



Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 18-Feb-2019 | Report No: PIDC26214



BASIC INFORMATION

A. Basic Project Data

Country Tunisia	Project ID P169955	Parent Project ID (if any)	Project Name TN-Sustainable Oasis Landscape Management Project (P169955)
Region MIDDLE EAST AND NORTH AFRICA	Estimated Appraisal Date Jun 24, 2019	Estimated Board Date May 29, 2020	Practice Area (Lead) Environment & Natural Resources
Financing Instrument Investment Project Financing	Borrower(s) Republic of Tunisia	Implementing Agency Ministry of Local Affairs and Environment - DGEQV	

Proposed Development Objective(s)

To strengthen integrated management of oasis landscapes in targeted governorates in Tunisia.

PROJECT FINANCING DATA (US\$, Millions)

SUMMARY

Total Project Cost	75.00
Total Financing	75.00
of which IBRD/IDA	75.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	75.00
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Environmental and Social Risk Classification
Substantial

Concept Review Decision
Track II-The review did authorize the preparation to continue



Other Decision (as needed)

B. Introduction and Context

Country Context

- 1. The economic policies of the two decades preceding the 2011 revolution delivered widely recognized achievements,** including growth rates above the regional average, impressive progress in human development indicators and reduced poverty. However, they failed to address, and even exacerbated, the deep-rooted distortions in the economy that closed the channels—in particular, productive employment and job creation—for a more equal and inclusive society. These distortions were also grounded in a tightly controlled social and political space that favored the elite while repressing others. This development model proved to be economically and socially unsustainable. With a new constitution adopted in 2014 and a democratically-elected government established in 2015, there is today an unprecedented window of opportunity for Tunisia to embark on deep structural reforms to open the channels conducive to a more equal and inclusive society and put the country on a path of more sustainable development.
- 2. Tunisia’s ongoing political, social and economic institutional transformations should lead to a more democratic government and unlock great economic development potential, but the situation remains politically fragile and uncertain.** Many households remain only slightly above the poverty threshold and are vulnerable to exogenous shocks. There has been limited progress toward job creation, unemployment is high, particularly for youth, women and people living in the inland regions.¹ Civil society organizations (CSOs), including natural resources users’ groups, have gained more voice, but their effective role in decision-making is still narrow and tangible economic dividends are limited. In parallel, public debt has risen from 40 percent of GDP in 2010 to 71 percent by end-2017, the Tunisian dinar has depreciated, which, in combination with wage increases, has fuelled inflation.
- 3. Significant regional imbalances and gender disparities still characterize economic development in Tunisia.** Inequality between regions has risen and poverty and unemployment (especially among the youth) are widespread. Tunisia has a history of promoting gender equality dating back to the 1960s and has been able to provide effective protection of women's rights and equal access to education and health. The 2014 Constitution is considered the most progressive constitution in the Arab and Muslim world in terms of women’s rights. Several guarantees are devoted to it, namely: equality between citizens (Article 20) and the right to work in decent conditions and at equal pay (Article 40). In June 2016, the Tunisian Constitution was amended with a new element ensuring an even greater equality between its citizens and Article 49 establishes a better representation of women in local policies. This is encouraging and promising. However, it should be pointed out that there is a substantial discrepancy between what law is and what is practiced, both in public and private life (one of the main reasons for this is the existence of strong and persistent gender based

¹ Socio-economic indicators went through a period of recession which resulted in a fall in the growth rate (from 3.0% in 2010 to -1.92% in 2011 to rise to 2,8% in the second quarter of 2018) with a concomitant increase in the unemployment rate (from 13% in 2010 to 18.3% in 2011 and then down to 15.4% in the second quarter of 2018). For its part, the poverty rate was down 5% to 15.2% in 2015 against 20.5% in 2010.



norms and attitudes).² Rural women constitute an important part of the agricultural labor force³, but their work, with little or no pay, is mostly invisible: they provide domestic work and are for the most part "family helpers" who work for free on the farm or the family business. While rural women work an average of two hours more than men, barely a fifth of them have a personal income compared to more than two thirds of men. Income inequalities between men and women in rural areas are linked to women's limited access to private property (land, housing in particular) and to a more diversified source of income for men (women are more dependent on the state).⁴

4. **Tunisia's decentralization process has the potential to reinvigorate the democratic transition by empowering local actors** and improving service delivery to correct regional disparities. But the process must provide long-term systemic changes to governance and fiscal authority as well as demonstrate short-term wins, particularly in the country's traditionally disadvantaged interior regions. As in other MENA countries, in Tunisia decentralization and local participation with appropriate accountability and effective citizen oversight and participation are likely to improve services delivery and greatly enhance the effectiveness of the implementation of government policies and strategies.⁵
5. **Rising temperatures and declining rainfall degrade natural resources essential for rural development.** Tunisia is innately exposed to extreme heat, water scarcity, drought, floods, and wildfires.⁶ Hot weather damages agricultural output by reducing labor productivity, labor supply, water availability, and growing seasons.⁷ The country's average annual temperature is currently 1.6 °C above pre-industrial levels.⁸ Warming of this severity is expected to cut wheat yields by half.⁹ Wildfires, which have already burned 34,000 ha of wooded land since 2011, are projected to consume 140,000 ha of Tunisian forests by 2030.¹⁰ Variable precipitation often results in flash floods that cause human and property losses. Last September for example, flash floods struck nine governorates, killed six people, 200,000 chickens, and 600 sheep, destroyed 1,000 ha of fruit orchards, and displaced more than 2,000 families.¹¹ Hot sand storms driven by climate-induced desertification are another challenge; in the space of two hours, these storms can raise the temperature by 20 °C and dump millions of tons of dust on buildings, roads, and farms in affected areas. Climate change will amplify these natural disaster risks by making the project area hotter and drier.¹²

² IFAD (2018) *Women's and Youth Empowerment in Rural Tunisia – An assessment using the Women's Empowerment in Agriculture Index (WEAI)*, International Labour Office, Taqueem Impact Report Series, Issue 11, Geneva: 2018. According to this report, two issues together – i.e. the strong traditional cultural and social norms, particularly in the rural areas, and the very tight labor market, with too few job opportunities – erode women's empowerment. These norms prevent women from engaging in many activities in the labor market because of incompatible working conditions.

³ According to the World Development Indicator 2017, labor force participation rate (age above 15 years old, modeled ILO estimate) is 24.3% for female and 70.6% for male.

⁴ Agence Française de Développement (2016) *Profil Genre, Tunisie*.

⁵ World Bank (2014) *Strengthening Governance & Institutions in MENA. Issues and Priorities in MENA Knowledge and Learning*, January 2014, Number 114.

⁶ World Bank, Think Hazard (2019) *Tunisia natural disaster risk profile* (The World Bank)

⁷ Burke M. & Hsiang S. & Miguel E. (2015), Global non-linear effect of temperature on economic production, in *Nature*, November 2015. During the last 30 years temperature increased by an average of 0.4°C per decade; the mean average temperature rose by 1.4°C in the 20th century; while in aggregate no significant change in annual precipitation was observed from 1901 to 2013, over the past 30 years average annual precipitation has decreased by about 3% (USAID, 2018, *Climate Risk Profile, Tunisia*).

⁸ World Bank (2014) *Turn Down the Heat. Climate Extremes, Regional Impacts, and the Case for Resilience* (The World Bank, Washington).

⁹ Last July, a town southwest of the project area surpassed 51 °C, a record high temperature for the African continent. Heat of this magnitude is deadly to humans, plants, and animals. It also melts infrastructure.

¹⁰ Tunisia climate adaptation profile, World Bank, 2016; comments made by Tunisian Minister of Local Affairs and the Environment, Riadh Mouakher, at the Arab-Africa Disaster Risk Reduction Conference in Tunis last October.

¹¹ International Red Crescent Society (2018) *Emergency Plan of Action Tunisia Flash Floods*.

¹² Average annual temperatures in the project area are expected to rise to 2.5 °C by 2030, 3.8 °C by 2050, and 5.9 °C by 2100 under a business as usual model (RCP8.5). Hot days will increase by 1.3 days each year between 2020 and 2040. Heatwaves will increase in duration and intensity to an estimated 14-19 days per year by 2030, 16-28 days per year by 2050, and 40-180 days per year by 2100. Average precipitation in the project area ranges from arid, 18-30mm/month in eastern Gabes and northern Gafsa, to hyperarid, 2-



6. **Climate change also threatens inclusive growth in Tunisia by disproportionately affecting vulnerable populations.** Low-income, marginalized groups lack the resources to cope with climate-induced shocks.¹³ They store their wealth in assets like livestock and housing that are exposed to the elements. Hence, MENA's poor households suffer the greatest economic losses when extreme weather strikes (i.e., heatwaves, droughts, floods).¹⁴ Absent adaptive capacity, vulnerable populations also experience severe climate-health impacts. Under a high emissions scenario, heat-related deaths in the elderly (65+ years) are projected to increase to about 56 deaths per 100,000 by 2080 compared to the estimated baseline of under 4 deaths per 100,000 annually between 1961 and 1990. Without considerable efforts made to improve climate resilience, the global risk of hunger and malnutrition could increase by up to 20 percent by 2050, as extreme weather causes deterioration in food and economic security.¹⁵

Tunisia's performances in the development of renewable energy (RE) are rather modest compared to other countries in the region (mainly Portugal and Morocco). At present, most of its substantial and renewable energy resources are under-exploited. However, in a changing international context, the Tunisian authorities are firmly committed to development of RE.¹⁶ Various types of barriers still impede the development of RE, such as: incomplete knowledge of the national RE potential; a constantly changing legal framework; an enclosed electrical power transmission network; renewable energy repurchase tariffs lower than avoided costs; generously subsidized conventional energies; and the quasi-monopoly of the public operator STEG. Removing these barriers constitutes a requirement for the subsequent deployment of RE.¹⁷ Tunisia is committed to support changes in the structure of generated energy, with a drive at increasing the share of RE, on the assumption that energy is one of the major parameters for establishing growth and agricultural production and that renewable energy and farming are a winning combination. RE technologies may provide attractive environmentally sound technology options. The modular nature of most renewable energy technologies (as they can be developed in an incremental fashion) and the low investment levels makes them particularly suitable for capital-constrained countries and would provide employment opportunities for the locals.¹⁸ In this regard, a top priority would be to find more sustainable ways of producing energy and make it accessible to farmers, for example, by applying "energy-smart food systems" i.e., low-carbon and renewable energy solutions to agriculture, to replace fossil fuels. In remote rural areas where no electricity grid connection exists, stand-alone mini-grid solutions may offer the potential to boost local economic development because of more intensive agricultural and food processing activities.¹⁹

Sectoral and Institutional Context

7. **Agriculture including forestry, fisheries and natural resources management in Tunisia contributes to less than 10 percent of gross domestic product (GDP) but remains a strategic sector to create jobs, foster food security, ensure trade balance and boost rural development.** One out of six jobs is in agriculture and, in absolute numbers, the number of people employed in agriculture by 2012 was higher than what was observed in 1998 (532,000 vs. 498,000). Agriculture employs

15mm/month in the southwestern interior. While there was no aggregate drop in rainfall over the past century, precipitate has decreased by 3% over the past three decades. All climate models project a decrease in overall rainfall of 4-22% by 2050.

¹³ Hallegatte S. et al (2016), *Shockwaves: Managing the Impacts of Climate Change on Poverty* (The World Bank, Washington).

¹⁴ Wodon Q. – Liverani A. (2014), *Impact of Weather Shocks on MENA Households*" MENA knowledge and learning quick notes series no. 128 (The World Bank, Washington).

¹⁵ World Health Organization & United Nations. (2015). *Climate and health country profile 2015: Tunisia* (World Health Organization).

¹⁶ In Tunisia, the World Bank has carried out analytical and advisory energy work on developing energy efficiency and renewable energy and reviewing energy management policy.

¹⁷ El Haddad M. (2016) *Development of Renewable Energies in Tunisia* (Konrad Adenauer Stiftung, Centre of Mediterranean and International Studies).

¹⁸ Karekezi S. & Kithyoma W. (2013) *Renewable Energy Development*, Workshop for African Energy Exports on Operationalizing the NEPA Energy Initiative).

¹⁹ Dubois O. et al. (2017) *Energy Access Food and Agriculture* (Special feature SEAR), The World Bank



most people in regions that have highest poverty rates and where the share of the rural population is also among the highest. In Governorates such as Gafsa and Kebili, agriculture represents more than 30% and 50%, respectively, of total employment, and even 55% and 60% in their respective rural areas.

8. **The Tunisian Government has consistently stressed the importance of oasis ecosystems to overall national development.** This is due to the significant potential of these ecosystems for job creation, biodiversity, diversification through innovative and green activities, and tourism. Oasis ecosystems are of crucial importance to food security and guaranteeing a diversified source of income for the rural population in the southern Governorates.
9. **Toward replication and scaling up of the integrated territorial development approach piloted by the successful ongoing project on sustainable management of oasis ecosystems in Tunisia.** The pilot project promoted a participatory approach which helped to develop during its preparation several tools such as: (i) the *National Strategy for Sustainable Development of Tunisian oases*²⁰ and related Action Plan²¹; (ii) *Guidelines* for the elaboration of oases participatory development plans; and (iii) the *Participatory Oasis Development Plans (PDPOs)* of targeted oases²² which were key to identify key investments. During the project implementation: (i) comprehensive monographies of all Tunisian traditional oases, providing detailed information on their localizations, physical features, biodiversity, socio-economic characteristics, and general historical profiles were developed with a comprehensive *Atlas of Tunisian oases*; (ii) a range of microprojects have been identified and implemented in a participatory manner and have had a remarkable and visible socio-economic and environmental impacts through: (a) the creation of 735 jobs; (b) the support to 104 micro-enterprise; (c) the rehabilitation of 405 ha of oases lands for the benefice of 1052 farmers; (d) the restauration of 6 linear km of drains; (e) the establishment of drainage systems; (f) the management of 290 linear meters of buried channels for the release of waste waters; (g) the improvement of irrigation systems and techniques; (h) the fight against the ravages of wild boars through the protection of an area of 172 ha to the benefit of 559 farmers, which has remarkably encouraged the practice of market gardening; and (i) the restoration of biodiversity and the improvement of oasis productivity through the acquisition and distribution of 5000 date palm discards, 16 265 fruit tree seedlings, and 1 050 kg seed. These interventions cover a total area of 96 ha benefiting to 383 farmers.
10. **Tunisian oases have always been important agricultural production, trade and cultural centers that link remote regions together, but they face a range of specific threats.** At present, traditional oases face specific threats : breakdown of land management practices; increased salinization of soils; loss of soil fertility and sand encroachment; low level of involvement of local populations, particularly women, in decision-making processes; negative competition from modern and illegal oases, and continuing loss of traditional know-how;²³ inappropriate policies and regulations; poor marketing opportunities; limited access to credit; and inheritance practices that continually subdivide land holdings and result in poor land management are additional constraints.²⁴ Furthermore, disorganized tourism development has increased the overuse of natural resources, especially water.²⁵ In addition, surrounding areas, mainly steppes with

²⁰ http://www.environnement.gov.tn/fileadmin/medias/pdfs/projet_etude/projet_GDEO/3_1.pdf.

²¹ http://www.environnement.gov.tn/fileadmin/medias/pdfs/projet_etude/projet_GDEO/3_4.pdf

²² See the PDPOs of the six pilot oases in the Appendix of Annex 2 of the PAD of the TOELP Project.

²³ In these oases, the management of water and all infrastructures is entrusted to the *Agricultural Development Groups (GDA)*, whose members are elected and renewed at regular intervals by the members of each oasis.

²⁴ Results of research carried out in Nefzaoua oases confirm that the extension of the palm groves is causing a worsening of the waterlogging of the irrigation network and the problems of soil salinity. The extension and its effects are combined with a weak individual control of the irrigations, and lead to a considerable lengthening of water distribution tower and a qualitative and quantitative degradation of the production of dates. Mekki I., Jacob F., Marlet S., Ghazouani W., 2013. Management of groundwater resources in relation to oasis sustainability: The case of the Nefzawa region in Tunisia. *Journal of Environmental Management*, 121: 142-151.

²⁵ In modern oases, private plantations cover more than a third of the total irrigated area in the oasis regions - the promoter pays for all the facilities, including planting and water



natural vegetation formations used as rangelands, are subject to increasingly heavy overgrazing, loss of biodiversity and desertification, and these processes are having a negative impact on all ecosystem services, including animal husbandry in the oases.²⁶

11. **In Tunisia, as in other MENA countries, the government and populations increasingly see that the approach of securing water supply is reaching its physical and financial limits and that a switch toward integrated *water management* is urgently needed.** As a 2007 World Bank report already pointed out, the water sector needs to tackle three types of water scarcity to reduce the region's water management problems, if water is to achieve its potential contribution to growth and employment: scarcity of physical resources, scarcity of organizational capacity within water management organizations, and scarcity of accountability mechanisms for achieving sustainable outcomes.²⁷ Only a sustainable and integrated water management system, based on solid community structures and strong institutional arrangements, will secure the long-term availability of water resources, considering the impacts of population growth, rapid urbanization and climate change. Increasing over-exploitation of ground-waters, which represents serious problems for the sustainability of oasis systems, is related to the illicit exploitation of collective lands systems, where water is technically accessible at low cost and potential economic benefits are high.
12. **The proposed operation is in line with the Government's development vision and reform agenda** set out in the *Strategic Guidance Note* (which lays out the Government's economic and social vision for the country, placing strong emphasis on the importance of the private sector for boosting job creation and driving inclusive and sustainable economic growth); the *Government's Economic and Social Roadmap for 2018-2020*; and the *Five-Year Development Plan* for 2016-2020. The five-year plan launched in 2016 (called *TUNISIA 2020*), aims to achieve an annual growth rate of over 4 percent by 2020. It defines a new vision of social and economic development based on highly qualified human resources and first-class infrastructure. This plan aims to have a significant impact on the agriculture sector and rural development: (i) improvement of Tunisian farmers income and modernization of farms; (ii) contribution of the agricultural GPD; (iii) Strengthening agricultural production; (iv) creating jobs in rural areas; and (v) Improving national food security.²⁸
13. **This operation will strongly support recent sectoral policies and strategies**, namely: (i) *Strategy for Sustainable Development of Oasis Ecosystems* (2015) and its *Plan of Action*, which is based on the principles of territoriality, integration and participation of all stakeholders as well as the empowerment of local operators' organizations; (ii) strategies, plans and action plans arising from the strategic development study of the greater southern region, 2015-2035 elaborated by the *South Development Office*; and (iii) the *National Strategy for the Green Economy*, particularly with regard to the following objectives: efficient agricultural development in the use of natural resources (axis 1); integrated waste management for the improvement of the living environment (axis 3); and the development of an economy less dependent on fossil fuels (axis 5); and the promotion of sustainable tourism (axis 9); as well as recent legal texts concerning eco-tourism and background studies aimed at defining the Tunisian strategy for eco-tourism. The project further contributes to the voluntary commitments of Tunisia as signatory of the *United Nations Convention to Combat Desertification* (UNCCD) and Tunisia's *National Action Program for Combatting Land Degradation*. In addition,

²⁶ The oases have experienced a clear expansion of their area since the beginning of the implementation of the Southern Water Master Plan (PDES, 1975) and the successive water resources strategies 1990-2000 and 2001-2011. Their areas have thus increased from 16 720 ha in 1974 to 31 500 ha in 1993 and currently reach an area of 40 803 ha. This increase is related to the initiative of the State through the numerous projects of modernization of hydraulic infrastructures, but also thanks to the private initiatives by the creation of new plantations with oasis monoculture specialized in the production of dates var. Deglet Nour, outside the regulatory framework in the mobilization of new water resources, through illegal drilling.

²⁷ World Bank (2007) *Making the Most of Scarcity. Accountability for Better Water Management on the Middle East and North Africa* (The World Bank, Washington DC).

²⁸ *Tunisia 2020. Road to Inclusion, Sustainability and Efficiency* (www.aicc.ie/sites/jaicc.test.drupal.web.ie/files/TUNISIA2020.pdf)



to counter the deterioration of national energy independence, the country has just adopted an *Energy Transition Strategy (2017-2020)* through the capitalization of renewable energies (photovoltaic energy) available in the country.

- ✓ The government of Tunisia has been progressive in addressing climate change issues compared to its neighboring countries. In the Constitution, the new climate clause under Article 45 obliges the state to guarantee “a sound climate and the right to a sound and balanced environment,” and to “provide the necessary means to eliminate environmental pollution.” The opening preamble also notes “the necessity of contributing to a secure climate and the protection of the environment.”
- ✓ The *Ministry of Local Affairs and Environment (MALE)* has adapted various plans to address climate change impacts; the *Tunisia National Determined Contributions*, submitted to the UNFCCC in 2015, address mitigation, vulnerability, and adaptation challenges; the government has also worked with the World Bank and the United Nations to conduct analyses of Tunisia’s climate as well as to identify adaptation measures and objectives to reduce its carbon footprint (one of the government’s strategic objectives is to reduce the economy’s 2012 carbon intensity by 60 percent by 2050).
- ✓ The government has also prioritized wastewater management to combat existing and projected water scarcity, establishing the *National Water Council* in 2013 to update national water policies and strategies. *Clean Development Mechanisms (CDM)* projects have also been put in place to achieve emissions reduction.²⁹

14. **The Project aims to safeguard, protect and develop Tunisian oases ecosystems**, well known for their rich and unique biodiversity, landscape, cultural and civilizational background. It will keep existing oases ecosystems as a cradle of Tunisia southern civilizations and fulfil their multiple economic, social and environmental roles.

Relationship to CPF

15. **The proposed project is aligned with the *Country Partnership Framework (CPF) (2016-2020)*, re-validated and extended through the *Performance and Learning Review (PLR)*.**³⁰ It will support Pillar 1 (strengthening economic and fiscal management and improving the business environment) through improved economic growth of oases products and services. It will also support Pillar 2 on reducing regional disparities by increasing economic opportunities and job creation in the southern country governorates, and Pillar 3, by promoting increased social inclusion by targeting specifically women and youth and improving their livelihood with the aim of helping to build greater citizen trust and promoting skills development, transparency and accountability.

16. **Contribution to the World Bank Strategic Goals and MENA strategy.** The project will contribute to ending extreme poverty and bosting shared prosperity in a sustainable manner in Tunisia’s lagging regions. It will also support the MENA strategy by contributing to renewing the social contract through promoting a new, bottom-up development model in these regions, with more effective and responsive public services that focus on poor and vulnerable people and promote private sector development.

17. **Global Environmental Benefits (GEBs).** By investing in techniques that improve soil fertility and agricultural productivity, and giving special attention to the conservation and promotion of food products from oasis agricultural biodiversity, the Project will improve the sustainability of oasis ecosystems in terms of: (i) *land degradation*: by improving agro-ecosystem goods and services, and reducing their vulnerability to climate change and other human-induced impacts,

²⁹ USAID, 2018, *Climate Risk Profile, Tunisia*.

³⁰ Since the PLR, two new objectives around public-private partnership (PPP)/public investment and connectivity have been added. In addition, the PLR extends the CPF implementation period by one year due to the complex political and socioeconomic context, and in particular: the Presidential and Parliamentary elections scheduled for 2019, and the slower than expected progress in Tunisia’s economic transition process.



contributing toward land degradation neutrality (LDN), and promoting conservation and sustainable use of biodiversity in production landscape; and (ii) *biodiversity*: by maintaining globally significant biodiversity, mainstreaming biodiversity across sectors and addressing direct drivers to protect habitats and species.

18. **Climate resilience.** The project will contribute to increasing the resilience of Tunisian oasis ecosystems to droughts, climate variability and climate change through improved water management practices. It will also support innovative ways of reducing fossil fuels and promoting use solar and wind power.
19. **Sustainable Development Goals (SDG).** The project will contribute to the overall sustainable development goals and will support Tunisia towards its implementation in oases communities. The project will notably contribute to SDG target 15.3 “by 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world”.
20. **Citizen engagement and gender.** Citizen engagement is at the core of the proposed project. Local stakeholders will be closely associated to and supported for the design and implementation of their oasis development plans. The project will explicitly support the engagement of all stakeholders and beneficiaries through consultative processes and engagement in local-level planning to elaborate and adjust the approach, thus contributing to achieving project outcomes and sustainability. Feedback mechanisms will be developed to ensure transparency, accountability, and learning, as well as a continuous dialogue with local-level beneficiaries and other stakeholders. The *gender dimension* will be captured through awareness raising activities and women’s empowerment in improving local livelihoods and engaging in or scaling up of local productive activities: agriculture should be considered not only as a strategic sector to create jobs, but also as a sector to drive up the female and youth employment.

C. Proposed Development Objective(s)

To strengthen integrated management of oasis landscapes in targeted governorates³¹ in Tunisia.

Key Results (From PCN)

21. The PDO-Level Results Indicators are the following:

- Areas of traditional oases where improved water and land management techniques have been adopted, as a result of the project (Ha);
- SMEs with improved access to national and international markets, as a result of the project (percentage);
- Target beneficiaries with rating “Satisfied” or above on project interventions (disaggregated by sex, age (15-35) (percentage).

D. Concept Description

22. **The theory of change of the proposed project** focuses on developing adequate level of government services and infrastructure for the sustainable and integrated management of oases landscapes. With remoteness, coordination failures, and poor access to markets and credit, these factors constitute key longstanding constraints to private investment and entrepreneurship, thus inhibiting sustainable growth of these regions. This project seeks to address some of these constraints by supporting the intensification of localized sustainable production and improving market

³¹ The targeted governorates are: Gabes, Gafsa, Kebili and Tozeur



access for the beneficiary group (i.e. the local bottom 40 percent), while reducing pressure on the overall fragile oasis landscape of these lagging regions. Through improved oasis landscape management in targeted regions, the project aims to shift the incentives towards a win-win situation by improving incomes for beneficiaries, while simultaneously regenerating agricultural, and pastoral areas of the southern region. Oasis ecosystems including rangelands have high potential for addressing rural economic diversification and employment creation needs through the promotion of ecotourism customized to their specific characteristics, fragility, and the diversity of their natural, human, and cultural resources.

23. **The proposed operation will set up a holistic and integrated territorial approach for transformational change leading to inclusive development, shared growth and sustainable development of oases ecosystems.** Indeed, these ecosystems will be resilient to climate change only if the equilibrium between their natural resources and human communities is maintained. The sustainability of these areas depends largely on the proper use of the available water, soil and biodiversity resources.
24. To achieve its objective, the Project will mobilize key social actors through a comprehensive and participatory approach to balance priorities between conservation, adaptation and socio-economic development. This will be in line with the Tunisian Constitution - which calls for decentralization and participatory management of natural resources at the local level - and with the south development office (ODS) strategy and action plan 2015-2035 for southern region development which focuses on the crucial importance of the territorial development approach for the development of this region. The Project will foster participatory, bottom-up integrated territorial planning in oasis ecosystems,³² in order to: spur economic growth; improve water resource management and raise agricultural land productivity; promote land degradation neutrality; foster biodiversity; contribute to climate change mitigation and adaptation; and improve local livelihoods. The approach will require accompanying initiatives to support institutions at all levels, improve regulatory frameworks, and to institute a legal environment conducive to participation and involvement of all actors at all levels.
25. **The Project will be implemented in all of the 267 Tunisian oases**, of which 141 are considered *modern* and 126 *traditional*.³³ Tunisian oases, which shelter about 10 percent of the total Tunisian population, cover a total area estimated at more than 41,000 ha from the Mediterranean coast in the East, down to the dunes of the Grand Erg Oriental in the West and from the mountainous chain of Gafsa in the North to the Saharan dune fields in the South. Oases are mainly concentrated in four governorates: Gabes (49 traditional oases); Gafsa (7 traditional oases and 6 modern); Kebili (41 traditional and 71 modern); and Tozeur (29 traditional and 64 modern). According to their geographical situation, three types of oases have been identified in Tunisia: coastal oases (17% of the total area of the oases), mountain oases (6% of the total oasis area) and Saharan oases (77% of the total oasis area) - all including traditional and modern oases. In these four southern governorates, the 267 oases represent 9% of total irrigated land, 0.8% of the country's agricultural land, 30% of irrigated tree area, 25% of irrigated forage crops, and 10% of irrigated vegetable crops. In these oases, the areas are of the order of 41,000 ha which are spread over 54,000 plots for 50,000 farmers, i.e., an average area per plot of 0.75 ha and 0.82 ha on average per oasis.
26. **The potential direct beneficiaries of the new operation will be a population estimated at about 1,1 million people** or about 200,000 households, characterized by a constant and persistent spiral of impoverishment, due to numerous factors, such as: growing production costs; decreasing size of family land; reduced quotas of water for irrigation; worsening terms of trade for agricultural products; and downward trends of prices of agricultural products.

³² The concept of *oasis ecosystem*, which defines the living and physical components that are interacting with one another, includes also the grazing areas surrounding the oases themselves.

³³ Source : Direction générale de l'Environnement et de la Qualité de la Vie, *Elaboration d'une monographie complète des oasis de Tunisie* septembre 2015.



27. **The proposed project will directly build on lessons learned from other past and on-going projects**, which have provided their beneficiaries with sound, holistic, and sustainable solutions for generating income and implementing essential community-based development projects. Tailored and innovative approaches have created synergies that have led to positive local outcomes with regional and local governments, nongovernmental organizations and donors, have enhanced inclusiveness and representation and created a general sense of positive change in lagging regions at a time of political and civil fragility in Tunisia. Among these projects: the *Integrated Landscapes Management Project* (ILMP, P151030); the *Tunisia Oases Ecosystems and Livelihoods Project* (TOELP, P132157); the *Ecotourism and Conservation of Desert Biodiversity* in Tunisia project (P120561); the *Productive Inclusion Opportunities for Young Women and Men Project* (P158138); the *Irrigated Agriculture Intensification Project* (P160245), the *Tunisia Third Export Development Project* (edp-3, P132381); and the *Urban Development and Local Governance Program for Results* (UDLGP - P167043). Other important lessons will be drawn from the results of past and on-going operations in oasis ecosystems in other MENA countries, such as Morocco (*Integrated Coastal Zone Management Project* (P121271), Jordan (*Badia Ecosystem and Livelihoods Project* (P127861) and the *Red Sea and Gulf of Aden Strategic Ecosystem Management Project* (Djibouti, Jordan, Saudi Arabia, Sudan, and Yemen) (P113794), for their approaches supporting biodiversity conservation and sustainable economic development of fragile environments, introducing innovative ecotourism-related initiatives and providing alternative livelihood income to vulnerable communities.

28. **Promotion of Land Degradation Neutrality (LDN)**. The proposed project will promote and contribute to Land Degradation Neutrality and support stakeholders to monitor land degradation and contribute to relevant policy and capacity building. Based on SDG target 15.3 the concept of LDN was adopted in October 2015 as a target for UNCCD. It is defined as a “state whereby the amount and quality of land resources necessary to support ecosystem functions and services and enhance food security remain stable or increase within specified temporal and spatial scales and ecosystems” (UNCCD, 2015). The LDN concept was developed to encourage implementation of an optimal mix of measures designed to: (i) avoid; (ii) reduce; and/or (iii) reverse land degradation in order to achieve a state of no net loss of healthy and productive land. LDN aims to balance anticipated losses in land-based natural capital and associated ecosystem functions and services with measures that produce alternative gains through approaches such as land restoration and sustainable land management.

Components

29. The project will be organized into three components.

Component 1: Improving environmental governance of oasis ecosystems (about USD 10 million)

30. **Sub-component 1.1: Strengthening legal frameworks and supporting reforms**. The sustainable development of oasis ecosystems requires a set of initiatives aimed at formulating and validating, homogeneous and complementary laws and regulations in the field of natural resource protection and at defining the conditions for their promulgation and enforcement. Within the context of oasis ecosystems, key regulatory, administrative and legal reforms will be particularly related to: defining guidelines aimed to inform public policies, national programs and regulatory frameworks on biodiversity and ecosystem values; control of groundwater withdrawals; control of urban encroachment on oasis ecosystems; support LDN target setting and monitoring of land resources and land degradation, prohibition of the extension of palm groves in fragile zones and of carrying out illicit drilling; control of cultural techniques of palm cultivation - especially in terms of irrigation (optimal dose and frequency), mineral fertilization and phytosanitary protection); control of the quantity of water used by touristic facilities; legal empowerment of local users' associations



in decision-making; strengthening of the whole value chain system of oasis products; and socially acceptable and environmentally sustainable eco-tourism regulations.

- 31. Sub-component 1.2 Capacity building.** A comprehensive program of sensitization, information and training will address representatives of: (i) key national institutions (such as the Ministry of Local Affairs and Environment; Ministry of Agriculture, Water Resources and Fishing; Ministry of Tourism; Ministry of Energy, Mining and renewable energies; Ministry of Equipment; etc.); (ii) regional institutions (such as the Governorate and the regional branches of technical departments) (including their extension agents and agricultural advisers); and (iii) local level institutions, such as the Agriculture Development Associations (GDAs) and other Civil Society Organizations (CSOs).
- 32. Sub-component 1.3: Territorial development planning.** The proposed operation will support a comprehensive territorial development planning aimed at realizing economic, social, cultural and environmental goals. This will be achieved through the development of spatial visions, strategies and plans (based on diagnostic studies and participatory assessments that would be conducted during the Project preparation phase), and the application of a set of policy principles, tools, institutional and participatory mechanisms and regulatory procedures, in order to take into account all the components of oasis ecosystems. Particular attention will be given to the social, socio-cultural, socio-economic, ecological and heritage features of the oases and the interactions and interdependencies between them. This planning process will be key to promote land use decisions based on an assessment approach taking into account land potential, land condition, resilience; social, cultural and economic factors and their impacts, including consideration of vulnerable groups and gender; participation of relevant stakeholders representing key land uses and land governance systems in the intervention area/landscape.
- a) *Oasis populations* will be supported to elaborate - in partnership with local authorities and line departments officials – an *Oasis Participatory Development Plan* (PDP), a key tool aimed at delivering global environmental benefits, economic growth and social development across several focal areas (see Component 2 below).
 - o GDAs of the 126 traditional oases will be supported to actively define their vision of development and the management of their ecosystems and will identify and submit specific subprojects, developed and approved under the PDPOs, related to water and agricultural land management, biodiversity, energy, livelihoods, and eco-tourism (these subprojects will eventually be selected through a transparent competitive process).
 - o Micro, and small and medium enterprises (MSMEs) of the 141 modern oases will be supported to define sub-projects tailored to their needs and priorities, particularly in order to better process local products, reinforce marketing and commercialization activities, and develop eco-tourism activities.
 - b) *Local administration and local actors* will be supported to promote, plan and implement measures contributing to land degradation neutrality in traditional and modern oases, promoting the LDN principles – avoiding, reducing and reversing land degradation
 - c) The proposed Project will provide additional financing to line departments to directly upgrade key *infrastructure and facilities* reflecting local needs and priorities that, though not necessarily included in the PDPOs, will improve access to socio-economic opportunities by local stakeholders, and enhance the quality of their life.

Component 2: Fostering sustainable investments in oasis ecosystems (about USD 80 million)

- 33.** This component will ensure that productive oasis lands are embedded within landscapes, which provide ecosystem services in a sustainable manner and protect the natural ecosystems and soil on which they depend. A holistic, system-wide approach will aim at integrating both horizontal (water, land and other natural resources) and vertical (food value and supply chain) dimensions. A range of entry points, identified and defined through a bottom-up, participatory



approach, will meet national priorities to transform food and land-use systems in a manner that generates multiple global benefits. Furthermore, the approach will contribute to the creation of an environment conducive to large-scale restoration of degraded oasis ecosystems landscapes for sustainable production and ecosystem services, contributing to land degradation neutrality in Tunisia and supporting Tunisia's commitment to the National Action Program to Combat Desertification and based on investment designed to scale-up and out best practices. In this frame, mitigating measures for potential leakage (negative offsite effects as opposed to positive spillover effects) beyond the project area will also be considered. While some investments will be implemented at the governorate level and will benefit all stakeholders, this component will also provide financing grants to support strategic and technically feasible investments (subprojects) that emerge from PDPOs. Activities are exclusively related to water, soil and agriculture improvement and rangeland management, livelihoods diversification, and renewable energy and small infrastructure. The Project Operational Manual will spell out funding mechanisms, eligible investments, eligible project promoters, and evaluation and performance criteria. The main objective is to foster sustainable regional investments and economic growth through the provision of co-financing grants. These grants will in turn finance the acquisition of goods, technical assistance, infrastructure improvement, technical studies, and training. The direct beneficiaries of this component are local communities, farmers, and their organizations.

34. Strategic investments (subprojects) that emerge from territorial planning (particularly from PDPOs) will be supported to sustain key entry points.

35. Sub-component 2.1: Sustainable Water and Land Management practices and biodiversity conservation.

A key entry point of the proposed operation will be the improvement of the economic profitability of the oasis agro-ecosystem through a range of interrelated activities focusing on climate-smart and sustainable agriculture, water saving and soil biodiversity conservation and use:

- ▶ **Climate-smart and sustainable agricultural practices** will be built upon the principles of sustainable agriculture, with global benefits in terms of reduction of CO₂ emissions, while sequestering soil organic carbon through sustainable soil management, as well as conservation of biodiversity, and will maintain essential services provided by oasis ecosystems, promote climate change adaptation and mitigation and contribute to land degradation neutrality. The Project will support the restoration, management and preservation of agricultural lands and the conservation of traditional farming techniques with the introduction of new and adaptive innovative cultivation modes - organic farming and biodynamic agriculture, fertirrigation³⁴ and *the improvement of rangeland management* by:
 - ▶ (Re)introducing different forms of more or less temporary rotational grazing, i.e., a management system based on the subdivision of the total grazing area into a number of enclosures to be used successively (for resting and natural regeneration) to ensure the spontaneous biological recovery of the degraded native vegetation and the regeneration of the species of high pastoral value to improve the forage production);
 - ▶ Reseeding of palatable species and replanting of fodder shrubs/trees;
 - ▶ Fostering genetic improvement of livestock breeds;
 - ▶ Selecting breeds that makes efficient use of available natural resources;
 - ▶ Optimizing herd size and composition;
 - ▶ Supporting integrated crop-livestock management;
 - ▶ Making optimal use of resources, whereby the manure from livestock is used to enhance soil fertility, and by products (grass weeds and processing waste) are used as supplementary feed for livestock.³⁵

³⁴ Fertirrigation is the injection of fertilizers, soil amendments, water amendments and other water-soluble products into an irrigation system.

³⁵ For a cartography of pastoral resources and ecosystems in Tunisia, see : A. Ferchichi & N. Ayadi (2014) *Inventaire analytique sur les techniques*



Land degradation neutrality (LDN)

Interventions will follow the systematic approach for achieving land degradation neutrality – avoid land degradation, reduce land degradation and reverse land degradation through sustainable land management practices. The sustainable management of productive landscapes will address the complex nexus existing between local livelihoods, land degradation, climate change and environmental security. Key aspects of the new *paradigm shift to land degradation neutrality* will be the following: promotion of diversified agro-ecological food production systems; sustainable management of grazing areas surrounding the oases; reduction of widespread soil erosion; and integrated landscape management with particular attention to rangelands and livestock production in view of their effects on natural resources. Large infrastructure and facilities will aim at: Reducing on-farm costs through savings in time, labor, and mechanized machinery; increasing soil fertility and retention of soil moisture; stabilizing soils and protecting them from erosion; reducing downstream sedimentation; favoring more regular *wadi* flows and reducing flooding; and favoring infiltration of water for the replenishment of aquifers.

- ▶ **Water saving, and mastering irrigation techniques** will necessarily require both: (i) investments in *adequate water-related infrastructures and facilities*; and (ii) promotion of *innovative technical measures* among local producers. Sustainability of oases is currently threatened by: poor water balances in the management of water demand; increasing salinity of the soils as a result of the overexploitation of water resources; the absence of a drainage system; and competition between different users and/or different uses of the water resources.³⁶ The combined objective will be to: relieve pressure on oasis water; limit water loss and waste of resources - for example, through the use of drip irrigation systems, sealed water distribution channels (cemented *seguias* or buried pipelines); optimal maintenance of infrastructure and hydraulic equipment; use of unconventional water resources; desalinization methods of water; etc.
- ▶ **Soil Biodiversity Conservation** will include a set of interrelated activities with the aim of fighting the main direct drivers of biodiversity loss, namely: habitat change (loss, degradation, and fragmentation); overexploitation or unsustainable use of natural resources; degradation of the edaphic environment of traditional oases (with the gradual disappearance of the three layers of vegetation, key element of biodiversity of flora and fauna). Both large investments and community-based initiatives will rehabilitate grazing areas and sustain their biodiversity. Local production practices will be improved to be more biodiversity-positive with a focus on sectors that have significant biodiversity impacts (agriculture, tourism, and infrastructure development).

Services provided by soil organisms constitute an important resource for the sustainable management of agricultural systems. Soil organisms contribute a wide range of essential services to the sustainable function of Tunisian oasis ecosystems. They act as the primary driving agents of nutrient cycling, regulating the dynamics

adaptées pour la gestion et l'aménagement des parcours au niveau des zones désertiques (OSS/MENA-DELP).

³⁶ The main water resource mobilized in most oases is the Northern Sahara Aquifer System (NSAS), shared by Algeria, Tunisia and Libya, in a dynamic of intense overexploitation. The result is an increasing water scarcity, a deterioration of its quality and an increase in the cost of its mobilization, with, moreover, a low economic value through irrigation. Added to this are the threats of global warming and their effects on the water balance of crops.



of soil organic matter, soil carbon sequestration and greenhouse gas emission, modifying soil physical structure and water regimes, and enhancing the amount and efficiency of nutrient acquisition by the vegetation and plant health.

Technical capacity building and implementation of financial mechanisms (certification, payment for environmental services, biodiversity offsets etc.) will incentivize actors to change current practices that may be degrading biodiversity. Improving soil management and increasing soil organic matter content will generate multiple environmental and socio-economic benefits. Soil amendment will help improve plant growth and health (in this regard, organic matter amendments beneath the soil surface will be a key tool in land restoration, by helping improve plant growth and health, restoring soil water and preventing soil's salinization).

36. Sub-component 2.2: Basic infrastructure assets and energy breakthroughs for renewable energy (RE). Use of infrastructure and renewable energy sources (wind turbines, solar panel and solar farms) will create opportunities and challenges for rapid growth of low-carbon energy and will reduce dependency on fossil fuels and carbon emissions, while creating jobs at local level.

- ▶ Transformation of energy systems will promote innovation and technology transfer. RE will be considered as a vital element, as energy-related carbon emissions are the major driver of climate change. Innovation and technology transfer will be supported, with the focus on the demonstration and early deployment of innovative technologies to deliver sustainable energy solutions that control, reduce or prevent greenhouse gas (GHG) emissions.

37. Sub-component 2.3: Improving local livelihoods. Initiatives of the proposed operation will aim at improving the livelihoods of local stakeholders, increasing their social, financial, and economic capital, and creating jobs. The economic importance of oasis ecosystems lies in the production of a great diversity of *market goods and services* (agriculture, tourism, crafts, waste management practices, and the like) as well as *ecological, non-market cultural services* of local, national and global interest. The oases and their surrounding grazing areas represent the places in which and around which social and economic activities will be organized, sustaining the rural livelihoods.

- ▶ **The development of eco-tourism** in the oases and their surrounding grazing areas will be the result of a multidisciplinary strategy within the concept of *cultural landscapes*, based on the recognition of oases global identity as a 'trade mark'. The approach adopted by the proposed operation, will focus, under the leadership of specialized operators, on initiatives stressing: (i) the nexus between the promotion of eco-tourism and activities aimed at combatting poverty and improving local livelihoods; (ii) the importance of accompanying initiatives aimed at strengthening the capabilities of local actors and providing multidisciplinary training programs; (iii) the protection, restoration and re-vitalization of natural heritage as well as tangible and intangible cultural heritage and promotion of local awareness and training in cultural and natural values; and (iv) the use of new information technologies to promote oases cultural and natural heritage. Eco-tourism and handicrafts will contribute to creating employment (particularly among women and the youth).
- ▶ **Value chains** will be strengthened and developed through co-financing of activities and provision of common services. Beneficiaries, mainly private entrepreneurs, will be supported to: reach higher value-added markets; connect to bigger and better markets; improve processing of local products; reinforce marketing and commercialization activities; and develop eco-tourism activities. Specific activities – through the provision of services by specialized partner institutions - will aim to enhance access to economic opportunities and markets



of intended beneficiaries by co-financing investment in value chains. MSMEs and other producer organizations will be identified through a competitive process open to applicants using clear eligibility criteria (including the ability to create local jobs). Eligible activities will include investments needed to: (i) expand production capacity and/or improve quality in order to increase access to larger-volume and higher value-added markets; and (ii) rationalize the production process, ensure quality control, processing, transporting and marketing products, and effectively address the valuation and marketing of products.³⁷

38. **Digital and disruptive technologies** applied to agriculture, value chains, biodiversity, ecotourism and all supported activities will be promoted through the project to facilitate access to information for the promotion of oasis ecosystems products and help local stakeholders improve their livelihoods through better market connection. These technologies offer a wide range of solutions to some challenges mostly through improved information and communication processes. Disruptive technologies offer new opportunities through the availability of highly interconnected and data intensive computational technologies which can be applied to all aspects of proposed activities. It reflects a shift from generalized management of resources towards highly optimized, individualized, real time, hyper-connected and data driven management. The desired outcome of disruptive technologies are more productive, equitable and sustainable systems. They can leverage the smart use of data and communication to achieve oasis ecosystem optimization.

Component 3: Project Coordination and Management, and Monitoring and Evaluation (*about USD 10 million*)

39. This component will support the establishment and functioning of a Project Management Unit (PMU), hosted by the Ministry of Local Affairs and Environment MALE. The PMU will: ensure fiduciary management, procurement and monitoring and evaluation for overall project activities, including a monitoring system consistent Sustainable Development Goal (SDG) targets, particularly SDG 15.3 and its indicator 15.3.1 on LDN, while managing the project's special accounts; prepare consolidated annual work programs and budgets; coordinate procurement and financial management reporting; and coordinate and consolidate periodic progress reports for the project activities. The participation of all relevant stakeholders involved in the regular monitoring and validation of LDN status reporting as well as project implementation outcomes, with a particular attention to gender, will be ensured.

40. Within each of the four participating governorates (Gabes, Gafsa, Kébili and Tozeur), a *Regional Project Implementation Team (RPIT)* will be in charge, in close collaboration with all institutional stakeholders at governorate and district level, of preparing annual work programs and budgets (for submission to the PMU), executing all the activities of the project, monitoring and evaluation and procurement.

Implementation arrangements.

41. Several institutions are operating in the oasis ecosystems without consultation or coordination. While the current oases project has been implemented efficiently by the **General Directorate for Environment and Quality of Life (DGEQV)** of the Ministry of Local Affairs and Environment, due to larger size and importance of the proposed operation, the following institutional arrangements are proposed:

- a. **Steering Committee (COPIL)**, created by ministerial decision and co-chaired by the Minister of MALE, the Minister in charge of Agriculture, and the Minister of Investment, Development and International Cooperation and made up of different stakeholders, will supervise and validate all project activities;
- b. **Project Management Unit by Objectives** with dedicated staff from MALE, MARHP, and other departments will be created by prime ministerial decree and hosted in the MALE. The MALE will ensure the fiduciary

³⁷ Special partnership will be created with the ongoing Integrated Landscape Management Development in Lagging Regions Project, Tunisia ILDP (P151030).



management and procurement of the whole project activities, and it will implement the project in close collaboration with existing institutions at regional level such as the Regional Commissariats for Agricultural Development (CRDAs), the Office National du Tourisme Tunisian, and the environment regional department.

- c. **Partner institution** for supporting implementation of component 2 activities will be identified on a competitive basis. This institution will ensure the technical coordination and implementation of component 2 subprojects (small grants program for community association-based, microenterprise-based subprojects, etc.). The organization of local communities into associations or microenterprises to harness and manage the commercial benefit potential of targeted oases requires close collaboration with communities. The PCU will launch the competitive selection of the partner institution.
- d. In each Governorate, the Regional Council (RC), headed by the Governor and made up of representatives of main regional institutions and administrations, will be responsible for harmonizing the contents and partnership arrangements within the context of territorial planning;
- e. At District level (Imada): the Local Development Committee (Comité local de Développement, CLD) will be the consultative body in charge, among other things, of mobilizing partners and additional funding for the project at the local level, validating the PDPOs, ensuring the creation / rehabilitation of infrastructure and facilities in compliance with national and regional development priorities.

Duration and cost of the proposed Project

42. The duration of the proposed Project is five years. The total cost is estimated at about **USD 100 million**

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Summary of Screening of Environmental and Social Risks and Impacts

The Environmental risks, both contextual risks and potential risks induced by the project investments, are deemed substantial due to the specificity of the area of intervention. The nature of activities to be funded have mainly positive Environmental impacts. Negative Risks/impacts are mainly due to the sensitivity of the area of intervention. The main Risks/impacts of activities are mostly on water resources, Biodiversity and quality degradation of soils. The potential for cumulative impacts may exist, but they can be readily avoided or mitigated by adequate mitigatory and/or compensatory measures. The social risks, both contextual risks and potential risks induced by the project investments, are deemed moderate. Social exclusion and land acquisition are the potential risks identified. The overall purpose of the project is to enhance environmental management of oasis, sustain and if possible diversify income generating activities, strengthen resilience of oasis dwellers and reduce social insecurity; as such, the reduction of social risks is part of the project prerogatives.

Note To view the Environmental and Social Risks and Impacts, please refer to the Concept Stage ESRS Document.



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