

REQUEST FOR PROPOSAL (RFP)

"MAINSTREAMING THE CONSERVATION AND SUSTAINABLE USE OF BIODIVERSITY INTO THE TOURISM DEVELOPMENT AND OPERATIONS IN THREATENED ECOSYSTEMS IN EGYPT"	DATE: <i>June 07, 2022</i>

Dear Sir / Madam:

We kindly request you to submit your Proposal for **Strategic Environmental Assessment for SIWA Oasis and North -Western Coast of Egypt.**

Please be guided by the form attached hereto as Annex 2, in preparing your Proposal.

Proposals may be submitted on or before Thursday, July 07, 2022 at 12:00 pm via email, courier mail or e-mail to the address below:

MAINSTREAMING THE CONSERVATION AND SUSTAINABLE USE OF BIODIVERSITY INTO
THE TOURISM DEVELOPMENT AND OPERATIONS IN THREATENED ECOSYSTEMS IN
EGYPT PROJECT

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Your Proposal must be expressed in the English, and valid for a minimum period of 3 month

While preparing your Proposal, it shall remain your responsibility to ensure that it reaches the address above on or before the deadline. Proposals that are received by the project after the deadline indicated above, for whatever reason, shall not be considered for evaluation. If you are submitting your Proposal by email, kindly ensure that they are signed and in the .pdf format, and free from any virus or corrupted files.

Services proposed shall be reviewed and evaluated based on completeness and compliance of the Proposal and responsiveness with the requirements of the RFP and all other annexes providing details of project requirements.

The Proposal that complies with all of the requirements, meets all the evaluation criteria and offers the best value for money shall be selected and awarded the contract. Any offer that does not meet the requirements shall be rejected.

Any discrepancy between the unit price and the total price shall be re-computed by PROJECT, and the unit price shall prevail and the total price shall be corrected. If the Service Provider does not accept the final price based on PROJECT's re-computation and correction of errors, its Proposal will be rejected.

No price variation due to escalation, inflation, fluctuation in exchange rates, or any other market factors shall be accepted by PROJECT after it has received the Proposal. At the time of Award of Contract or Purchase Order, PROJECT reserves the right to vary (increase or decrease) the quantity of services and/or goods, by up to a maximum twenty-five per cent (25%) of the total offer, without any change in the **unit** price or other terms and conditions.

Any Contract or Purchase Order that will be issued as a result of this RFP shall be subject to the General Terms and Conditions attached hereto. The mere act of submission of a Proposal implies that the Service Provider accepts without question the General Terms and Conditions of PROJECT, herein attached as Annex 3.

Please be advised that PROJECT is not bound to accept any Proposal, nor award a contract or Purchase Order, nor be responsible for any costs associated with a Service Providers preparation and submission of a Proposal, regardless of the outcome or the manner of conducting the selection process.

PROJECT encourages every prospective Service Provider to prevent and avoid conflicts of interest, by disclosing to PROJECT if you, or any of your affiliates or personnel, were involved in the preparation of the requirements, design, cost estimates, and other information used in this RFP.

PROJECT implements a zero tolerance on fraud and other proscribed practices, and is committed to preventing, identifying and addressing all such acts and practices against PROJECT, as well as third parties involved in PROJECT activities. PROJECT expects its Service Providers to adhere to the UN Supplier Code of Conduct found in this link : http://www.un.org/depts/ptd/pdf/conduct_english.pdf

Thank you and we look forward to receiving your Proposal.

Sincerely yours,

Mohammed Elewa
Project Manager
07/06/2022



Description of Requirements

Context of the Requirement	<p>One of the issues to be addressed in the country is the cumulative impact on biodiversity and environmental resources caused by tourism investments and developments. In Egypt, tourism investments are evaluated on a case-by-case base through Environmental Impact Assessments (EIA) which review every proposed development in the tourism sector. This approach has recognised limitations, particularly in overlooking the external negative effects that one investment may have on a wider scale or underestimating or missing cumulative impacts on biodiversity of several developments, thus affecting the entire tourism sector.</p> <p>To address this, Strategic Environmental Assessment (SEA) is the best placed valuation process currently available to deal with policy, plan and programme level assessments; furthermore, it is capable of producing a more effective screening of tourism developments. SEA integrates the environmental dimension and sustainable use of natural resources into strategic decision-making and should be introduced before individual projects are evaluated and authorised through EIA. This instrument should afterwards support planners, decision-makers and investors in the strategic development of the Egyptian tourism sector.</p> <p>In May 2022 the project finalized the Strategic Environmental Assessment (SEA) focusing on tourism development in the south of the Egyptian Southern Red Sea Coastal Belt (Red Sea Governorate) from Quseir to Southern borders of Wadi El Gemal PA. The Red Sea SEA is expected to support the definition of a strategic policy for the sustainable tourism development for the Southern Red Sea Coastal Belt.</p> <p>While the Red Sea SEA is currently on-going the project is interested to undertake two SEA studies focusing on Siwa Oasis and the North-western coast of Egypt.</p>
Implementing Partner of PROJECT	Egyptian Environmental Affairs Agency
Brief Description of the Required Services ¹	Strategic Environmental Assessment
List and Description of Expected Outputs to be Delivered	<ol style="list-style-type: none"> 1. Building baseline and current scenario 2. Identification of impacts, sensitive areas and economic

¹ A detailed TOR(Annex1) is attached with the information that fully describe the nature of the work and other details of the requirements.

	<p>evaluation</p> <ol style="list-style-type: none"> 3. Review of trends 4. Analysis of current plans influence 5. Analysis of decision-making frameworks 6. Identification of overlaps, limitations and gaps 7. Assessment of EIA processes 8. Identify alternatives and its impacts
Person to Supervise the Work/Performance of the Service Provider	Project Manager
Frequency of Reporting	<i>Monthly</i>
Progress Reporting Requirements	Monthly progress report
Expected duration of work	12 months
Target start date	15/08/2022
Latest completion date	15/08/2023
Travels Expected	NA
Implementation Schedule indicating breakdown and timing of activities/sub-activities	<input checked="" type="checkbox"/> Required
Names and curriculum vitae of individuals who will be involved in completing the services	<input checked="" type="checkbox"/> Required
Currency of Proposal	<input checked="" type="checkbox"/> Local Currency (EGP)
Value Added Tax on Price Proposal	<input checked="" type="checkbox"/> must be inclusive of VAT and other applicable indirect taxes
Validity Period of Proposals (Counting for the last day of submission of quotes)	<input checked="" type="checkbox"/> 90 days In exceptional circumstances, PROJECT may request the Proposer to extend the validity of the Proposal beyond what has been initially indicated in this RFP. The Proposal shall then confirm the extension in writing, without any modification whatsoever on the Proposal.
Person(s) to review/inspect/ approve outputs/completed services and authorize the disbursement of payment	Mohammed Elewa, Project Manager
Type of Contract to be Signed	<input checked="" type="checkbox"/> Contract for Professional Services

Criteria for Contract Award	<input checked="" type="checkbox"/> Highest Combined Score (based on the 70% technical offer and 30% price weight distribution)
Criteria for the Assessment of Proposal	<p><u>Technical Proposal (70%)</u></p> <p><input checked="" type="checkbox"/> Expertise of the Firm 20%</p> <p><input checked="" type="checkbox"/> Problem identification, Methodology, its Appropriateness to the Condition and Timeliness of the Implementation Plan 25%</p> <p><input checked="" type="checkbox"/> Management Structure and Qualification of Key Personnel 25%</p> <p><u>Financial Proposal (30%)</u></p> <p>To be computed as a ratio of the Proposal's offer to the lowest price among the proposals received by PROJECT.</p>
PROJECT will award the contract to:	<input checked="" type="checkbox"/> One and only one Service Provider
Annexes to this RFP ²	<p><input checked="" type="checkbox"/> Detailed TOR (Annex 1)</p> <p><input checked="" type="checkbox"/> FORM FOR SUBMITTING SERVICE PROVIDER'S PROPOSAL (Annex 2)</p> <p><input checked="" type="checkbox"/> General Terms and Conditions for Services (Annex 3)</p>
Contact Person for Inquiries (Written inquiries only) ³	<p><i>Mohammed Elewa</i> <i>Project Manager</i> m.elewa@mbdtegypt.org</p> <p>Any delay in PROJECT's response shall be not used as a reason for extending the deadline for submission, unless PROJECT determines that such an extension is necessary and communicates a new deadline to the Proposers.</p>
Other Information [pls. specify]	NA

² Where the information is available in the web, a URL for the information may simply be provided.

³ This contact person and address is officially designated by PROJECT. If inquiries are sent to other person/s or address/es, even if they are PROJECT staff, PROJECT shall have no obligation to respond nor can PROJECT confirm that the query was received.

TERMS OF REFERENCE (TOR)

Strategic Environmental Assessment for SIWA Oasis and North -Western Coast of Egypt.

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Project Background

The four-year project '*Mainstreaming the conservation and sustainable use of biodiversity into the tourism development and operations in threatened ecosystems in Egypt*' is expected to target ecologically sensitive areas exposed to tourism development pressures in the short-to-medium term with the objective of mainstreaming biodiversity conservation into tourism-sector development and operations.

This project comes at a critical time in Egypt's recent history with the political changes that are currently underway to make government institutions more accountable and to develop the economy, both of which are resulting in considerable changes in the way that both tourism and biodiversity resources may be managed in the future. Therefore, the project will work on two levels:

- The first level will engage directly with industry and government to fill gaps in the existing planning and regulatory framework, namely a Strategic Environmental Assessment, in order to identify key areas, habitats and ecological processes, and assess their vulnerability and also the guidelines for the existing EIA regulations specific to biodiversity, linked to an offsetting mechanism. As a consequence, the project will develop a monitoring programme to track the impacts of tourism on biodiversity for conservation management purposes.
- The second level will engage the tourism industry by developing Responsible Tourism Grading and promoting Egypt as a global destination for ecotourism and developing community-based systems to allow those closest to the resources to benefit and manage them sustainably.

Because of the uncertainty and dynamic nature of the challenges and because the tourism industry faces an adaptive challenge and to a lesser extent a technical challenge, the project will be guided by a scenario planning exercise as a means to bring about individual and institutional behavioral changes and to ensure that the project is highly adaptive.

The project operates through three working groups (WG) dealing with the following topics:

WG1 – Mainstreaming Biodiversity into Tourism Planning and Development

Objective of the group:

- Alignment of policies and practices for the mainstreaming of biodiversity into tourism planning and development

Composition of the group:

- TDA – MoTA
- NCS – EEAA
- EIA – EEAA
- National Centre for Planning State Land-uses
- Egyptian General Authority for Shores Protection
- Environment and Tourism Representatives from targeted Governorates
- Chamber of Hotels – Tourism Federation

WG2 – Mainstreaming Biodiversity into Tourism Activities

Objective of the group:

- Build on Egyptian natural capital and biodiversity to promote and develop sustainable tourism practices

Composition of the group:

- NCS – EEAA
- ETA – MoTA
- Chamber of Diving and Water Sports

- Green Tourism Unit/Green Star Hotel
- Egyptian Travel Agencies Association
- Chambers of Hotels – Tourism Federation
- Environment and Tourism Representatives from targeted Governorates
- NGOs (Hepca and Siwa representative)

WG3 – Tourism in Protected Areas

Objective of the group:

- Develop and manage the protected areas serving an attractive and sustainable tourism sector

Composition of the group:

- NCS – EEAA
- ETA – MoTA
- Ecotourism Companies
- Egyptian Travel Agencies Association
- Chamber of Hotels – Tourism Federation
- Environment and Tourism Representatives from targeted Governorates
- NGOs (Hepca and Siwa representative)

One of the issues to be addressed in the country is the cumulative impact on biodiversity and environmental resources caused by tourism investments and developments. In Egypt, tourism investments are evaluated on a case-by-case base through Environmental Impact Assessments (EIA) which review every proposed development in the tourism sector. This approach has recognised limitations, particularly in overlooking the external negative effects that one investment may have on a wider scale, or underestimating or missing cumulative impacts on biodiversity of several developments, thus affecting the entire tourism sector. Moreover EIAs intervene at a later stage of the planning process, thus missing the overarching development planning that takes place at higher levels. To improve the quality of the decision-making and planning, higher-level evaluation instruments are required to integrate more general environmental considerations into planning and development. A higher-level assessment instrument should be able to deal with:

- Feedbacks and indirect impacts that some developments may have on one area/one sector.
- Assess options and alternative plans that may lead to different proposals for investment. EIA instead deals with already selected proposals; it does not consider alternatives that were discharged in an early stage of planning, eventually under no environmental considerations.
- Consider the cumulative impacts of investments/interventions/activities that take place in one area/ecosystem. Projects may have impacts on a larger scale than originally planned. Environmental impact is not linear and cumulative projects can have exponential impacts that should be assessed and considered. In addition, different developments and activities may have a synergic effect, thereby amplifying the scale of their impacts.
- Take into account the impact of small-scale activities that individually may have negligible impacts but collectively are capable of enormous environmental harm, such as several small-scale repeated visits to a reef.
- Assess and evaluate other activities, that do not have to undergo a formal EIA, but that have important environmental consequences and are difficult to regulate. For example, increased number of visitors producing solid and water wastes.\

To address this, Strategic Environmental Assessment (SEA) is the best placed valuation process currently available to deal with policy, plan and programme level assessments; furthermore, it is capable of producing a more effective screening of tourism developments. SEA integrates the environmental dimension and sustainable use of natural resources into strategic decision-making and should be introduced before individual projects are evaluated and authorised through EIA. This instrument should afterwards support planners, decision-makers and investors in the strategic development of the Egyptian tourism sector.

In May 2020 the project launched a Request for Proposal (RFP) for the development of a Strategic Environmental Assessment (SEA) focusing on tourism development in the south of the **Egyptian Southern Red Sea Coastal Belt** (Red Sea Governorate) from Quseir to Southern borders of Wadi El Gemal PA. The Red Sea SEA is expected to support the definition of a strategic policy for the sustainable tourism development for the Southern Red Sea Coastal Belt.

While the Red Sea SEA is currently on-going the project is interested to undertake two SEA studies focusing on **Siwa Oasis** and the **North-western coast of Egypt**.

While the Red Sea is a coastal ecosystem affected by heavy tourist investments and attracting mass tourism, Siwa represent the fragile desert areas of Egypt which are not accessed by massive tourism flows.

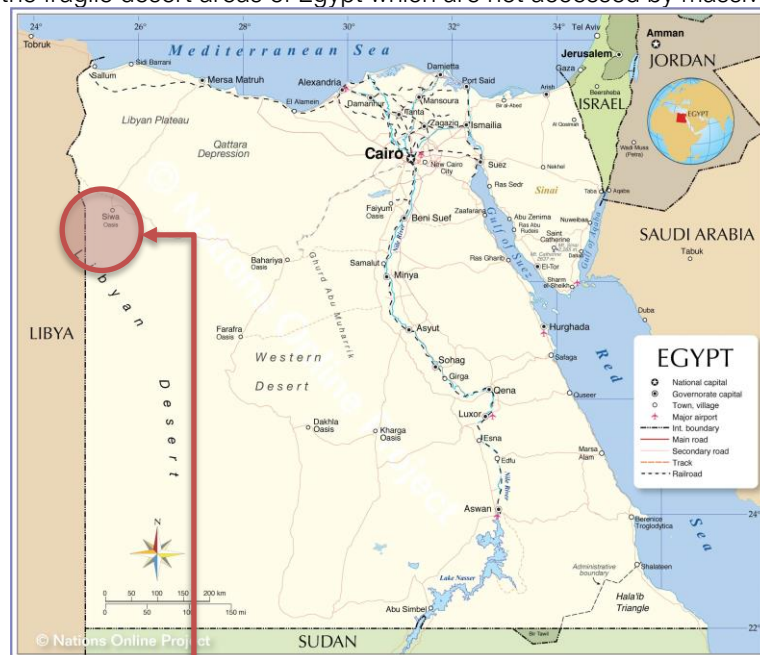


Figure 1 – Location of Siwa oasis

The north-western coast of Egypt represents instead an important Mediterranean ecosystem under stress from a wide range of development activities, including agriculture and tourism.

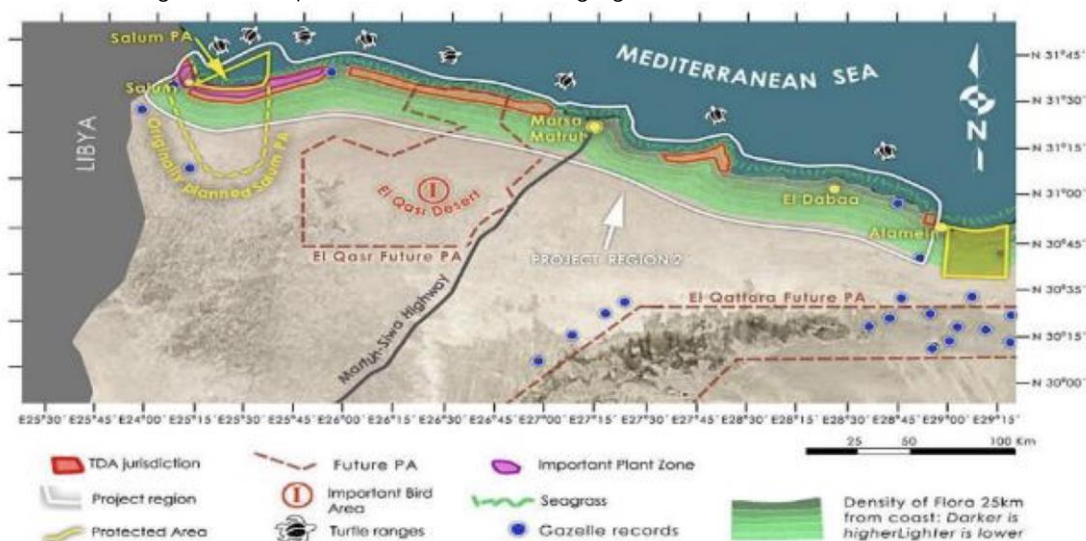


Figure 2 - Map of the north-western Mediterranean coast, Egypt

This activity will support the task of WG1, aiming to establish a coherent planning framework for Siwa area and the north-western coast, which is capable of taking into account environmental impacts, with the aim of long-term sustainability of biodiversity.

In defining this policy, critical areas for biodiversity will be identified alongside points of conflicts. Different tourism development options can be undertaken in both areas and the SEA is expected to provide a realistic overview of the expected corresponding environmental impacts. Positive and negative effects and harm to biodiversity due to tourism developments will be identified in order to address them since the planning stage. The SEA should propose appropriate mitigation and offsetting actions that will help to develop the most suitable tourism development actions. Environmental impacts will be reviewed, and natural assets and biodiversity stocks audited. Conflicts and threats to the environment from tourism developments and plans will also be identified. The aim of the SEA will be to identify areas which may be damaged beyond recovery, areas where tourism can be developed and operated under strict controls, and areas where tourism must have a minimal impact upon the environment. Plans for tourism development and social and economic development will be considered at the national, regional and local level. Trends will be assessed in order to propose a likely trajectory of the dynamics that will have an impact on the environment and affect biodiversity in the future.

The project already identified some of the major impacts that tourism development can bring to the areas. The SEA will review and build upon these impacts, defining root causes and identifying others that apply to the target area. The impacts and root causes could include:

- Tourism pressure
- Deployment of physical infrastructure
- Loss of habitats
- Loss of connectivity between habitats
- Destruction and disturbances of habitats and species
- Harmful practices for biodiversity
- Solid waste accumulation and release in the environment
- Wastewater and discharges
- Exploitation of freshwater resources and other natural resources
- Poor EIA Monitoring and Evaluation system

The purpose of the SEAs is to support national and local planning processes with relevant and strategic information to orientate their decisions. Indications from the SEAs will also be of value for proposing possible integration of biodiversity conservation measures into existing EIA guidelines that the country currently applies to assess tourism investments. The SEA is expected to represent a framework to identify avoidance, mitigation and offsetting mechanisms that apply to the tourism sector both in Siwa Oasis and the north-western coast of Egypt.

The findings of the SEAs will feed into the scenario planning process which is promoted by the project and which targets stakeholders and decision-makers. The SEAs will produce baselines of the current situation in both areas that represents the current scenario. Projections about current and expected trends will support the design of options for future scenarios, to be assessed and discussed through the scenario planning exercise that the project will carry out by involving key stakeholders and decision-makers. Alternatives and options will be identified, highlighting areas of potential conflict and issues related to the optimal management of natural resources.

The SEAs will be developed as a process with a strong involvement of the project stakeholders who are part of the project WG1. A set of substantive documents will detail and record the overall process. Information gathered through the SEA should be also of use in building a database to inform and guide current and future land-use planning as well as to support monitoring systems.

The SEAs will be developed as an **integrated assessment** of the environmental, social and economic factors and will include a review of the institutions and stakeholders involved, taking into account the governance dimensions that relate to tourism development and biodiversity management in the targeted areas of Siwa Oasis and the North-Western Coast.

The SEAs will provide a comprehensive development framework integrating tourism development with the required management and offsetting actions enabling sustainable operations.

The SEAs will identify environmental priorities and assess advantages and disadvantages (through, for example, tangible and intangible benefits and costs) of different courses of actions with respect to the future tourism developments in both areas.

The SEAs will focus on:

- Quality of information
- Stakeholder involvement and participation
- Building a baseline suitable for future monitoring
- Robust assessment of current situation to be a realistic picture of prevailing conditions
- Define the context and questions to be addressed
- Provide a problem and context analysis, involving appropriate stakeholders
- Review plans, policies and projects that will affect the area in the future
- Assess current and projected environmental impacts
- Identify follow-up activities and constraints that need to be addressed

Siwa Oasis

Location

Siwa is located in the Western Desert that covers about 700,000 square kilometres and accounts for about two-thirds of Egypt's land area. This immense desert to the west of the Nile spans the area from the Mediterranean Sea south to the Sudanese border (U.S. Library of Congress)⁴. There are no rivers or streams that drain into or out of the Western Desert and available water come from the stock of non-renewable groundwater resources of the Nubian sandstone aquifer (Omar Salem, Philippe Pallas, 2002)⁵. Developments requiring water resources in and around the oases of the Western Desert depends exclusively on this aquifer (David Sims, 2015)⁶.

Siwa is the northern-most and most isolated oasis in Egypt, east to the Libyan border (70 Km) and between the Qattara Depression to the north and the Egyptian Sand Sea to the south. The Oasis lies 780 kilometres to the west of Cairo and 305 km from the Mediterranean Sea, from which it is separated by the limestone El Difta Plateau, traversed by an asphalt road laid out only in the mid-1980s that connects the oasis and the coastal city of Marsa Matruh (Alberto Siliotti, 2018)⁷.

The Siwa depression is irregularly shaped and extends, at its maximum, 82 km long and 28 km wide, covering approximately 1,088 square km of which 70 square km are open water and 100 square km marshland. At its lowest point, it has an elevation of about 25 meters below sea level (The Encyclopaedia of Earth, 2021)⁸.

⁴ U.S. Library of Congress. Egypt – western Desert. Retrieved May 10 2021, from <http://countrystudies.us/egypt/50.htm>

⁵ Omar Salem, Philippe Pallas. (2002). The Nubian Sandstone Aquifer System (NSAS). Proceedings of the international workshop. Tripoli, Libya, 2-4 June 2002

⁶ David Sims. (2015). Egypt's Desert Dreams: Development or Disaster? AUC Press.

⁷ Alberto Siliotti. (2018). The Oasis of the Oracle. Geodia Edizioni (Verona, Italy)

⁸ The Encyclopedia of Earth. Retrieved May 10 2021, from [https://editors.eol.org/eoearth/wiki/Siwa_Oasis_\(About_the_EoE\)](https://editors.eol.org/eoearth/wiki/Siwa_Oasis_(About_the_EoE))

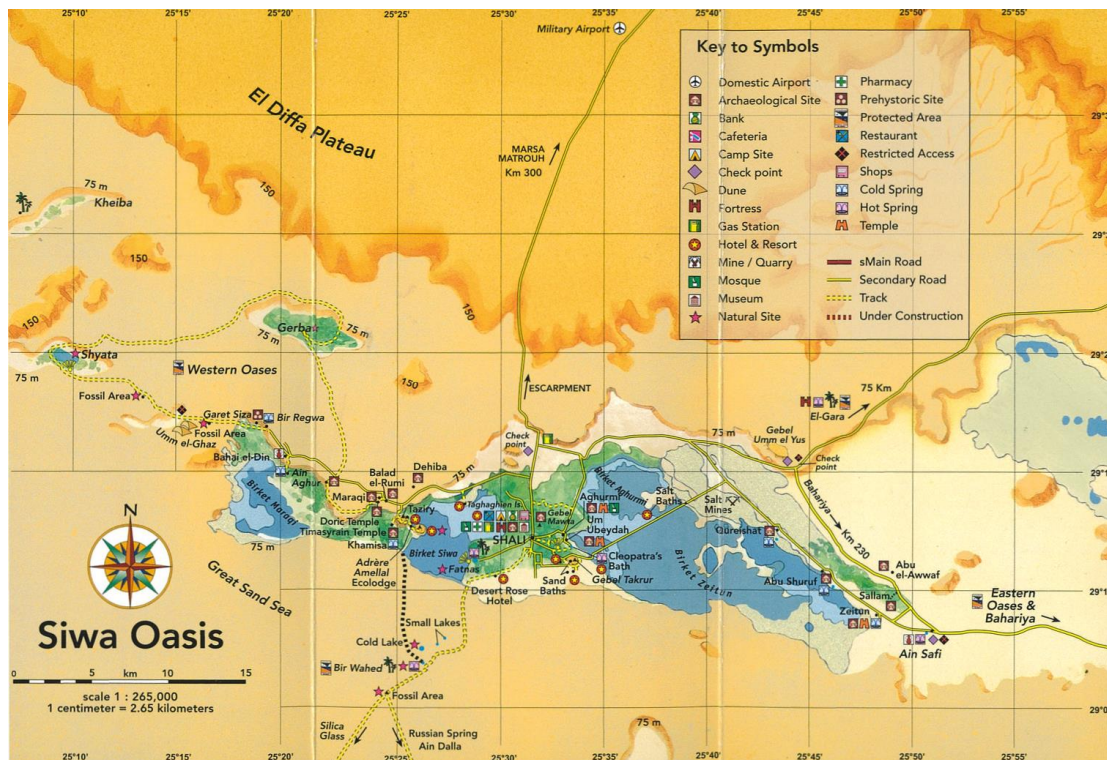


Figure 3 – Siwa Oasis

Siwa is under the administration of the Matrouh Governorate and is the largest oasis of Egypt. It represents one of the most distinctive regions of Egypt retaining notable cultural and natural resources, spectacular landscapes, exceptional geomorphological features and an outstanding diversity of habitats and living organisms (Gabriel Mikhail, 2021)⁹. The Oasis presents a varied environment rich in natural resources, including water and boasts an outstanding nature with distinctive biodiversity and biological features.

⁹ Gabriel Mikhail. (2021). Siwa protected area & the old town of Shali. Tour Guide. Egyptian Environmental Affairs Agency. Ministry of State for Environmental Affairs

Resources and Environment

In Siwa there are four major salt lakes (Birket Al-Maraqi, Birket Siwa, Birket Zaytun and Birket Azmuri) with a rich underwater system of hot and cold springs. Over 200 springs and more than 2,000 wells provides abundant water resources that sustain a varied flora with richness of palm, olive, fruit trees and vegetables. It is estimated that Siwa host about 250,000 palm trees (NSA, 2009)¹⁰ and 70,000 olive trees (Ahmed Zedan, 2012)¹¹. Agriculture is a cornerstone activity and a long-established tradition that satisfy local needs. Dates from palm trees are the main agriculture crop of Siwan, followed by palm tree, olive, lemons, figs, pomegranates and citrus fruit (Fakhry, 2005)¹². In addition to agriculture, there are associate manufacturing industries such as drying food industry with dates, olive oil and therapeutic plants (Kamel, N., Orabi, R., & Taha, S., 2017)¹³. Local life revolves around a deep connection with harvesting of dates and palm trees (Asham, Mina Kamal, 2019)¹⁴.

The oasis of Siwa is renowned for its beautiful scenery, water springs, sulphurous hot water springs, millions of palm groves, Acacia groves, olive trees, as well as large lakes, sand dunes, hot sand and particular mud used for skin diseases and for the health of the respiratory system. Old Siwa oasis is famous for its traditional way of life, inhabited by traditional communities with unique culture of Berber and Bedouin descent with interesting customs and distinctive local handcrafts: pottery, sewing, embroidery and jewellery. A traditional architecture marks inhabited areas and several ancient monuments and archaeological sites are spread through the area, such as the crowning hall of Alexander the Great during his historic visit to Siwa Oasis (UNEP, 2011)¹⁵.

The surrounding in Siwa offers grandiose landscapes with unique geological formations. There are fossils of marine life and petrified wood in prehistoric sites while desert flora and fauna constitute a healthy biodiversity (EEAA and Cooperazione Italiana, 2002)¹⁶. The Siwa region has recorded 164 species of birds and 32 species of reptiles (Maaly Abd Elghani, 2012)¹⁷. Although Siwa does not support any endemic species it is a

¹⁰ NSA, Discovering Siwa ,Native Siwan Association for Tourist Services and Environmental Protection, Siwa, Egypt, pp. 9–51, 2009.

¹¹ Ahmed Zedan (29 March 2012). Conserving Desert Ecosystems - Exploring Sustainable Tourism Impacts in Siwa, Egypt. Retrieved May 2021, from <https://Www.Ecoclub.com>

¹² Fakhry, A. (2005). Siwa Oasis. Cairo: The American University in Cairo Press. General Department of Information and Statistic Tourism In Figures (2013) Tourism In Figures, Egypt.

¹³ Kamel, N., Orabi, R., & Taha, S. (2017). Slow Tourism Experience: an Innovative Approach for Sustainable Tourism development in Egypt (The case of Siwa). International Journal of Heritage, Tourism, and Hospitality, 10

¹⁴ Asham, Mina Kamal. (2019). Intangible Cultural Heritage as a Tool for Community Empowerment: A Case Study of the Date Palm Festival in Siwa Oasis, Egypt. Ottoman Journal of Tourism and Management Research. 2019, Vol. 4, pp. 361-377. DOI 10.26465/ojtmr.2018339516.

¹⁵ UNEP. Profile of Sustainability in some Mediterranean tourism destinations - Case studies in Egypt: Marsa Matrouh, Al Alamein, Siwa Oasis (Matrouh Governorate). Final report for Mediterranean Action Plan by United Nations Environment Programme. Egypt. 2011

¹⁶ EEAA and Cooperazione Italiana. Egyptian-Italian Environmental Cooperation Program-Phase II: Siwa Environmental Amelioration Project. 2002

¹⁷ Maaly Abd Elghani (2012). Heritage and hospitality links in hotels in Siwa, Egypt: Towards the provision of authentic experiences. UWSpace. Retrieved May 2021, from <http://hdl.handle.net/10012/7074>

unique and complex agroecosystem shaped by natural and human agents over millennia (Al-Baraa El-Saied, 2015)¹⁸.

Population and Heritage

The Siwa Oasis is home to a relatively small population of approximately 35,000 with a Berber community majority. This indigenous ethnic group is located in North Africa, west of the Nile Valley. They inhabit a large area from the Atlantic to the Siwa oasis in Egypt, and from the Mediterranean to the Niger River (Maaly Abd Elghani, 2012)¹⁹.

The Siwan people have their own culture and customs and, besides Arabic, they speak their own Berber (Amazigh). Thanks to its isolated position, Siwa is one of the few Egyptian oasis communities that managed to retain most of its traditional characteristics, practices and customs. A unique case in all Egypt. The value of the exceptional cultural and historic assets is reflected in the vitality of some important local events such as the Date Palm Festival that takes place annually at the end of October (Asham, Mina Kamal, 2019)²⁰.

The inhabitants of Siwa consist of several tribes, with their respective chiefs. Tribes are divided into two large factions: Easterners who live in the east district of Shali, and Westerners who occupy the west sector. Urban areas and buildings boast a traditional style of architecture known as *karsheef* that was developed because suitable to the harsh desert climate. Karsheef is abundant in the oasis and result from the evaporation of water, with salt being left behind and mixing with soil. This forms a particular clay that become a solid material once dry. It is a typical material used across the oasis for construction and buildings.

Siwa history has been formed by many civilizations: Egyptian, Roman, Hellenistic, Byzantine and Arab (Maaly Abd Elghani, 2012)²¹. This oasis is among the most authentic in Egypt having experienced fewer of the modernization forces that affected other Egyptian oases. It is the only authentic oasis in Egypt where people live as their ancestors did (Al-Hamarneh, 2005)²².

¹⁸ Al-Baraa El-Saied, Abass El-Ghamry, Om-Mohammed A. Khafagi, Owen Powell, Ramadan Bedair. Floristic diversity and vegetation analysis of Siwa Oasis: An ancient agroecosystem in Egypt's Western Desert. *Annals of Agricultural Sciences*. Volume 60, Issue 2, 2015, Pages 361-372, ISSN 0570-1783, <https://doi.org/10.1016/j.aos.2015.10.010>

¹⁹ Maaly Abd Elghani (2012). Heritage and hospitality links in hotels in Siwa, Egypt: Towards the provision of authentic experiences. UWSpace. <http://hdl.handle.net/10012/7074>

²⁰ Asham, Mina Kamal. (2019). Intangible Cultural Heritage as a Tool for Community Empowerment: A Case Study of the Date Palm Festival in Siwa Oasis, Egypt. *Ottoman Journal of Tourism and Management Research*. 2019, Vol. 4, pp. 361-377. DOI 10.26465/ojtmr.2018339516.

²¹ Maaly Abd Elghani (2012). Heritage and hospitality links in hotels in Siwa, Egypt: Towards the provision of authentic experiences. UWSpace. <http://hdl.handle.net/10012/7074>

²² Al-Hamarneh, A. (2005). Oases Tourism "Nature, Culture and Adventure", *Islamic Tourism*, 18, 28-32.

Protected Area

To protect the valuable landscape and its natural and biodiversity resources a protected area was established in 2002 by means of Decree 1219. It comprises about 7.800 square kilometres, divided into three isolated sectors: Eastern, middle (Bir Wahed) and Western sectors. The small El Gara oasis is currently the only inhabited part of the Siwa Protected Area (Gabriel Mikhail, 2021)²³.

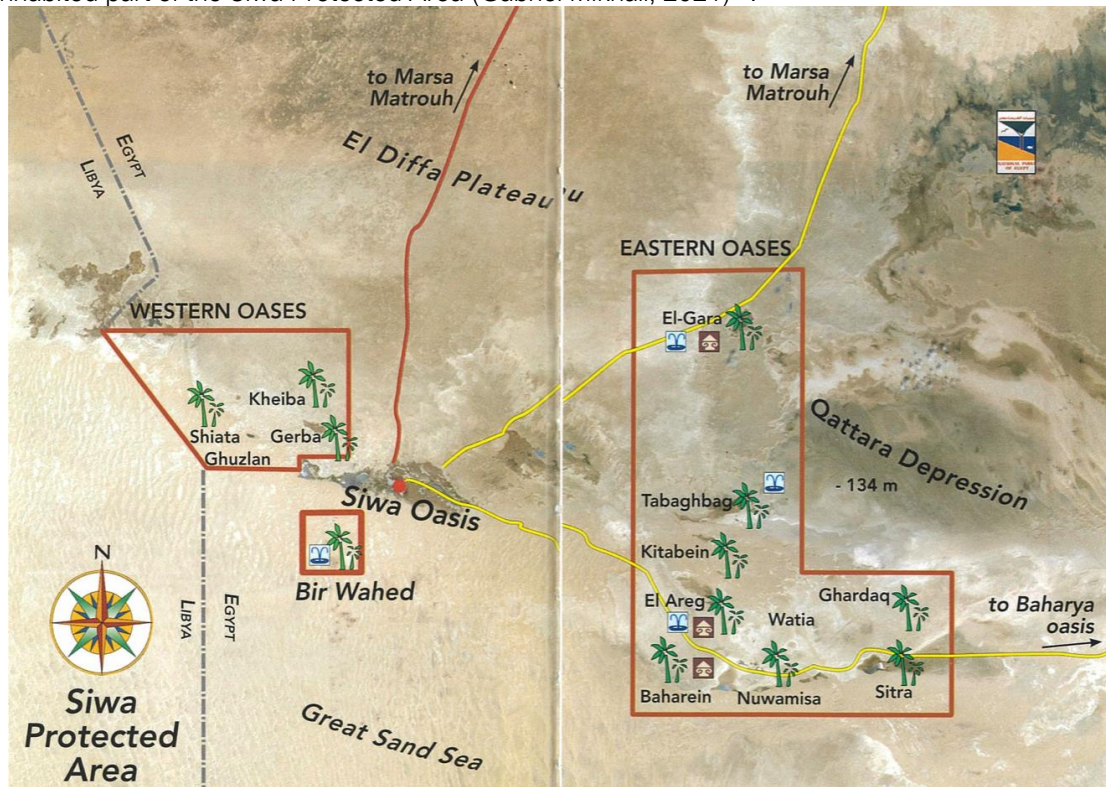


Figure 4 – Siwa Protected Area

Siwa's natural reserve is characterized by a rich biological diversity with variety of flora and fauna species blending in a unique environment. The protected area account more than 40 plant species, about 28 kinds of mammals, 32 kind of lizards and 164 type of birds, including other small animals and insects (M. Tawfik & M. Tolba, 2014)²⁴. The landscape features unique geological formations that jointly to the cultural heritage importance of the place make Siwa and its protected area a fascinating and intriguing place.

The protected area of Siwa have a basic management infrastructure and face logistical and organizational management constrains with visitor management still under-developed (EIECP, July 2007)²⁵.

²³ Gabriel Mikhail. (2021). Siwa protected area & the old town of Shali. Tour Guide. Egyptian Environmental Affairs Agency. Ministry of State for Environmental Affairs

²⁴ M. Tawfik & M. Tolba. (2014). A Sustainable Aspect For Safeguarding A Protected Area: Case Study – Siwa Oasis. Volume 181. Pages 11. Page Range 551 - 561. Published 2014. Paper DOI 10.2495/EID140471. Copyright WIT Press

²⁵ (EIECP, July 2007). Sustainable tourism in Siwa. An integrated strategy for the Siwa protected area. Egyptian Italian Environmental Cooperation Programme (EIECP)

Tourism

Siwa potentialities rely mainly on its distinctiveness from other parts of Egypt or even of the surrounding North African countries with a reputation of a distant and isolated oasis, where tourists can have experiences very different from those they can find in other parts of Egypt (EIECP, July 2007)²⁶. The Oasis has many tourist assets on offer starting with its local communities and their unique culture, interesting customs, handcrafts, local festivities, traditional architecture and building materials, traditional agricultural practices, as well as natural springs for swimming, and varied and spectacular scenery, with elements such as salt lakes, rock formations, dunes, opportunities for sand baths as well as several antiquities that include the Temples of the Oracle and Amun, the Tombs of Gabal El Mawta (Mountain of the Dead), the ancient mud brick fortress cities of Shali and Gara, and the ruins of ancient buildings and other archaeological sites (a complete review in De Mery A., 2000)²⁷.

Siwa is not considered as a destination itself, but is marketed as part of a regional or countrywide tour. Safari tours represent a growing segment of the foreign tourism along with the daily tours from resorts on the north coast. Siwa remains mainly a "secondary destination", with the majority of visitors spending only a few days in the area, a pattern which results in less benefits from the tourism sector accruing to the local community as well as to the PA (EIECP, July 2007).

Tourism to Siwa is highly seasonal and road access options are limited to daily bus or private transport. The area is targeted by a mix of domestic and international visitors with diverse interests ranging from history, culture, nature or therapeutic activity.

Many tourists arriving in Siwa pay a visit only to few sites within the main oasis and in close proximity to Siwa town. Most of the sites within the PA are only visited by a fraction of the visitors to the area, and this is partly due to their remoteness and difficulty of access (EIECP, July 2007). Site accessibility is a key factor influencing tours and excursions to protected areas. Generally, once they have arrived at their destinations, most tourists only want to visit sites within one- or two-hours' drive from where they are staying (UNEP, 2005)²⁸.

The development of a sustainable tourism sector can offer to Siwa an opportunity for generating economic benefits to the local community and the nation as a whole. The management of the protected area and the enforcement of conservation legislation become critical in building this sector and protecting the investments associated in tourism activities.

Cooperation between the tourism sector and the protected area is paramount for the development of Siwa, including the development of socio-economic benefits for the local population that should play an active and participatory role in tourism activities.

In developing the tourist sector Siwa need to identify its unique model, tailored on the specificity of its unique conditions taking into account that Siwa is a fragile ecosystem with a relatively untouched environment. Mass tourism have growing negative effects and poses serious management challenges, with long-term unsustainable activities leading to the depletion of the environmental resources. Mass tourism, such as in

²⁶ (EIECP, July 2007). Sustainable tourism in Siwa. An integrated strategy for the Siwa protected area. Egyptian Italian Environmental Cooperation Programme (EIECP)

²⁷ De Mery, A. (2000). Cultural heritage of the Siwa Oasis. Report to Siwa Environmental Amelioration Project

²⁸ UNEP (2005). Forging links between Protected Areas And the Tourism Sector: How tourism can benefit conservation. United Nations Environmental Program/Conservation International/Tour Operators' Initiative

other parts of Egypt like the Red Sea, does not seem an applicable model for Siwa (Kamel, N., Orabi, R., & Taha, S., 2017)²⁹.

Siwa may benefit more from higher-quality tourism, with smaller number of visitors that spend more time and resources in Siwa doing different activities (EIECP, July 2007). This Oasis combines several potentials for tourism development which permit its conversion to a tourist destination offering a variety of tourism products and encouraging tourism investments to the area, owing to its abundance of different tourism resources such as cultural/historic attractions, curative/ therapeutic tourism and nature-based tourism including ecotourism and safari tourism (Amara, Dalia, 2010)³⁰.

Siwa can rely on its formidable assets in developing tourism: place, people, culture and a varied natural environment and landscape. In this articulated setting visitors have the opportunity to engage with the whole place made of natural, economic, cultural and historic values that articulate around local resources and the local community and its culture. In designing the Siwa tourism strategy the focus should be on sustainable practices aiming to the optimal utilization of natural resources, biodiversity preservation, reduced effects of tourism on the environment and respect of the cultural authenticity of local communities (UNEP and UNWTO, 2005)³¹. Ecotourism is one of the most promising ways for protected areas to generate tangible and sustainable benefits from nature-based tourism (M. Tawfik, 2016)³².

Current tourism practices in Siwa are sustainable as a result of its remoteness and due to the low number of tourists visiting, as opposed to a commitment to achieve sustainability. In the face of the efforts made by both the public, and to a larger extent, private sectors in Siwa, sustainable tourism is yet to take its place as a viable model for tourism (Ahmed Zedan, 29 March 2012)³³. Tourism in Siwa is currently a sustainable destination not because of design or plan, but as the result of its remote condition, that have so far limited the number of tourists and the level of tourist infrastructure developments. Sustainability is achieved out of convenience rather than out of reaching the goal of sustainable tourism.

Siwa, with a high tourism potential to make it a distinct destination in the whole Egypt and in the North Africa region, requires a thorough assessment of the possible and alternative strategic development options, with a careful assessment of their potential environmental impacts, to make an informed choice about the long term and bio-friendly options that are applicable to the place, as well as to identify mitigation measures and management practices that will ensure tourism developments will not compromise the biodiversity assets of the area.

So far TDA initiated to research about tourism development in the area and the Matrouh governorate drafted a comprehensive plan for Siwa until 2020. The plan includes several development projects in different sectors. The most important about establishment of a factory for packing dates and olive, a handicraft centre,

²⁹ Kamel, N., Orabi, R., & Taha, S. (2017). Slow Tourism Experience: an Innovative Approach for Sustainable Tourism development in Egypt (The case of Siwa). *International Journal of Heritage, Tourism, and Hospitality*, 10.

³⁰ Amara, Dalia. (2010). Tourism as a tool of development: the case study of Siwa Oasis – Egypt Western Desert. 537-549. 10.2495/ST100461

³¹ UNEP, UNWTO (2005), *Making Tourism More Sustainable: A Guide for Policy Makers*, Madrid, Spain

³² M. Tawfik. (2016). The Development of Sustainable Ecotourism in Protected Area, case study: Siwa oasis. *Int. J. Sus. Dev. Plann.* Vol. 11, No. 3 (2016) 334–344

³³ Ahmed Zedan (29 March 2012). *Conserving Desert Ecosystems - Exploring Sustainable Tourism Impacts in Siwa, Egypt*. Retrieved May 2021, from <https://www.ecoclub.com>

and an industrial complex to produce salts both for local demand and exportation and four tourist projects to promote therapeutic tourism, safari, environmental and cultural tourism (D. F. Amara, 2010)³⁴.

North-Western Mediterranean Coast of Egypt

Location

Egypt enjoy a strategic location between three continents. A position with geography and climatic conditions that sustain a valuable biodiversity. The north-western Mediterranean coast represent the physical and ecological link between Europe in the North, Africa on the South and Asia to the East.

The coast from Sallum on the Egyptian-Libyan border to Alexandria extends about 500 Km with a northern coastal plain and a southern tableland (L. M. Bidakhae et al. 2013)³⁵. This north-western coastal region covers an area of approximately 2.4 million ha (Abd El Kader and Ahmed, 1981)³⁶, representing about 16.6% of the total national terrain.

With an almost continuous range of dunes along the coast, thirteen major habitats can be identified in the region: sand dunes, sand formations, saline depression, salt marshes, non-saline depression, inland ridges, inland plateau, wadis, cultivated land (include rainfed and irrigated farms), road sides, summer resorts, the Sallum plateau and Lake Mariut (Ahmed, 2009)³⁷.

The amount of annual rainfall decreases sharply from about 150mm near the coast to 80mm at a distance of 160 km inland. Most of the rain falls during winter (60% or more from November to February), and the summer is virtually dry. Wind in this region is generally strong and violent; dust storms and pillars were not rare (K. H. Shaltout et al. 2015)³⁸.

The Egyptian Mediterranean coast is under the threat of erosion and most vulnerable areas will be exposed to flooding and erosion under the pressure of climate change and sea level rise (Ali Masria et al. 2015)³⁹. Climate change is expected to have several impacts on the north coast of Egypt harming water resources,

³⁴ D. F. Amara. (2010). Tourism As A Tool Of Development: The Case Study Of Siwa Oasis – Egypt Western. Sustainable Tourism IV 537. WIT Transactions on Ecology and the Environment, Vol 139, ©2010 WIT Press. www.witpress.com, ISSN 1743-3541 (on-line). doi:10.2495/ST100461

³⁵ L. M. Bidakhae, S. Z. Heneidyn, K. H. Shaltout, Y. Al- Sodany. (2013). The Journal of Ethnobiology and Traditional Medicine. Photon 120 (2013) 566-584 <https://sites.google.com/site/photonfoundationorganization/home/the-journal-of-ethnobiology-and-traditional-medicine>. Original Research Article. ISJN: 6642-3194

³⁶ Abd El Kader, F.H., Ahmed, A.M.,1981. Soil and Water Studies in Regional Environmental Management of Mediterranean Desert Ecosystems of Northern Egypt. Progress Report 2, Vol. 3

³⁷ Ahmed, D.A., 2009. Current situation of the flora and vegetation of the western Mediterranean desert of Egypt. Ph. D. Thesis, Tanta Univ., Tanta. 424 pp

³⁸ K. H. Shaltout, H. A. Hosni, R. A. El-Fahar and D. Ahmed, 2015. Flora and vegetation of the western Mediterranean region of Egypt. *Taeckholmia* 35: 45-76

³⁹ Ali Masria, Moheb Iskander, Abdelazim Negm. (2015). Coastal protection measures, case study (Mediterranean Zone, Egypt. *Journal Coast Conservation* (2015). 19:281-294. DOI 10.1007/s1852-015-0389-5

agriculture, tourism, human settlements and cities and compromising the existing ecosystems (Ahmed Haron et al., 2020)⁴⁰.

Resources and Environment

The Mediterranean region is one of the world's great centres of plant diversity hosting some 25,000 vascular plant species, half of which are endemic to the region (not found anywhere else in the world), which means that 6-7% of the world's higher plants can be found in an area equivalent to 1.6% of the Earth's surface (Valderrábano et al. 2018)⁴¹. The Mediterranean region is also a global hot-spot for animal diversity.

Due to its location Egypt enjoy and benefit from the favourable conditions of the Mediterranean. Geomorphology of the area and weather patterns are unique conditions shaping a relatively small area into a set of interlinked habitats, from marine waters, sandy beaches and coastal dunes, saline and non-saline depressions, inland ridges, limestone plateau, inland sand formations and man-made rain-fed farms (Salem, 2003; SUMAMAD, 2003)⁴².

The Mediterranean coast of Egypt is relatively dry but enjoy rain during winter season and its natural ecosystem is capable to provide numerous services and goods supporting human well-being (Laila M. Bidak et al. 2015)⁴³.

Like all coastal areas, also the Egyptian north-western coast is densely populated and exploited, exposing its fragile ecosystem to increasing pressure.

In the area economic activities are substantial and diversified, including rain fed agriculture, livestock rising, trade, tourism, industry, mining, quarries, petroleum and various services (Batanouny 1999)⁴⁴. The rich natural flora is the source for grazing, medicinal plants, human food, timber, fuel, and also providing other uses such as mats, baskets, chairs, ornamental uses, beach beds, soap manufacture (K. Shaltout et al. 2012)⁴⁵.

Coastal dunes are recognized an important ecosystem in the world, with ecological diversity in terms of plant diversity and landscape heterogeneity (Acosta et al. 2009; Ciccarelli 2014; Agir et al. 2015; Pinna et al.

⁴⁰ Ahmed Haron, Zeinab Feisal. Coastal cities Resilience for Climate Change Case study: Egyptian North coast cities. *Journal of Urban Research*, Vol. 35, Jan 2020, P137-153

⁴¹ Valderrábano, M., Gil, T., Heywood, V., and de Montmollin, B. (eds.) (2018). *Conserving wild plants in the south and east Mediterranean region*. Gland, Switzerland and Málaga, Spain: IUCN. xiii +146 pp.

⁴² Salem, B.B.,2003. Assessing habitat fragmentation and its effect on plant biodiversity using multidade satellite imagery. Case study: omayed biosphere reserve (OBR), Western Coastal desert of Egypt. *Egypt. J. Desert Res.* 53, 1–17

SUMAMAD,2003. Sustainable Management of Marginal Dry Lands. National UNESCO Commission, Cairo, Egypt, p. 97

⁴³ Laila M. Bidak, Sania A. Kamal, Marwa Waseem A. Halmy, Selim Z. Heneidyia. Goods and services provided by native plants in desert ecosystems: Examples from the northwestern coastal desert of Egypt. *Global Ecology and Conservation* 3 (2015) 433-447

⁴⁴ Batanouny K.H. 1999. The Mediterranean coastal dunes in Egypt: An endangered landscape. *Estuarine, Coastal and Shelf Science* 49:3-9

⁴⁵ K. Shaltout, Dalia Abd El-Azeem Ahmed. Ecosystem Services of the Flora of Southern Mediterranean Desert of Egypt. October 19, 2012. *Ethnobotany Research & Applications* 10:403-422 (2012)

2015)⁴⁶. In Egypt coastal dunes support crucial services, such as raw materials, coastal shield, water catchment, wildlife preservation, tourism and carbon sequestration among others (Mendoza-González et al. 2012; Malavasi et al. 2016)⁴⁷. Dunes are fragile environments with a stressful ecosystem exposed to the impacts of natural and anthropogenic factors.

While enjoying the benefit of valuable ecosystem services the western sectors of the Egyptian Mediterranean coast faces increasing challenges due to growing and diversified pressure from society that is changing the landscape at an increasing rate. Human footprint on the environment is increasing resulting in an anthropized environment.

Main factor for degradation of the biodiversity in this area includes:

- Land degradation and desertification;
- Habitat change and habitat loss;
- Climate change;
- Agriculture expansion;
- Deforestation (for timber, firewood, charcoal);
- Overstocking;
- Overgrazing;
- Over-hunting;
- Over-cutting and wildfires,
- Inappropriate grazing;
- Inadequate tillage practices;
- Unsound cultivation practices;
- Chemical exhaustion of soil nutrients;
- Loss of habitat;
- Encroaching;
- Natural resource exploitation;
- Introduction of invasive species;
- Mining and quarrying;
- Urban development;
- Tourism development
- Unmanaged tourism activities and tourism impacts;
- Waste and wastewaters.

⁴⁶ Acosta A, Carranza M, Izzi C. 2009. Are there habitats that contribute best to plant species diversity in coastal dunes? *Biodiv Cons* 18: 1087–1098.

Ciccarelli D. 2014. Mediterranean coastal sand dune vegetation: influence of natural and anthropogenic factors. *Environ Manage* 54: 194–204.

Agir SU, Kutbay HG, Surmen B. 2015a. Plant diversity along coastal dunes of the Black Sea (North of Turkey). *Rend Lincei Sci Fis Nat* 26: 1–11

Pinna MS, Cogoni D, Fenu G, Bacchetta G. 2015. The conservation status and anthropogenic impacts assessments of Mediterranean coastal dunes. *Estuar Coast Shelf Sci* 167: 25–3

⁴⁷ Mendoza-González G, Martínez M, Lithgow D, Pérez-Maqueo O, Simonin P. 2012. Land use change and its effects on the value of ecosystem services along the coast of the Gulf of Mexico. *Ecol Econ* 82: 23–32

Malavasi M, Santoro R, Cutini M, Acosta A, Carranza ML. 2016. The impact of human pressure on landscape patterns and plant species richness in Mediterranean coastal dunes. *Plant Biosyst* 150: 73–82.

Since the past 20 years the north coast of Egypt has been exposed to unsustainable stress eroding biodiversity at an increased rate. The causes of degradation are a mix of environmental and economic conditions with the main direct cause related mainly to the way in which natural resources has been used for human development. Land-use for human activity purposes have had a devastating impact on the environment of the Egyptian north coast resulting in remarkable habitat loss.

Sustainable development in this complex and important area require in-depth understanding and the adoption of a more integrate and comprehensive approach when looking at development, balancing resource use and livelihood expectation with a sustainable environment. Integrated land-use and management systems are required and to be capable to conserve and save the environment and its natural resources before the situation become unsustainable. This area is facing multi-dimensional and multi-located issues that require a more strategic approach, such as SEA, for planning and development. Also the SEA approach can address one of the major challenges about sustainable local development and planning and related to the poor integration between different governmental agencies that are responsible for developing and managing coastal zones, coupled with the absence of networks that could help to achieve integration and coordination between the stakeholders at national, regional and local levels (Hossam Samir Ibrahim, 2013)⁴⁸.

Egypt, as well as other Mediterranean countries, suffers from the lack of a fully integrated management of coastal areas. There is not yet an Integrated Coastal Zone Management due to lack of stakeholder involvement and public participation and integration strategies (Hossam Samir Ibrahim et al., 2020)⁴⁹.

Population

In the past, local inhabitants had a nomadic lifestyle, moving from place to place in search for water and pasture. Recently, they started settling down, and their numbers are increasing (Abu Zeid, 1991)⁵⁰. A growing population id putting pressure on the environment with overconsumption of natural resources, reduction in water supplies, overgrazing and increased uprooting of indigenous vegetation.

The north coast of Egypt is one of the most densely populated in the Middle East and North Africa, the MENA region (EEAA, 2005)⁵¹. Two waves contributed to the inflow of population to this area, causing a transformation of the traditional land uses, once based on grazing and natural rangeland. The first wave of increase of population was in 1960s and caused by the launching of the High Dam of Asuan, with the displacement of Nubian people that were relocated in the north-west coast. This wave was followed by the re-settlement of war-refugees from Sinai and the canal zone in 1967. Current population in Matrouh multiplied 46 times than it was in 1960, compared to the overall Egyptian population increase of six times from the same period (Wisam Mohammed et al., 2012)⁵².

⁴⁸ Hossam Samir Ibrahim. Towards an effective framework for coastal zone management: the Egyptian experience. J Coast Conserv (2013), 17:601-613. DOI 10.1007/s11852-013-0258-z

⁴⁹ Hossam Samir Ibrahim, Ibrahim Hegazi. Decentralization in the Egyptian coastal management. Journal of Coastal Development, Volume 16, Number 2, February 20: 12-113

⁵⁰ Abu Zeid, A., 1991. Desert Societies in Egypt. North Sinai-National Center for Social & Criminal Research (NCSCR), Cairo, Egypt

⁵¹ EEAA (2005) Egypt state of the environment report 2004. In: Agency EEA (ed) Ministry of State for the Environment, Egyptian Environmental Affairs Agency

⁵² Wisam Mohammed, Sabah Saleh Al-Jenaid. Sustainable Planning for Environmental Sensitive Area using Multi Criteria\Multi Objective Spatial Analysis: Case Study El-Dabaa, Egypt. AGJIR 30 (2/3) 2012: 78-87

Urban development is proceeding along the north-western coast still today at an alarming rate. Many summer resorts and settlements have been established over the last two decades (Laila M. Bidak et al 2015)⁵³.

Protected Area

The Egyptian Mediterranean coast represent a critical ecosystem exposed to climate change and sea-rise levels as well as to human-generated impacts. Egyptian management and development of natural resources are expected to take place under a more integrated fashion. The protocol for Integrated Coastal Zone Management (ICZM) in the Mediterranean entered into force in March 2011 and Egypt is expected to play an important role in developing an integrated management of coastal areas, moving away from current coastal planning and management, which can be described as Government-driven, towards an effective coastal governance with the involvement of inter-organisational networks, made up of government and societal stakeholders (Óscar García-Aguilar et al.)⁵⁴.

The north-western Egyptian coast hosts the Omayed protected area, a Key Biodiversity Area (Valderrábano, M. et al. 2018)⁵⁵ representing the Mediterranean eco-systems of Egypt.

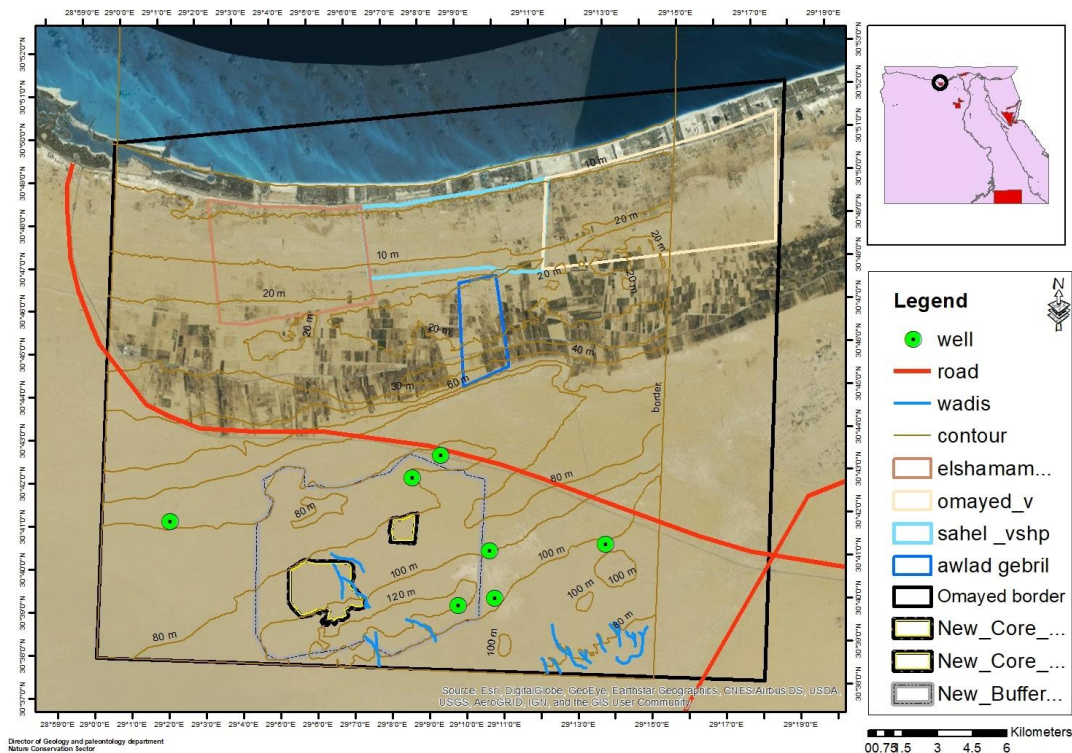


Figure 5 - Omayed Biosphere Reserve, with new core areas

⁵³ Laila M. Bidak, Sania A. Kamal, Marwa Waseem A. Halmy, Selim Z. Heneidyia. Goods and services provided by native plants in desert ecosystems: Examples from the northwestern coastal desert of Egypt. *Global Ecology and Conservation* 3 (2015) 433-447

⁵⁴ Óscar García-Aguilar, María Merino, Pino González-Riancho, Marcello Sanò, Raúl Medina. A Nested Governance System for ICZM in Egypt

⁵⁵ Valderrábano, M., Gil, T., Heywood, V., and de Montmollin, B. (eds.) (2018). *Conserving wild plants in the south and east Mediterranean region*. Gland, Switzerland and Málaga, Spain: IUCN. xiii +146 pp.

El-Omayed Biosphere Reserve (OBR) is located on the north-western Mediterranean coast and joined the world network of biosphere reserve in 1981. Was declared as a protected area by Prime Minister decree in 1986 and is representative of the northern Mediterranean coast of Egypt, with a variety of development and conservation activities. The area suffers from dramatic land use pressure and climatic conditions, conducive to degradation of the environment and desertification (Dalia A. et al. 2015)⁵⁶.

OBR hosts several habitats from sand dune, saline depressions, ridges, inland ridges and plateau, inland siliceous deposits and rain-fed farms with a diversity of ecosystems. The reserve, located in one of the rapidly developing regions on the Egyptian coasts is under extreme pressure from human impact that have eroded and encroached its habitats.

Research (Ahmed M. Hashimn et al. 2020)⁵⁷ indicate major changes are occurring in OBR with cultivated land having continuously increased, at the expense of other land uses from 1% in 1984 to around 21% in total in 2019. Urban areas showed a similar trend, with 0% in 1984 to 8.11% of the total area in 2019.

Urban and cultivated land expanded in OBR in the past 10 years with anthropogenic activities influencing more than 30% of the total area of the reserve, with a dramatic encroachment of its natural habitats.

Proliferation of summer resorts in the coast and increasing agriculture activities are posing under stress the freshwater aquifer and human pressure is causing the removal of vegetation cover that intensify desertification processes, with destruction of wildlife habitats (Omayed 2015)⁵⁸. Thus, an introduction of a zonation change of OBR with the two core zones now relocated in biodiversity hotspots in terms of flora and fauna.

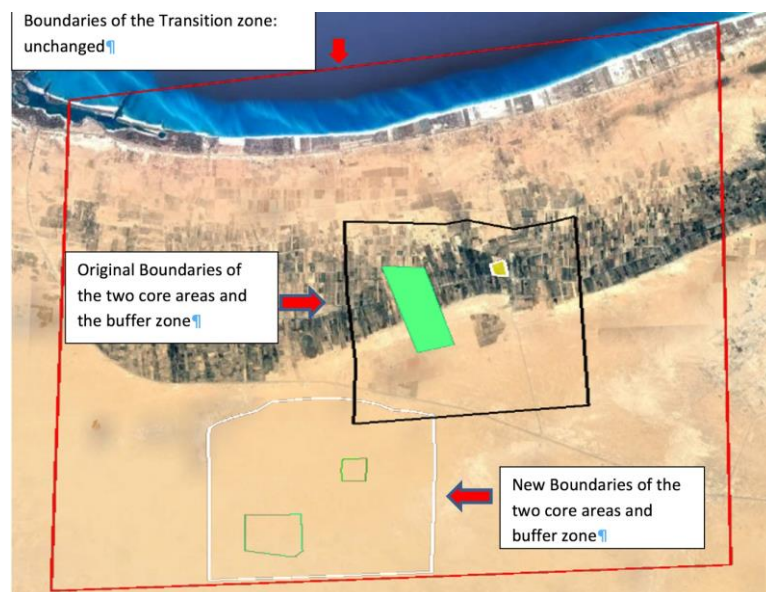


Figure 6 - Omayed Biosphere Reserve, new boundaries of the two core areas and buffer zone

⁵⁶ Dalia A. Ahmed, Manal Fawzy, Nouran M. Saeed, Mohamed A. Awad. (2015). Effect of the recent land use on the plant diversity and community structure of Omayed Biosphere Reserve, Egypt. *Global Ecology and Conservation* 4 (2015) 26-37

⁵⁷ Ahmed M. Hashimn, Amr Elkelish, Haifa A. Alhaithloul, Shaimaa M. El-hadidy, Haitham Farouk. Environmental monitoring and prediction of land use and land coverspatio-temporal changes: a case study from El-Omayed Biosphere Reserve, Egypt. *Environmental Science and Pollution Research* (2020) 27:42881-42897

⁵⁸ Management Plan of Omayed Biosphere Reserve 2015-2025

Tourism

In the late 1980s, establishment of summer resorts on the coastal dunes started to reshape the landscape of the area. Quarrying activities increased as a result of the establishment of these resorts. Mining and cutting of the limestone ridges in the area provide building materials necessary for the establishment of the resorts (Marwa Waseem Halmy et al. 2015)⁵⁹.

Currently an almost continuous row of summer resorts occupies the coastline between Alexandria and Alamein, and there are plans to develop the rest of the north coast in a similar manner. This has not only led to the complete destruction of the habitats, but also to the degradation of vast areas of habitat surrounding them (Dalia A. Ahmed et al 2014)⁶⁰.

The north coast is developed both in urban and tourism establishment with summer resorts and tourist sites in the area between Burg El-Arab and Marsa Matruh. Tourism, mainly domestic, is driving major changes to the area and posing several challenges to the natural resources. Impacts related to tourism include the use of natural resources, energy, waste and wastewater.

⁵⁹ Marwa Waseem Halmy, Paul E. Gessler, Selim Z. Heneidy. Implications of Human Induced Changes on the Distribution of Important Plant Species in the Northwestern Coastal Desert of Egypt. Journal of Renewable Energy and Sustainable Development (RESO). Volume 1, Issue 2, December 2015 - ISSN 2356-8569

⁶⁰ Dalia A. Ahmed, Kamal H. Shaltout, Sania A. Kamal. Mediterranean Sand Dunes in Egypt: Threatened Habitat and Endangered Flora. Life Science Journal 2014;11(10)

Issues and Problems

The project identified some preliminary issues and problem areas that relate to the impacts of tourism developments on the oasis biodiversity and its environment as well as in the north-western coast. This list need to be expanded with the support of the SEA and scenario and options need to be assessed, reviewed and evaluated in order to identify the most suitable policy and plans for tourism development and for sustainable management of the area.

Here follows a summary of issues and problems that will be further expanded and reviewed by the SEA.

- Use of underground water
- Sustainable practice and water management
- Recycling and water saving
- Drainage systems
- Rise of soil water
- Swamp formation
- Water logging
- Salinization of land
- Sewage and seeping of sewage
- Building of wastewater lakes not suitable for drinking or agriculture
- Erosion of sandy coasts
- Sea level rise
- Flooding
- Energy
- Sustainable energy production
- Energy demand and supply
- Agriculture and local development
- Invasive plants
- Deterioration of land productivity
- Human impacts on biodiversity
- Overgrazing
- Use of wood
- Collection of medicinal plants
- Aquaculture and fisheries
- Eutrophication due to drainage from agriculture and urban areas
- Urban planning
- Urban development
- Tourism activities
- Holiday villages
- Road and transport infrastructure
- Quarrying
- Architectural guidelines
- Construction and building materials
- Master development plans for the area, not limited to the protected area
- Long term conservation of natural assets
- Environmental and development regulatory issues and policies
- Conservation of sites
- Sites management
- Management of human made and tourism environmental negative impacts
- Implementation of CBD guidelines on biodiversity and tourism development in relation to the management and development of the area

- Protected area recognition and linking with tourism activities and other economic activities such as agriculture and craft production
- Strengthening protected area management
- Tourism management plans
- Tourism sustainable practices
- Mitigation measures of tourism impacts
- Even spread of visitors across all of the several touristic features of the area
- Access to the area and security permits for visitors
- Tourism strategy
- Tourist impact management
- Tourism flow management
- Diversification and expansion of local opportunities for visitors
- Balancing tourism commercialization with authenticity
- Promotion and destination management
- Community involvement in tourism
- Population participation and engagement into tourism activities
- Empowerment and local community organization
- Waste disposal
- Waste management
- Pollution of hydrocarbons into sea
- Transport and sustainable transportation
- Cultural identity
- Social transformation and social change
- Preservation of cultural and natural heritage
- Institutional frameworks and coordination mechanism
- Involvement of stakeholders
- Role and participation of the private sector
- Monitoring
- Evaluation and measurement of impacts

Strategic Environmental Assessment (SEA)

SEA is a valuable process to assess and gauge tourism investments, bringing together under a common analytical framework the environmental, social and economic dimensions that are involved in every development initiative. SEA is expected to integrate environmental, alongside economic and social concerns, into strategic decision-making, thereby combining the environmental, social and economic factors into a holistic sustainability assessment. The focus of SEA is mainly on *environmental integration* with the priority goal of mainstreaming and up-streaming environmental considerations into strategic decision-making.

Different alternatives and approaches to development are available but they are rarely assessed in depth, with little environmental consideration. Instead decision-makers and players, such as investors, use limited information to draw ideas and visions about the future they expect, or are interested in. Projects are born from this process, with little attention to environmental impacts or to the cumulative negative effects that they may have on an area or even on a national country level. As a result, strategic actions and decisions defined in policies, plans and programmes, are not always as ideal as expected.

SEA helps decision-makers to reach a better understanding of how environmental, social and economic considerations fit together. SEA makes use of several analytical and participatory tools and methodologies with the aim of integrating environmental considerations into policies, plans and programmes and evaluating inter-linkages, side effects, cumulative environmental impacts and economic and social considerations.

Effective SEA depends on an adaptive and continuous process focused on strengthening institutions, governance and decision-making processes rather than just a simple, linear, technical approach focused on impacts, as is often found in EIAs. SEA looks at impacts that are poorly considered at project level because it deals with cumulative effects and gauges synergies of impacts in a whole sector/area.

SEA is a process where decision-makers are involved in playing an active role with the objective of making balanced decisions that incorporate SEA findings and ensuring a careful assessment and evaluation of the different options that are available for development and investments. In cases where impacts are unavoidable, SEA reduces or mitigates negative environmental impacts, while boosting positive ones, ensuring that sufficient adequate offset strategies are introduced.

SEA helps in predicting impacts, drawing scenarios based on trends and comparing likely future developments building on the current baseline. In a SEA, the effects of decisions, such as those related to tourism investment and development, may be tested and assessed. Different ways are available to achieve sustainable tourism development, and different options have different environmental impacts, leading to different management scenarios for the environment and the natural resources involved. SEA is the most suitable tool to ensure the selection of the most valuable options that are capable of conjugating development and environment in a sustainable way, without compromising biodiversity stocks and richness.

Finally, SEA is also important in contributing to the promotion and participation of different concerned stakeholders and players in the decision-making process, thus building consensus around development-option decisions and increasing awareness and ownership among the organisations who are involved and affected by the induced changes.

The SEA process can be summarised as follows:

- Definition of the objectives of strategic action
- Identification of alternatives, trends and scenarios
- Support decision-makers in selecting the optimal alternative/alternatives
- Identification of mitigation/offset measures for the selected actions
- Support implementation of strategic actions and provide a framework for monitoring

SEA and Environmental Impact Assessment (EIA)

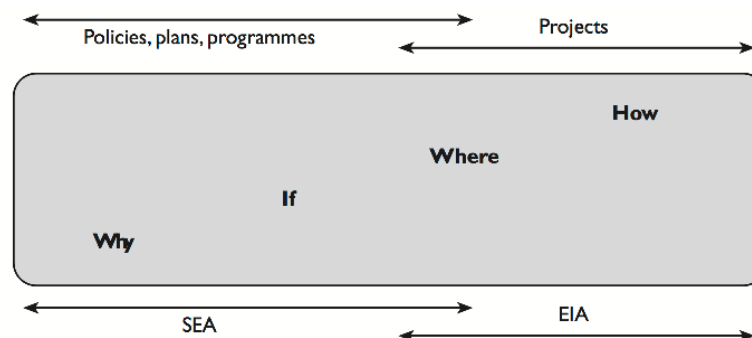
Policies shape development plans, while programmes and projects put those policies into practice. Policies are at the top of the decision-making hierarchy. As one moves down, from policies to projects, the nature of decision-making changes, as does the nature of environmental assessment needed.

Levels of Decision-Making	
Policy	Road-map with defined objectives, set priorities, rules and mechanisms to implement objectives
Planning	Priorities, options and measures for resource allocation according to resource suitability and availability, following the orientation, and implementing, relevant sectoral and global policies
Programme	Organized agenda with defined objectives to be achieved during programme implementation, with specification of activities and programmes investments, in the framework of relevant policies and plans
Project	A detailed proposal, scheme or design of any development action or activity, which represents an investment, involves construction works and implements policy / planning objectives

Maria Rosario Partidario (2003). Strategic Environmental Assessment (SEA) current practices, future demands and capacity building needs. Portugal, Lisbon.

Figure 7 – Levels of decisions-making

Policy-level assessment tends to deal with more flexible proposals and a wider range of scenarios. Project-level assessment usually has well defined and prescribed specifications.



Source: Swedish National Board of Housing et al (2000)

Figure 8 – Policies and project assessment. SEA and EIA

SEA and EIA share the same objectives and relate closely to each other. SEA deals with higher level planning while EIA focuses on project-level assessment. SEA is undertaken before EIA and provides information about potential environmental impacts that apply to different development options.

In some cases, EIA may be carried out too late in the planning process, and therefore does not ensure that all the possible development alternatives are taken into account. Alternative approaches, cumulative impacts and synergistic and cross-sectoral impacts should be assessed before EIA takes place, at policy, plan or programme level, and **not** at project level, where the EIA is applied.

SEA takes into account a wide array of development options. In this way, SEA directly influences the policy environment, preferably in its formative stages, and increases the likelihood of creating sustainable development outcomes which reduce environmental risks. Another great difference between EIA and SEA is that the nature of the decisions to be assessed is different. While EIA assesses precise projects that are to be introduced within a clear timeframe in one definite area, policies and plans have a more vague nature and

affect larger areas in a timescale that is sometimes difficult to predict. In this respect, the information that can be used also differs between EIA and SEA.

SEA is applied to a strategic level of analysis while EIA is used on projects that put strategic planning into effect.

EIA and SEA Comparison Table

EIA	SEA
Applied to specific and relatively short-term (life-cycle) projects and their specifications.	Applied to policies, plans and programmes with a broad and long-term strategic perspective.
Takes place at early stage of project planning once parameters are set.	Ideally, takes place at an early stage in strategic planning.
Considers limited range of project alternatives.	Considers a broad range of alternative scenarios.
Usually prepared and/or funded by the project proponents.	Conducted independently of any specific project proponent.
Focus on obtaining project permission, and rarely with feedback to policy, plan or programme consideration.	Focus on decision on policy, plan and programme implications for future lower-level decisions.
Well-defined, linear process with clear beginning and end (e.g. from feasibility to project approval).	Multi-stage, iterative process with feedback loops.
Preparation of an EIA document with prescribed format and contents is usually mandatory. This document provides a baseline reference for monitoring.	May not be formally documented.
Emphasis on mitigating environmental and social impacts of a specific project, but with identification of some project opportunities, off-sets, etc.	Emphasis on meeting balanced environmental, social and economic objectives in policies, plans and programmes. Includes identifying macro-level development outcomes.
Limited review of cumulative impacts, often limited to phases of a specific project. Does not cover regional-scale developments or multiple projects.	Inherently incorporates consideration of cumulative impacts.

OECD. 2006. *Applying Strategic Environmental Assessment – good practice guidance for development co-operation*. Paris. OECD Publications.

Figure 9 – EIA and SEA comparison table

Works and Deliverables

One SEA focusing on Siwa Oasis, Egypt.

One SEA focusing on the North-Western Mediterranean Coast, Egypt.

These two SEAs to be delivered as separate and autonomous documents.

The SEA is a participatory process. It allows civil society, including the private sector and relevant stakeholders, to be involved and to contribute. The involvement and active participation of stakeholders is very important to the project. For this reason, the SEAs (one focusing on Siwa Oasis and the second focusing on the north-western coast of Egypt) that will be carried out under these ToR will involve WG1 stakeholders and will also promote consultation processes to encourage the participation of the different publics concerned with environment and tourism development in both areas. The objective is to gather viewpoints and to give opportunity to a large public to express their considerations.

For this reason, the SEA team is expected to work in close cooperation with the project team to make sure the SEA is not implemented as a separate, highly technical exercise, but instead it is a process developed around and with the full participation of the decision-makers who are represented in WG1. The SEA team, with the project management, will evaluate the available options to include in the SEA team representatives of the technical staff belonging to the institutions involved with WG1. It is anticipated that this will build a strong sense of ownership and trust among institutions, expand strategic planning technical capacity among Egyptian environmental and tourism decision-makers and will familiarise the country with the overall SEA process. It will also be a valuable in-service training experience for technical staff who work in government institutions, giving them the opportunity to gain more knowledge and experience. Building ownership of the SEA process across the institutions involved in WG1 will help to ensure that the outcomes of the SEA will not be seen as a mere technical exercise, but these outcomes will instead feed into the overall decision-making process.

The familiarization of the SEA will also contribute towards improving existing EIA processes. In addition, the SEA will contribute to making Egyptian institutions more knowledgeable of this approach, thus expanding their skills in relation to planning and development, with a focus on sustainable environment and biodiversity protection.

The SEAs will be implemented in phases according to the following implementation process.

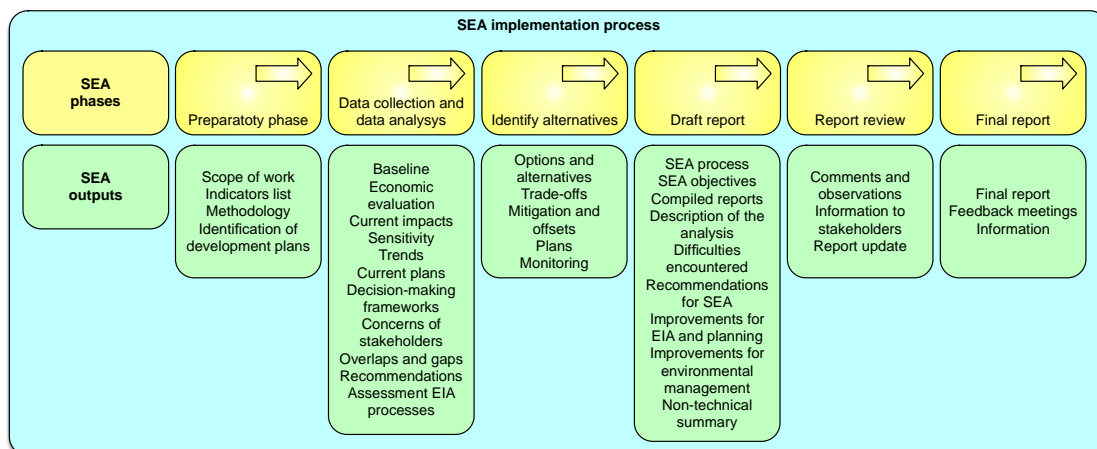


Figure 10 – SEA implementation process

Preparatory Phase

Both SEAs will start with a preparatory activity involving WG1; this will aim to re-define the key questions to be addressed, including a more detailed and applicable definition of what is expected to be sustainable tourism development for the two target areas. The scope of work for the SEAs will be reviewed with WG1, making sure that decision-makers and the technical team are aligned to the same objectives and share a common definition about sustainable tourism development for Siwa Oasis and the north-western coast. In this phase, key links with other strategic actions and plans occurring in the same area will also be considered.

The discussion with WG1 and the interactions with the project management will provide the SEA team with a preliminary indication of the environmental impacts to be considered and its root causes (some of them are included in this document). A set of problem areas, linking to tourism development and environmental sustainability, will be defined and agreed, and the contents and perimeter of the baseline data to be used will also be established. The baseline of the two areas will be defined in such a way so as to provide the most realistic picture of the current situation and of the current level of impacts caused by tourism development so far (existing scenario in both areas). In this phase, it will be important to establish a common understanding among stakeholders about objectives and methodological aspects of the SEA, with a clear agreement about the information that will be gathered and will form part of the baseline analysis. The WG1's agreement of which problem areas related to tourism development and environment should be considered and the most suitable indicators to be contemplated will be documented and will be an important achievement for the SEA preparatory phase.

At this stage, the SEA team and the project manager will be able to review the SEA scope of work and, if necessary, provide more detail of the objectives and activities that are expected from the technical team, including deliverables and criteria for assessment.

In defining the data gathering process, a pragmatic approach will be adopted to define how much can be achieved given the time-scale, available resources and existing knowledge.

Preparatory phase will include an inception report with the following deliverables that will be discussed during the inception workshop:

- SEA objectives and scope of work defined and agreed with WG1 for both target areas
- Review and identification of stakeholders and institutions of concern for the SEA
- Proper identification of data needed and data gaps, indicators necessary to build the baselines, including trends and impacts to be measured, identified and documented
- Detailed information about methodologies for data collection and to deal with data gaps
- Preliminary identification of development plans at local, governorate and national level to be considered

Data Collection and Data Analysis

This phase of the SEAs will focus on the following tasks:

- Baseline
- Economic evaluation
- Quantification of current impacts in relation to the root causes
- Identification of sensitivity areas
- Review of trends
- Analysis of influence of current plans
- Analysis of decision-making framework
- Concerns of stakeholders
- Identification of overlaps, limitations and gaps
- Recommendations from the analysis
- Assessment of EIA processes

Baseline

The SEAs need to be based on a thorough understanding of the potentially affected environments and social systems of the Siwa Oasis and the north-western coast. This must involve more than a mere inventory of tourism investments and environmental information (hotels, tourism activities and products, tourist flow and impacts, flora, fauna, environmental resources, landscape and urban environments, and so on).

Particular attention should be paid to important or sensitive ecological systems and services, their resilience and vulnerability, and their significance for human well-being.

Existing environmental protection measures and/or objectives set out in international, national or regional legislative instruments should also be considered. The baseline should provide a clear picture of the state of the environment, the environmental stocks, and the existing key biodiversity areas that require attention. Additionally, the baseline is expected to provide an economic evaluation of the main natural resources of the target area.

The baseline data should reflect the objectives and indicators identified in the preparatory phase and it is expected to integrate all relevant information that will be uncovered by the SEAs during field work and through the inputs provided by stakeholders. For spatial plans, the baseline can include a stock of natural assets, including sensitive areas, critical habitats and valued ecosystem components. The baseline will focus on the main environmental impacts and appropriate indicators will be selected (waste, emissions, water quality, impact from tourism activities on natural resources, energy and transport). The baselines should provide a clear understanding of the current scenario and a likelihood reflection of the actual situation, if no changes are introduced.

Collection of baseline information will be through primary and secondary sources, such as surveys, focus group discussions, participatory appraisal, informal interaction and reviewing existing information that is available to the different planning and management agencies. The SEA team will prepare a data-gathering strategy and will discuss the data-gathering process with the project management and WG1. Rather than providing static figures, the focus of the baseline will be on the direction of changes that are taking place or that are expected to happen. This will assist the project team to identify, in collaboration with stakeholders, possible future scenarios that may be expected under the current situation in both targeted areas.

The SEA team will build the baseline in such a way as to facilitate decision-makers to identify current and expected trends that relate to the SEAs objectives. The most important issues related to environmental sustainability will be highlighted in relation to the decision-making process.

The baseline will help to build the current scenario while trends, plans and informed hypothesis about future developments will provide insights about possible future changes that may be expected. The SEA team will be involved with WG1 to discuss the baselines and to build a picture of the current scenario for both areas that everyone recognises as representative of the current situation. Trends will also be discussed and will serve as a base for the WG1 to indicate the more likely scenarios that have to be faced.

A preliminary set of data, covering the two areas, to be discussed and agreed with WG1, that can compose the baseline, is summarised here as a reference for the SEA team to initiate their work:

- **The area:** Environments, ecological hot-spots, biodiversity resources and stocks, protected areas. The economy, economic activities, economic sectors, resources, services and transport. The society, population, communities, traditions, culture.
- **The livelihood and development:** This will include the identification of local resources and environments and of the links between livelihood and development with biodiversity resources.
- **The tourism:** Tourism resource inventory/maps, seasonality and trends, tourism investments and products, tourism activities that take place in sensitive areas, mapping of relationships between natural resources and biodiversity in relation to tourism (accommodation, excursions, travel and activities). Numbers of tourists visiting Siwa and its different destinations, average expenditures, trends and impacts. Total accommodation capacity and occupancy.
- **The impacts:** Direct and indirect impacts on biodiversity and the environment generated by tourism, or by other sectors linked to tourism, such as transport, energy or provision of resources and services. Waste and wastewater, consumption of resources, such as water and energy, degradation of environments, weakening of biological processes and threatening of habitats, landscape change and depletion of natural resources. Impacts shall also include those small impacts caused by small tourism activities and products that are not large enough to trigger an EIA, but that have a great cumulative and exponential impact on the environment, such as repeated small groups and continuous visits of biodiversity hot-spots.
- **The plans, policies, overlaps and gaps:** Identifying the potential direct and indirect or unintended effects of policy proposals, legislation and laws, regulations and decision-making processes, as well as options for alternatives. Analyse overlaps in decision-making and planning, gaps and existing contradictions that can be addressed through coordination, new procedures or revision of decision-making processes.

Identification of Impacts, Sensitive Areas and Economic Evaluation

Both in Siwa and in the north-western coast tourism developments already occurred, and they have varied and composite levels of impacts on the environment. Eventually these developments were already assessed through EIA on an individual basis. Many other small-scale tourism activities did not triggered EIAs, but have an important cumulative impact on natural resources. It is a reality that many decisions affecting the environment are taken beyond the control of existing regulatory frameworks. These may be small actions, taking place at local level, or a part of a compartmental pattern that is difficult to influence. However, they may have great impacts on biodiversity and the environment. Decision-makers do not always clearly understand these situations, and there is a tendency to underestimate the overall impact of a number of small cumulative actions that affect a determined environment.

Tourism activities, tours, excursions, leisure travel and trips are another set of activities that impact the environment and generate management costs, but are not assessed in terms of environmental impact. The development of the two areas in previous years also caused impacts on the environment in terms of use of natural resources, degradation of the environment and changes of landscape. Unfortunately, no assessment took ever into account, in a comprehensive and holistic way, the magnitude of all these impacts on the environment. There is a limitation of the EIA process, which is not suitable for integrated planning and development on large-scale areas, because it only focuses on small-scale, project-level interventions.

Based on the indicators collected, areas of impacts will be identified and summarised through vulnerability maps, policy impact matrixes and risk analysis. Particular attention will be given to cross-impacts that take place in the two areas. This information will be compiled into impact analysis documents.

The impact analysis should highlight direction of change/movement of impacts, such as increase/reduction of habitats, reduction of volume of waste, and so on for each targeted area. Projections will be used for medium and long-term trends. Plans and programmes will be included in this analysis to identify future impacts of planned/on-going investments and activities. This will be included in trend analysis documents.

Environmental sensitivity will be highlighted and critical areas of attention should be clearly spelt out, such as the case of endangered habitats or species. Sensitivity maps will be compiled to visualise critical areas and environments. In addition, an economic evaluation of the main natural resources of the two areas will be carried out and will enable an approximate understanding of the value of ecosystem services provided by local environments.

The tasks associated with these activities will help decision-makers to understand the broad picture of the current impacts that can be observed in the areas and how they relate to each other. WG1 members are expected to understand and become more aware of the cumulative and interrelated impacts that their individual decisions have on the environment. Sources of impacts that are outside the control of current regulatory and planning frameworks will also be highlighted from this phase of analysis and this will help to identify shortcomings that need to be addressed. In more general terms, analysis of impacts will clarify and explain the need for a more integrated planning and development approach. In this prospective, the value of the SEA will be better understood.

Review of Trends

The baselines that will be built are expected to include pointers to the future, in terms of indicators of change and transformation. Some projections about the future, based on current and expected trends, will be of key importance to support stakeholders of WG1 to elaborate the most likely scenarios that they will be expected to deal in future in the two areas. The identified trends will be critical to select and identify options and measures that need to be put in place in order to proactively deal with change and transformation. The SEAs are expected to help prepare the country to manage future changes in the tourism industry, particularly in relation to the sustainable use of natural resources. Decisions need to be taken now to ensure that future developments will not contribute to the collapse of the environment, compromising the very same natural resources that are at the base of the tourism industry.

Analysis of Current Plans Influence

Plans for future development, local development strategies, private sector plans and projects in the pipeline will also be reviewed in order to complete the baselines with information suggesting possible future changes that are expected to take place if the current situation evolves, based on the current planning strategy (or lack of strategy). Particular attention should be devoted to local plans that may not trigger EIA concerns but that may have a great impact on the environment and that could jeopardise environmental management in the two areas.

WG1 should be made well-aware of these situations and shall be put in the best state to identify the possible scenarios of change for Siwa and the north-western coast that derive from the influence of existing plans for development that are taking place under the responsibility of different institutions and governing bodies.

Analysis of Decision-Making Frameworks

The baseline will also include a review of the current governance systems related to tourism development and management of natural resources. Existing relations and interactions among different levels of planning and decision-making will be highlighted. This will take into account local administration processes, national policies and intermediate level plans. The role of the private sector will also be taken in consideration. Laws, legislation, policies, regulations and law enforcement mechanisms that relate to tourism development and tourism investment will also be considered and reviewed.

Existing channels for communication between decision-makers will be identified as well as disconnects where different planning and implementing bodies make development decisions that affect the same environment without being aware of the interrelated effects of their respective actions. The decision-making processes, planning, and priority definition of different actors who affect the environment in Siwa and in the north-western coast will be considered in the SEAs, in order to identify possible areas of improvement in the decision-making and planning process.

In this phase of the work, stakeholder concerns will be recorded and areas of agreement/disagreement noted to be reported back to WG1.

Identification of Overlaps, Limitations and Gaps

The interrelated impacts that take place in the two areas, the current and expected dynamics of change, the effects of on-going and future plans as well as the review of the complex decision-making frameworks that relate to the areas will provide the SEA technical team with a clear understanding about overlaps, limitations and gaps that relate to laws, legislation, regulations, policies and to the decision-making processes. This situation should be analysed, reviewed and discussed by WG1. Simple decisions that do not require great effort or cost may be easily introduced and capable of addressing some of the identified problems. Other issues may require a more complex approach.

The experience and understanding gained through the SEAs in both areas will be extremely important for providing information and support to WG1 in the task of developing a road map for mainstreaming biodiversity into tourism development. Recommendations in this respect will be prepared by the SEA technical team to be discussed by WG1.

Assessment of EIA Processes

The review of the current situation of the two areas will be an important exercise to test and assess how effective current EIA processes are. By looking at the overall picture, instead of focusing on single project developments, the SEA technical team will be able to draw conclusions about side-effects, hidden impacts, and cumulative and mutually reinforcing dynamics that are important in the context of environmental evaluation and that are not taken into account under the current EIA regulations.

Based on the findings of the SEAs, an assessment of current EIA procedure will be carried out which will provide WG1 with relevant information to review, update and integrate current EIA guidelines and regulations.

The review of the current EIA system will build on the recommendations to improve EIA based on the findings of the SEA the project already undertook in the Red Sea. These recommendations will be integrated and expanded as necessary, based on the findings of the SEA in the Siwa and North Coast areas.

Data collection and data analysis for both areas will include the following deliverables:

- Baseline data
- Economic evaluation of main natural resources
- Identify impacts, source of impacts and cumulative and interrelated effects
- Sensitivity analysis
- Review of trends and dynamics
- Analysis of current plans' influence
- Institutional and decision-making frameworks
- Stakeholder concerns including areas of agreement and disagreement
- Identify overlaps, gaps and contradictions in the current legislation, laws, regulations and planning and decision-making processes feeding back to the WG1; work on a road map for mainstreaming biodiversity into tourism planning
- Link SEA with the EIA system
- Recommendations to improve the overall planning system at level of legislation, policy, legislation, capacitation and feeding into the road map to mainstream biodiversity into tourism planning

Identify Alternatives

In this phase of the SEAs, the team will review a set of development options that are available and will identify the environmental advantages and disadvantages, indicating possible sustainable alternatives that are capable of enhancing positive changes, reversing or mitigating impacts or offsetting unavoidable ones. The SEAs will look at opportunities and impacts in terms of which actions can be more effective to minimise negative impacts as well as to reduce risks.

The aim is to identify and develop 'win-win' situations where multiple, mutually reinforcing gains can strengthen the economic base, provide equitable conditions for all, and at the same time protect and enhance the environment and its biodiversity. A mitigation hierarchy should be followed for identified negative impacts: first avoid; second reduce; and third offset adverse impacts – using appropriate measures. When identifying options and alternatives, the SEA team will use cause-effects diagrams, rely on expert consultation and will consider public value and preferences. Benefit-cost analysis and multi-criteria analysis will be used to identify and assess options and alternatives. Trade-offs will be acknowledged and trade-off maps will be used to visualise available options. Proposed options will come with an impact assessment analysis including an evaluation of social, economic and environmental costs and gains.

The SEA team will be involved with the WG1 in the identification and selection of the most valuable alternatives for tourism development in Siwa and the north-western coast. At this stage, decision-makers are expected to evaluate and agree on mitigation and offset measures that will be implemented, and to agree on the necessary changes to be introduced at the level of policy and planning.

This information will allow WG1 to review the different alternatives available to achieve the development objectives that were clarified and discussed in the preparatory phase of the SEAs. These alternatives will have an impact on future scenarios and will help WG1 to identify the most optimal/desirable scenario, capable of balancing developmental expectations with environmental considerations, with due regard to stakeholder expectations.

This phase will also provide feedback to the SEA team about other assessment needs, or specific issues that may emerge during the discussions. This will be used to prepare the SEAs reports, which will include a final list of alternatives, substantiated by information and data.

Assessment of options and alternative for both areas will include the following deliverables:

- Options with impacts, social, economic and environmental costs and benefits
- Trade-off maps to compare alternatives
- Mitigation, offset and enhancement measures

- Proposed plans for implementation (including monitoring) with indication of expected benefits
- Choosing the best sites for environmental tourism development
- Setting the basic environmental conditions and controls for tourism development and accompanying activities for the targeted areas within Siwa Protected Area

Draft Reports on the Findings

At the completion of the previous phases, the final SEAs reports, covering Siwa Oasis and the north-western coast, will be drafted and will consist of a compilation of the reports, GIS files, documents already produced. The reports will document the different steps that constituted the SEAs. In the reports, the team will also provide recommendations about how, in the context of Egypt, the SEA can become a tool for supporting the decision-making process. The reports should also highlight key elements about the possible areas for improvement of the EIA, taking into account the experience gained from the SEA. Areas of improvements that may be introduced about local development planning will also be considered. The reports will also provide advice about the areas for improvement of environmental management and for the establishment of monitoring systems.

The draft copy of the SEAs process will be publically shared and stakeholders will be given the opportunity to comment and provide feedbacks. Despite being a highly technical exercise, the SEA process should be reported in an understandable format to allow stakeholders to be engaged in productive discussions, without being intimidated by complicated jargon or being overwhelmed with data.

Draft reports for both areas will include the following contents:

- Documenting the overall SEA process
- SEA objectives
- Documents that have already been produced
- Descriptions of the analyses carried out:
 - Economic evaluation
 - Current impacts
 - Sensitivity
 - Trends
 - Plans
 - Decision-making
 - Concerns
 - Overlaps and gaps
 - Recommendations
 - Assessment of EIA
- Outline of the difficulties encountered and indication of possible measures to overcome them in future
- Recommendations of how to streamline any subsequent SEA
- Assessment of EIA system, procedures and recommendations for enhancement.
- The Areas of improvements for other planning activities such as local plans and specific programmes and projects
- Map of current situation, including TDA and other development agencies allocations
- Mapping where tourism operations are desirable/acceptable from the biodiversity standpoint, where they may be permitted subject to management mitigation or offsetting, and where they should be altogether avoided
- Map indicating the projection of the baseline scenario projected into 20 years
- Map of the effects of the identified alternatives based on the alternative scenario the stakeholder agrees
- Suggestions about improvement of environmental management
- Non-technical summary of the SEA to be used for policy briefs
- Follow up with the project team about the discussion with WG1 and government decision makers on the key take away of the SEA:

- How to introduce the SEA for strategic planning
- How to improve the EIA system
- How to revise decisions based on the scenario analysis of the current scenario and its impacts in the long-term, with the support of the alternatives that stakeholders have agreed

Review of the Draft Reports

The draft SEA reports will be reviewed with the involvement of the project stakeholders, especially WG1, as well as with contributions from local institutions, local organisations and the private sector. Meetings will be held for public comment and focused discussions, thus providing the space for organisations and institutions to give comments and gather information about the outcomes of the SEA. The review of the SEA will be done in cooperation with the project team, and the project management will provide guidance to the SEA team in order to address critical issues or to fill gaps before the final report is delivered.

Final Reports

Based on comments, feedback and observations, the final reports concerning Siwa Oasis and the north-western coast will be compiled and made available to WG1 and the project team. With the completion of the reports, the SEA technical team will discuss and agree with the project manager to find the most effective ways to diffuse and promote the reports to all concerned organisations and individuals that may be interested/concerned with its outcomes.

The SEA process is expected to be an important contribution toward building a road map for a better integration of biodiversity into tourism planning and development, and the SEA final reports will provide practical and operational indications about measures to be actioned by decision-makers in both targeted areas.

Points Relevant to the SEAs

In the implementation of the SEAs in the two areas, the technical team involved is expected to refer to the following points:

- Objectives of the SEA, area, and timescale discussed and agreed with WG1
- Objectives of the SEA linking to indicators and targets (if appropriate)
- Environmental sustainability linking to development plans
- Consult appropriate authorities and decision-makers, involve WG1 members
- Focus on relevant issues
- Assumptions to be made explicit
- Feed baseline with relevant data. Focus on value and not on quantity
- Look for data that points to the state of the environment and that provides direction of change
- Integrate environment, social and economic dimensions as much as possible
- SEA objectives and baseline to be coherent
- Consider the influence of plans at regional, national, governorate or local level
- Take into account the role of private sector and local dynamics
- Take into account any conflicts and diverging visions. Document them and do not disregard them
- Consider the influence of communities and other players that are not necessarily accounted in official plans
- Consider tourism activities that individually may look marginal but that can have huge cumulative impacts on the environment (e.g. access to and use of oasis and desert resources)
- Assess positive and negative impacts and directions of change, placing them in the correct temporal scale (short-, medium-, long-term)
- Define impact level and thresholds

- Assess alternatives appropriate to the size of the problems and relevant for the decision-making level
- Link options and alternatives to SEA objectives and baseline
- Alternatives should not disregard the option of 'doing nothing'
- Specify reasons and necessary actions to reduce, mitigate and offset impacts
- Point to win-win solutions or actions that have potential for positive, long lasting effects
- Focus on environmentally beneficial alternatives
- Identify measures to minimise impact, repair damage, compensate and or offset unavoidable effects
- Evaluate the EIA process and form recommendations to improve them. Support the project in the consultation process with MoE to update the EIA process based on the SEA findings
- Propose measures to monitor impacts
- Ensure consultation measures are in place through the whole SEA process
- Check if all stakeholders have had the opportunity to comment and contribute in identifying impacts and options for solutions
- Involve WG1 in all the steps of the SEA
- Involve technical staff representing WG1 institutions, thus ensuring valuable in-service training

Environmental Impact Assessment Related Deliverables

The project already identified some areas of limitation that concern the EIA system in place in Egypt. A set of recommendations are included in the SEA for the Red Sea that the project developed. In relation to this activity the Egyptian EIA system will be reviewed to ensure that it takes into account the full life-cycle of tourism development impacts from planning, construction, operation and closure.

Under this assignment the project expects a set of deliverables and activities that relate to the EIA that include the following:

- Based on the assessment carried out in Siwa and the North Coast complement the recommendations to improve the EIA system, building on the work already accomplished with the Red Sea SEA
- Based on feedbacks from stakeholders about issues and areas for improvement of the EIA system, propose a revised set of recommendations

References

- (EIECP, July 2007). Sustainable tourism in Siwa. An integrated strategy for the Siwa protected area. Egyptian Italian Environmental Cooperation Programme (EIECP)
- Abd El Kader, F.H., Ahmed, A.M., 1981. Soil and Water Studies in Regional Environmental Management of Mediterranean Desert Ecosystems of Northern Egypt. Progress Report 2, Vol. 3
- Abu Zeid, A., 1991. Desert Societies in Egypt. North Sinai-National Center for Social & Criminal Research (NCSCR), Cairo, Egypt
- Acosta A, Carranza M, Izzi C. 2009. Are there habitats that contribute best to plant species diversity in coastal dunes? *Biodiv Cons* 18: 1087–1098.
- Ciccarelli D. 2014. Mediterranean coastal sand dune vegetation: influence of natural and anthropogenic factors. *Environ Manage* 54: 194–204.
- Agir SU, Kutbay HG, Surmen B. 2015a. Plant diversity along coastal dunes of the Black Sea (North of Turkey). *Rend Lincei Sci Fis Nat* 26: 1–11
- Pinna MS, Cogoni D, Fenu G, Bacchetta G. 2015. The conservation status and anthropogenic impacts assessments of Mediterranean coastal dunes. *Estuar Coast Shelf Sci* 167: 25–3
- Ahmed Haron, Zeinab Feisal. Coastal cities Resilience for Climate Change Case study: Egyptian North coast cities. *Journal of Urban Research*, Vol. 35, Jan 2020, P137-153
- Ahmed M. Hashimn, Amr Elkelish, Haifa A. Alhaithloul, Shaimaa M. El-hadidy, Haitham Farouk. Environmental monitoring and prediction of land use and land coverspatio-temporal changes: a case study from El-Omayed Biosphere Reserve, Egypt. *Environmental Science and Pollution Research* (2020) 27:42881-42897
- Ahmed Zedan (29 March 2012). Conserving Desert Ecosystems - Exploring Sustainable Tourism Impacts in Siwa, Egypt. Retrieved May 2021, from <https://www.ecoclub.com>
- Ahmed, D.A., 2009. Current situation of the flora and vegetation of the western Mediterranean desert of Egypt. Ph. D. Thesis, Tanta Univ., Tanta. 424 pp
- Al-Baraa El-Saied, Abass El-Ghamry, Om-Mohammed A. Khafagi, Owen Powell, Ramadan Bedair. Floristic diversity and vegetation analysis of Siwa Oasis: An ancient agroecosystem in Egypt's Western Desert. *Annals of Agricultural Sciences*. Volume 60, Issue 2, 2015, Pages 361-372, ISSN 0570-1783, <https://doi.org/10.1016/j.aoas.2015.10.010>
- Alberto Siliotti. (2018). The Oasis of the Oracle. Geodia Edizioni (Verona, Italy)
- Al-Hamarneh, A. (2005). Oases Tourism "Nature, Culture and Adventure", *Islamic Tourism*, 18, 28-32.
- Ali Masria, Moheb Iskander, Abdelazim Negm. (2015). Coastal protection measures, case study (Mediterranean Zone, Egypt. *Journal Coast Conservation* (2015). 19:281-294. DOI 10.1007/s1852-015-0389-5
- Amara, Dalia. (2010). Tourism as a tool of development: the case study of Siwa Oasis – Egypt Western Desert. 537-549. 10.2495/ST100461
- Asham, Mina Kamal. (2019). Intangible Cultural Heritage as a Tool for Community Empowerment: A Case Study of the Date Palm Festival in Siwa Oasis, Egypt. *Ottoman Journal of Tourism and Management Research*. 2019, Vol. 4, pp. 361-377. DOI 10.26465/ojtmr.2018339516.
- Batanouny K.H. 1999. The Mediterranean coastal dunes in Egypt: An endangered landscape. *Estuarine, Coastal and Shelf Science* 49:3-9

- D. F. Amara. (2010). Tourism As A Tool Of Development: The Case Study Of Siwa Oasis – Egypt Western. Sustainable Tourism IV 537. WIT Transactions on Ecology and the Environment, Vol 139, ©2010 WIT Press. www.witpress.com, ISSN 1743-3541 (on-line). doi:10.2495/ST100461
- Dalia A. Ahmed, Kamal H. Shaltout, Sania A. Kamal. Mediterranean Sand Dunes in Egypt: Threatened Habitat and Endangered Flora. Life Science Journal 2014;11(10)
- Dalia A. Ahmed, Manal Fawzy, Nouran M. Saeed, Mohamed A. Awad. (2015). Effect of the recent land use on the plant diversity and community structure of Omayed Biosphere Reserve, Egypt. Global Ecology and Conservation 4 (2015) 26-37
- David Sims. (2015). Egypt's Desert Dreams: Development or Disaster? AUC Press.
- De Mery, A. (2000). Cultural heritage of the Siwa Oasis. Report to Siwa Environmental Amelioration Project
- EEAA (2005) Egypt state of the environment report 2004. In: Agency EEA (ed) Ministry of State for the Environment, Egyptian Environmental Affairs Agency
- EEAA and Cooperazione Italiana. Egyptian-Italian Environmental Cooperation Program-Phase II: Siwa Environmental Amelioration Project. 2002
- Fakhry, A. (2005). Siwa Oasis. Cairo: The American University in Cairo Press. General Department of Information and Statistic Tourism In Figures (2013) Tourism In Figures, Egypt.
- Gabriel Mikhail. (2021). Siwa protected area & the old town of Shali. Tour Guide. Egyptian Environmental Affairs Agency. Ministry of State for Environmental Affairs
- Hossam Samir Ibrahim, Ibrahim Hegazi. Decentralization in the Egyptian coastal management. Journal of Coastal Development, Volume 16, Number 2, February 20: 12-113
- Hossam Samir Ibrahim. Towards an effective framework for coastal zone management: the Egyptian experience. J Coast Conserv (2013), 17:601-613. DOI 10.1007/s11852-013-0258-z
- K. H. Shaltout, H. A. Hosni, R. A. El-Fahar and D. Ahmed, 2015. Flora and vegetation of the western Mediterranean region of Egypt. Taekholmia 35: 45-76
- K. Shaltout, Dalia Abd El-Azeem Ahmed. Ecosystem Services of the Flora of Southern Mediterranean Desert of Egypt. October 19, 2012. Ethnobotany Research & Applications 10:403-422 (2012)
- Kamel, N., Orabi, R., & Taha, S. (2017). Slow Tourism Experience: an Innovative Approach for Sustainable Tourism development in Egypt (The case of Siwa). International Journal of Heritage, Tourism, and Hospitality, 10
- L. M. Bidakhae, S. Z. Heneidyn, K. H. Shaltout, Y. Al- Sodany. (2013). The Journal of Ethnobiology and Traditional Medicine. Photon 120 (2013) 566-584 <https://sites.google.com/site/photonfoundationorganization/home/the-journal-of-ethnobiology-and-traditional-medicine>. Original Research Article. ISJN: 6642-3194
- Laila M. Bidak, Sania A. Kamal, Marwa Waseem A. Halmy, Selim Z. Heneidyia. Goods and services provided by native plants in desert ecosystems: Examples from the northwestern coastal desert of Egypt. Global Ecology and Conservation 3 (2015) 433-447
- M. Tawfik & M. Tolba. (2014). A Sustainable Aspect For Safeguarding A Protected Area: Case Study – Siwa Oasis. Volume 181. Pages 11. Page Range 551 - 561. Published 2014. Paper DOI 10.2495/EID140471. Copyright WIT Press
- M. Tawfik. (2016). The Development of Sustainable Ecotourism in Protected Area, case study: Siwa oasis. Int. J. Sus. Dev. Plann. Vol. 11, No. 3 (2016) 334–344
- Maaly Abd Elghani (2012). Heritage and hospitality links in hotels in Siwa, Egypt: Towards the provision of authentic experiences. UWSpace. Retrieved May 2021, from <http://hdl.handle.net/10012/7074>

Malavasi M, Santoro R, Cutini M, Acosta A, Carranza ML. 2016. The impact of human pressure on landscape patterns and plant species richness in Mediterranean coastal dunes. *Plant Biosyst* 150: 73–82.

Management Plan of Omayed Biosphere Reserve 2015-2025

Marwa Waseem Halmy, Paul E. Gessler, Selim Z. Heneidy. Implications of Human Induced Changes on the Distribution of Important Plant Species in the Northwestern Coastal Desert of Egypt. *Journal of Renewable Energy and Sustainable Development (RESO)*. Volume 1, Issue 2, December 2015 - ISSN 2356-8569

Mendoza-González G, Martínez M, Lithgow D, Pérez-Maqueo O, Simonin P. 2012. Land use change and its effects on the value of ecosystem services along the coast of the Gulf of Mexico. *Ecol Econ* 82: 23–32

NSA, Discovering Siwa ,Native Siwan Association for Tourist Services and Environmental Protection, Siwa, Egypt, pp. 9–51, 2009.

Omar Salem, Philippe Pallas. (2002). The Nubian Sandstone Aquifer System (NSAS). Proceedings of the international workshop. Tripoli, Lybia, 2-4 June 2002

Óscar García-Aguilar, María Merino, Pino González-Riancho, Marcello Sanò, Raúl Medina. A Nested Governance System for ICZM in Egypt

Salem, B.B.,2003. Assessing habitat fragmentation and its effect on plant biodiversity using multirate satellite imagery. Case study: omayed biosphere reserve (OBR), Western Coastal desert of Egypt. *Egypt. J. Desert Res.* 53, 1–17

SUMAMAD,2003. Sustainable Management of Marginal Dry Lands. National UNESCO Commission, Cairo, Egypt, p. 97

The Encyclopedia of Earth. Retrieved May 10 2021, from [https://editors.eol.org/eoearth/wiki/Siwa_Oasis_\(About_the_EoE\)](https://editors.eol.org/eoearth/wiki/Siwa_Oasis_(About_the_EoE))

U.S. Library of Congress. Egypt – western Desert. Retrieved May 10 2021, from <http://countrystudies.us/egypt/50.htm>

UNEP (2005). Forging links between Protected Areas And the Tourism Sector: How tourism can benefit conservation. United Nations Environmental Program/Conservation International/Tour Operators' Initiative

UNEP, UNWTO (2005), Making Tourism More Sustainable: A Guide for Policy Makers, Madrid, Spain

UNEP. Profile of Sustainability in some Mediterranean tourism destinations - Case studies in Egypt: Marsa Matrouh, Al Alamein, Siwa Oasis (Matrouh Governorate). Final report for Mediterranean Action Plan by United Nations Environment Programme. Egypt. 2011

Valderrábano, M., Gil, T., Heywood, V., and de Montmollin, B. (eds.) (2018). Conserving wild plants in the south and east Mediterranean region. Gland, Switzerland and Málaga, Spain: IUCN. xiii +146 pp.

Wisam Mohammed, Sabah Saleh Al-Jenaid. Sustainable Planning for Environmental Sensitive Area using Multi Criteria\Multi Objective Spatial Analysis: Case Study El-Dabaa, Egypt. *AGJIR* 30 (2/3) 2012: 78-87

Reference: Tools

This section of the ToR is included as reference material to facilitate the SEA technical team in the initial stages of the SEA. It is a non-exhaustive review of the tools that can be used for analysis and in building the baseline.

Environmental and Socio-Economic Analysis

- *Carrying capacity analysis (CCA)* determines the human population that can be 'carried' by a particular area on given consumption levels, that is, it identifies the limits to growth.
- *Network analysis* (also called cause-effect analysis, consequence analysis, or causal chain analysis) explicitly recognises that environmental systems consist of a complex web of relationships, and that the impacts of many activities occur at several stages removed from the activity itself.
- *Ecological (environmental) footprint analysis* addresses the human impact on the Earth's ecosystems, measuring and visualising the resources required to sustain households, communities, regions and nations, converting the seemingly complex concepts of carrying capacity, resource use, waste disposal, and so on into an understandable and usable graphic form.
- *Social and economic analysis/surveys*.
- *Expert judgment of direct and indirect impacts* is relatively quick and inexpensive, and can be used for applications including collecting data, developing alternatives from the strategic policy level to the detailed site level, analysing and ranking them, predicting impacts, and suggesting mitigation measures. One or preferably several experts with specialist knowledge covering the range of impacts of the strategic action will brainstorm/discuss/consider the relevant issue.
- *Geographical information system (GIS)* is a tool to organise and present information.
- *Land-use partitioning analysis* assesses the fragmentation of land into smaller parcels that might result from linear infrastructure development.
- *Mapping of transmission channels* is a component of Poverty and Social Impact Assessment that identifies the channels through which a particular policy change or other major intervention is expected to affect stakeholders.
- *Modelling (also called forecasting)* includes techniques that predict likely future environmental conditions with and without strategic action. Modelling involves making a series of assumptions about future conditions under various scenarios, and calculating the resulting impacts.
- *Overlay maps* are obtained by superimposing maps of areas of constraint using transparencies (e.g. overlaying areas of importance for landscape, wildlife and groundwater).
- *Participatory techniques for assessment* are available for work with stakeholders and those likely to be directly or indirectly affected by a strategic action, so they can engage in the process of assessing impacts.
- *Quality of life assessment (QoLA)* aims to identify what matters and why in an area, so that the good and bad quality-of-life consequences (environmental, societal and economic) of strategic actions can be better considered

Tools for Analysing and Comparing Options

- *Compatibility appraisal:* Ensures that a strategic action is internally coherent and consistent with other strategic actions.
 - An internal compatibility matrix plots different components/statements of the strategic action on both axes, with compatibility/incompatibility between the actions marked in the cells with a tick or cross.
 - An external compatibility matrix plots the strategic actions (as a whole) against other relevant (normally higher- and equal-level) strategic actions.
- *Cost-benefit analysis, scenario analysis and multi-criteria analysis to identify priorities and viable alternatives:*
 - *Cost-benefit analysis (CBA):* A relatively simple and widely used technique for deciding whether to make a change.
 - *Scenario analysis:* Can be used to describe a range of future conditions. The impact of a strategic action can be forecast and compared for different scenarios.
 - *Multi-criteria analysis (MCA):* Techniques that can assess a variety of options according to a variety of criteria that have different units (e.g. \$, tonne, km, and so on).
- *Opinion surveys to identify priorities*
- *Scoring priorities*
- *Risk analysis or assessment:* An essential tool for the management of environmental risk.
- *Vulnerability analysis:* Assesses the impacts of a planned activity or different development scenarios on the vulnerability of an area. Vulnerability maps are produced showing degree of vulnerability for selected targets (e.g. people, flora and fauna, landscape).

Tools for Ensuring Full Stakeholder Engagement

- *Consensus building processes:* A conflict-resolution process used mainly to settle complex, multiparty disputes. Obtaining stakeholder support and engagement.
- *Stakeholder analysis to identify those affected and involved in decisions:*
 - Incorporates economics, political science, game and decision theory, and environmental sciences.
- Consultation surveys
- Participatory techniques

Reference: Documentation About the Area

Several studies and research dealing with the social, economic, and environmental dimensions have covered the Siwa oasis. Abundant documentation is already available and the selected consultant/company is expected to take it into account.

The review and analysis of existing and available documentation will be the starting point for the SEA aiming to avoid duplication of efforts in relation to data gathering and in building the baseline scenario.

The project already identified a set of documentation and information available and useful for the SEA. This will be further expanded by the consultant/company in the preliminary phases of this assignment when collecting and compiling research data and information that is already available about the area.

Here follows, divided by broad thematic categories, some of the most relevant documents that concern the area and covering topics of importance for the SEA.

For convenience these documents can be downloaded from the following link: [Siwa reference documentation](#)

Environmental Impact Assessment

- Environmental Impact Assessment Report.pdf
- Strengthening of EIA System in Egypt, Prasad REC 061219.pdf

Guides and information

- Siwa The Oasis of the Oracle.pdf
- Siwa protected area & the old town of Shali. Tour Guide.pdf
- Siwa today.pdf

Environment and Resources

- A desertification impact on Siwa Oasis- Present and Future Challenges.pdf
- A study for vision of agricultural extension work to reduce the degradation of agricultural soils in Matrouh Governorate.pdf
- A Survey of the Mammalian Fauna of Siwa Oasis, Egypt.pdf
- Agro ecological assessment of Siwa Oasis arable lands.pdf
- Assessment of Land Suitability for Agriculture in the Southeastern Sector of Siwa Oasis.pdf



- Assessment of groundwater resources in Siwa Oasis, Western Desert, Egypt.pdf
- Challenges of Sustainable Land Management in Siwa Oasis. The Waterlogging Problem in the Newly Reclaimed Desert Land. Journal of Soil Sciences and Agricultural Engineering.pdf
- Change Detection in Land Degradation and Environmental Hazards Sensitivity in Some Soils of Siwa Oasis.pdf
- Change Detection of Land Cover and Salt Affected Soils at Siwa Oasis, Egypt.pdf
- Drip-irrigation effects on salt movement in soil at Siwa oasis.pdf
- Desertification Sensitivity Analysis East of Siwa Using GIS and Remote Sensing.pdf
- Desertification and city resilience in Siwa, Egypt.pdf
- Desertification and its impact on agriculture production in Siwa Oasis.pdf
- Evaluation of groundwater quality of Siwa oasis.pdf
- Effect of Water Table Level on Soil and Wheat Productivity in Siwa Oasis.pdf
- Environmental Engineering Interventions To Control The Expansion Of Salty Lakes And Marshes In Siwa Oasis.pdf
- Evaluating water demand and scheduling irrigation for some agricultural crops in Siwa.pdf
- Evaluation of Sustainable Land Management on Some Selected Soils of Siwa Oasis.pdf
- Evaporation from Salty Lagoons (Case Study Qattara Depression).pdf
- Future Visions for The Integrated Water Resources Management for Old Cultivated Areas of Siwa Oasis, Western Desert, Egypt.pdf
- Geological Characteristics of Shallow Groundwater Aquifer and its Relation to Hydrochemical Features and Bacteriological Pollutants in Siwa Oasis, Egypt.pdf
- Hydrological and environmental characteristics of wetlands in Egypt.pdf
- Impact of Irrigation Management on Shallow Groundwater Fluctuation and Soil Salinity- The Saltmed Model.pdf
- Impact of human activities on groundwater depletion and quality deterioration in the northwestern shelf of Nubian sandstone and fractured carbonate aquifer systems.pdf
- Investigation of Chemical and Radiochemical Fingerprints of Water Resources in Siwa Oasis, Western Desert, Egypt.pdf
- Larger benthic foraminiferal turnover across the Eocene–Oligocene transition at Siwa Oasis, Western Desert, Egypt.pdf
- Long-term detection and hydrochemistry of groundwater resources in Egypt. Case study of Siwa Oasis.pdf
- Mapping Soil Salinity and Evaluation of Water Quality in Siwa Oasis Using GIS.pdf
- Monitoring Land Degradation Impact on a Unique Agrobiodiversity in Siwa Oasis, Egypt.pdf
- Monitoring Spatio-Temporal Changes in Vegetation Cover, Soil Salinity and Waterlogging in Siwa Oasis, Egypt Using Remote Sensing Data and Techniques.pdf
- Monitoring and Assessment of Environmental Changes in Siwa Oasis, Egypt.pdf
- New Findings in Geology, Geomorphology, and Groundwater Potentiality of the Great Sand Sea, Western Desert, Egypt.pdf
- Plant Diversity Around Springs and Wells in Five Oases of the Western Desert, Egypt.pdf
- Studies on the ecology and fertility properties of some desert soils in Egypt.pdf
- Study of land resources at Siwa oasis using remote sensing and gis techniques.pdf
- The Nubian Sandstone Aquifer System (NSAS).pdf
- Water management challenges and opportunities in Siwa oasis, Egypt.pdf

Heritage and History

- An Innovative vision for re-designing traditional Siwa clothes.pdf
- Comparative study of traditional and modern building techniques in Siwa Oasis, Egypt.pdf
- Creating fashionable trendy designs for women inspired from Siwa oasis traditional costumes.pdf
- Photographs of Siwa Sustainable Development Program. Courtesy of Architect (submitted to the Aga Khan Award for Architecture), 2001.pdf
- Demystifying Cultural and Ecotourism in the Vernacular Architecture of Siwa Oasis, Egypt.pdf
- Documenting the Reconstruction Process with Google Earth .pdf
- Dream Incubation Tourism- The Resurrection of Ancient Egyptian Heritage of Sleep Temples.pdf
- Earth Architecture in the Siwa Oasis –Egypt- and Building with Karshif Material.pdf
- Earth vernacular architecture in the Western Desert of Egypt.pdf
- Employment the Popular Motifs of Siwi Dress Style Hand Embroidery Work in Small Industries.pdf
- Harmonization between architectural development and heritage in Aiwa oasis - Egypt.pdf
- Heritage and hospitality links in hotels in Siwa, Egypt. Towards the provision of authentic experiences.pdf
- Intangible Cultural Heritage as a Tool for Community Empowerment. A Case Study of the Date Palm Festival in Siwa Oasis, Egypt.pdf
- Integrating Archaeological Tourism And Ecotourism - Experiences From Egypt And India.pdf
- Siwa Sustainable Development Program Drawings. Courtesy of Architect (submitted to the Aga Khan Award for Architecture), 2001.pdf
- Siwa Sustainable Development Program On-site Review Report, edited by Aga Khan Award for Architecture, 2001.pdf
- Siwa Sustainable Development Program Presentation Panels. Courtesy of Architect. Geneva- Aga Khan Award for Architecture, 2001.pdf
- Towards management and preservation of Egyptian cultural landscape sites - case study- Siwa oasis.pdf
- The Governmental Efforts in Emphasising Identity through Art Projects - "Siwa Oasis studios as a case study".pdf
- The concept of Local Smart Architecture. An Approach to Appropriate Local Sustainable Buildings.pdf
- Towards Eco-houses The potential of applying eco architecture principles between technical and behavioral dimensions. The case El Gari village, Siwa.pdf
- Towards Management and Preservation of Egyptian Cultural Landscape Sites –Case Study. Siwa Oasis.pdf
- Understanding the Historic Urban Landscape of Siwa oasis - The relationship between human activity and the built environment in the formation of urban landscapes.pdf

Social, Economic and Development

- Analysis of opportunities and threats which faces small agro-projects in Siwa oasis.pdf
- An economic study for the agricultural wastes recycling project in Siwa Oasis.pdf
- Challenges of Integrating Solar Energy Systems in Remote Areas of Egypt.pdf
- Egypt's Desert Dreams. Development or Disaster?.pdf

- Energy requirement and economic analysis of subsurface drip irrigation in Siwa oasis.pdf
- Evaluation for drying units and packing dates in Siwa oasis.pdf
- Extension requirements of women socio- economic empowerment in Siwa oasis, Matrouh governorate.pdf
- Managing Urban Qualities - Planned V Spontaneous.pdf
- Promoting women's income generation in Siwa Oasis.pdf
- ·siwa community development and environment conservation (scdec). a revolution of development in the lost oasis, siwa, western desert, egypt.pdf
- Siwa woman participation in the development of environmental industries in Siwa oasis arabic.pdf
- Siwa woman participation in the development of environmental industries in Siwa oasis english.pdf
- Sustainability of UNDP projects in Egypt. a case study in Siwa oasis (Siwa environmental amelioration project).pdf
- Siwa Sustainable Development Initiative.pdf
- The financial evaluation of the project of compost production in Siwa oasis.pdf
- The Saharan Oasis under the Challenge of its Landscape, The Jerid as an Example.pdf
- The usability of green building rating systems in hot arid climates. A case study in Siwa, Egypt.pdf
- Toward an A Priori Sustainable Architecture.pdf

Protected Area

- A Sustainable Aspect For Safeguarding A Protected Area. Case Study – Siwa Oasis.pdf
- Sustainable tourism in Siwa. An integrated strategy for the Siwa protected area. Egyptian Italian Environmental Cooperation Programme (EIECP).pdf
- The development of sustainable ecotourism in protected areas. Case study Siwa Oasis.pdf

Tourism

- Applying Green Practices in Hotels Sector to Ensure Sustainable Development-Case Study of The Hotels in Siwa Oasis.pdf
- Conserving Desert Ecosystems - Exploring Sustainable Tourism Impacts in Siwa, Egypt.pdf
- Review on Role of Biodiversity Conservation for Ecotourism and Sustainable development.pdf
- Hotel Marketing Deception Practices and its Effect on Guests' Image.pdf
- Hotels Therapeutic Role In Activating The Movement Of Medical Tourism in Egypt and Jordan. Case Study of Siwa Oasis.pdf
- Local People Attitudes toward Social, Economic and Environmental Impacts of Tourism in Siwa Oasis.pdf
- Slow Tourism Experience- an Innovative Approach for Sustainable Tourism development in Egypt (The case of Siwa).pdf
- Sustainable tourism and ecotourism- an inquiry into theoretic ties with sustainable development.pdf
- The Behavioral Intention of Tourists toward Local Foods. An Applied Research on the Local Foods Served in Egyptian Siwa Oasis.pdf
- The Potential of Ecotourism in Siwa Oasis - Opportunities and Obstacles.pdf

- The eco hotel is a magnet for religious tourism.pdf
- Tourism as a tool of development - the case study of Siwa Oasis – Egypt Western Desert.pdf
- Tourism of heritage tracks as applied to the path of Alexander the Great from Alexandria to the Temple of Amun in the Siwa Oasis.pdf

Duration

Total estimated level of effort for the SEA technical activities: **250 person-days**

Total estimated level of effort for consultations, public meetings, and workshops: **60 person-days**

Expected start: July 2022

Expected end: July 2023

Timing may be changed depending on project planning and priorities. Changes of timeframe will be discussed and agreed with the selected service provider.

Reporting, Management and Logistics

All report should be submitted in Arabic and English

The Contractor's supervisor will be the Project manager. The Contractor will need to submit periodical updated reports.

The Contractor is expected to interact with several stakeholders in the target area. The relations with stakeholders will be under the guidance of the Project manager.

The Contractor will not be responsible for all accommodation and travel expenses of the staff and consultants who operate under the Contractor's responsibility.

Selection

The selection will only take into consideration the bids that pass the "*Qualification for the consultancy*" as set in these TORs.

Proposals that will qualify to be assessed will be evaluated on the basis of the proposed methodology, expertise, qualification and cost.

The ranking of the proposals will be based on a combined scoring method – where the **proposed methodology, expertise of the working team** and **qualification** for the consultancy will be weighted a maximum of 70 points, and combined with the price offer which will be weighted a maximum of 30 points.

Qualifications for the Consultancy

The tasks envisaged in these Terms of Reference require a multi-disciplinary approach with competencies that span several ecosystems and biodiversity assets in desert and oasis environments. The consultancy requires also inputs with capabilities in areas related to policy analysis, data collection and mapping, as well as planning and impact assessment.

For this reason it is expected that only companies capable of mobilising a solid roster of competencies will apply.

- Brief description of the organisation and background. Include ownership, date and place of incorporation, objectives

- Contacts: name, ID and email
- Registration
- Minimum ten years of experience and last ten years track record
- Established service provider
- Experience in environmental impact and strategic environmental assessments
- Experience in environmental, social and economic research and mapping capacity
- International and national work experience
- Familiarity with environmental issues
- Proven capacity to produce high-level strategic informative material
- Experience in similar activities Consultant company capable of mobilising a solid roster of competencies
- Main consultants' CVs as defined in the working team section
- Other consultants that the company consider important to include in the team
- Proven track record
- Experience in mapping and data collection
- Excellent communication skills to convey high-level key messages to stakeholders
- Good reporting capabilities
- Capacity to connect to stakeholders and private and public institutions
- Capacity to deal with diverse stakeholder communities and to deliver participatory work

Working Team

The consultant will implement the planned activities providing the expected deliverables through the deployment of a team drawing from a roster of expertise. This will include:

- A team leader
- An expert in carrying out strategic environmental assessment and planning
- An expert in environmental impact assessment system
- An expert in building data knowledge to serve planning and assess impacts on the environment. This expertise will include data collection, GIS, mapping, data analysis, sensitivity mapping and building knowledge-based scenarios
- An expert in planning and development
- An expert in socio-economic systems
- An expert in policy analysis and decision-making framework analysis
- An expert in desert ecosystems
- An expert in terrestrial ecosystems and landscape planning
- An expert in urban management and development
- An expert in tourism planning and tourism strategizing

Application

- A technical proposal with the proposed methodology (maximum 25 pages) based on the proposed TOR with an indication of the proposed approach and an implementation plan should be included
- Information as detailed in the "*Qualification for the consultancy*"
- CVs and details of the working team
- A breakdown of costs
- Background and reference of previous works
- Any other supporting material relevant to the proposal

Reference: Tools

This section of the ToR is included as reference material to facilitate the SEA technical team in the initial stages of the SEA. It is a non-exhaustive review of the tools that can be used for analysis and in building the baseline.

Environmental and socio-economic analysis

- *Carrying capacity analysis (CCA)* determines the human population that can be 'carried' by a particular area on given consumption levels, that is, it identifies the limits to growth.
- *Network analysis* (also called cause-effect analysis, consequence analysis, or causal chain analysis) explicitly recognises that environmental systems consist of a complex web of relationships, and that the impacts of many activities occur at several stages removed from the activity itself.
- *Ecological (environmental) footprint analysis* addresses the human impact on the Earth's ecosystems, measuring and visualising the resources required to sustain households, communities, regions and nations, converting the seemingly complex concepts of carrying capacity, resource use, waste disposal, and so on into an understandable and usable graphic form.
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- *Overlay maps* are obtained by superimposing maps of areas of constraint using transparencies (e.g. overlaying areas of importance for landscape, wildlife and groundwater).
- *Participatory techniques for assessment* are available for work with stakeholders and those likely to be directly or indirectly affected by a strategic action, so they can engage in the process of assessing impacts.
- *Quality of life assessment (QoLA)* aims to identify what matters and why in an area, so that the good and bad quality-of-life consequences (environmental, societal and economic) of strategic actions can be better considered

Tools for analyzing and comparing options

- *Compatibility appraisal*: Ensures that a strategic action is internally coherent and consistent with other strategic actions.
 - An internal compatibility matrix plots different components/statements of the strategic action on both axes, with compatibility/incompatibility between the actions marked in the cells with a tick or cross.
 - An external compatibility matrix plots the strategic actions (as a whole) against other relevant (normally higher- and equal-level) strategic actions.
- *Cost-benefit analysis, scenario analysis and multi-criteria analysis to identify priorities and viable alternatives*:
 - *Cost-benefit analysis (CBA)*: A relatively simple and widely used technique for deciding whether to make a change.
 - *Scenario analysis*: Can be used to describe a range of future conditions. The impact of a strategic action can be forecast and compared for different scenarios.

- *Multi-criteria analysis (MCA)*: Techniques that can assess a variety of options according to a variety of criteria that have different units (e.g. \$, tonne, km, and so on).
- *Opinion surveys to identify priorities*
- *Scoring priorities*
- *Risk analysis or assessment*: An essential tool for the management of environmental risk.
- *Vulnerability analysis*: Assesses the impacts of a planned activity or different development scenarios on the vulnerability of an area. Vulnerability maps are produced showing degree of vulnerability for selected targets (e.g. people, flora and fauna, landscape).

Tools for ensuring full stakeholder engagement

- *Consensus building processes*: A conflict-resolution process used mainly to settle complex, multiparty disputes. Obtaining stakeholder support and engagement.
- *Stakeholder analysis to identify those affected and involved in decisions*:
 - Incorporates economics, political science, game and decision theory, and environmental sciences.
- Consultation surveys
- Participatory techniques

Reference: documentation about the area

Several studies and research dealing with the social, economic, and environmental dimensions have covered the Red Sea coast belt and Wadi El Gemal PA. Abundant documentation is already available about this area and the selected contractor is expected to take it into account.

The review and analysis of existing and available documentation will be the starting point for the SEA aiming to avoid duplication of efforts in relation to data gathering and in building the baseline scenario.

The project already identified a set of documentation and information available and useful for the SEA. This will be further expanded by the contractor in the preliminary phases of this assignment while collecting and compiling research data and information that is already available about the area.

Here follows, divided by broad thematic categories, the links to access some of the most relevant documents that concern the area and covering topics of importance for the SEA.

Environmental Impact Assessment

Environmental Impact Assessment System Assessment

Report: https://drive.google.com/open?id=1RzfQc3TbjjV7PtLqW_oYU4WV_0txZUIc

Strengthening of EIA System in Egypt: <https://drive.google.com/open?id=1YSonWSP8BCy7DgGV0leIld4cqppQciv>

Red Sea and Wadi El Gemal - environmental management

Wadi El Gemal Development Plan.pdf: <https://drive.google.com/open?id=1-1d8B603D46A3vQzL4J3ppoNWMJQOuH6>

WGNP-Management Action Plan.pdf: https://drive.google.com/open?id=1mB1pbKhRH0Y0Xw4_FR48FSvvGx-Y9SIO

Environmental Management Guidelines for Coastal Hotels and Resorts. A Practical Approach to Cost Effective Environmental Management: <https://drive.google.com/file/d/1kOBDYjXFL1tm53eeoSdFSCrN7-gmXJr1/view?usp=sharing>

Red Sea and Wadi El Gemal - natural resources and environment

Identifying Key Lagoons.pdf: https://drive.google.com/open?id=1HILRpvN_8_qxORrQG_f7hcs2goJgSXYN

Mangrove Monitoring Program.pdf: https://drive.google.com/open?id=1nMWLDs1rirybLpFPL2kn6dVYyz_8TVG

Discovering Animals Plants of RS Reefs.pdf: <https://drive.google.com/open?id=16FhSiGI-Z6VeYrQkuRSXYuGNirhSa9tV>

House Reef Manual.pdf: https://drive.google.com/open?id=1HILRpvN_8_qxORrQG_f7hcs2goJgSXYN

Status of Dorcas Gazelle in WGNP.pdf: <https://drive.google.com/open?id=1VStOERNVYMOo1OeB5SJZeKJIXES-i3eW>

Where to Watch Birds in WGNP.pdf: https://drive.google.com/open?id=1juu1zesk_zWoMENE99hCagpHKOJ1Yg7i

Programmatic Environmental Assessment Scoping

Statement.pdf: <https://drive.google.com/open?id=1xI8oX53UuK1sIfNgoclws2Z14vKYtl8V>

Programmatic Environmental Assessment FINAL.pdf: https://drive.google.com/open?id=1i6Q3sH38CkEJFqPwy-TNawUL_gRslqtC

Tourism

Destination Management Plan for Enhancing the Competitiveness of the Southern Red Sea Region of Egypt:

https://drive.google.com/open?id=19TwTr_vebCil3QJqSp3PPHfMsn92CEr3

Requirements to Define, Locate, and Deliver Adventure Tourism Attractions in the Southern Red Sea Region of Egypt: <https://drive.google.com/open?id=1a1PxoBLLs5S2Dq8ISNyxX8FXsbyrVen0>

Studies of Resorts in the Southern Red Sea Region of Egypt:

<https://drive.google.com/open?id=1INijAOH6KFciOgfQFPZjnzALbZ-KvloH>

Comparative Economic Impact Analysis of Traditional versus Sustainable Resort Development in the Southern Red Sea Region of Egypt: https://drive.google.com/open?id=1O2PppGEVGPR3PEwPd5dwSuijd2SaUY_u

Action Plan for Sustainable Tourism in the Southern Red Sea Region of Egypt:

<https://drive.google.com/open?id=15I0UXUFH2mYnM0klbCrgnyebIfhG3v4L>

Guidelines for Ecotourism Development in the Deep Range of the Red Sea Region (January, 2003):

<https://drive.google.com/file/d/1TOC90urJvnmxyHOKF4fGKwsmHdzBNGj/view?usp=sharing>

Best Practices in Coastal Tourism Development Red Sea, Egypt (2004): https://drive.google.com/file/d/1-170IONfdHqoqM_2OxK4kW_6L4PsU7M2/view?usp=sharing

Best Practices for Tourism Center Development along the Red Sea Coast (1998):

<https://drive.google.com/file/d/1KZbs4XOgvh5GCaaF3YeVcwkoWA8xK3nQ/view?usp=sharing>

Waste

Shagra Marsal Alam SWM Proposal.pdf: <https://drive.google.com/open?id=1VStOERNVYMOo1OeB5SJZeKJIXES-i3eW>

Shagara-Marsa Alam MRF.pdf: <https://drive.google.com/open?id=1VStOERNVYMOo1OeB5SJZeKJIXES-i3eW>

WGNP Sorting Station-SWM.pdf: <https://drive.google.com/open?id=1N70iGszzDuyyfU58SOCC--ohRutQRgkz>

Social and economic

Ababda Housing Assessment.pdf: https://drive.google.com/open?id=1_MPfb18bzPTgRmmELmxn7kjoApkc00_j

Assess and Prioritize Settlements Upgrading in

SRS.pdf: <https://drive.google.com/open?id=1P6HxL7FcWTMW5YJhd8dssS8JTbGW-ePg>

Community Needs Assessment Field Visit.pdf: https://drive.google.com/open?id=183NTY_r-fSEsh13yzwidbogBysAeMJMX

Development in SRS Region Arabic.pdf: https://drive.google.com/open?id=1Yt0gl3dXIHZ-Z_3jSaCHoGiN71X9B3vt

FORM FOR SUBMITTING SERVICE PROVIDER'S PROPOSAL⁶¹

(This Form must be submitted only using the Service Provider's Official Letterhead/Stationery⁶²)

[insert: Location].

[insert: Date]

To:

Dear Sir/Madam:

We, the undersigned, hereby offer to render the following services to PROJECT in conformity with the requirements defined in the RFP dated [specify date] , and all of its attachments, as well as the provisions of the PROJECT General Contract Terms and Conditions :

A. Qualifications of the Service Provider

The Service Provider must describe and explain how and why they are the best entity that can deliver the requirements of PROJECT by indicating the following:

- a) *Profile – describing the nature of business, field of expertise, licenses, certifications, accreditations;*
- b) *Business Licenses – Registration Papers, Tax Payment Certification, etc.*
- c) *Latest Audited Financial Statement – income statement and balance sheet to indicate Its financial stability, liquidity, credit standing, and market reputation, etc. ;*
- d) *Track Record – list of clients for similar services as those required by PROJECT, indicating description of contract scope, contract duration, contract value, contract references;*
- e) *Certificates and Accreditation – including Quality Certificates, Patent Registrations, Environmental Sustainability Certificates, etc.*
- f) *Written Self-Declaration that the company is not in the UN Security Council 1267/1989 List, UN Procurement Division List or Other UN Ineligibility List.*

B. Proposed Methodology for the Completion of Services

The Service Provider must describe how it will address/deliver the demands of the RFP; providing a detailed description of the essential performance characteristics, reporting conditions and quality assurance mechanisms that will be put in place, while demonstrating that the proposed methodology will be appropriate to the local conditions and context of the work.

⁶¹ This serves as a guide to the Service Provider in preparing the Proposal.

⁶² Official Letterhead/Stationery must indicate contact details – addresses, email, phone and fax numbers – for verification purposes

C. Qualifications of Key Personnel

If required by the RFP, the Service Provider must provide :

- a) Names and qualifications of the key personnel that will perform the services indicating who is Team Leader, who are supporting, etc.;*
- b) CVs demonstrating qualifications must be submitted if required by the RFP; and*
- c) Written confirmation from each personnel that they are available for the entire duration of the contract.*

D. Cost Breakdown per Deliverable*

	Deliverables <i>[list them as referred to in the RFP]</i>	Percentage of Total Price <i>(Weight for payment)</i>	Price <i>(Lump Sum, All Inclusive)</i>

**This shall be the basis of the payment tranches*

E. Cost Breakdown by Cost Activity [This is only an Example]:

Description of Activity	Total Cost
I. Activity 1	
I. Activity 2	
I. Activity 3	

*[Name and Signature of the Service Provider's
Authorized Person]
[Designation]
[Date]*

General Terms and Conditions for Services

1.0 LEGAL STATUS:

The Contractor shall be considered as having the legal status of an independent contractor vis-à-vis the United Nations Development Programme (PROJECT). The Contractor's personnel and sub-contractors shall not be considered in any respect as being the employees or agents of PROJECT or the United Nations.

2.0 SOURCE OF INSTRUCTIONS:

The Contractor shall neither seek nor accept instructions from any authority external to PROJECT in connection with the performance of its services under this Contract. The Contractor shall refrain from any action that may adversely affect PROJECT or the United Nations and shall fulfill its commitments with the fullest regard to the interests of PROJECT.

3.0 CONTRACTOR'S RESPONSIBILITY FOR EMPLOYEES:

The Contractor shall be responsible for the professional and technical competence of its employees and will select, for work under this Contract, reliable individuals who will perform effectively in the implementation of this Contract, respect the local customs, and conform to a high standard of moral and ethical conduct.

4.0 ASSIGNMENT:

The Contractor shall not assign, transfer, pledge or make other disposition of this Contract or any part thereof, or any of the Contractor's rights, claims or obligations under this Contract except with the prior written consent of PROJECT.

5.0 SUB-CONTRACTING:

In the event the Contractor requires the services of sub-contractors, the Contractor shall obtain the prior written approval and clearance of PROJECT for all sub-contractors. The approval of PROJECT of a sub-contractor shall not relieve the Contractor of any of its obligations under this Contract. The terms of any sub-contract shall be subject to and conform to the provisions of this Contract.

6.0 OFFICIALS NOT TO BENEFIT:

The Contractor warrants that no official of PROJECT or the United Nations has received or will be offered by the Contractor any direct or indirect benefit arising from this Contract or the award thereof. The Contractor agrees that breach of this provision is a breach of an essential term of this Contract.

7.0 INDEMNIFICATION:

The Contractor shall indemnify, hold and save harmless, and defend, at its own expense, PROJECT, its officials, agents, servants and employees from and against all suits, claims, demands, and liability of any nature or kind, including their costs and expenses, arising out of acts or omissions of the Contractor, or the Contractor's employees, officers, agents or sub-contractors, in the performance of this Contract. This provision shall extend, inter alia, to claims and liability in the nature of workmen's compensation, products liability and liability arising out of the use of patented inventions or devices, copyrighted material or other

intellectual property by the Contractor, its employees, officers, agents, servants or sub-contractors. The obligations under this Article do not lapse upon termination of this Contract.

8.0 INSURANCE AND LIABILITIES TO THIRD PARTIES:

- 8.1** The Contractor shall provide and thereafter maintain insurance against all risks in respect of its property and any equipment used for the execution of this Contract.
- 8.2** The Contractor shall provide and thereafter maintain all appropriate workmen's compensation insurance, or the equivalent, with respect to its employees to cover claims for personal injury or death in connection with this Contract.
- 8.3** The Contractor shall also provide and thereafter maintain liability insurance in an adequate amount to cover third party claims for death or bodily injury, or loss of or damage to property, arising from or in connection with the provision of services under this Contract or the operation of any vehicles, boats, airplanes or other equipment owned or leased by the Contractor or its agents, servants, employees or sub-contractors performing work or services in connection with this Contract.
- 8.4** Except for the workmen's compensation insurance, the insurance policies under this Article shall:
 - 8.4.1** Name PROJECT as additional insured;
 - 8.4.2** Include a waiver of subrogation of the Contractor's rights to the insurance carrier against the PROJECT;
 - 8.4.3** Provide that the PROJECT shall receive thirty (30) days written notice from the insurers prior to any cancellation or change of coverage.
- 8.5** The Contractor shall, upon request, provide the PROJECT with satisfactory evidence of the insurance required under this Article.

9.0 ENCUMBRANCES/LIENS:

The Contractor shall not cause or permit any lien, attachment or other encumbrance by any person to be placed on file or to remain on file in any public office or on file with the PROJECT against any monies due or to become due for any work done or materials furnished under this Contract, or by reason of any other claim or demand against the Contractor.

10.0 TITLE TO EQUIPMENT:

Title to any equipment and supplies that may be furnished by PROJECT shall rest with PROJECT and any such equipment shall be returned to PROJECT at the conclusion of this Contract or when no longer needed by the Contractor. Such equipment, when returned to PROJECT, shall be in the same condition as when delivered to the Contractor, subject to normal wear and tear. The Contractor shall be liable to compensate PROJECT for equipment determined to be damaged or degraded beyond normal wear and tear.

11.0 COPYRIGHT, PATENTS AND OTHER PROPRIETARY RIGHTS:

- 11.1** Except as is otherwise expressly provided in writing in the Contract, the PROJECT shall be entitled to all intellectual property and other proprietary rights including, but not limited to, patents, copyrights, and trademarks, with regard to products, processes, inventions, ideas, know-how, or documents and other materials which the Contractor has developed for the PROJECT under the Contract and which bear a direct relation to or are produced or prepared or collected in consequence of, or during the course of, the performance of the Contract, and the Contractor acknowledges and agrees that such products, documents and other materials constitute works made for hire for the PROJECT.

- 11.2** To the extent that any such intellectual property or other proprietary rights consist of any intellectual property or other proprietary rights of the Contractor: (i) that pre-existed the performance by the Contractor of its obligations under the Contract, or (ii) that the Contractor may develop or acquire, or may have developed or acquired, independently of the performance of its obligations under the Contract, the PROJECT does not and shall not claim any ownership interest thereto, and the Contractor grants to the PROJECT a perpetual license to use such intellectual property or other proprietary right solely for the purposes of and in accordance with the requirements of the Contract.
- 11.3** At the request of the PROJECT; the Contractor shall take all necessary steps, execute all necessary documents and generally assist in securing such proprietary rights and transferring or licensing them to the PROJECT in compliance with the requirements of the applicable law and of the Contract.
- 11.4** Subject to the foregoing provisions, all maps, drawings, photographs, mosaics, plans, reports, estimates, recommendations, documents, and all other data compiled by or received by the Contractor under the Contract shall be the property of the PROJECT, shall be made available for use or inspection by the PROJECT at reasonable times and in reasonable places, shall be treated as confidential, and shall be delivered only to PROJECT authorized officials on completion of work under the Contract.

12.0 USE OF NAME, EMBLEM OR OFFICIAL SEAL OF PROJECT OR THE UNITED NATIONS:

The Contractor shall not advertise or otherwise make public the fact that it is a Contractor with PROJECT, nor shall the Contractor, in any manner whatsoever use the name, emblem or official seal of PROJECT or THE United Nations, or any abbreviation of the name of PROJECT or United Nations in connection with its business or otherwise.

13.0 CONFIDENTIAL NATURE OF DOCUMENTS AND INFORMATION:

Information and data that is considered proprietary by either Party and that is delivered or disclosed by one Party ("Discloser") to the other Party ("Recipient") during the course of performance of the Contract, and that is designated as confidential ("Information"), shall be held in confidence by that Party and shall be handled as follows:

- 13.1** The recipient ("Recipient") of such information shall:
- 13.1.1** use the same care and discretion to avoid disclosure, publication or dissemination of the Discloser's Information as it uses with its own similar information that it does not wish to disclose, publish or disseminate; and,
 - 13.1.2** use the Discloser's Information solely for the purpose for which it was disclosed.
- 13.2** Provided that the Recipient has a written agreement with the following persons or entities requiring them to treat the Information confidential in accordance with the Contract and this Article 13, the Recipient may disclose Information to:
- 13.2.1** any other party with the Discloser's prior written consent; and,
 - 13.2.2** the Recipient's employees, officials, representatives and agents who have a need to know such Information for purposes of performing obligations under the Contract, and employees officials, representatives and agents of any legal entity that it controls controls it, or with which it is under common control, who have a need to know such Information for purposes of performing obligations under the Contract, provided that, for these purposes a controlled legal entity means:

- 13.2.2.1** a corporate entity in which the Party owns or otherwise controls, whether directly or indirectly, over fifty percent (50%) of voting shares thereof; or,
- 13.2.2.2** any entity over which the Party exercises effective managerial control; or,
- 13.2.2.3** for the PROJECT, an affiliated Fund such as UNCDF, UNIFEM and UNV.

- 13.3** The Contractor may disclose Information to the extent required by law, provided that, subject to and without any waiver of the privileges and immunities of the United Nations, the Contractor will give the PROJECT sufficient prior notice of a request for the disclosure of Information in order to allow the PROJECT to have a reasonable opportunity to take protective measures or such other action as may be appropriate before any such disclosure is made.
- 13.4** The PROJECT may disclose Information to the extent as required pursuant to the Charter of the UN, resolutions or regulations of the General Assembly, or rules promulgated by the Secretary-General.
- 13.5** The Recipient shall not be precluded from disclosing Information that is obtained by the Recipient from a third party without restriction, is disclosed by the Discloser to a third party without any obligation of confidentiality, is previously known by the Recipient, or at any time is developed by the Recipient completely independently of any disclosures hereunder.
- 13.6** These obligations and restrictions of confidentiality shall be effective during the term of the Contract, including any extension thereof, and, unless otherwise provided in the Contract, shall remain effective following any termination of the Contract.

14.0 FORCE MAJEURE; OTHER CHANGES IN CONDITIONS

- 14.1** In the event of and as soon as possible after the occurrence of any cause constituting force majeure, the Contractor shall give notice and full particulars in writing to the PROJECT, of such occurrence or change if the Contractor is thereby rendered unable, wholly or in part, to perform its obligations and meet its responsibilities under this Contract. The Contractor shall also notify the PROJECT of any other changes in conditions or the occurrence of any event that interferes or threatens to interfere with its performance of this Contract. On receipt of the notice required under this Article, the PROJECT shall take such action as, in its sole discretion; it considers to be appropriate or necessary in the circumstances, including the granting to the Contractor of a reasonable extension of time in which to perform its obligations under this Contract.
- 14.2** If the Contractor is rendered permanently unable, wholly, or in part, by reason of force majeure to perform its obligations and meet its responsibilities under this Contract, the PROJECT shall have the right to suspend or terminate this Contract on the same terms and conditions as are provided for in Article 15, "Termination", except that the period of notice shall be seven (7) days instead of thirty (30) days.
- 14.3** Force majeure as used in this Article means acts of God, war (whether declared or not), invasion, revolution, insurrection, or other acts of a similar nature or force.
- 14.4** The Contractor acknowledges and agrees that, with respect to any obligations under the Contract that the Contractor must perform in or for any areas in which the PROJECT is engaged in, preparing to engage in, or disengaging from any peacekeeping, humanitarian or similar operations, any delays or failure to perform such obligations arising from or relating to harsh conditions within such areas or to any incidents of civil unrest occurring in such areas shall not, in and of itself, constitute force majeure under the Contract..

15.0 TERMINATION

- 15.1** Either party may terminate this Contract for cause, in whole or in part, upon thirty (30) days notice, in writing, to the other party. The initiation of arbitral proceedings in accordance with Article 16.2 ("Arbitration"), below, shall not be deemed a termination of this Contract.
- 15.2** PROJECT reserves the right to terminate without cause this Contract at any time upon 15 days prior written notice to the Contractor, in which case PROJECT shall reimburse the Contractor for all reasonable costs incurred by the Contractor prior to receipt of the notice of termination.
- 15.3** In the event of any termination by PROJECT under this Article, no payment shall be due from PROJECT to the Contractor except for work and services satisfactorily performed in conformity with the express terms of this Contract.
- 15.4** Should the Contractor be adjudged bankrupt, or be liquidated or become insolvent, or should the Contractor make an assignment for the benefit of its creditors, or should a Receiver be appointed on account of the insolvency of the Contractor, the PROJECT may, without prejudice to any other right or remedy it may have under the terms of these conditions, terminate this Contract forthwith. The Contractor shall immediately inform the PROJECT of the occurrence of any of the above events.

16.0 SETTLEMENT OF DISPUTES

- 16.1 Amicable Settlement:** The Parties shall use their best efforts to settle amicably any dispute, controversy or claim arising out of this Contract or the breach, termination or invalidity thereof. Where the parties wish to seek such an amicable settlement through conciliation, the conciliation shall take place in accordance with the UNCITRAL Conciliation Rules then obtaining, or according to such other procedure as may be agreed between the parties.
- 16.2 Arbitration:** Any dispute, controversy, or claim between the Parties arising out of the Contract or the breach, termination, or invalidity thereof, unless settled amicably under Article 16.1, above, within sixty (60) days after receipt by one Party of the other Party's written request for such amicable settlement, shall be referred by either Party to arbitration in accordance with the UNCITRAL Arbitration Rules then obtaining. The decisions of the arbitral tribunal shall be based on general principles of international commercial law. For all evidentiary questions, the arbitral tribunal shall be guided by the Supplementary Rules Governing the Presentation and Reception of Evidence in International Commercial Arbitration of the International Bar Association, 28 May 1983 edition. The arbitral tribunal shall be empowered to order the return or destruction of goods or any property, whether tangible or intangible, or of any confidential information provided under the Contract, order the termination of the Contract, or order that any other protective measures be taken with respect to the goods, services or any other property, whether tangible or intangible, or of any confidential information provided under the Contract, as appropriate, all in accordance with the authority of the arbitral tribunal pursuant to Article 26 ("Interim Measures of Protection") and Article 32 ("Form and Effect of the Award") of the UNCITRAL Arbitration Rules. The arbitral tribunal shall have no authority to award punitive damages. In addition, unless otherwise expressly provided in the Contract, the arbitral tribunal shall have no authority to award interest in excess of the London Inter-Bank Offered Rate ("LIBOR") then prevailing, and any such interest shall be simple interest only. The Parties shall be bound by any arbitration award rendered as a result of such arbitration as the final adjudication of any such dispute, controversy, or claim.

17.0 PRIVILEGES AND IMMUNITIES:

Nothing in or relating to this Contract shall be deemed a waiver, express or implied, of any of the privileges and immunities of the United Nations, including its subsidiary organs.

18.0 TAX EXEMPTION

- 18.1** Section 7 of the Convention on the Privileges and Immunities of the United Nations provides, inter alia that the United Nations, including its subsidiary organs, is exempt from all direct taxes, except charges for public utility services, and is exempt from customs duties and charges of a similar nature in respect of articles imported or exported for its official use. In the event any governmental authority refuses to recognize the United Nations exemption from such taxes, duties or charges, the Contractor shall immediately consult with the PROJECT to determine a mutually acceptable procedure.
- 18.2** Accordingly, the Contractor authorizes PROJECT to deduct from the Contractor's invoice any amount representing such taxes, duties or charges, unless the Contractor has consulted with the PROJECT before the payment thereof and the PROJECT has, in each instance, specifically authorized the Contractor to pay such taxes, duties or charges under protest. In that event, the Contractor shall provide the PROJECT with written evidence that payment of such taxes, duties or charges has been made and appropriately authorized.

19.0 CHILD LABOUR

- 19.1** The Contractor represents and warrants that neither it, nor any of its suppliers is engaged in any practice inconsistent with the rights set forth in the Convention on the Rights of the Child, including Article 32 thereof, which, inter alia, requires that a child shall be protected from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical mental, spiritual, moral or social development.
- 19.2** Any breach of this representation and warranty shall entitle PROJECT to terminate this Contract immediately upon notice to the Contractor, at no cost to PROJECT.

20.0 MINES:

- 20.1** The Contractor represents and warrants that neither it nor any of its suppliers is actively and directly engaged in patent activities, development, assembly, production, trade or manufacture of mines or in such activities in respect of components primarily utilized in the manufacture of Mines. The term "Mines" means those devices defined in Article 2, Paragraphs 1, 4 and 5 of Protocol II annexed to the Convention on Prohibitions and Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects of 1980.
- 20.2** Any breach of this representation and warranty shall entitle PROJECT to terminate this Contract immediately upon notice to the Contractor, without any liability for termination charges or any other liability of any kind of PROJECT.

21.0 OBSERVANCE OF THE LAW:

The Contractor shall comply with all laws, ordinances, rules, and regulations bearing upon the performance of its obligations under the terms of this Contract.

22.0 SEXUAL EXPLOITATION:

- 22.1** The Contractor shall take all appropriate measures to prevent sexual exploitation or abuse of anyone by it or by any of its employees or any other persons who may be engaged by the

Contractor to perform any services under the Contract. For these purposes, sexual activity with any person less than eighteen years of age, regardless of any laws relating to consent, shall constitute the sexual exploitation and abuse of such person. In addition, the Contractor shall refrain from, and shall take all appropriate measures to prohibit its employees or other persons engaged by it from, exchanging any money, goods, services, offers of employment or other things of value, for sexual favors or activities, or from engaging in any sexual activities that are exploitive or degrading to any person. The Contractor acknowledges and agrees that the provisions hereof constitute an essential term of the Contract and that any breach of this representation and warranty shall entitle PROJECT to terminate the Contract immediately upon notice to the Contractor, without any liability for termination charges or any other liability of any kind.

- 22.2** The PROJECT shall not apply the foregoing standard relating to age in any case in which the Contractor's personnel or any other person who may be engaged by the Contractor to perform any services under the Contract is married to the person less than the age of eighteen years with whom sexual activity has occurred and in which such marriage is recognized as valid under the laws of the country of citizenship of such Contractor's personnel or such other person who may be engaged by the Contractor to perform any services under the Contract.

23.0 AUTHORITY TO MODIFY:

Pursuant to the Financial Regulations and Rules of PROJECT, only the PROJECT Authorized Official possesses the authority to agree on behalf of PROJECT to any modification of or change in this Contract, to a waiver of any of its provisions or to any additional contractual relationship of any kind with the Contractor. Accordingly, no modification or change in this Contract shall be valid and enforceable against PROJECT unless provided by an amendment to this Contract signed by the Contractor and jointly by the PROJECT Authorized Official.