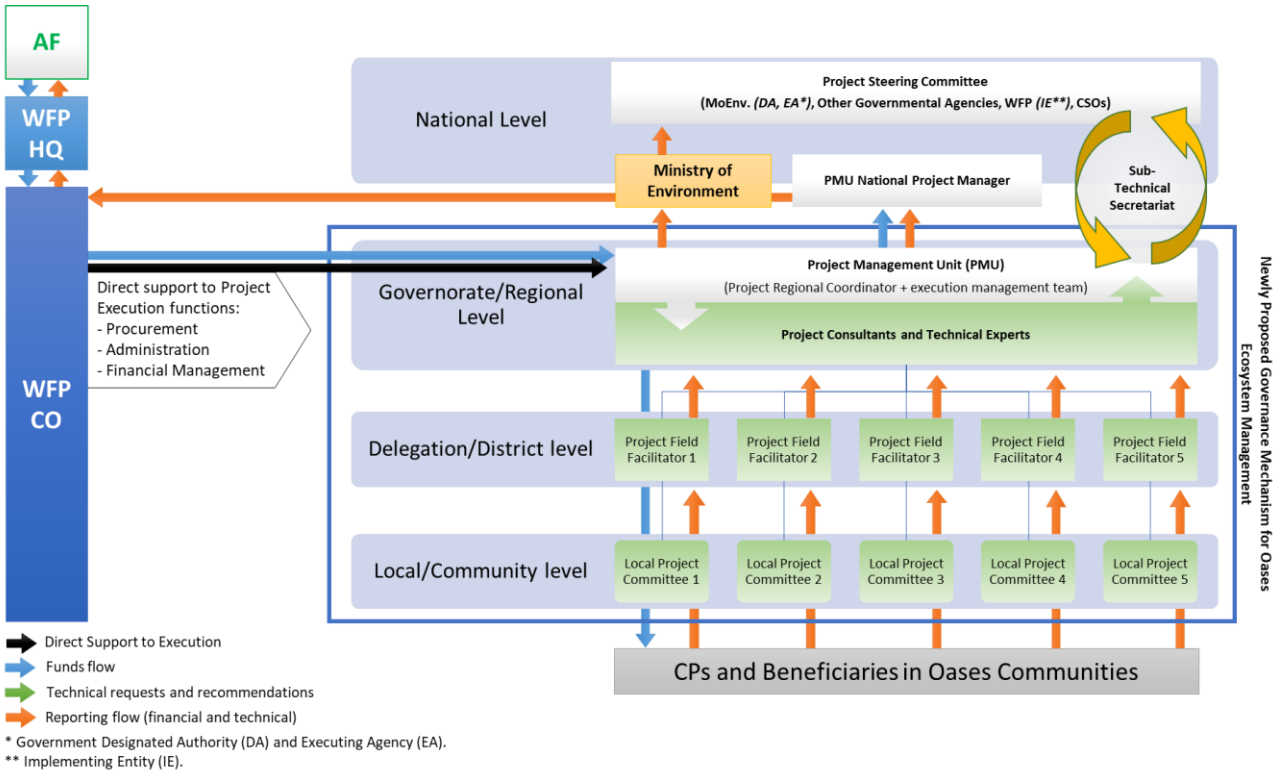


Figure 12. Organogram showing project governance and execution structures.

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

A. Record of endorsement on behalf of the government[104]

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 proposal. Please attach the endorsement letter(s) with this template; add as many participating governments as possible if a regional project/programme:

Taoufik Sayadi Senior Engineer, Head of Division, Ministry of Environment	Date: July 18th, 2023

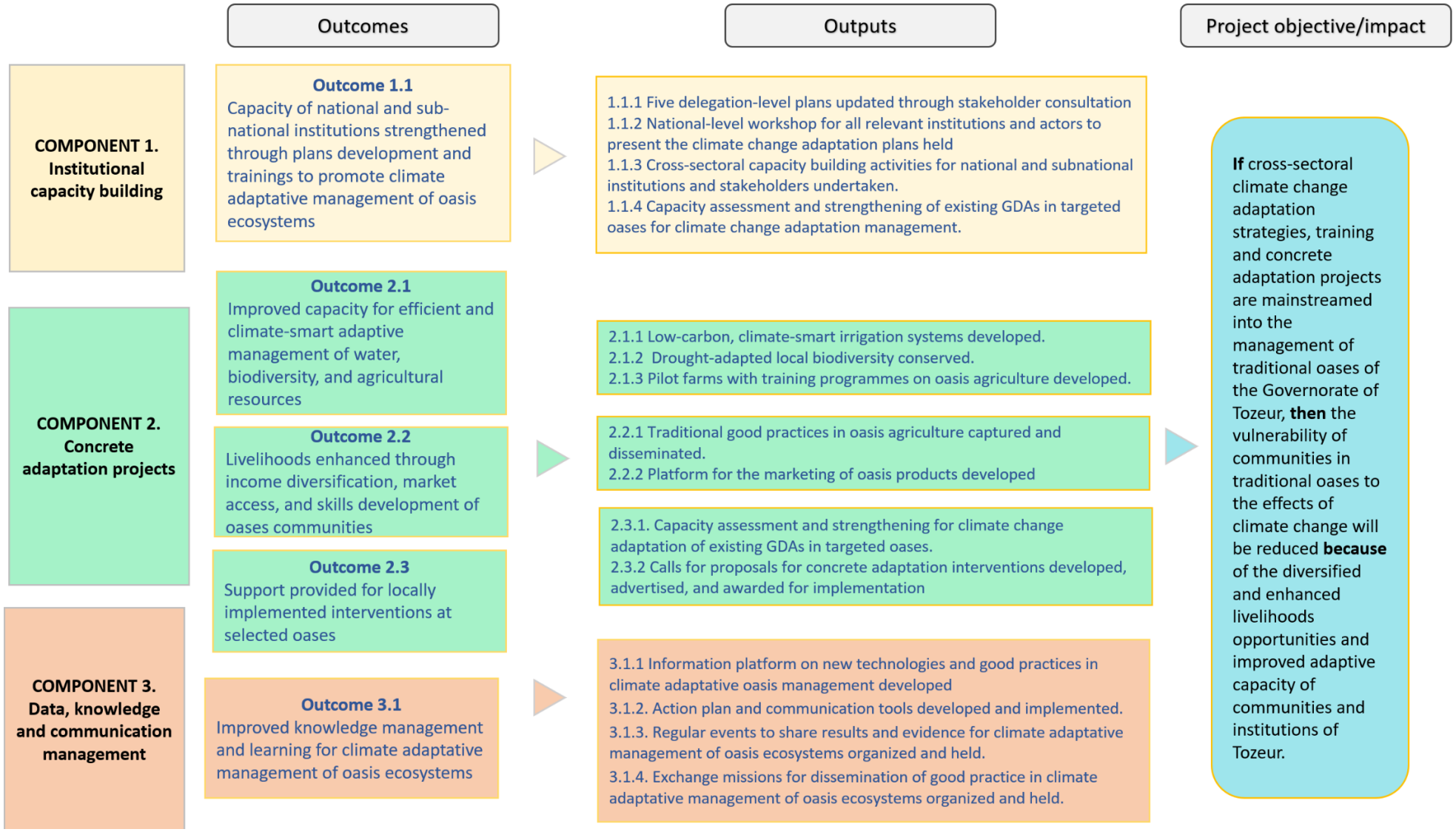
B. Implementing Entity certification

Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Also provide the project 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 (Tunisia's Nationally Determined Contribution 2021, and National Climate Change Adaptation Plan 2021-23) 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.

Raoul Balletto Country Director WFP Tunisia Signature Implementing Entity Coordinator	
Date: August 1st, 2023	Tel. and email: +216 56 27 57 57 raoul.balletto@wfp.org
Project Contact Person: Hazar Belli	
Tel. and Email: +216 98 572 022 hazar.belli@wfp.org	

ANNEX 1: PROJECT THEORY OF CHANGE



ANNEX 2: LETTER OF ENDORSEMENT

REPUBLIC OF TUNISIA
***
MINISTRY OF ENVIRONMENT

ADAPTATION FUND

Letter of Endorsement by Republic of Tunisia

Tunis, the 18 July 2023

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for the Project Concept Note « **Strengthening adaptive capacity and livelihood security in the most vulnerable oases of the Governate of Tozeur** »

In my capacity as designated authority for the Adaptation Fund in Tunisia, I confirm that the above national project concept note is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Tunisia.

Accordingly, I am pleased to endorse the above project concept note with support from the Adaptation Fund. If approved, the project will be implemented by World Food Program (WFP), and executed by the Ministry of Environment.

Sincerely,

National Focal point for the Adaptation Fund

Taoufik Sayadi

Senior Engineer, Head of Division, Ministry of Environment

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[16] This evaluation is determined by considering: i) government effectiveness; ii) regulatory quality; and iii) rule of law.
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[34] *Ibid.*
[35] 81% of the national annual water potential is utilized under current conditions.
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[72] *Ibid.*
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[74] *Ibid.*
[75] Acterra Consulting. (2022). *Report on enhancing nature-based solutions for oasis ecosystems and agrosystems adaptation in the Governorate of Tozeur*. (Unpublished).
[76] *Ibid.*
[77] Verner, D. (2013). *Tunisia in a Changing Climate. Assessment and Actions for Increased Resilience and Development*. The World Bank, Washington, DC. [Online]. Available: http://hdl.handle.net/10986/13114
[78] The study conducted: i) an in-depth assessment of the current and prospective vulnerability of oasis ecosystems in the Governorate of Tozeur, with emphasis on the main factors and components of the ecosystem (water resources, soil resources, oasis biodiversity, agricultural productivity, diversification of livelihoods, socio-economic vulnerabilities). Based on assessment outcomes, ii) an adaptation plan was developed at the level of the Governorate of Tozeur, to identify the main and common needs for people in all the oases to strengthen their resilience to the threats and impacts of climate change, in addition to iii) the development of five local climate change adaptation plans.
[79] Acterra Consulting. (2022). *Report on enhancing nature-based solutions for oasis ecosystems and agrosystems adaptation in the Governorate of Tozeur*. (Unpublished).
[80] Adapted from: World Food Programme. (2019). *Guidance Note on Estimating and Counting Beneficiaries* (unpublished).
[81] Note that not all activities will be implemented in all 29 oases. Individual oases will be prioritised for certain activities based on their respective biophysical and socioeconomic contexts, as well as their climate risk profiles. The Fully Developed Proposal for the project will specify which oases have been prioritised for each activity.
[82] Tunisia's Nationally Determined Contribution (NDC) 2021 [Online]. Available: https://unfccc.int/sites/default/files/NDC/2022-08/CDN%20-%20updated%20executive%20summary.pdf
[83] For Tozeur delegation, not at the governorate level.
[84] Such as the Lab Oasis foundation.
[85] Direct project beneficiaries include the total number of smallholder farmers in the 29 traditional oases of the Governorate of Tozeur. Indirect project beneficiaries comprise the total population of the five delegations within the Governorate of Tozeur.
[86] Adaptation Fund Board. (2013). *Environmental and Social Policy*. [Online]. Available: https://www.adaptation-fund.org/wp-content/uploads/2015/09/Environmental-Social-Policy-approved-Nov2013.pdf
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[93] Tunisia's 4th National communication as part of UNFCCC [Online]. Available: https://unfccc.int/sites/default/files/resource/Tunisia-4th%20National%20Communication.pdf
[94] National Climate Change Strategy for Tunisia (NCCS) 2012 [Online]. Available: https://cc-tunisie.com/wp-content/uploads/2022/04/Strategie-Nationale-CC-2012.pdf
[95] Stratégie de Développement Durable des Oasis en Tunisie-2015 [Online] Available : https://scid.tn/images/2020/3_1_oasis.pdf
[96] Tunisia - National Drought Plan, 2020 [Online] Available: https://www.unccd.int/sites/default/files/country_profile_documents/Drought_Management_Plan_Tunisia_Final.pdf
[97] Refer to Part II, Section K for further detail on the project's anticipated environmental and social risks.
[98] Not yet ratified by Parliament. [Online] Available: https://environnement.gov.tn/fileadmin/Bibliotheque/Projet_Code_Environnement/projet_code_environnement_fr.pdf
[99] GDAs: Groupements de Développement Agricoles. In English: Agricultural Development Groups.
[100] A detailed analysis of stakeholder needs will be presented during development of the Funding Proposal.
[101] 81% of the national annual water potential is utilized under current conditions.
[102] Refer to Part II, Section H for full details of the consultative process.
[103]Climate change and Tunisia's Tozeur oases: an opportunity to boost women's leadership and economic activity
[104] 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.