PROJECT INFORMATION DOCUMENT (PID)
CONCEPT STAGE

Report No.: PIDC286

Project Name	MENA- Desert Ecosystems and Livelihoods Knowledge Sharing and Coordination Project (P130343)
Region	MIDDLE EAST AND NORTH AFRICA
Country	Middle East and North Africa
Sector(s)	General agriculture, fishing and forestry sector (30%), General water, sanitation and flood protection sector (30%), Other industry (30%), Other Renewable Energy (10%)
Lending Instrument	Technical Assistance Loan
Project ID	P130343
Focal Area	Multi-focal area
Borrower(s)	For the Benefit of Algeria, Egypt, Jordan, and Morocco
Implementing Agency	To be determined
Environmental Category	C-Not Required
Date PID Prepared	01-Mar-2012
Estimated Date of Appraisal Completion	00000000
Estimated Date of Board Approval	02-Oct-2012
Concept Review Decision	Track I - The review did authorize the preparation to continue

I. Introduction and Context

Country Context

The Arab Spring has started to and continues to highlight the importance of promoting inclusive growth and good governance, as well as providing economic opportunities, particularly for a burgeoning youth population. Sustainable growth is a key element to ensuring that solutions to the challenges of social and economic inclusion are long-lasting, with good governance as the foundation. This suggests a paradigm shift in the Bank's work in MENA looking forward, intrinsically linking the environmental agenda to address these key thematic priorities in the region.

The MENA region is home to two of the world's largest deserts: the Sahara (4.6 million km2) and the Arabian Desert (2.3 million km2). Hence, sustaining the capacity of desert ecosystems to provide goods, services and livelihoods in an integrated manner represents a critical cornerstone for long-term development prospects in fragile deserts at local, national and regional levels. Furthermore, in MENA countries, deserts are also the areas where poverty pockets tend to be more prevalent and/or where development has lagged. At the same time, populations in these areas possess valuable local knowledge and practices that are adapted to an arid environment. Desert ecosystem goods are already being tapped for sustainable growth, namely for the generation of solar power, through concentrated solar power and other initiatives. However, other goods and services have the potential to be harnessed to further diversify growth sectors and improve livelihoods. One example is the development of ecotourism, which can provide concrete revenue opportunities for local populations and the private sector, with benefits to biodiversity conservation. Furthermore, a better understanding and development of the full value of agro-food chains specific to arid environments (such as cactus and olives) represents another example of maximizing productive and sustainable use of deserts goods and services.

To this end, the Bank, in partnership with several countries and the GEF, has recently launched the MENA-Desert Ecosystems and Livelihoods Program (MENA-DELP). This 10-15 year program aims to contribute to the enhancement of livelihoods in desert ecosystems by harnessing their value in an environmentally and socially sustainable manner so that the flow of desert goods and services can be optimized. The MENA-DELP framework seeks to maintain and improve the flow of desert ecosystem services for sustainable development in a positive feedback loop. The Program will focus on piloting enabling economic opportunities specific to deserts that integrate the health and diversity of the desert biome with the vast potential for innovative livelihood opportunities that also sustain valuable repository knowledge linked to adaptive practices. It is intended that such an approach ultimately enhance desert livelihood opportunities and increase the resilience and adaptation responses of desert communities and ecosystems to projected pressures, in particular climate change impacts The MENA-DELP is designed for multiple phases, with the first phase being a World Bank-GEF program to support investment projects in Algeria, Egypt, Jordan, and Morocco as well as knowledge sharing and coordination among these four countries , for which a US$ 21 million grant was approved by the GEF in November 2011. In this first stage, five projects are being prepared as part of the WB-GEF program.

Proposed projects in Algeria, Egypt, Jordan and Morocco would focus on pilot investments to optimize the provision of desert goods and services for enhanced livelihoods. The focus of these projects is on different production sectors, from ecotourism to agriculture to livestock management, and on improving the sustainability of these investment sthrough an integrated ecosystem management approach. Emphasis is also placed on participatory approaches, capacity building and on harnessing local knowledge.

The proposed regional umbrella project aims to enhance knowledge and experience sharing on opportunities for enhancing desert livelihoods among the four participating pilot countries. The design of this project has benefitted greatly from the lessons of MENA's shared seas programs, and shifts the focus to other shared natural resources, in this case desert ecosystems.

Sectoral and Institutional Context

Deserts encompass unique and highly adapted ecosystems that continue to provide life-supporting services to the environment and the communities that inhabit them, particularly in the MENA region. Indeed, 90 percent of the region lies within arid, semi-arid anddry sub-humid areas (Elasha, 2010). On a global scale, deserts play an important role through their regulating services namely air quality, atmosphere composition, and climate regulation. Over geologic time scales, much of the global dust in the atmosphere has originated in the world's drylands (Kropelin et al 2009). In addition, deserts impact the biogeochemistry of remote terrestrial and marine ecosystems, stretching as far as the Amazon rainforest and the Caribbean coral reefs (Global Deserts Outlook, 2006).

In terms of biodiversity, deserts are home to a rich store of endemic and highly adapted flora and fauna, with the potential to generate desert goods and services linked with several productive sectors, such as tourism and agriculture.

Tourism. The development of ecotourism could provide concrete revenue opportunities for local populations and the private sector, engendering a model in which desert ecosystem integrity is intrinsically linked with socioeconomic benefits flowing to communities. Through the tourism industry in the MENA region has been severally affected by recent events, the current changes in the region are seen as having the potential to bring enormous opportunity for a different approach to tourism development, where local communities are empowered, enabling them to better take part in tourism activities, and where a more transparent business environment increases opportunities for smaller businesses to engage in the sector (UNWTO, 2011).

Agriculture. From an agro-biodiversity perspective, farmers and pastoralists in desert areas have accumulated knowledge over generations regarding the useful attributes of different landraces, as well as seed collection and storage that have helped them cope with pests, drought, soil erosion, and other adverse environmental and climatic events.

Participatory plant breeding for the selection of drought tolerant crop genotypes has been encouraged successfully by the International Center for Agricultural Research in the Dry Areas (ICARDA) in the MENA region. This process leverages the knowledge, needs, and labor of the local community through a participatory approach to generate improved crop germplasms that are well adapted to the stressors of desert environments.

Markets for plant materials from the MENA region may also be valued for their herbal or aromatic properties or the presence of secondary plant metabolites that can be used for medicinal or other purposes. The cultivation, processing, and marketing (labeling, etc.) of such plants can add substantially to local community revenues, especially as an activity for women, and can benefit from local knowledge.

The careful use of plants in the recovery of degraded areas can also provide for forage, food, or marketable products. Barbary fig or Opuntia ficus-indica in particular, has been used for the stabilization of degraded soils, as well as livestock feed and cogeneration, and export as dyes, food, and cosmetics. Cultivation of Opuntia leverages traditional knowledge, and provides for increasing economic control in local communities, especially during drought.

The value of local community knowledge and cultural practices associated with how to adapt to an arid environment is also tremendous, particularly as countries continue to face increased climate variability and change and associated desert livelihoods are disproportionately affected.

The rainfall-constrained productive capacity of desert ecosystems ensures that the livelihoods that depend on them must be responsive to an inherent variability in both space and time – across localities, within and between years. In terms of land use and natural resource management practices, desert peoples have thus developed a range of social, cultural and technological adaptations to their arid environment. Such adaptations have resulted in sustainable land management practices, allowing for soil regeneration (e.g. terraces), as well as sustainable natural resource management practices, allowing for water harvesting and conservation (e.g. foggaras). Desert communities thus constitute a valuable knowledge repository.

New opportunities can also be tapped to harness desert ecosystem services. For example, there is an emerging opportunity to reuse byproducts from olive production, which would reduce environmental impacts of waste disposal, while obtaining value from the entire olive production supply chain. These byproducts would no longer be treated as waste, but as resources in other production systems, namely livestock feed, and use as fertilizing compost and/or for cogeneration, with additional benefits in terms of reducing livestock pressure on natural rangelands, improving soil-based carbon stocks, and replacing non-renewable energy sources in rural areas..

Natural and anthropogenic pressures on desert ecosystems

Natural deserts are not the final stage of a desertification process, but many desert ecosystems and their communities are currently under threat from natural and anthropogenic pressures, namely unsustainable land and natural resource use, and projected climate change impacts. The future of MENA desert ecosystems is certain to face increasing constraints as a direct result of decreasing

rainfall, increasing temperatures, and growing populations. Globally, these regions are likely to suffer most from climate change, and their generally impoverished populations are also the least able to deal with this change (Samson et al, 2011).

Desert margins and key production systems namely oases, rangelands and other agricultural systems constitute a hotspot for land and natural resource degradation, with common challenges across the region. In oases for example, soil salinization due to over-pumping of groundwater resources and vegetation degradation, exacerbated by sand dune encroachment or prolonged drought, represent major challenges that need to be addressed. Rangelands are currently under threat from pressures such as overgrazing, habitat encroachment for urban and agricultural development, and illegal collection, leading to exacerbated land degradation, soil erosion, and water resource depletion. Arid and semi-arid agro-ecosystems are also under pressure from the inherent scarcity of natural resources and fragility of the ecosystem, exacerbated by the overexploitation and consequent degradation of land and water resources. The expansion of traditional cultures such as the olive tree often put additional pressure on groundwater resources for irrigation. Olive oil production also has the added challenge of byproduct waste management, which can represent presenting an important pollution risk for water resources if appropriate disposal methods are not in place.

As a result of pressures on desert ecosystems, desert wilderness areas are in decline, with a projected loss of nearly half of the remaining intact desert wildernesses within a few decades due to habitat encroachment, primarily in desert margins. Desert biomes currently hold an abundance average of endemic species of 68 percent, but animal and plant biodiversity is also under threat from poaching and illegal collection, even within protected areas, which lack enforcement capacity on the one hand, and community involvement and awareness on the other. (Global Deserts Outlook, 2006)

In terms of water management, the region is being increasingly affected by water scarcity, both economically and socially. MENA is home to 5 percent of the world's population, with only 0.7 percent of the world's available freshwater resources (CEDARE, 2006). The increasing demands for water and the rapid population growth in the region are putting significant pressures on the resource, These pressures are the result of a number of factors including: shortages in the supply of natural renewable water resources, the deterioration of the quality of surface and groundwater, decreasing capacity to provide food, dependencies on rivers and groundwater reserves shared with other countries outside of the region, low water use efficiencies, and inadequate institutional and legislative framework and improper centralization and governance (CEDARE 2006 and 2007). Furthermore, the impact of water scarcity on rural livelihoods has increased migration to urban areas placing increasing pressure on them.

As a result of climate change, generally higher temperatures and decreased rainfall have reduced the flow of rivers and slowed the rate at which aquifers recharge, exacerbating the challenges of water scarcity. Climate change is also expected to increase yearly variations in desert rainfall, with flood events predicted to be fewer but more intense. For land resources, this can means further reduced moisture infiltration in soils and increased eroded sediment. On a broader scale, the com bination of higher evapotranspiration, lower precipitation, prolonged droughts and increased desert albedo would contribute to further amplifying the drying of adjacent non-desert areas and the loss of vegetation cover. Climate change is also set to become the main driver for biodiversity loss rates, which could double in the coming decades. Biodiversity hotspots with winter-rainfall desert vegetation, plant and animal species that are especially vulnerable to drier and warmer conditions and cross-desert bird migrants are particularly vulnerable to these changes.

In general, increasing aridity, desiccation, and wind speeds, coupled with vegetation cover loss could augment overall dust emissions from deserts. This has significant consequences on a number of fronts, including poor air quality when coupled with urban pollution, as well as allergic and non-allergic respiratory diseases. In addition, a projected increase in the frequency and intensity of sandstorms could impact infrastructure and transport networks. Annual desert dust production has increased tenfold in the last 50 years in many parts of North Africa. Dust storms are also accelerating in the Arab region due to a loosening of local soil cover due to livestock grazing and road development for oil and gas production, particularly in the Gulf region. (Global Deserts Outlook, 2006)

Barriers to development in desert ecosystems

A number of factors affect community vulnerability to change, including ecosystem changes, water availability and quality, conflict and social instability, as well as inter-linkages with other areas through migration, remittances, and trade. Indeed, outmigration to new areas often as a result of land degradation and the growth of desert cities heavily dependent on imported resources has the potential to not only create social conflict but also contribute to the irreversible loss of traditional knowledge in desert land management, especially affecting the composition, lifestyles and cultures of smaller desert societies. (Global Deserts Outlook, 2006)

Pastoralist livelihoods and associated rangelands have also long been a critical part of traditional livelihoods in the MENA region. However population pressure and recent changes in administrative structures have altered many of the traditional approaches, often resulting in a situation where land tenure is poorly defined and resources are not well allocated and poorly controlled. This has at times been exacerbated by development programs that provide supplemental feed in the face of resource scarcity, thus artificially increasing herd size beyond carrying capacity, leading to unsustainable grazing practices and consequent land degradation.

Finally, desert communities often only represent a small proportion of the overall population and usually remain marginalized in

terms of integration within development policies and plans (Global Deserts Outlook, 2006), thus hindering their adaptation capacity to pressures and their ability to capitalize on new opportunities, and decreasing their overall resilience.

Relationship to CAS

Employment creation is of paramount importance in the MENA region. The environment agenda intersects with the much larger job creation agenda in the following three ways: (i) promoting environmentally friendly technologies (such as those related to renewables or energy efficiency) could generate new “green” jobs; (ii) optimizing underutilized environmental goods and services could result in new “classical” jobs, for example, such as ecotourism jobs, if cultural tourism routes are better linked with natural attractions around protected areas; and (iii) improving environmental management and governance helps to shift unsustainable practices towards greater sustainability or allows for greater access to markets for clean industry products, thus ensuring that “classical” jobs stay around and are not reduced in number over time. The design of this program focuses primarily on the last two points, with this proposed project helping to provide a forum for discussion to share the knowledge that is generated between participating countries.

Second, the region is also placing emphasis on social and economic inclusion and sustainable growth. In that regard, environmental assets (oil, gas, water, land) have been the basis for strong growth in the region. However, the same environmental assets are rapidly degrading and/or are underutilized in other places, and the benefits accruing from the use of these assets may not be evenly distributed. Hence, focusing on policy levers to ensure that this growth is sustainable and long-lasting has to be an important focus going forward where environmental assets are being degraded. Also important is putting pilot investments into areas where environmental assets are not fully utilized, such as in desert ecosystems, particularly in lagging and high poverty regions where poor and vulnerable groups depend on these assets for their livelihood. The proposed project will contribute to supporting participating countries to develop a better understanding of the policy levers needed to achieve an optimal use of natural resources in desert ecosystems, through learning experiences with pilot investments.

Finally the Bank’s new Environment Strategy places emphasis on green, clean and resilient growth. In particular, it focuses on better biodiversity management in the context of production landscapes, as well as on improved climate resiliency. These are both important aspects for the design of the MENA-DELP as a whole.

II. Proposed Global Environmental Objective(s)

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The proposed project objective is to build and strengthen networks among selected organizations in participating countries to increase dialogue and understanding of the sustainable use of desert ecosystems.

Key Results

The proposed objectives will be measured against the following key indicator: effectiveness of trainings (including workshops, training sessions, and study tours), knowledge and information exchange (through network discussions), and policy guidance (reports and analyses) on the sustainable harnessing of desert ecosystem goods and services. Effectiveness will be assessed by beneficiary institutions through evaluation sheets to be developed in the project operations manual.

The proposed project would be aligned with the following MENA-DELP expected outcomes and outputs:
(i) Outcome: “The linkages between desert ecosystem services and desert livelihoods are better understood and inform decision making”
(ii) Outputs: (a) Awareness on desert ecosystem goods and services raised, (b) Program and project level M&E systems are operational, and (c) An increased number of regional centers of excellence share knowledge on desert ecosystem goods and services.

III. Preliminary Description

Concept Description

The proposed project is designed as a first step towards strengthening long-term capacity in the region in terms of raising awareness and generating knowledge on the importance of harnessing desert ecosystems to enhance livelihoods. Given that governments are in place for shorter time frames compare to institutes and centers of excellence, efforts to support these relevant entities in the four participating countries are important, as this provides an opportunity to create local capacity for policy analysis and influence over the longer time frame. This focus on institutes is also complementary to the focus on national agencies in each of the national projects, and will allow for a more objective dialog of lessons learned based on field level experiences. The project is also an opportunity to link relevant national organizations across the four participating countries to begin to build a network for the entire region. This proposed regional project also aims to build the capacity of one institute to take a leadership role on program level information flow (including M&E), so that replication potential of good practices is enhanced.

Given the proposed project objectives and level of funding, it is essential that the project is designed in such a way that the relatively small grant is used efficiently and effectively to contribute to the achievement of project objectives. Hence, project design aims to adhere to the following key principles:
(i) Activities to be financed should be beneficial to at least two or more participating countries.
(ii) A mechanism needs to be developed and put in place so that all four participating countries can agree with activities

financed under the regional project.
(iii) Implementation arrangements should be simple (i.e. one implementing agency), so that the project can be prepared quickly and funds can flow easily.
(iv) No funds are to be pre-allocated by country or by component nor should funds be transferred to specific countries (all funds should flow through one implementing agency).
(v) Program monitoring capacity needs to be created, with a formal mechanism for countries to share national level indicators and results to be aggregated at the program-level (to fulfill reporting requirements under the GEF program).

The proposed project would consist of the following three components.

1. Establishing and Strengthening Networks for Knowledge Exchange on Policies pertaining to Desert Development. Approximate cost: US$ 800,000. The aim of this component would be to establish and strengthen existing networks between key institutions to encourage sharing of information and to help build a community of practice that can help in particular to provide guidance to policy-makers on matters related to the sustainable development of desert ecosystems. This suggests the sharing of existing practices, lessons and practical solutions to answer questions such as: How can environmental policies and regulations be better designed to allow for the sustainable use of natural resources in order to generate employment and improved livelihoods while preventing the degradation of the resource? How can policies and related regulations be designed to encourage better water management? What policy levers are important to encourage ecotourism? What are different income generation options for desert communities that use desert goods and services optimally and what policies and actions are needed to make sure these are realized in a sustainable way? What is the existing experience in incorporating a focus on ecotourism in a country's tourism strategy, and what elements are important to increase the market share of ecotourism?

Proposals to be financed would be identified and submitted by institutions in the four participating countries for financing to the implementing agency. The following types of activities would be eligible for financing under this component:
(i) Workshops or training sessions that bring together relevant stakeholders from MENA-DELP participating countries to share information about pilot MENA-DELP country projects, other relevant desert ecosystem and livelihood enhancement experiences (in participating or other countries), as well as emerging knowledge on related policy guidance. These workshops could have a sectoral focus or a cross-sectoral focus, with deserts as the key central theme.
(ii) Study tours to share information about pilot MENA-DELP country projects or other similar projects (in participating and/or other countries).
(iii) Moderated internet discussions through networks between sectoral experts to discuss key issues or emerging lessons and related policy implications on aspects related to the optimal use of desert goods and services in the context of a given productive sector.
(iv) Studies linked to developing related policy guidance on integrating biodiversity management and SLWM dimensions into respective production sectors with a focus on desert ecosystems.

An additional responsibility of the institute taking the lead with a particular activity under this component would be to prepare a short summary report of the activity and publish it for broader dissemination.

2. Program Level Monitoring. Approximate cost: US$ 100,000. The component would consist of the establishment of a programmatic level monitoring and evaluation system (based on aggregating national project level indicators and results). Grant agreements for the four national level projects will require that information on indicators is also shared with the agency taking the lead with this component. Under this component, progress reports on program level results would be produced, for Bank and GEF review, and subsequently for dissemination.

3. Project Management. Approximate cost: US$ 100,000. This component would finance the project management costs of the regional implementing agency (up to a maximum of US$50,000) and finance the travel and meeting-related costs of the project Steering Committee.

IV. Safeguard Policies that might apply

Safeguard Policies Triggered by the Project	Yes	No	TBD
Environmental Assessment OP/BP 4.01		X	
Natural Habitats OP/BP 4.04		X	
Forests OP/BP 4.36		X	
Pest Management OP 4.09		X	
Physical Cultural Resources OP/BP 4.11		X	
Indigenous Peoples OP/BP 4.10		X	
Involuntary Resettlement OP/BP 4.12		X	
Safety of Dams OP/BP 4.37		X	
Projects on International Waterways OP/BP 7.50		X	

Projects in Disputed Areas OP/BP 7.60		x	

V. Tentative financing

Financing Source	Amount
BORROWER/RECIPIENT	0.00
Global Environment Facility (GEF)	1.00
Total	1.00

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