Concept Note

Cross border programme to enhance resilience of oases ecosystems and livelihoods in the North African region

Algeria, Egypt, Libya, Mauritania, Morocco, Tunisia | OSS

20 November 2019



Concept Note

| Project/Programme Title: | Cross border programme to enhance resilience of oases ecosystems and livelihoods in the North African region |
|---|--|
| Country(ies): | Algeria, Egypt, Libya, Mauritania, Morocco and Tunisia |
| National Designated Authority(ies) (NDA): | |
| Accredited Entity(ies) (AE): | Sahara and Sahel Observatory (OSS) |
| Date of first submission/ version number: | [YYYY-MM-DD] [V.0] |
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Please submit the completed form to <u>fundingproposal@gcfund.org</u>, using the following name convention in the subject line and file name: "CN-[Accredited Entity or Country]-YYYYMMDD"



Notes

- The maximum number of pages should <u>not exceed 12 pages</u>, excluding annexes. Proposals exceeding the prescribed length will not be assessed within the indicative service standard time of 30 days.
- As per the Information Disclosure Policy, the concept note, and additional documents provided to the Secretariat can be disclosed unless marked by the Accredited Entity(ies) (or NDAs) as confidential.
- The relevant National Designated Authority(ies) will be informed by the Secretariat of the concept note upon receipt.
- NDA can also submit the concept note directly with or without an identified accredited entity at this stage. In this case, they can leave blank the section related to the accredited entity. The Secretariat will inform the accredited entity(ies) nominated by the NDA, if any.
- Accredited Entities and/or NDAs are encouraged to submit a Concept Note before making a request for project preparation support from the Project Preparation Facility (PPF).
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| A. Project/Programme Summary (max. 1 page) | | | | | | |
|---|---|---|---|--|--|--|
| A.1. Project or programme | □ Project⊠ Programme | A.2. Public or private sector | Public sectorPrivate sector | | | |
| A.3. Is the CN submitted in response to an RFP? | Yes □ No ⊠ If yes, specify the RFP: | A.4. Confidentiality ¹ | □ Confidential □ Not confidential | | | |
| A.5. Indicate the result areas for the project/programme | Mitigation: Reduced emissions from: Image: Energy access and power generation Image: Low emission transport Image: Buildings, cities and industries and appliances Image: Forestry and land use Adaptation: Increased resilience of: Image: Most vulnerable people and communities Image: Health and well-being, and food and water security Image: Infrastructure and built environment Image: Ecosystem and ecosystem services | | | | | |
| A.6. Estimated mitigation impact (tCO2eq over lifespan) | | A.7. Estimated adaptation impact (number of direct beneficiaries and % of population) | | | | |
| A.8. Indicative total project cost (GCF + co-finance) | Amount: USDTBD | A.9. Indicative GCF funding requested | Amount: USD TBD | | | |
| A.10. Mark the type of financial instrument requested for the GCF funding | ☑ Grant □ Reimbursable grant □ Guarantees □ Equity □ Subordinated loan □ Senior Loan □ Other: specify | | | | | |
| A.11. Estimated duration of project/ programme: | a) disbursement period: b) repayment period, if applicable: | A.12. Estimated project/ Programme lifespan | This refers to the total period over which the investment is effective. | | | |
| A.13. Is funding from the Project Preparation Facility requested? ² | Yes ⊠ No □ Other support received □ If so, by who: | A.14. ESS category ³ | □ A or I-1 ⊠ B or I-2 □ C or I-3 | | | |
| A.15. Is the CN aligned with your accreditation standard? | Yes 🛛 No 🗆 | A.16. Has the CN been shared with the NDA? | Yes 🗆 No 🖂 | | | |
| A.17. AMA signed (if submitted by AE) | Yes ⊠ No □ If no, specify the status of AMA negotiations and expected date of signing: | A.18. Is the CN included in the Entity Work Programme? | Yes 🗆 No 🛛 | | | |
| A.19. Project/Programme rationale, objectives and approach of programme/project (max 100 words) | The Sahara is the largest hot desert in the world, one of the harshest environments on Earth, covering nearly a third of the African continent. This area is being impacted by Climate change and natural climate cycles which contribute to its expansion. Moreover, this vast region has unique cultures and ecosystems whose communities possess valuable knowledge adapted to arid environments. These systems are under threat from climate change, poorly planned urban and tourism development and over-use of natural resources, but a climate-resilient land and water use and renewable energy provide growth opportunities. The proposed programme will seek to scale-up national initiatives and promote cross-country collaboration to support climate-resilient development of Oases-landscapes based economies and cultural heritage in North Africa. This | | | | | |

¹ Concept notes (or sections of) not marked as confidential may be published in accordance with the Information Disclosure Policy (<u>Decision B.12/35</u>) and the Review of the Initial Proposal Approval Process (Decision B.17/18).

 ² See <u>here</u> for access to project preparation support request template and guidelines
 ³ Refer to the Fund's environmental and social safeguards (<u>Decision B.07/02</u>)



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programme will build capacity to deliver services for 6 north African Countries. The AE (OSS) will assemble a range of partners, including the governmental institutions and NGOs acting within the region while involving the targetted communities into activities to bolster their resilience and sustain the planned actions.

B. Project/Programme Information (max. 8 pages)

B.1. Context and baseline (max. 2 pages)

North Africa countries are predominated by hyper to arid desert climates, characterized by extremes in daily high and low temperatures, with hot summers and cold winters, and little rainfall approximately 200 to 400 mm per year for semi-arid regions and less than 100 mm per year for desert regions. This region emerges as one of the hotspots for worsening extreme heat, drought, and aridity conditions. Warming of 0.2°C per decade has been observed in the region from the 1961–1990, and since then the region is warming at an even faster rate. Torrential downpours during the rainy season can cause devastating flooding (e.g. such as recorded floods in 2017 in Tunisia), and droughts occur frequently in the dry inland regions, sometimes lasting for years at a time. An important distinctive climatic feature is the Sirocco, a hot, dry, southerly wind that occurs year-round. Siroccos are typically strongest in the spring when they can reach gale force strength (defined as sustained wind speeds of 34 to 47 knots). Wind events generally last 10 to 12 hours, but events as long as 36 hours have been observed. The region is most exposed globally to climate change where mean annual temperatures in the oases' areas are already 1.6 degrees higher than in pre-industrial times.

In the region, oases are isolated areas representing around 380,000 ha with reliable water supply from lakes and springs located in hyper-arid and arid zones. The oasis microclimate allows the existence of an important vegetable diversity, itself a source of great animal diversity. Indeed, the presence of date palms allows other crops to exist by acting as a windbreaker, providing shade and reducing the degree of dryness of the air, thus creating a microclimate (OSS, 2014). Thereby, oases are the best place to live in the desert region. Oases are classified according to several criteria, mainly based on their agricultural production system, into mono-cultural oases (modern oases) and multi-cultural oases (traditional oases). Traditional oases are characterized by a great diversity of crops and agricultural production, which explains the oasis flora diversity. This diversity depends on the number of the levels of crops practiced of multi-crop oases characterized by three levels. The highest level is mainly composed of date palm trees, under which two-levels: fruit trees cultures (apricots, fig, lemon, peach, pomegranate...) and market gardeners or fodder (radishes, carrots, beans, melons, watermelons, celery, pumpkins, potatoes) are cultivated. This specificity of the traditional oases has led to the recognition of Siwa Oases in Egypt (traditional oases) as an important World Agricultural Heritage Site (GIAHS) by FAO as in situ repositories of plant genetic resources, in particular, fruit tree varieties (FAO, 2016). In addition, the importance of oasis traditional agricultural systems of the Maghreb region, which is targeted by this programme, in the struggle against climate change deserves to be highlighted. These ecosystems composed by three levels of culture are recognized by a high potential for sequestering greenhouse gases (carbon sinks), compared to other mono-culture ecosystems.

The impacts of recent climate change are difficult to separate from the consequences of other change processes, however, climate change is projected to have substantial and complex effects on oasis areas. The last IPCC report of 2019 has forecasted a decrease or even eradication of many local species that depend on cool winters due to higher temperatures in winter (increasingly rare winter cold), which will slowly reduce the economic prospects for the production of these species and the loss of a vegetable genetic heritage. The impacts of temperature increases are already apparent. Between 2004-2005 and 2012-2013, high-mountain oases of AI Jabal AI Akhdar in Oman lost almost all fruit and nut trees of temperate-zone origin, with the abundance of peaches, apricots, grapes, figs, pears, apples, and plums dropping by between 86% and 100% (Al-Kalbani & al., 2016). This phenomenon is likely to occur in North Africa, given the climatic and ecosystemic similarities between the two regions. While many oases have persisted for several thousand years, many others have been abandoned, often in response to changes in climate or hydrologic conditions, providing testimony to societies' vulnerability to climatic shifts and raising concerns about similarly severe effects of anthropogenic climate change (Jones & al., 2019). Although many oases are cultivated with very heat-tolerant crops such as date palms, even such crops eventually lose in their productivity when temperatures exceed certain thresholds or hot conditions prevail for extended periods. Lelivied and al, 2016, confirms through the climate simulations and scenarios they have applied (RCP4.5 and RCP8.5), the fact that the climate changes (temperatures, heat waves, dust storms, and decreasing rainfall) that are taking place in North Africa have strongly destabilized these regions. These changes threaten food production, pushing tens or even hundreds of millions of people to emigrate by the end of the 21st century. Indeed, the temperatures in summer will increase in North Africa, not only up to twice as fast as the average for the planet but perhaps by a factor of two. Even if this increase is maintained at 2°C, temperatures in summer (annex 1), on some days, may not drop below 30°C at night and reach 46°C during the day. Above all, while between 1986 and 2005, it was very hot for an average of about 16 days, this number could rise to 80 around 2050 and more than 100 around 2100. Researchers also predict an increase in heat waves, perhaps by a factor of 10. Especially in the desert, dust in the atmosphere over these regions has increased to 70% since the beginning of this century and that this should continue, raising air pollution at the same time.



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Oasis agriculture has long been the only viable crop production system throughout the hot and arid regions. Oases in hyper-arid climates are usually subject to water shortage as evapotranspiration exceeds rainfall. This decrease is the result of a succession of droughts over the past few decades. These droughts have resulted in a drawdown of groundwater, above all, the drying up of many khettaras (traditional irrigation system) from which the palm groves are fed. The other cause of water resource depletion is the overexploitation of aquifers through the uncontrolled multiplication of pumping. Urban development near oases creates competition for water at the expense of the needs of the palm grove. The multiplication of individual private pumping on the periphery of the former palm groves to free itself from the collective rules and constraints of water use can also lead to a progressive drying up of the water supply of the traditional oasis and cause its decline (this is the case of Tafilalet in Morocco or the wilaya of Adrar in Algeria). This often causes salinization of soils. Similar processes of salinization are also occurring in the oasis areas of Egypt due to agricultural expansion, excessive use of water for irrigation and deficiency of the drainage systems (Abo-Ragab, 2010; Masoud and Koike, 2006).

Water resources have already declined in many places and the suitability of the local climate for many crops, especially perennial crops, has already decreased. This decline of water resources and thermal suitability of oasis locations for traditional crops is very likely to continue throughout the 21st century. By the 2050s, the oases in southern Tunisia are expected to be affected by hydrological and thermal changes, with an average temperature increase of 2.7°C, a 29% decrease in precipitation and a 14% increase in evapotranspiration rate (Ministry of Agriculture and Water Resources of Tunisia and GIZ, 2007). The use of fossil groundwater to create new, more intensive modern date palm plantations whose production is intended for the domestic and export markets also represents a significant ecological risk insofar as the deep pumping in these groundwater bodies exploits a non-renewable resource (the case of the Continental Interlayer Groundwater in the Maghreb).

Water supply is likely to become even scarcer for oasis agriculture under changing the climate in the future than it is today, and viable solutions are difficult to find. The population growth and agricultural expansion in many oasis settlements are leading to substantial increases in water demand for human consumption (Al-Kalbani et al., 2014). For example, a large unmet water demand has been projected for future scenarios for the valley of Seybouse in East Algeria (Aoun-Sebaiti et al., 2014). Modelling studies have indicated long-term decline in available water and increasing risk of water shortages, e.g. for oases in Morocco (Johannsen et al., 2016; Karmaoui et al., 2016).

The maintenance of the oasis systems and the safeguarding of their population's livelihoods are currently threatened by continuous water degradation, increasing soil salinization, and soil contamination. In the coming years, the people living in oasis regions across the North Africa will face challenges due to increasing impacts of global environmental change. A new approach that supports biodiversity conservation as well as improved livelihoods of oasian communities is required. This will concern particularly addressing the trade-offs between environmental restoration and agricultural livelihoods. Sustainability in oasis regions will depend on policies integrating the provision of ecosystem services and social and human welfare needs.

Programme relevance to national priorities:

This program contributes directly, through its activities, to the achievement of the objectives of the various regional and national priorities. At the regional level, the program is in line with the priorities set out in the Maghreb Environment Charter of 1994 established and being updated by the Arab Maghreb Union (UMA), which aims to strengthen cooperation around the ecosystem management such as oasis, forests, etc... as well as the strengthening of national structures in charge of natural resource protection and management.

Algeria

Water management, fight against erosion and desertification, protection and rehabilitation of steppe lands are among the main climate change adaptation measures that appears in the National Climate Plan (**PNC**-2025), which constitutes also the country's the Nationally Determined Contribution (**NDC** - 2030). The program activities are consistent with these measures as well as the National Strategy for the Environment (**SNEDD** 2017-2035) and its first action plan (**PNAE-DD** 2017-2022) which aims to protect oasis areas by regulating pumping and rehabilitating traditional irrigation systems, stop desertification by introducing a suitable rangeland management system, and protect oases against domestic waste, salinization...etc.

Egypt

Agriculture and groundwater in rural areas including oases appear as priorities measures proposed in the **NDC** which aims, among other at increasing the efficiency of irrigation water use, while maintaining crop productivity and protecting land from degradation. The program activities are in line with these priorities as well as one of the objectives of the Sustainable Agriculture Development Strategy (**SADS**-2030) towards 2030, which aims at increasing the efficiency of water conveyance and distribution systems, as well as increasing the efficiency of on-farm irrigation systems.

Libya

The Libyan Government places significant importance towards integrated rural development, income generating activities from agro-ecosystem services and conservation of natural resources including oases areas. Developing rainfed



agriculture in order to raise the efficiency of the available areas and the expansion of irrigated agriculture in the oases are priorities of the Agriculture Development Plan 2010. The implementation of the project activities will contribute to the achievement of these objectives as well as to the objectives of the National Strategy for Sustainable Development 2008.

Mauritania

The program is part of the agenda of Mauritania's goals for adaptation by 2030 (**NDC**), which aims among other; the restoration of natural pastures; the strengthening of the vulnerable population resilience to CC, particularly in rural areas and the building of 2000 small isolated drinking water supply networks in rural areas equipped with solar energy. As defined in the **NAPA-2004**, water control in oasis areas and the promotion of water-saving techniques in these areas are considered as national priorities. This program, through its components on concrete adaptation actions, will contribute to these priority actions. According to the **TNC-2014** to the UNFCCC, the natural ecosystems of the southeast Wilayas are considered as the most vulnerable ones. The activities planned under the program will contribute to the second Axis of the national strategy for sustainability development (**SNDD**, 2017-2021).

Morocco

The CC Policy in Morocco (**PCCM20**) established by the 2030 horizon is based on six strategic cross cutting pillars, including the improvement of CC knowledge and observation in the field, the prevention and reduction of risks of CC and the consideration of territorial specificities and the active involvement of local and regional authorities. The proposed program is in perfect coherence with these strategic cross cutting pillars of the PCCM. The program is consistent with the **NDC** as regards the implementation of the Paris Agreement and is part of Pillar II of the Moroccan Green Plan (**PMV**). The PMV-Pillar II aims to substantially improve the income in order to achieve economic development, escape from poverty, food security and stability, which also requires consideration of the sustainable management of the environment and natural resources within desert ecosystems and mainly oases. In addition, this program is in perfect alignment with the oasis development and development strategy and related programs objectives, especially the main point based on water resource management.

Tunisia

The program is consistency with the sustainable development strategy of the oases in Tunisia (**SDDO**-2015), which suggests the ecological preservation of the oasis ecosystems and the safeguarding of their socio-economic, socio-cultural and historical capital. This program, will contribute to the implementation of the national strategy of agriculture and ecosystems adaptation to climate changes (**SAANDD-2007**) by the safeguarding of the farms threatened in particular, the oasis system which is considered as one of the greatest natural patrimony of the country.

Root causes and barriers to be addressed:

The proposed programme aims at addressing key factors that are not only hampering the protection and developed the resilience of oases ecosystems on the effects of climate change, but also threatening their very survival.

The absence of holistic and integrated adaptation and mitigation approaches has resulted in different forms of political and economic marginalization.

Based on the ecological status of the oasian ecosystem, the local populations' resources and the global vulnerability to climate change, the proposed programme will contribute to addressing several barriers and main root causes that have led to an important level of degradation and vulnerability of the Oasis in North Africa.

These barriers are as follows:

- Institutional /regulatory:
 - Legislative and regulatory frameworks of most countries in the region do not address the specificity of these areas and national development plans do not integrate their particular needs and priorities linked to CC;
 - Most development initiatives have been sectorial, lacking an integrated vision capable of considering oases landscapes as a potential ecosystem and of encompassing their multiple functions to address CC effects.

• Ecological:

- Climate change amplifies water insecurity (the pressure on water resources is increasing, a decline in groundwater level, drying up of wells...), intensifies natural disaster impacts, jeopardizes public health, and degrades natural resources that are essential for development
- Social:
 - Climate changes have disproportionately affected vulnerable and low-income populations, who lack the resources to cope with climate-induced shocks (high poverty levels);
 - Loss of rural livelihoods and incomes;
 - Malnutrition and food insecurity;
 - Rural exodus;

• Genetic resources:

- Conversion of the oasis agro-system to the monoculture system, leading to the degradation of the flora and its genetic services (extinction/risk of extinction of adapted varieties,..etc);
- Abundance and multiplicity of plant pests as well as plant diseases due to the weak resilience of plants aggravate d by climate change;



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 Low crops productivity due to several reasons among which the lack of adaptive capacities of crop varieties, as well due to increase on the hot days,

• Gender:

- o Unequal access to property and land inducing to an inability to secure business loans for women;
- Lack of women participation role to be more active in the rural labor force;
- Inability for women to grown business beyond the micro-enterprise level;

• Technical:

- o High cost of purchase, installation and maintenance of the solar equipment;
- o Lack of access to information on new renewable energy technologies and innovations;
- Inadequate agricultural practices to the effects of climate change;
- Lack of storage, packaging and processing units;
- Low marketing infrastructure and incentive schemes for farmers;

B.2. Project/Programme description (max. 3 pages)

Components and activities to address the above barriers identified that will lead to the expected outcomes:

The Trans-boundary Program for Improving the Resilience of Oasis Ecosystems and People's Livelihoods in the North Africa Region is structured around three components, which will be implemented in collaboration with national authorities (the Ministries, NGOs, private partners ...) and regional organizations (Arab Maghreb Union (AMU) ...).

Component 1: Establishment of a management framework for cc-resilient oasis ecosystems at the regional and national levels.

Aims to contribute to the improvement of regulatory, institutional and technical aspects for CC-resilient oasis ecosystems at regional and national scales. To achieve this goal, a regulatory and institutional framework for the management of climate change resilient oasis ecosystems will be established and will take into account identified needs and gaps at the regional and national levels. For this, it will be necessary to put in place tools / devices for the management and protection of oases that are adapted to local, national and regional level (O1C1) and make operational an early warning system (EWS) focused on reducing the risks of climate-related-disasters such as long-lasting and recurring droughts, floods and related phenomena including palms diseases and afflictions, as well as risks related to anthropogenic interference (O2C1).

The expected results for (O1C1) will be as follows: 1. The main elements of the regulatory frameworks of the oasis ecosystems at national and regional levels are analyzed by means of a diagnosis of the legislative situation relating to the oasis area and the proposal of amendments to improve this situation. 2. The regional oasis master plan is put in place. 3. The status of oases as natural and cultural heritage is supported and the necessary actions for their registration as World Heritage are undertaken. With regard to the second Outcome (O2C1) for setting up an EWS and a climate information system, the expected results will be achieved through the following activities/steps: 1. Identification and validation of the EWS including the alert messages to be issued, the communication channels to be used and the beneficiaries as well as the system effectiveness and monitoring checklists; 2. The EWS is deployed and operational 3. The development of emergency response plans in the event of disasters.

Component 2: Enhancement of the resilience of ecosystems and oasis' populations to climate change at selected sites through adaptation and mitigation actions.

Aims to improve the resilience of oasis ecosystems and populations to climate risks in the selected sites, it is necessary to establish adaptation and mitigation activities and measures that will ensure the sustainable management and preservation of oasis ecosystems' natural capital. This is what Component 2 proposes, and this through 3 outcomes organized as follows: Outcome (O1C2) will implement adaptation measures against the CC impacts for the components of the oasis ecosystem. The results of (O1C2) will be four in number, and will act in a separate but mutually complementary way to ensure the sound management of the natural resources (soil, water, plants and animals) of the oasis system. 1. Soil, fertility will be improved and measures to combat its degradation will be put in place. 2. Water, the exploitation by the oasis system will be rationalized, thanks to the dissemination of techniques adapted to the shortage due to the extension of the dry periods (impacted hydrological cycle) and the good practices of management and exploitation of the resource. 3 and 4. Finally, rehabilitation and preservation activities will be provided for plant and animal biodiversity. Actions will be developed to fight against palm diseases, promote species and varieties adapted to CC, create zoological oasis reserves and strengthen small livestock. The second Outcome (O2C2) will develop effective adaptation measures for the benefit of the population and create alternatives for the diversification of income sources. Among the expected results of (O2C2) are the creation of alternative jobs, the establishment of handicrafts units for women and marginalized groups, and the promotion of a strategy for the development of agri-tourism (the production of biodynamic dates). The last Outcome (O3C2) will introduce mitigation measures adapted to oasis environments. The expected result for (O3C2) is to promote and integrate renewable energies in the oasis system to contribute to temperature reduction efforts through the implementation of a clean energy integration plan through the exploitation of the solar energy for pumping irrigation water in oases and the use of renewable energy in oasis houses.

Component 3: Strengthening of capacities of stakeholders, sharing knowledge and sensitizing all beneficiaries at different scales.



Will focus on building the capacity of several actors, sharing knowledge and raising awareness among all beneficiaries at different scales. The main objective of this component (O1C3) is to mobilize and sensitize the involved actors through communication and capacity building activities. The two expected results are 1. Practitioners, technicians and policy-makers are made aware and trained in the technical aspects of the programme and environmental issues and 2. The population is informed and made aware on the impacts of climate change as well as adaptation and mitigation practices proposed by the program.

Indeed, the achievement of the first result will be ensured by carrying out the following activities: 1. Establish a territorial information, awareness raising and communication strategy on the extent and imminence of the consequences of CC; 2. Organize targeted awareness raising and information sessions for decision-makers; 3. Develop EWS and CC adaptation and mitigation specific training modules; 4. Organize field visits and exchange and sharing meetings (at the regional level) on local traditional / innovative good practices in adaptation and resilience; 5. Create user platforms / databases on the exchange of local experiences and know-how. The second result is to inform and sensitize the population through the following activities: 1. Organize awareness raising and information days for the benefit of the population on the EWS, adaptation / mitigation to CC; 2. Design education modules on climate change vulnerability, adaptation and risk management; 3. Organization of socio-cultural events such as (festivals, fairs, museums ...) to promote the socio-cultural and natural heritage and the dissemination of income-generating activities that guarantee socio-economic stability at the oasis level.

The Programme's theory of change towards a climate resilient goal and low-emissions pathway can be comprehended through the proposed actions, which directly point towards a characteristic change in oasis areas and ensure their sustainable development as a cultural, social and natural heritage, capable of combating the effects of climate change by building on the sustainability of this system, which will continue to provide a refuge for vulnerable communities in the desert regions of the programme region against extreme weather conditions and to participate in the fight against the effects of climate change through carbon sequestration. Sharing information about these national and regional initiatives among countries' institutions and communities, will both enhance confidence in success, create new dynamics the Region and prepare the way for large scale projects. In terms of climate co-benefits, the emphasis on good environmental governance, a system of certification and national heritage protected status will demonstrate how vulnerable communities can protect themselves from extreme weather, water scarcity, and climate-health impacts. The programme will show that oases can be made more sustainable and resilient and can supply clean air and water, halt the spread of desertification, sequester carbon, provide residents with shade and refreshment, and soak up excess storm-water from flood events. Participatory integrated oases landscape management and community-driven development, will reduce disaster risk, speed disaster recovery, strengthen overall climate resilience. Finally, ecotourism, fruit trees, and artisanal crafts can give households a source of income generation that is less exposed to climate change.

Describe how activities in the proposal are consistent with national regulatory and legal framework, if applicable. This section will be developed following study results for next stage of the CN.

The Accredited Entity and the implementation arrangements with the executing entity(ies) and implementing partners:

The role of the OSS as the accredited entity of the programme is to bear full responsibility for the overall management of the programme, including the financial, monitoring, and reporting responsibility. Through its programme support unit, it will guide the execution of all activities of the programme, which will be carried out by the executing entities.

The Ministries in charge of Environment and Sustainable Development in each country will be the executing entity of the programme at the national level and the Arab Maghreb Union (AMU) will facilitate activities at the regional level. Synergies will be ensured with the various ministries that have competencies in the programme activities, in particular: The Ministry of Agriculture and Rural Development, the Ministry of Hydraulics and Sanitation, etc.

Overview of financial and operational risks and proposed mitigation measures:

| Category | Risk | Probability | Impact | Mitigation measures |
|-------------|---|-------------|--------|--|
| Operational | Lack of support from local administrative authorities (Governors and Sector Administrators). | Medium | Medium | This programme has been strongly requested as a response to the needs expressed by national policies makers and authorities. |
| | An absence or weak collaboration of executing partners at the regional and national levels. | Medium | Low | Implementation of an inclusive stakeholder's consultation at the early beginning of the programme documents development. |
| | Low level of cooperation between executing institutions. | Medium | Medium | The Ministries in charge of Environment that coordinate activities with the different executing agencies, shall take into account the major constraints related to the cooperation and identify in a participatory manner specific activity |



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| | | | | for each institution to ensure proper ownership. |
|-----------|---|------|--------|---|
| Financial | Allocated Budgets are insufficient to ensure the maintenance of adaptation and mitigation interventions after programme termination. | High | Medium | The programme approach based on the involvement and participation of all stakholders in all programme steps (from design to implementation) will ensure a good ownership of the programme outcomes and consequently the maintenance of the equipments. |
| | Issues to achieve the goals due to strong financial constraints limiting the investment capacities of farmers and rural population. | High | Medium | The programme will promote adaptation and mitigation based on ecosystem and green measures that are cost-effective. |
| | Delayed fund disbursements to programme sites to undertake early implementation. | Low | Low | Increased awareness to relevant institutions responsible for funds disbursement on prioritizing climate related programmes as they affect vulnerable populations. |

B.3. Expected programme results aligned with the GCF investment criteria (max. 3 pages)

Impact potential:

- Adaptation:

The programme will contribute to strengthening the adaptive capacity of a few North African oases enabling them to better resist drought, variable rainfall, extreme heat, wildfires, and other climate-induced. Improved land and water management practices will demonstrate ways to increase water availability and water quality. The underlying assumptions of this small-scale, pilot project are that: (i) participatory local planning, national heritage site inscription, and ecosystem restoration can show how to create a natural buffer against extreme weather; (ii) vulnerable communities can be made more resilient to climate change; and (iii) a range of well-defined investment can help salubrious oases supply robust ecosystem services. The operation will also support small-scale, innovative ways to reduce fossil fuels and promote the use of solar and wind power. The programme will also introduce new natural resource-based livelihoods, with a specific focus on the upliftment of women. This will be done through the assessment of climate change vulnerabilities, identification of adaptation options, institutional training, and support to the integration of climate impacts in development processes. Overall, the programme will improve the livelihoods of (TBD) in the targeted areas: (TBD) direct beneficiaries (TBD) indirect beneficiaries. These beneficiaries are smallholder farmers/pastoralists who will benefit directly from the programme support through enhanced climate-resilient agricultural practices and protection of their livelihoods.

The programme is expected to enhance the resilience of targeted stakeholders on the impacts of climate change. Conservation of agriculture practices will enable farmers to improve their productivity and yields by improving food security.

- <u>Mitigation:</u>

Mitigation potential impact will be achieved through the improvement of oasis lands management approaches contributing to emission reductions. However, the diversification and sustainable intensification of production and the ecosystem restoration via planting will increase carbon sequestration and carbon stocks. The rate of CO₂eq emissions reduction will be estimated during the development of the financing proposal. The EX-ACTE tool developed by FAO will be utilized to estimate GHG emission reduction overtime.

Paradigm shift potential

An anticipated paradigm shift is a transition from top-down, sectoral focused decision-making processes to bottom-up, participatory and integrated, territorially based decision making (local governments and communities will have a strong role to play). Another shift is towards decision making which takes into account local cross-sectoral trade-offs and synergies in territorial planning, natural resource management, the environment and economic development opportunities.

The approach proposed in this programme will promote practical innovations that use several technologies to strengthen and ensure sustainable resilience of these oases population, food security and greenhouse gas mitigation of agriculture sector. Indeed, the programme will make use of: i) good water management practices by the promotion of irrigation drip, ii) practices for soil quality improvement for crop development, iii) sharing of information for forecasting and responding



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to CC. This approach promotes a paradigm shift both at the regional and national level by combining comprehensive set of technical, governance and building capacity activities, developing an immediate investment improving the local adaptation, building transformative and adaptive capacities of rural population and by preservation of natural resources. Sustainable development potential

A shift towards local ownership and integrated planning is likely to increase the likelihood of long-term sustainability of development programs in all sectors. Economic and social benefits would result from identification of new investment opportunities, but also from increased local empowerment. The programme would seek to share knowledge on successful approaches to participation by disadvantaged groups, young people and women.

Economic co-benefits:

The component 2 of the programme will help implement activities leading to the diversification of income for oasian populations through the development of income-generating activities and the promotion of alternative production (market gardening, poultry farming, renewable energy for the micro-economy, etc.) and the improvement of other traditional crops and the enhancement and development of local products (e.g.: medicinal and aromatic plants, market garden produce, handcrafts-wickerwork, etc.). There will also be a work of labelling oasis products and a strengthening of the regional market in a framework of regional cooperation between the countries of the region.

Social co-benefits:

The number of persons benefiting from the programme in the three targeted regions is estimated at (TBD). Capacity building activities will improve the skills and knowledge of about (TBD) participants.

Awareness-raising, training and education will help change the perceptions of local communities and other actors on how their actions can improve livelihoods, while also making oases activities economically attractive.

A major benefit of this programme will be the added social stability that it will bring to these regions. The restoration of the oases' landscapes will be vital for supplementing governments' health budgets and contributing to food security. hence reducing the burden on women as well.

Gender-sensitive development impact:

The gender dimension will be taken into account in the programme through the involvement of women and youth in all activities. The programme will support women groups to proliferate gender-sensitive adaptation best practices. It will also target opportunities for women by generating income within the framework of adaptation including by exploiting the longerterm value chain of pastoral and oasian products (e.g., milk, yogurt). The programme will support women-based groups to diversify their livelihoods and income services by creating businesses to promote adaptation technologies. The resilience dimension will be considered during the implementation of production activities on farms through the use of climate-smart technology packages and awareness raising for resilient practices.

Environmental co-benefits:

Sustainable management of water resources

This programme will entail the implementation of adaptation measures such as; mobilization of the surface runoff and subsurface water, rehabilitation and proposal for improvements to traditional irrigation systems at national and regional level, highlighting relevant traditional practices in terms of water management and saving.

Improvement or conservation of soil quality

Within the programme activities soil conservation and restoration are major actions to be undertaken for the enhancement of the oasis ecosystem. Measures will be taken to reduce silting up and erosion as well as community-based dunes stabilization.

In addition, actions aiming at regenerating the oases cover by means of the reintroduction of local, indigenous plants, and afforestation with local species, which are more resilient to climate change, are planned in the framework of component 2.

Reduced Greenhouse gas emissions

The reduction and avoidance of GHG emissions that would otherwise be generated by traditional energy to meet the needs of communities for water extraction and infrastructures use in the intervention areas, will be ensured by the establishment of solar panels. Accordingly, it should also be noted that the programme contributes to climate change mitigation efforts by meeting electricity needs with solar energy.

Needs of recipients:

The development model in North Africa, based on exploitation of natural resources including agriculture and the manufacture and export of finished and semi-finished low added-value products, no longer appears able to create the conditions for sustained, high-level growth and to generate sufficient skilled and unskilled jobs for the population, especially young people. A high-level workshop held in Tunis from 10 to 11 April, was an opportunity to bring together Ministers in charge of environment in North African countries and key partners such as the World Bank and OSS. This regional meeting provided a common vision and political commitment as a response to create a regional collaboration on sustainable oases management. The congress on oases held in Tozeur (Tunisia) from 17 to 18 May 2019 was another an opportunity to involve other stakeholders among civil society actors, oases representatives, national institutions in charge of agriculture and rural development to present their real needs and expectations regarding a regional programme. The design of this regional initiative is accordingly taking into account common and specific beneficiaries' needs.

Country ownership:

Participating countries all recognize the importance of oases in broader inclusive development strategies: the operation would build not only on the pilot MENA-DELP but also on larger scale investments under preparation or under way in areas including water resource development, agriculture, tourism and renewable energy, some of which are being supported by GCF financing. The political support and commitment of all key actors involved in oasis development are factors that will ensure national ownership.



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The coherence with national priorities has been described in B.1 section as well as the current and future stakeholder engagement process.

Efficiency and effectiveness:

Estimated cost per Ton CO2eq: To be determined during the development of the financing proposal.

Financial adequacy and appropriateness of concessionally: Without the grant for the 100% of the cost the programme would not be viable since it will not generate sufficient direct revenue.

B.4. Engagement among the NDA, AE, and/or other relevant stakeholders in the country (max 1/2 page)

Commitments of the NDA, Accredited Entity and Stakeholders:

The representatives of countries representing ministries responsible for the environment, agriculture, water resources, the private sector, OSS, ANDs, NGOs, expressed the need for a programme to ensure resilience from Oasis to CC in the region. This Concept Note has been developed through a participatory process engaging NDAs, environment authorities, climate change focal points and other relevant stakeholders. The initial engagement was with all 6 MENA region countries, during which representatives and decision-makers from national institutions of countries covered by this programme expressed their interest. Accordingly, two regional consultation workshops on this programme were held in Tunis during April and May 2019 bringing together representatives of the 6 countries. At the end of these workshops, this concept note was designed and the components and expected results of a regional programme identified.

Once this concept note is accepted, the OSS, in accordance with its external communication procedure, will consult decision-makers and local populations at the level of the 6 countries to increase their awareness of the programme (involvement, refinement of activities, risks, etc.).

This approach aims to capture the expectations and aspirations of all stakeholders. As part of this process, in each country, the Ministry of the Environment will be consulted on a continuous basis for the development of the full proposal. A follow-up committee for the drafting process of the programme document will be put in place. This committee will bring together representatives of the different ministries and departments concerned.

C. Indicative Financing/Cost Information (max. 3 pages)

C.1. Financing by components (max 1/2 page)

Please provide an estimate of the total cost per component/output and disaggregate by source of financing.

| Component/Output | Indicative | GCF financing | | Co-financing | | |
|---|---------------|-----------------|-------------------------|-----------------|-------------------------|-------------------------|
| | cost (USD) | Amount (USD) | Financial Instrument | Amount (USD) | Financial Instrument | Name of Institutions |
| Establishment of a Regulatory and Institutional Management Framework for CC-Resilient Oasis Ecosystems at the Regional and National Levels | | | | | | |
| Enhance the resilience of ecosystems and oasis populations to climate change at selected sites through adaptation and mitigation activities and actions. | | | | | | |
| Strengthen the capacities of the different actors, share knowledge and sensitize all beneficiaries at different scales | | | | | | |
| Programme management cost | | | | | | |
| Indicative total cost (USD) | | | | | | |

For private sector proposal, provide an overview (diagram) of the proposed financing structure.

C.2. Justification of GCF funding request (max. 1 page)

The participating countries are middle income, with some access to domestic, private and other international sources of financing. The governments of all the countries are committed to climate adaptation and have already allocated part of their budget on combatting climate change (mitigation and adaptation). However, this is not sufficient to cover the



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estimated cost of adaptation and attenuation need, and the private sector is currently not investing enough in adaptation. GCF funding is justified by the regional nature of this operation as well as its global public good nature and potential for catalyzing sustainable investments in climate-resilient development in unique regions that are most exposed of the planet to the impacts of climate change.

As an international organization, while the OSS has strong convening power, organizational and technical capacity, it receives largely only core and operational funding from member countries and receives programme-specific funding largely through grants. Thus, this programme will support the oases and governments to meet the costs of adaptation efforts especially at the community level where other governmental and inter-governmental actors have difficulties implementing effective actions.

Describe alternative funding options for the same activities being proposed in the Concept Note, including an analysis of the barriers for the potential beneficiaries to access to finance and the constraints of public and private sources of funding.

Justify the rationale and level of concessionally of the GCF financial instrument(s) as well as how this will be passed on to the end-users and beneficiaries. Justify why this is the minimum required to make the investment viable and most efficient considering the incremental cost or risk premium of the Project/ Programme (refer to Decisions B.12/17; B.10/03; and B.09/04 for more details). The justification for grants and reimbursable grants is mandatory.

In the case of private sector proposal, concessional terms should be minimized and justified as per the Guiding principles applicable to the private sector operations (Decision B.05/07).

C.3. Sustainability and replicability of the project (exit strategy) (max. 1 page)

Programme activities are intended to build sustainability; the intention is that the partnerships will be sustained after the end of the programme, and that participating regions will continue to share success stories, best practices and lessons learned. OSS will monitor this for the years after the end of the GCF-financed programme. The knowledge platform that was already established under MENA-DELP still being supported by OSS; it will be furthermore expanded under the proposed programme and OSS will ensure the continuation of funding to support its operation and dissemination after the end of the programme. The investments whose preparation the programme will support will also be monitored for sustainability during and after the initial implementation periods.

For non-grant instruments, explain how the capital invested will be repaid and over what duration of time.

D. Supporting documents submitted (OPTIONAL)

- □ Map indicating the location of the project/programme
- Diagram of the theory of change
- Economic and financial model with key assumptions and potential stressed scenarios
- □ Pre-feasibility study
- Evaluation report of previous project
- Results of environmental and social risk screening

Self-awareness check boxes

Are you aware that the full Funding Proposal and Annexes will require these documents? Yes
No
No

- Feasibility Study
- Environmental and social impact assessment or environmental and social management framework
- Stakeholder consultations at national and project level implementation including with indigenous people if relevant
- Gender assessment and action plan
- Operations and maintenance plan if relevant
- Loan or grant operation manual as appropriate
- Co-financing commitment letters

Are you aware that a <u>funding proposal</u> from an accredited entity without a signed AMA will be reviewed but not sent to the Board for consideration? Yes \boxtimes No \square





In the Middle East and North Africa, the average winter temperature will increase by about 2.5 degrees Celsius (left) around mid-century, and in summer by about five degrees Celsius (right) if global greenhouse gas emissions continue to increase in the business-as-usual scenario (RCP8.5)