# United Nations Development Programme

## Green Sharm El-Sheikh Project

# ESIA and ESMP for Green Sharm El Sheikh – Biodiversity Workstream

***(Final Report)***

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**August 2023**

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# ESIA and ESMP for Green Sharm El Sheikh – Biodiversity Workstream

***(Final Report)***

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## List of Abbreviations

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| AEWA | Agreement on the Conservation of African-Eurasian Migratory Waterbirds |
| AGMRPA | Abu Galum Managed Resource Protected Area |
| ALECSO | The Arab League Educational, Cultural and Scientific Organization |
| AP | Affected person |
| AR5 | IPCC Fifth Assessment Report |
| BOD | Biological Oxygen Demand |
| CAA | Competent Administrative Authority |
| CAPMAS | Central Agency for Public Mobilization and Statistics, Egypt |
| CBD | Global Convention of Protection of Biological Diversity |
| CDWS | Chamber of Diving & Water Sports |
| CITES | Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| CMS | Convention on the Conservation of Migratory Species of Wild Animals |
| COD | Chemical Oxygen Demand |
| COP 21 | The twenty-first session of the Conference of the Parties |
| COP 27 | The twenty-seventh session of the Conference of the Parties |
| COVID-19 | Coronavirus Disease of 2019 |
| DO | Dissolved Oxygen |
| DOA | Delegation of Authority |
| DSD | Discovery Scuba Divining |
| EEAA | Egyptian Environmental Affairs Agency |
| EHA | Egyptian Hotel Association |
| EP | Egyptian Pounds |
| ER | Executive Rules |
| ESIA | Environmental and Social Impact Assessment |
| ESMF | Environmental and Social Management Framework |
| ESMP | Environmental and Social Management Plan |
| ESR | Ecosystem Service Review |
| GDP | Gross Domestic Product |
| GEBCO | The General Bathymetric Chart of the Oceans |
| GEF | Global Environment Facility |
| GHG | Greenhouse Gases |
| GOPP | The General Organization for Physical Planning |
| GRC | the Grievance Redress Committee |
| GRM | Grievance Redress Mechanism |
| IBAs | Important Bird Areas |
| ILO | International Labour Organization |
| IPCC | Intergovernmental Panel on Climate Change |
| IUCN | International Union for Conservation of Nature |
| MARPOL | International Convention for the Prevention of Pollution from Ships |
| MBDT project | Mainstream Biodiversity into Tourism Development project |
| MRPA | Managed Resources Protected Area |
| MSA | The Ministry of State for Antiquities |
| NARSS | The National Authority for Remote Sensing and Space Sciences |

| | |
|---|---|
| NDCs | Nationally Determined Contributions |
| NGO | Non-governmental Organization |
| NMRPA | Nabq Managed Resource Protected Area |
| NREA | New and Renewable Energy Authority |
| NSWMP | National Solid Waste Management Program |
| NTZ | No-take Zone |
| PA | Protected Area |
| PERSGA | Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment (Jeddah Convention) |
| PMU | Project Management Unit |
| RMNP | Ras Mohamed National Park |
| SES | Social and Environmental Standards |
| SESA | Strategic Environmental and Social Assessment |
| SESP | Social and Environmental Screening Procedure |
| SLR | Sea Level Rise |
| SRA | The Sinai Reconstruction Authority |
| SRM | Stakeholder Response Mechanism |
| TDA | Tourism Development Agency |
| TPH | Total Petroleum Hydrocarbon |
| UN | United Nations |
| UNDP | United Nations Development Programme |
| UNESCO | The United Nations Educational, Scientific and Cultural Organization |
| UNFCCC | United Nations Framework Convention on Climate Change |
| UN Habitat | The United Nations Human Settlements Programme |
| UPOPS | UN intentional Persistent Organic Pollutants |
| USD | U.S. dollar |
| WHO | World Health Organization |
| WMRA | Waste Management Regulatory Authority |

# Executive Summary

## 1. Introduction

The Government of Egypt (GoE) endeavors to achieve a long-term goal to transform Sharm El-Sheikh into one of the first Green Tourist Destinations and Sustainable Cities in Egypt and the Arab region. Accordingly, the GoE in 2010 launched the Green Sharm Initiative, though implementation has been delayed due to the challenges that faced the tourism flow to the city during the last ten years. Building on this initiative, the Ministry of Environment and Governorate of South Sinai supported by the UNDP are implementing a project funded by the Global Environment Facility (GEF), entitled "Green Sharm El Sheikh" (GEF No. 10117).

Green Sharm project includes 4 components, of which one is a biodiversity workstream:

- Component 1 will emplace an enabling framework for a green sustainable tourism in Sharm El Sheikh,
- Component 2 will reduce GHG and UPOPS emissions in targeted urban zones through innovations and public and private partnership
- Component 3. will enhance biodiversity protection measures for management and mitigation of key threats,
- Component 4. Knowledge management and Monitoring and Evaluation

The current document reports on the Environmental and Social Impacts Assessment (ESIA) of the biodiversity workstream. In addition, negative impacts deemed significant shall be addressed through an Environmental and Social Management Plan (ESMP).

### 1.1 Green Sharm Objectives

The objective of this project is "to turn Sharm El Sheikh into a model of integrated and ecologically sustainable tourism city of national and international importance through the adoption of low-carbon technologies, proactive waste prevention and management practices and a further-enhanced protection of its natural capital basis".
Under the Green Sharm Project, Component 3 aims to enhance biodiversity protection measures for management and mitigation of key threats with the following objectives:

- Increasing protected area financing through improved revenue generation and reinvestment
- Monitoring economic practices that harm biodiversity and the status of key biodiversity resources
- Improving the participation and benefit sharing by communities neighboring protected areas

- Engaging hotels, related enterprises and tourists in measures that protect biodiversity and ecosystems.

### 1.2 Structure of the ESIA

The ESIA report is organized as follows:

| | |
|---|---|
| Chapter 1: Introduction | This chapter provides background information about the Project and highlights the objectives. |
| Chapter 3: Project Description | This chapter provides a description of the Project, including location, project components and activities, details of Project inputs and outputs |
| Chapter 2: Legal, regulatory and Institutional Framework | This chapter provides a description of the applicable regulatory framework for the proposed project |
| Chapter 4: Baseline Data | This chapter describes the available baseline data on the environment and social resources and receptors within the project study area. |
| Chapter 5: Assessment of risks and impacts | In this chapter, potential and associated environmental and social impacts of project activities are identified, assessed and evaluated. |
| Chapter 6: Alternatives Analysis | This chapter assesses potential alternatives to the project siting, activities and implementation arrangements. It includes evaluating the 'no project' alternative. |
| Chapter 7: Mitigation and Management measures | This chapter presents potential mitigation and management measures as they pertain to the impacts identified in chapter 6. |
| Chapter 8: Environmental and social Management Plan (ESMP) | The ESMP will describe each mitigation measure, including the type of impact and social and environmental parameter(s) to which it relates, the location and frequency, timing or conditions under which the measure is required. |

## 2. Project Description

The information in this section relies on the documents provided by UNDP in Cairo which includes; Environmental and Social Management Framework (ESMF) and Project document in addition documents related to Gharqana village from MBDT project.

### 2.1 Project Scope

The project's geographic scope includes the terrestrial area of the city itself, as well as the bordering marine/coastal areas subject to economic activities originating from the city. This includes the three marine/coastal protected areas, namely:

- **Ras Mohamed National Park,** located at the meeting point of the Gulf of Suez and Gulf of Aqaba but extending north-east to include the coastal front of Sharm El Sheikh. Designated in 1983, 850 km² and proposed to become a World Heritage Site in 2002. It was designated a Green List Protected Area in 2018.
- **Nabq Managed Resource Protected Area,** stretching from north of Sharm El Sheikh to Dahab. Designated in 1992, 600 km².
- **Abu Galoum Managed Resource Protected Area**, stretching from north of Dahab to Taba at the border with Israel. Designated in 1992, 500 km².

## 2.2 Component 3 Outcomes, Outputs and Activities

The project is designed to include 4 components, as follow:
**Component 1:** Enabling framework for a green sustainable tourism city Sharm El Sheikh.
**Component 2:** Reducing GHG and UPOP emissions in targeted urban zones through innovations and public and private partnership.
**Component 3:** Promote enhanced biodiversity protection measures for management and mitigation of key threats.
**Component 4:** M&E and knowledge management.

### *2.2.1 Component 3: Biodiversity Workstream*

Under the Green Sharm Project, Component 3 aims to enhance biodiversity protection measures for management and mitigation of key threats with the following objectives:

- Increasing protected area financing through improved revenue generation and reinvestment
- Monitoring economic practices that harm biodiversity and the status of key biodiversity resources
- Improving the participation and benefit sharing by communities neighboring protected areas
- Engaging hotels, related enterprises and tourists in measures that protect biodiversity and ecosystem

# 3. Legal, Regulatory, and Institutional Framework

The report includes an overview of the environmental legislations that are pertinent to the project is. National regulations, regional and international conventions and agreement, UNDP social and environmental standards (UNDP SES – Social and Environmental Assessment and Management) as well as Global Environment Facility (GEF) Environmental and Social Management Policies have been compiled and reviewed.

# 4. Environmental and Social Baseline

## 4.1 The Project Area

The "Green Sharm" project's focus area includes the terrestrial area of Sharm El Sheikh City, as well as the bordering marine/coastal areas that are subject to economic activities originating from the city with estimated total area 2,130 $km^2$ covered by the project activities. This includes the three marine/coastal protected areas, namely, Ras Mohamed National Park (RMNP), Nabq Managed Resource Protected Area (NMRPA), and Abu Galum Managed Resource Protected Area (AGMRPA).

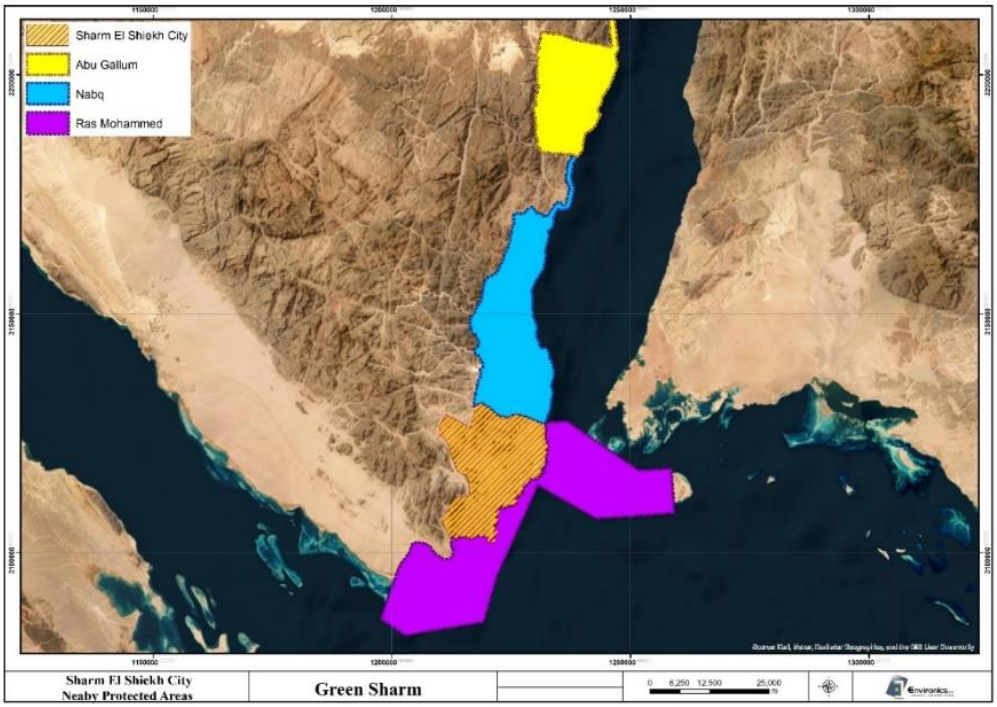


**Figure 1: Green Sharm Project Area**

## 4.2 Physical Environment

### *4.2.1 Meteorological Conditions*

The climate in South Sinai is generally dominated by dry weather during most days of the year, with high summer temperatures (about 39.3° C), mild winters (about 14.1° C) and low humidity (the highest average relative humidity occurs

in September and November and reaches 63%).

Concerning climate change trends, data visualization shows an increasing trend of average temperature from 24.7 to 26.4 °C during a 40 year period, while the average total precipitation in the region of Sharm El Sheikh follows an increasing trend from 7.6 to 9.5 mm/year.

### *4.2.2 Terrestrial Environment*

- ***Morphology and Topography***
  Sharm El Sheikh city and RMNP are located at an elevation of less than 50 m (msl). Land elevation increases towards the north with NMRPA having a relatively wide coastal plain in comparison of AGMRPA where the coastal area is narrow and most of the PA is mountainous.

- ***Geology and Soils***
  Sharm El-Sheikh City and RMNP terrestrial part is covered with gravel, sand pebbles and some small rocks. Within NMRPA, rocky surfaces are widely distributed and replacing sand and gravel northward and almost all AGMRPA is dominated by rocky structures.

- ***Hydrology and Hydrogeology***
  **Surface waters and flashfloods**
  The majority of streams in the study area are characterized with low severity (less than 1 $m^2$/second) except for Nabq protectorate through which a stream passes that is characterized with very high severity. (More than 5 $m^2$/second). This stream passes from the west to the extreme eastern part.

  **Groundwater**
  The main reservoir in Sharm El Sheikh consists of alternating layers of cracked limestone and some alternating layers of sand and gravel. The depth of groundwater reaches about 30 meters below the ground.

- ***Seismic Hazards***
  Sharm El Sheikh city and the whole project area are located in a major damage zone of an active fault zone.

### *4.2.3 Marine Environment*

- ***Bathymetry***
  Bathymetry mapping shows that depths in marine part of the project area ranges few meters to as deep as 1,800 m.

- ***Oceanographic Conditions***
  Waves heights are less than 1 m most of the year and rarely exceed 1 m during spring to early summer.

A southward current along the west coast of the Gulf of Aqaba was observed most of the year, with a short period (November–January) of northward flow and an abrupt reversal in early February.
Tidal amplitudes in the Northern part of the Egyptian Red Sea are small, with dominant semi-diurnal components.

- ***Water Quality***
  Water quality in the coastal marine environment of the project area has been obtained from results of the latest report for monitoring coastal water characteristics in the Red Sea (EEAA, 2021). Details are provided in the main body of the report.

## 4.3 Biological Environment

### *4.3.1 Sharm El Sheikh City*

Sharm El Sheikh City is almost a totally urbanized city with some natural spots, but with a biodiversity-rich marine environment. The coastal front of Sharm El Sheikh City is included within the marine part of Ras Mohamed National Park.

### *4.3.2 Ras Mohamed National Park*

Ras Mohamed National Park (RMNP) is located at the Southern tip of the Sinai Peninsula, to the west of Sharm El Sheikh. The Park was established in 1983 as the first Egyptian national park and extended in 1989. The protected area covers 480 km², 70% of which is marine.

- ***Terrestrial Environment***

  **Habitats**

  The terrestrial part of Ras Mohamed National Park encompasses a wide variety of ecosystems and habitat-types. The majority of the PA is occupied by mountain and wadi desert habitats as well as gravel plains and sand dunes ecosystem.

  **Flora**

  Ras Mohamed terrestrial flora includes about 80 species of plants of which more than 72 species are recorded in Wadi Watir.

  **Fauna**

  Ras Mohamed National Park encompasses diverse communities of fauna represented by mammals, birds and reptiles.

- ***Marine Environment***

  **Habitats**

  Several defined marine habitats exist inside the park, as follows:
  - Coral reefs;
  - Mangrove stands;
  - Sea grass communities;
  - Intertidal macroalgae; and

- Pelagic.

**Flora**
Littoral and marine flora includes salt marsh flora, mangroves and seagrasses.

**Fauna**
Marine fauna includes more than 200 species of corals, around 1000 species of fish, 40 species of star fish, 25 species of sea urchins, more than a 100 species of mollusks and 150 species of crustaceans, threatened marine turtles, as well as marine mammals (including the iconic Dugong).

### *4.3.3 Nabq Managed Resource Protected Area*

Nabq Managed Resource Protected Area (NMRPA) is located approximately 35 km north of Sharm El Sheikh. It was established in 1992 and later extended in 1996 with the addition of the Dahab Environmentally Managed Area. NMRPA covers an area of 587 km², including a marine area of approximately 122 km² extending 47 km along the western coast of the Gulf of Aqaba.

- ***Terrestrial Environment***

**Habitats**
The majority of the Protected Area is occupied by mountain and wadi desert habitats as well as dunes ecosystem.

**Flora**
Nabq contains 134 plant species, six of them are found only in Nabq, and 86 are perennial. The area contains one of the largest single stands of Arak bushes, *Salvadora persica*, in the Middle East.

**Fauna**
NMRPA encompasses diverse communities of fauna represented by mammals, birds and reptiles. Dorcas Gazelle, Nubian Ibex, Hyrax and small mammal populations inhabit the desert part of the PA. Heron, Spoonbill and Osprey have sustainable breeding populations in and around the mangroves.

- ***Marine Environment***

**Habitats**
Different habitats have been identified in marine environment of NMRPA, mainly:
- Coral reef ecosystems;
- Mangrove ecosystem; and
- Sea grass ecosystem.

**Flora**
It includes mangroves and seagrasses and Maerl beds.

**Fauna**

Marine fauna includes macro-benthic fauna associated with mangrove, seagrass and coral reef ecosystems, sea turtles, seabirds and marine mammals.

### *4.3.4 Abu Galum Managed Resource Protected Area*

Abu Galum Managed Resource Protected Area (AGMRPA) is located approximately 60 km north of Sharm El Sheikh. It was established in 1992 to protect coral reefs and mangroves. The Park covers approximately 458 km².

- ***Terrestrial Environment***

**Habitats**

The terrestrial portion consists of high-altitude deserts connected to the coast through narrow wadis cut through high granite coastal mountains.

**Flora**

AGMRPA houses 167 plant species, 44 of these species are seen only in this area.

**Fauna**

Ten species of lizards and snakes have been identified in the area and is known to hold the largest number of mammals common in the Gulf of Aqaba coastal region.

- ***Marine Environment***

**Habitats**

Different habitats have been identified in the marine environment of AGMRPA, mainly:

- Coral reefs;
- Sea grass meadows;
- Rocky shores; and
- Sandy shores.

**Biodiversity**

The benthic cover in the study area includes nine categories; hard coral is the main dominant category, followed by turf algae, while soft coral represents the lowest cover.

Coral reefs are accompanied by a great diversity of fish that live in or near them. The Park also hosts several marine mammals such as the Dugong and dolphins, as well as the Green Turtle and the Loggerhead Turtle.

### *4.3.5 Biodiversity Value and Sensitivities*

- ***Biodiversity Value***

The Red Sea with its expansions, Gulf of Aqaba and Gulf of Suez, are quite unique in terms of ecosystems and ecological value of these systems. The Red Sea has an important influence on the coral reef ecology worldwide.

As reefs face increasing pressure from global climate change, many authors have suggested that corals in the Red Sea may provide insight into mechanisms of adaptation or tolerance to elevated temperatures.

**Ecosystem services**

Ecosystem services are organized into four types: (i) provisioning services, (ii) regulating services, (iii) cultural services, and (iv) supporting services.

Local Bedouin communities at Nabq and Abu Galum benefit from several ecosystem services provided by the area. Fishing is an important source of food and income, and the area provides grazing grounds for their livestock. There is a limited use of groundwater wells for drinking purposes, as potable water is regularly trucked to local communities. Moreover, no agricultural activities are performed in the area.

Moreover, the protected areas have an important recreational and cultural value (including educational, scientific and research value). Ecotourism constitutes a significant source of income for local Bedouins.

Two of the relevant services provided by the ecosystem can be considered as priority ecosystem services; these are:

- Fish from marine fisheries (provisioning services); and
- Recreation and ecotourism (cultural services).

- ***Ecological Sensitivities***

  In addition to coral reefs, these include spawning ground in Ras Mohammed National Park and Important Bird Areas (IBAs) within the project area, namely Ras Mohammed National Park and Nabq Protected Area.

## 4.4 Socio-economic and Cultural Environment

### *4.4.1 Administrative Context*

The project area, including Sharm El Sheikh City and neighbouring protected areas are located within three main administrative sectors: Kism Awal Sharm El Sheikh (Sharm El Sheikh 1), Kism Thani Sharm El Sheikh (Sharm El Sheikh 2), and Kism Dahab (Dahab Town).

### *4.4.2 Demographic Profile*

The total resident population of Sharm El Sheikh city is 75,000 individuals, making a total of 90,000 with its neighbouring Dahab town (pop. 15,000).

The household size in Kism Dahab sector, including Dahab City, is higher than the average household size in the other administrative sectors

About 57% of the project area population fall in the age group from 0 to 20 years old.

About 60% of the population in the project area have completed secondary education or University degrees.

### *4.4.3 Economic Profile*

The administrative sector, Kism Awal – Sharm El Sheikh, encompasses the highest number of establishments (3,300 public and private sector establishment) with 21,035 workers.

The main economic activities throughout South Sinai Governorate include tourism-related activities, manufacturing and wholesale and retail trade; the latter has the highest number of workers (32 % of total workforce) throughout South Sinai Governorate.

### *4.4.4 Infrastructure, Utilities and Services*

Almost all individuals in the project area have access to some source(s) of potable water.

Sewage collecting within the project area is achieved through public network, private networks, cesspits. Less commonly open field disposal is practiced.

Almost all households within the project area are covered by the public electricity network. The other main source for electricity is the electric generators.

Currently the waste collection rate is around 89%. There is inadequate waste collection in some non-touristic areas emphasizing the need for managed collecting system and disposal sites. Sharm El Sheikh City's solid waste is disposed of at Al Khanassir area approximately 15 km from downtown.

The number of health units with beds in South Sinai Governorate during 2019 was 8 public and 1 private unit with a total of 1,085 beds.

The main trunk road runs from the port to the airport over a distance of 20 km and is maintained by the Roads and Bridges Department.

### *4.4.5 Local Bedouins' Context*

There are Bedouin communities along the coastal stretch where the project will work. They are involved in tourism and fishing activities. As Bedouin community will be beneficiaries of the project, they will be involved in the design and implementation of the project's site-level components.

In South Sinai, there are 12 Bedouin tribes with an estimated population of 22,000. There is no local Bedouin population at RMNP, as opposed to the other South Sinai Protectorates, NMRPA and AGMRPA, which include Bedouin populations.

In Nabq PA, the two main settlements are called Gharqana and Khriza villages and inhabited by Bedouin families. All the Bedouin settlements in Nabq are

involved in tourism activities in a way or another.

### *4.4.6 Cultural Heritage and Archaeology*

The archaeology and heritage of South Sinai is rich and varied. Several archeological sites are distributed throughout South Sinai including the project area, but the archaeology and heritage of the coastal areas was never surveyed systematically until recently.

## 5. Assessment of Risks and Impacts

### 5.1 Impact Assessment Methodology

For this ESIA report, the assessment of risks and impacts will proceed through a systematic process considering the following key elements:

1. identified SES-related risks. The assessment relies on the identified risks in the ESMF based on the project's general activities. Prediction of potential impacts and their magnitude (i.e., the consequences of the development on the natural and social environment);
2. Evaluation of the importance (or significance) of potential impacts taking the sensitivity of the environmental resources or human receptors into account; and
3. Development of mitigation measures to avoid, reduce or manage the potential impacts or enhancement measures to increase positive impacts.

### 5.2 Assessment of Significance

impacts are defined based on the following:

- Nature of impact: positive or negative;
- Type of impact: direct, indirect, or cumulative;
- Duration of impact: temporary, short-term, medium and long-term; and
- Scale of impact: onsite, local, regional, national, international.

### 5.3 Screening for Relevant Risks

The ESMF has identified 12 potential risks for the all the project components. A screening process for these identified risks has been carried out in terms of relevant activities for component 3. Results of the screening were communicated and agreed with the project management at the UNDP. The table 4 shows the screened risks.

**Table1: Relevant screened risks**

| No. | Risk | Category | Scoped |
|---|---|---|---|
| Risk 2 | The project will fund the development of policies (strategies and planning documents such as SESSDS, etc.) that may cause unintended downstream social and/or environmental impacts, including through the poor placement of new urban, protected | SUBSTANTIAL | IN |

| No. | Risk | Category | Scoped |
|---|---|---|---|
| | area and tourism infrastructures, changes in protected area status or resource management regimes, opening of new areas for "sustainable" tourism development, etc.. | | |
| Risk 7 | Biodiversity conservation activities under Component 3 are prone to curtail long-standing access to (or, unsustainable use of) natural resources (pastures and fisheries) by local marginalised (Bedouin) communities living near or within the targeted protected areas, which could lead to economic displacement, if not forced physical displacement and/or forced evictions, and affect women in particular. This might happen without due consultations or consideration. It is possible that affected populations are not aware of their rights and do not have the capacity to claim them, and that duty bearers (municipality, private sector) do not have full control over related decisions. | MODERATE | IN |
| Risk 8 | Enforcement of more restrictive access and practices especially in the marine/coral ecosystems around Sharm El Sheikh (including in PAs) could cause further economic hardship to tourism operators such as hotels, dive/snorkel shops, boat charters, etc. (after years of political instability, security issues and COVID-19), which could lead to local-level conflicts. | HIGH | IN |
| Risk 9 | The project could generate gender discrimination, limit the consultation and involvement of women in project decision-making and implementation | MODERATE | IN |
| Risk 10 | Climate change: Long-term changes in climate will exacerbate or present additional challenges for biodiversity in the targeted regions, most notably impacting the coral reefs | SUBSTANTIAL | IN |

Based on the scoping exercise, 5 risks are scoped in (Risks No. 2, 7, 8, 9 and 10) that were considered in the assessment. Biodiversity Workstream activities will be assessed against these risks. The following table identifies the risk category for each of the workstream activity to be addressed in detail the risk assessment section.

**Table 2: Biodiversity Workstream Activities Associated Risks**

| No. | Activity | Risks | | | | | |
|---|---|---|---|---|---|---|---|
| | | **No Risk** | **2** | **7** | **8** | **9** | **10** |
| | **Support the improved management of Ras Mohamed National Park, Nabq National Park and Ras Abu Galum National Park** | | | | | | |
| 1. | o Identify key threats to biodiversity and ecosystems, and the activities causing these threats (*consultancy*) | √ | | | | | √ |
| 2. | o Conduct an assessment of stakeholders, including their roles in activities listed above (*consultancy and consultation*) | | √ | √ | √ | | |
| 3. | o Agree on integrated management strategies for each identified threat (*consultancy and consultation*) | | √ | √ | √ | √ | √ |
| 4. | o Identify alternative technologies/best practices to minimize and manage threats, including anchoring systems, carrying capacity assessments, zoning and waste management (*consultancy*) | | √ | √ | √ | | √ |
| 5. | o Implement new technologies pilots in 1-2 sites, build capacity and monitor effectiveness, and prepare guidelines (i*nvestment and consultancy*). | | √ | √ | √ | | |
| 6. | o Training and skills advancement (*consultancy*). | √ | | | | | |
| | **Improve revenue generation for Protected Areas** | | | | | | |
| 7. | o Establish an electronic system for the collection of entrance fees and permit charges (*investment and consultancy*). | | | | | | |
| 8. | o Expand electronic permitting system to include hotels and tour operators (*consultancy*) | | | | | | |
| 9. | o Develop a comprehensive financing and resource mobilization plan for South Sinai Protected Areas (*consultancy*). | | √ | √ | √ | | |
| | **Increase financing for Protected Area conservation activities** | | | | | | |
| 10. | o Support to transform the Nature Conservation Sector (now under the EEAA) into an autonomous body with its own financial rules for revenue generation and re-investment (*consultancy*) | | √ | √ | √ | | |

| No. | Activity | Risks | | | | | |
|---|---|---|---|---|---|---|---|
| | | No Risk | 2 | 7 | 8 | 9 | 10 |
| 11. | o develop guidelines and instructions for reinvesting revenues (*consultancy*) | | √ | √ | √ | | |
| | **Establish clear baselines for marine, coastal and terrestrial biodiversity** | | | | | | |
| 12. | o Assess adequacy of available baseline (*consultancy*) | √ | | | | | √ |
| 13. | o Conduct rapid assessment of terrestrial biodiversity (*consultancy*) | √ | | | | | |
| 14. | | | | | | | |
| | **Monitor and assess economic practices that harm biodiversity** | | | | | | |
| 15. | o Finance biennial monitoring of marine, coastal and terrestrial areas to assess any changes in species or ecosystem health from baselines (*operational costs*) | √ | | | | | |
| 16. | o Conduct consultative workshops to review monitoring results and agree on proposed mitigation measures with relevant stakeholders (*consultation*) | √ | | | | | |
| 17. | o Recommend mitigation measures as appropriate (*consultancy*) | | √ | √ | √ | √ | √ |
| 18. | Create electronic website for data and information management (*consultancy*) | √ | √ | | | | |
| 19. | o Design Mobile app for diving instructors to report on any coral condition or related issues (*consultancy*) | | √ | | | | |
| 20. | o Organize an end of project workshop (*consultancy and consultation*) | √ | | | | | |
| | **Design a benefit sharing plan to alleviate loss of access to Nabq National Park by Gharana village** | | | | | | |
| 21. | o Locally recruit consultants | √ | | | | | |
| 22. | o Map resources used by the Bedouin (*consultancy and consultation*) | | √ | √ | √ | √ | |
| 23. | o Prepare an integrated development plan for Gharana village (*consultancy*) | | √ | √ | √ | √ | |
| 24. | Implement benefit sharing plan | | √ | √ | √ | √ | |
| 25. | o Build capacity through training (*consultancy*) | | | | | | |
| 26. | o Finance income generating activities (*investment*) | | √ | √ | √ | √ | |
| 27. | o Provide technical assistance for income generating activities (*consultancy*) | √ | | | | | |
| | **Develop guidelines for hotels to promote conservation-friendly practices** | | | | | | |

| No. | Activity | Risks | | | | | |
|---|---|---|---|---|---|---|---|
| | | No Risk | 2 | 7 | 8 | 9 | 10 |
| 28. | o Update guidelines for Chamber of Hotels (linked to Green Star Certification) to include specific biodiversity related aspects in hotel management (*consultancy*). | | √ | | √ | | |
| 29. | o Encourage the nomination of focal points within hotel senior management or a "Green Team" to take responsibility for overseeing environmental related aspects of hotel management (*consultancy*) | √ | | | | | |
| 30. | o Provide 2-day training in Years 2 and 4 to staff from the Environmental Management Unit of the Tourism Development Agency (TDA) and from the Governorate's Environmental Office to improve their capacity to oversee and guide EIA process, and the implementation, monitoring and enforcement of the environmental management measures. | √ | | | | | |
| | **Improve the awareness of hotel staff and guests regarding conservation actions.** | | | | | | |
| 31. | o Provide materials for hotel staff and organize workshops regarding the need for environmental stewardship and to recognize the linkages between good environmental ethics and tourism benefits (*consultancy and training*). | √ | | | | | √ |
| 32. | o Organize annual workshops for hotel staff to introduce best practices and improve hotel capacity to develop and promote education and awareness activities for hotel guests (*consultancy and training*) | √ | | | | | |
| 33. | o Finance actions that can be taken by hotels to protect the environment, such as improving inshore management, establishing demarcating buoys and poster boards to ensure that visitors do not trample coral reefs, organizing regular beach clean-ups, provision of waste collection bins, or revegetating degraded slopes (*investments*) | | √ | √ | √ | | |
| 34. | Produce electronic awareness materials including documentaries to promote of environmental stewardship by the Chamber of Diving and Water Sports, Association of Travel Agencies and Operators (Travco) and TUI Travel (*consultancy*). | √ | | | | | |
| 35. | o Support the development of procedures by the Nature Conservation Sector of EEAA to encourage direct involvement of hotels and enterprises in conservation efforts (consultancy) | √ | | | | | |

## 6. Analysis of Alternatives (Project Justification)

The 'no project' alternative option would further exacerbate the barriers identified in the Project Document. Total financing investment for the PA system in South Sinai is still insufficient, and some PAs are experiencing a serious shortage. Furthermore, weak coordination of planning and implementation of sectoral plans at the PA level and inadequate safeguards for biodiversity exacerbates the degradation of important habitats, impacting globally threatened species and ecosystem functions. Other barriers that would continue to exist in a 'no project' alternative scenario include weak institutional and individual capacities for PA management in reducing threats in South Saini PA network.

Thus, the "no project" alternative has not been given further consideration.

## 7. Mitigation and Management Framework

The SESP assessment (and in turn this ESIA) identified 12 project-associated environmental and social risks; five out of these risks have been screened in as relevant to the biodiversity workstream activities. For the purpose of presenting cross-cutting mitigation and management measures.

| Project Activities | Identified Risks | Potential E&S Impacts if risks materialize | Mitigation Actions |
|---|---|---|---|
| **Support the improved management of Ras Mohamed National Park, Nabq National Park and Ras Abu Galum National Park**<br>▪ Conduct an assessment of stakeholders, including their roles in activities listed above (*consultancy and consultation*)<br>▪ Agree on integrated management strategies for each identified threat (*consultancy and consultation*)<br>▪ Identify alternative technologies/best practices to minimize and manage threats, including anchoring systems, carrying capacity assessments, zoning and waste management | Risk 2: Negative Unintended Consequences of Policies | ▪ Physical and economic displacement and traditional lifestyles of local herders | ▪ Mitigate negative impacts of physical and economic relocation<br>▪ Community Cultural Heritage and Basic Infrastructure/Service Accessibility<br>▪ Flexible Management of the Protected Areas<br>▪ Consultations Process |
| | | ▪ Gender-based barriers to participation in project activities | ▪ Enhance gender mainstreaming<br>▪ Gender and age inclusive consultation |
| | | ▪ Climate change related impacts on long-term outcomes | ▪ Systematically Include Climate Change Impact Planning in Decision-Making<br>▪ Strengthen Disaster Management<br>▪ Ecological Restoration and Wildlife Rescue |

| Project Activities | Identified Risks | Potential E&S Impacts if risks materialize | Mitigation Actions |
|---|---|---|---|
| (*consultancy*)<br>▪ Implement new technologies pilots in 1-2 sites, build capacity and monitor effectiveness, and prepare guidelines (i*nvestment and consultancy*).<br>**Improve revenue generation for Protected Areas**<br>▪ Develop a comprehensive financing and resource mobilization plan for South Sinai Protected Areas (consultancy).<br>**Increase financing for Protected Area conservation activities**<br>▪ Support to transform the Nature Conservation Sector (now under the EEAA) into an autonomous body with its own financial rules for revenue generation and re-investment (consultancy)<br>▪ Develop guidelines and instructions for reinvesting revenues (consultancy)<br>**Monitor and assess economic practices that harm biodiversity**<br>▪ Recommend mitigation measures as appropriate (consultancy)<br>▪ Create electronic website for data and information management (consultancy)<br>▪ Develop Mobile app for diving instructors to report on any coral condition or related issues (consultancy)<br>**Design a benefit sharing plan to alleviate loss of access to Nabq National Park by Gharana village**<br>▪ Map resources used by | | ▪ Disturbance to the natural environment, wildlife habitats and behaviors | ▪ Public awareness for visitors<br>▪ Development of a nature conservation education plan<br>▪ Visitor entrance system |
| | Risk 7: Biodiversity conservation activities | ▪ physical and economic displacement and traditional lifestyles of local herders | ▪ Mitigate negative impacts of physical and economic relocation Community Cultural Heritage and Basic Infrastructure/Service Accessibility<br>▪ Flexible Management on the Protected Areas<br>▪ Consultations Process |
| | | ▪ gender-based barriers to participation in project activities | ▪ Enhance gender mainstreaming<br>▪ Gender and age inclusive consultation |
| | Risk 8: Enforcement of more restrictive access and practices | ▪ physical and economic displacement and traditional lifestyles of local herders | ▪ Mitigate negative impacts of physical and economic relocation<br>▪ Community Cultural Heritage and Basic Infrastructure/Service Accessibility<br>▪ Flexible Management on the Protected Areas<br>▪ Consultations Process |
| | | ▪ gender-based barriers to participation in project activities | ▪ Enhance gender mainstreaming<br>▪ Gender and age inclusive consultation |

| Project Activities | Identified Risks | Potential E&S Impacts if risks materialize | Mitigation Actions |
|---|---|---|---|
| the Bedouin (consultancy and consultation)<br>▪ Prepare an integrated development plan for Gharana village (consultancy)<br>▪ Implement benefit sharing plan<br>▪ Build capacity through training (consultancy)<br>▪ Finance income generating activities (investment)<br>**Develop guidelines for hotels to promote conservation-friendly practices**<br>▪ Update guidelines for Chamber of Hotels (linked to Green Star Certification) to include specific biodiversity related aspects in hotel management (consultancy).<br>**Improve the awareness of hotel staff and guests regarding conservation actions.** | | | |
| **Support the improved management of Ras Mohamed National Park, Nabq National Park and Ras Abu Galum National Park**<br>▪ Agree on integrated management strategies for each identified threat (consultancy and consultation)<br>**Monitor and assess economic practices that harm biodiversity**<br>▪ Recommend mitigation measures as appropriate (consultancy)<br>**Design a benefit sharing plan to alleviate loss of access to Nabq National Park by Gharana village**<br>▪ Map resources used by the Bedouin (consultancy and | Risk 9: Gender discrimination | ▪ gender-based barriers to participation in project activities | ▪ Enhance gender mainstreaming<br>▪ Gender and age inclusive consultation |

| Project Activities | Identified Risks | Potential E&S Impacts if risks materialize | Mitigation Actions |
|---|---|---|---|
| consultation)<br>▪ Prepare an integrated development plan for Gharana village (consultancy)<br>▪ Implement benefit sharing plan<br>▪ Finance income generating activities (investment) | | | |
| All Activities | Risk 10: Climate change | ▪ physical and economic displacement and traditional lifestyles of local herders<br>▪ | ▪ Mitigate negative impacts of physical and economic relocation<br>▪ Community Cultural Heritage and Basic Infrastructure/Service Accessibility<br>▪ Flexible Management on the Protected Areas<br>▪ Consultations Process<br>▪ |

# 8. Environmental and Social Management Plan

This ESMP is a delivery mechanism for environmental and social mitigation and enhancement measures made in the ESIA Report (as described in Section. The purpose of the ESMP is providing a general framework for the Environmental and Social Management System that shall be implemented within the scope of the Project, and the necessary management tools to ensure compliance with the UNDP standards as well as national standards. As a management tool, the ESMP shall be use to ensure that undue or reasonably avoidable adverse impacts of project's activities are prevented or reduced and that the positive benefits of the Project are enhanced.

The ESMP was developed to meet international standards on environmental and social management performance, most notably UNDP's SES in addition to national environmental regulatory requirements, where it provides the outline requirements for environmental management.

## 8.1 Institutional Arrangements

UNDP is accountable to the GEF for the implementation of this project. This includes overseeing project execution undertaken by the Implementing Partner to ensure that the project is being carried out in accordance with UNDP and GEF policies and procedures and the standards and provisions outlined in the Delegation of Authority (DOA) letter for this project. The UNDP GEF Executive Coordinator, in consultation

with UNDP Bureaus and the Implementing Partner, retains the right to revoke the project DOA, suspend or cancel this GEF project. UNDP is responsible for the Project Assurance function in the project governance structure and presents to the Project Board and attends Project Board meetings as a non-voting member.

## 8.2 Capacity Building

The PMU will competitively recruit a qualified Technical Officer in charge of social and environmental standards who will on a part-time basis be responsible for the oversight and monitoring of ESMF implementation.

Specialists with relevant expertise in social and environmental standards will be engaged to support the completion of targeted social and environmental assessment(s) and the subsequent development of ESMPs and/or any stand-alone management plans. These experts will offer an induction session for key stakeholders including UNDP Egypt, Ministry of Environment/EEAA and the Project Management Unit once recruited on responsibilities for environmental and social standards and approaches.

The UNDP Regional Hub will provide additional guidance where required to UNDP Egypt, Ministry of Environment/EEAA and the Project Management Unit once recruited, to support the implementation of this ESMF and the preparation, implementation and monitoring of ESMPs.

## 8.3 Monitoring Framework

Implementation of the environmental and social management plan will be evaluated every year in an annual report. The project office and social inclusion specialists will be responsible for tracking the progress of the environmental and social plans and reporting on a quarterly basis.

# 1. Introduction

Tourism is one of the most important and fast-growing sectors of the Egyptian economy. Egypt attracts mainly sun and recreational beach tourism; however, some key destinations promote other resources, such as archaeological, terrestrial landscapes and marine ecosystems including healthy coral reefs. The richness of the South Sinai's biodiversity is a national treasure. While the local economy of Sharm El Sheikh is largely dependent on this biodiversity, its sustainability is threatened by the impacts of tourism development, and other development activities if not properly managed.

Therefore, the Government of Egypt (GoE) endeavors to achieve a long-term goal to transform Sharm El-Sheikh into one of the first Green Tourist Destinations and Sustainable Cities in Egypt and the Arab region. Accordingly, the GoE in 2010 launched the Green Sharm Initiative, though implementation has been delayed due to the challenges that faced the tourism flow to the city during the last ten years. Building on this initiative, the Ministry of Environment and Governorate of South Sinai supported by the UNDP are implementing a project funded by the Global Environment Facility (GEF), entitled "Green Sharm El Sheikh" (GEF No. 10117).

The project includes 4 components, of which one is a biodiversity workstream:

- Component 1 will emplace an enabling framework for a green sustainable tourism in Sharm El Sheikh,
- Component 2 will reduce GHG and UPOPS emissions in targeted urban zones through innovations and public and private partnership
- Component 3. will enhance biodiversity protection measures for management and mitigation of key threats, by:
  - Planning and management of marine and coastal protected areas adjacent to Sharm El Sheikh
  - Increasing protected area financing through improved revenue generation and reinvestment
  - Monitoring economic practices that harm biodiversity and the status of key biodiversity resources
  - Improving the participation and benefit sharing by communities neighbouring protected areas
  - Engaging hotels, related enterprises and tourists in measures that protect biodiversity and ecosystems.
- Component 4. Knowledge management and Monitoring and Evaluation

The current document reports on the Environmental and Social Impacts Assessment (ESIA) of the biodiversity workstream. In addition, negative impacts deemed significant shall be addressed through an Environmental and Social Management Plan (ESMP).

## 1.1 Green Sharm Objectives

The objective of this project is "to turn Sharm El Sheikh into a model of integrated and ecologically sustainable tourism city of national and international importance through the adoption of low-carbon technologies, proactive waste prevention and management practices and a further-enhanced protection of its natural capital basis".

This will involve a holistic approach applied to various 'greening' components – low carbon technologies, sustainable water supply and resource use, effective waste management, pollution prevention and well-managed protected areas safeguarding biodiversity and natural resources – to balance socio-economic and urban development and the growth of the tourism sector through sustainability planning and standards. It will be achieved through capacity building and demonstration of good practice for climate change mitigation, chemicals and waste prevention and management, through a series of pilot investments, in order to promote behavioral change, in conjunction with national priorities and needs articulated by the Government. The measures introduced by the project will showcase the city as a model for replication elsewhere in Egypt, defining a new paradigm of how tourist destinations can successfully address the challenges of development growth.

## 1.2 Structure of the ESIA

As per UNDP requirements, UNDP's Social and Environmental Screening Procedure (SESP) was undertaken for this project resulting in an overall "moderate" risk categorization. According to the 2015 SESP guidelines, a project is considered to have "moderate" risk when it "includes activities with possible social and environmental risks and adverse impacts that are of limited range, that can be determined with a reasonable level of certainty, and that can be addressed through the application of optimum practices and standard mitigation measures as well as the involvement of key stakeholders during implementation of said project". As a consequence of this risk rating, UNDP decided that an ESIA should be undertaken to further assess the environmental and social risks that were initially identified in the SESP.

The ESIA report is organized as follows:

| | |
|---|---|
| Chapter 1: Introduction | This chapter provides background information about the Project and highlights the objectives. |
| Chapter 3: Project Description | This chapter provides a description of the Project, including location, project components and activities, details of Project inputs and outputs |
| Chapter 2: Legal, regulatory and Institutional Framework | This chapter provides a description of the applicable regulatory framework for the proposed project |

| | |
|---|---|
| Chapter 4: Baseline Data | This chapter describes the available baseline data on the environment and social resources and receptors within the project study area. |
| Chapter 5: Assessment of risks and impacts | In this chapter, potential and associated environmental and social impacts of project activities are identified, assessed and evaluated. |
| Chapter 6: Alternatives Analysis | This chapter assesses potential alternatives to the project siting, activities and implementation arrangements. It includes evaluating the 'no project' alternative. |
| Chapter 7: Mitigation and Management measures | This chapter presents potential mitigation and management measures as they pertain to the impacts identified in chapter 6. |
| Chapter 8: Environmental and social Management Plan (ESMP) | The ESMP will describe each mitigation measure, including the type of impact and social and environmental parameter(s) to which it relates, the location and frequency, timing or conditions under which the measure is required. |

# 2. Project Description

The information in this section relies on the provided documents from UNDP which includes the Environmental and Social Management Framework (ESMF) and the Project document, in addition to documents related to Gharqana village from the "Mainstreaming Biodiversity into Tourism Development" (MBDT) project.

## 2.1 Project Overview

The proposed UNDP-GEF Project is a follow-up to the Green Sharm Initiative. It will support the city's efforts to integrate energy and resource efficiency, solid waste management, biodiversity, and green infrastructure into a framework for a sustainable and resilient development and thus improve the quality of life in Sharm El Sheikh. It targets a reduction of GHG and UPOPs emissions as well as the reduction of plastic wastes and of impact on biodiversity and sensitive ecosystems within the broader context of urban sustainability.

More broadly, the project seeks to contribute to a transformational change of urban planning and development to meet the economic, mobility and social needs of city residents, while also contributing to climate change mitigation and more sustainable and climate resilient cities in general in accordance with the Sustainable Development Goals.

The project includes four components of which biodiversity workstream is required to be assessed using Environmental and Social Impacts Assessment (ESIA). In addition, negative significant impacts shall be addressed through an Environmental and Social Management Plan (ESMP).

## 2.2 Objectives

The objective of this project is "to turn Sharm El Sheikh into a model of integrated and ecologically sustainable tourism city of national and international importance through the adoption of low-carbon technologies, proactive waste prevention and management practices and a further-enhanced protection of its natural capital basis".

This will involve a holistic approach applied to various 'greening' components – low carbon technologies, sustainable water supply and resource use, effective waste management, pollution prevention and well-managed protected areas safeguarding biodiversity and natural resources – to balance socio-economic and urban development and the growth of the tourism sector through sustainability planning and standards. It will be achieved through capacity building and demonstration of good practice for climate change mitigation, chemicals and waste prevention and management, through a series

of pilot investments, in order to promote behavioral change, in conjunction with national priorities and needs articulated by the Government. The measures introduced by the project will showcase the city as a model for replication elsewhere in Egypt, defining a new paradigm of how tourist destinations can successfully address the challenges of development growth.

## 2.3 Project Scope

The project's geographic scope includes the terrestrial area of the city itself, as well as the bordering marine/coastal areas subject to economic activities originating from the city. This includes the three marine/coastal protected areas, namely:

- **Ras Mohamed National Park,** located at the meeting point of the Gulf of Suez and Gulf of Aqaba but extending north-east to include the coastal front of Sharm El Sheikh. Designated in 1983, 850 km² and proposed to become a World Heritage Site in 2002. It was designated a Green List Protected Area in 2018.
- **Nabq Managed Resource Protected Area,** stretching from north of Sharm El Sheikh to Dahab. Designated in 1992, 600 km².
- **Abu Galoum Managed Resource Protected Area**, stretching from north of Dahab to Taba at the border with Israel. Designated in 1992, 500 km².

## 2.4 Project Components, Outcomes, Outputs and Activities

The project is designed to include 4 components, as follow:
**Component 1:** Enabling framework for a green sustainable tourism city Sharm El Sheikh.
**Component 2:** Reducing GHG and UPOP emissions in targeted urban zones through innovations and public and private partnership.
**Component 3:** Promote enhanced biodiversity protection measures for management and mitigation of key threats.
**Component 4:** M&E and knowledge management.

### 2.4.1 Component 3: Biodiversity Workstream

Under the Green Sharm Project, Component 3 aims to enhance biodiversity protection measures for management and mitigation of key threats with the following objectives:

- Increasing protected area financing through improved revenue generation and reinvestment
- Monitoring economic practices that harm biodiversity and the status of key biodiversity resources
- Improving the participation and benefit sharing by communities neighbouring protected areas
- Engaging hotels, related enterprises and tourists in measures that protect biodiversity and ecosystems.

**Table 1: Project's Component 3 Activities**

| | | |
|---|---|---|
| | ▪ **Support the improved management of Ras Mohamed National Park, Nabq National Park and Ras Abu Galum National Park** | |
| 1 | | ○ Identify key threats to biodiversity and ecosystems, and the activities causing these threats (*consultancy*) |
| 2 | | ○ Conduct an assessment of stakeholders, including their roles in activities listed above (*consultancy and consultation*) |
| 3 | | ○ Agree on integrated management strategies for each identified threat (*consultancy and consultation*) |
| 4 | | ○ Identify alternative technologies/best practices to minimize and manage threats, including anchoring systems, carrying capacity assessments, zoning and waste management (*consultancy*) |
| 5 | | ○ Implement new technologies pilots in 1-2 sites, build capacity and monitor effectiveness, and prepare guidelines (i*nvestment and consultancy*). |
| 6 | | ○ Training and skills advancement (*consultancy*). |
| | | |
| | ▪ **Improve revenue generation for Protected Areas** | |
| 7 | | ○ Establish an electronic system for the collection of entrance fees and permit charges (*investment and consultancy*). |
| 8 | | ○ Expand electronic permitting system to include hotels and tour operators (*consultancy*) |
| 9 | | ○ Develop a comprehensive financing and resource mobilization plan for South Sinai Protected Areas (*consultancy*). |
| | | |
| | ▪ **Increase financing for Protected Area conservation activities** | |
| 10 | | ○ Support to transform the Nature Conservation Sector (now under the EEAA) into an autonomous body with its own financial rules for revenue generation and re-investment (*consultancy*) |
| 11 | | ○ Develop guidelines and instructions for reinvesting revenues (*consultancy*) |
| 12 | | |
| | ▪ **Establish clear baselines for marine, coastal and terrestrial biodiversity** | |
| 14 | | ○ Assess adequacy of available baseline (*consultancy*) |
| 15 | | ○ Conduct rapid assessment of terrestrial biodiversity (*consultancy*) |
| | | |

| | | |
|---|---|---|
| | ▯ **Monitor and assess economic practices that harm biodiversity** | |
| 16 | | ○ Finance biennial monitoring of marine, coastal and terrestrial areas to assess any changes in species or ecosystem health from baselines (*operational costs*) |
| 17 | | ○ Conduct consultative workshops to review monitoring results and agree on proposed mitigation measures with relevant stakeholders (*consultation*) |
| 18 | | ○ Recommend mitigation measures as appropriate (*consultancy*) |
| 19 | | ○ Create electronic website for data and information management (*consultancy*) |
| 20 | | ○ Design Mobile app for diving instructors to report on any coral condition or related issues (*consultancy*) |
| 21 | | ○ Organize an end of project workshop (*consultancy and consultation*) |
| | | |
| | ▯ **Design a benefit sharing plan to alleviate loss of access to Nabq National Park by Gharana village** | |
| 22 | | ○ Locally recruit consultants |
| 23 | | ○ Map resources used by the Bedouin (*consultancy and consultation*) |
| 24 | | ○ Prepare an integrated development plan for Gharana village (*consultancy*) |
| 25 | | ○ Implement benefit sharing plan |
| 26 | | ○ Build capacity through training (*consultancy*) |
| 27 | | ○ Finance income generating activities (*investment*) |
| 28 | | ○ Provide technical assistance for income generating activities (*consultancy*) |
| 29 | ▯ **Develop guidelines for hotels to promote conservation-friendly practices** | |
| 30 | | ○ Update guidelines for Chamber of Hotels (linked to Green Star Certification) to include specific biodiversity related aspects in hotel management (*consultancy*). |
| 31 | | ○ Encourage the nomination of focal points within hotel senior management or a “Green Team” to take responsibility for overseeing environmental related aspects of hotel management (*consultancy*) |
| 32 | | ○ Provide 2-day training in Years 2 and 4 to staff from the Environmental Management Unit of the Tourism Development Agency (TDA) and from the Governorate’s Environmental Office to improve their capacity to oversee and guide EIA process, and the implementation, monitoring and enforcement of the environmental management measures. |

| | | |
|---|---|---|
| | ▯ **Improve the awareness of hotel staff and guests regarding conservation actions.** | |
| 33 | | ○ Provide materials for hotel staff and organize workshops regarding the need for environmental stewardship and to recognize the linkages between good environmental ethics and tourism benefits (*consultancy and training*). |
| 34 | | ○ Organize annual workshops for hotel staff to introduce best practices and improve hotel capacity to develop and promote education and awareness activities for hotel guests (*consultancy and training*) |
| 35 | | ○ Finance actions that can be taken by hotels to protect the environment, such as improving inshore management, establishing demarcating buoys and poster boards to ensure that visitors do not trample coral reefs, organizing regular beach clean-ups, provision of waste collection bins, or revegetating degraded slopes (*investments*) |
| 36 | | ○ Produce electronic awareness materials including documentaries to promote of environmental stewardship by the Chamber of Diving and Water Sports, Association of Travel Agencies and Operators (Travco) and TUI Travel (*consultancy*). |
| 37 | | ○ Support the development of procedures by the Nature Conservation Sector of EEAA to encourage direct involvement of hotels and enterprises in conservation efforts (consultancy) |

# 3. Legal, Regulatory, and Institutional Framework

An overview of the environmental legislations that are pertinent to the project is given in this section of the ESIA report. This chapter present national regulations, regional and international conventions and agreement, UNDP social and environmental standards (UNDP SES – Social and Environmental Assessment and Management) as well as Global Environment Facility (GEF) Environmental and Social Management Policies.

## 3.1 National Legislative Framework

### 3.1.1 Law No. 102 of 1983 on natural protected areas

The natural protected areas law 102 of 1983 governs the management of natural protected areas in Egypt for the conservation of natural and cultural heritage.

This Law is composed of 11 articles. Natural protected areas will be designated and delineated by a decree of the Prime Minister upon recommendation of the Egyptian Environmental Affairs Agency (article no. 1). The following activities are forbidden in protected areas:

- catching, transporting, killing and disturbing wildlife;
- damaging or removing any living organism, natural feature and resource such as shells, corals, rocks and soil for any purpose;
- damaging or removing plants from protected areas;
- spoiling and destroying geological structures;
- introducing non-indigenous species of biota into the protected areas;
- polluting soil, water and air in any manner and erecting buildings, establishments, paved roads, drive vehicles or undertaking any agricultural, industrial
- and commercial activity without the permission of the Competent Administrative Body (Article no.2).

Competencies and duties of the Administrative Body (article no. 4). A special fund will be established to collect donations, grants and admission fees as well as fines incurred by violators of this Law (article no. 6). Transgressors will be fined for not less than Egyptian Pounds (EP) 500 and not more than EP 5000 or will be imprisoned for not more than one year, they will have to pay the expenses of removal or reparation of damages, and the Administrative Body can confiscate equipment, weapons or tools used in committing the offence (article no. 7).

Within the project area there are main three protected areas; Ras Mohamed national park, Nabq protectorate and Abu-Galum protected area.

- Ras Mohamed National Park (RMNP), declared in 1983 by the Prime Ministerial Decree 1068 including only the tip of South Sinai Peninsula of

almost 96 km$^2$. The park itself has been expanded in its size in 1989 by the Prime Ministerial Decree 2035 to incorporate much of the surrounding waters and territory to enclose 480 km$^2$. This park was awarded in 2018, the IUCN Green List certificate in recognition of efforts to protect its natural ecosystems, including coral reefs, mangroves, and sea grasses in the Red Sea.

- Nabq Protectorate, declared in 1992 by the prime ministerial decree 1511 of 1992.
- Abu Galum Protected Area, declared in 1992 by the prime ministerial decree 1511 of 1992. According to the IUCN Global Classification System. Abu Galum Reserve is classified as a natural resource management area. In addition to areas with unique preservation.

### 3.1.2 Law of Environment No. 4/1994

The main legal environmental framework in Egypt, Law 4/1994, governs development activities and establishes actions to fulfil environmental protection goals.

This Law consisting of 65 articles divided in IV Parts and 10 Annexes aims at protecting the environment (land, air and water) from pollution. To achieve the objective the Environmental Affairs Agency (EEAA) is established for the protection and promotion of the environment.

This law was amended by law no. 9 of 2009, This Amendment consisting of 5 articles emphasizes the link between environment and development and deals with: the environmental protection of costs through an Integrated Environmental Management of Coastal Zones; the establishment of a supreme committee responsible for examining applications for registration of practitioners of environmental activities, as well as applications for accrediting experts and consultancy firms in the environmental field; rules for decontamination to be carried out by the owner of an establishment whose activities produce hazardous waste; exhaust, heavy smoke or noise exceeding limits.

Articles 19–22 stipulate that an Environmental Impact Assessment should be prepared for development projects as a condition for obtaining the license. The Law also includes standards for air emissions, noise emissions, handling of hazardous materials and hazardous wastes, and management of excavation and construction wastes.

The amended Law is more strict in banning: hunting and interventions on the local flora and fauna; collecting, possessing, transporting, or offering to sell kinds of fauna and flora fossils as well as trading in all endangered living organisms of fauna and flora species or their breeding or planting in sites other than their natural habitats without obtaining a license from EEAA; trading, using in industry, importing or possessing illicitly Ozone Depleting Substances in violation of the national and international Laws. Art. 47 Bis establishes a

Supreme Council for the protection of the river Nile and waterways from pollution. Penalties for those who violate the provisions of Law are strengthened.

The executive regulations of law no. 4 of 1994 amended by law no. 9 of 2009 and law no. 105 of 2015 was issued in 1995 by the decree 338/1995 and amended five times:

- PM Decree No. 174/2005
- PM Decree No. 1095/2011
- PM Decree No. 964/2015
- PM Decree No. 544/2016
- PM Decree No. 1963/2017

The objectives of these executive regulations represented by, but not limited to, the following:

- To specify the establishments that should undertake an assessment of the environmental impact .
- To specify the functions or roles? of the Appeal Committee and its operating procedures as well as the complaint procedures .
- To define the specifications and norms which must be compiled with by industrial establishments allowed discharging treated degradable polluted substances .
- To specify the non-degradable polluting substances which are prohibited from discharge into the water environment .
- To specify the permissible limits of air pollutants in emissions .
- To specify the permissible limits of sound intensity and safe exposure periods.

  The upcoming sections summarize the major provisions that are important to the project. Articles outlining EIA procedures, articles protecting marine environment and articles supporting biodiversity protection.

- **Regulations Concerning Environmental Impact Assessment (EIA) procedures**

  According to Law 4/1994, the project proponent is required to prepare an Environmental Impact Assessment (EIA) for EEAA approval. As a result, environmental standards have been incorporated into the existing licensing system.

  Proposed developments are divided into four categories based on the severity of prospective impacts. They illustrate the growing importance of environmental impact assessment. The four categories are as follows:

  Category (A) projects: for small businesses and projects with modest environmental impact.

  Category (B) projects: for businesses and projects with major environmental impacts.

  Category (B) Scoped projects: for firms and projects with considerable environmental impacts and particular components to be assessed.

Category (C) projects: for enterprises and projects that require a complete environmental impact assessment due to the severe environmental impacts they may generate.

The category of the proposed project (Biodiversity workstream) falls under category (C) projects. The EIA report shall be submitted to the Competent Administrative Authority (CAA), under whose jurisdiction the project falls, in accordance with Law 4/1994, as amended by Law 9/2009, and its executive rules (ER). The CAA would forward the EIA to the EEAA, who would respond within 30 days. If no response is received after this time period, the assessment is assumed approved.

- **Regulations Concerning Marine Environment**

**a) Coastal zones protection**

Coastal zone regulations are applicable due to the nature of the proposed project site.

Law 105/2015 and Law 9/2009 amended Law 4/1994 to include for the first time a description of the coastal zone.

**Item 39** defines the coastal zone as "the area extending from the coasts of Arab Republic of Egypt encompasses the territorial sea, exclusive economic zone and continental shelf, and extending landward to areas of active interactions with the marine environment for that not exceeding 30 km in the desert areas, unless major topographical features interrupt this stretch, while in Nile Delta would extend up and contour (+3 m)".

The legislation also requires each coastal governorate to determine its coastal zone based on its physical characteristics and natural resources, which should not be less than "10 km" landward from the shoreline.

Meanwhile, **item 40** defines the integrated coastal zone management as "A method based on the participation of all relevant authorities to coordinate among each other to ensure the environment protection in coastal zones.

Furthermore, amendments to the Environmental Law No. 4 of 1994 by Law No. 9 of 2009 and its executive Regulations No. 1095 of 2011 seek the inclusion of integrated coastal zone management protocol principles through the incorporation of provisions relevant to integrated coastal zone management.

**b) Shoreline protection**

The Articles govern the protection of shorelines are outlined in Articles 73-74.

Article (73) states that: "It is prohibited to construct any establishment

within 200 meters of the Egyptian coast lines without the agreement of EEAA and the competent administrative authority. The executive regulations of this Law shall lay down the procedures and conditions to be followed in this connection".

Article (74) states that: It is prohibited to take any measures that may affect the natural coast line or alter its configuration either inwards or outwards, without the agreement of EEAA and the competent authority. The executive regulations of this law shall regulate the procedures and conditions to be followed in this connection.

- **Biodiversity conservation**

  Article No. 28 in Law 4/1994 forbids a number of actions aimed at conserving biodiversity, including:

  - Hunting, killing, catching birds and wild animals or marine living organisms; as well as possessing, transporting, importing and exporting or offering to sell such birds and animals, either dead or alive, as a whole, in part or their derivatives, or practicing activities that tend their natural habitats or properties or damage their nests, eggs or their offspring.
  - Cutting or damaging plants as well as, possessing, transporting, importing and exporting, or offering them to sell as a whole, in part or their derivatives and products thereof, practicing any activities that tend to destroy their natural habitats or change their natural properties or habitats.
  - Collecting, possessing, transporting, or offering to sell kinds of fauna and flora fossils or changing their features; as well as destroying their distinguished geological formations or environmental features or harming their aesthetic value in the Natural Protected Areas.
  - Trading in all endangered living organisms of fauna and flora species; their breeding or planting in sites other than their natural habitats without obtaining a license from Egyptian Environmental Affairs Agency (EEAA).

  Article 23 of the Executive Regulations for law 4/1994 forbids causing harm to birds and animals, as well as possessing or selling them either dead or alive, as prescribed in Annex 4 (of Law 4/1994). The provisions of this article apply in all natural reserve areas and also in areas where animals and birds are threatened with extinction, and for which a decree by the Minister of Agriculture or by Governors has been issued in coordination with the EEAA.

  Article 24 of the Executive Regulations for law 4/1994 specifies that it is forbidden to issue permits for the hunting of wild birds and animals prescribed in Annex 4 (of Law 4/1994) of the ER except for scientific research purposes or for overcoming the spread of an epidemic or for other purposes approved by the EEAA.

  <u>According to Annex no. 4 of the Executive regulations of law no. 4 amended by law no. 9 of 2009:</u>

**Birds and wild animals Prohibited from hunting, killing or catching**

***First: Birds and Animals***

A. Birds and animals shown in the list attached to the decision of the Minister of Agriculture No. 28 of 1967 issued in implementation of the provisions of Article 117 of Law No. 53 of 1966 promulgating the Agriculture Law.
B. Any other birds or animals specified in the international conventions to which the Arab Republic of Egypt is a party.
C. Any other birds or animals issued by a decision of the Minister of Agriculture in agreement with the Environmental Affairs Agency.

**Second: Areas where hunting of these birds and animals is prohibited:**

A. The areas specified in the decision of the Minister of Agriculture No. 472 of 1982: It is prohibited to hunt birds and animals of all kinds in the following areas of Sinai governorates:
    - Zaraniq area, Sabkha Bardawil and fig.
    - St. Catherine and Mount Serial.

It is prohibited to catch birds, fish, shellfish, oysters, coral reefs and other marine creatures in the area located on the Gulf of Aqaba from Taba to Ras Mohammed, by trawling or destruction.

B. Natural reserves specified by the decisions of the Prime Minister in implementation of Law No. 102 of 1983.
C. Regulating fishing in North Sinai issued by the Governor's Decree No. 442 of 1980.
D. Regulation of fishing in South Sinai promulgated by Governor's Decrees No. 15 of 1980 and No. 16 of 1980.
E. The areas determined by international conventions to which the Arab Republic of Egypt is a party.
F. Any other areas in which a decision is issued by the competent authority in coordination with the Environmental Affairs Agency.

### 3.1.3 Law 53 of 1966 (known as "The Law of Agriculture")

Article 117 prohibits the hunting of birds and other wild animals useful to agriculture. It also bans the trading and killing of these birds as well as the destruction of their nests.

Article 118, of the same law prohibits the cultivation of plants harmful to these birds and wild animals, bans the importation of material used in their hunting and prevents the use of all forms of traps.

Minister of Agriculture Decree 28 of 1967 (amended by Decree 1227 of 1988) specifies the species of birds and other wild animals under protection covered by Article 117 of Law 53/1966.

### 3.1.4 Law No. 146 of 2021 on fishing, aquaculture and fish farms

The law no. 146/2021 issued on 02 October 2021 applies to lakes, water surfaces (bodies) and aquaculture lands. The law stipulates those executive regulations (ER) must be issued during the six months following its entry into force on 03 October 2021.

The law also stipulates Special provisions are also stipulated regarding the following: the protection of lakes and fishery, requirements for licenses granting, aquaculture and fishery resources, fishing ports and center of maritime communication's management. The final section lists relevant penalties and sanctions.

Article (3) of this law stipulates that, The Fishing, Aquaculture and Fish Farms Regulation Law promulgated by Law No. 142 of 1983 shall be repealed.

The Articles govern the regulations of this are outlined in the following articles:
As for the regulation of fishing, the main provisions are:

- prohibition of the use of the boat in the areas where fishing is prohibited, except in emergency cases caused by weather conditions or a defect in the boat **(Article 20);**
- ban of fishing in the prohibited areas and periods, or by methods, materials and tools that are not permitted **(Article 22)**;
- ban of unlicensed or unauthorized fishing nets, machines or materials on the boat **(Article 23);**
- prohibition to fish, sell or possess fish or other aquatic organisms **(Article 24)**;
- prohibition to land the product of fishing from natural fisheries except in the designated areas and by the methods specified for that, and after ensuring compliance with the specifications and following the veterinary technical procedures and registration, which are determined by the Agency **(Article 27);**
- artisanal fishing is prohibited for recreational purposes **(Article 37);**
- establish fish farms or fish hatcheries is possible only with a license by the Agency and after paying a fee **(Article 52)**
- Protection of species is regulated by (**Article 31**), according to which It is prohibited to fish, collect, transport or possess sea turtles and marine mammals from the sea, lakes, or other water bodies, or tamper with their places of existence and breeding, according to the circumstances, along the Egyptian shores or in marine waters, except with a permit from the Agency.
- Water protection is regulated by (**Article 28**) and following, according to which it is prohibited to throw or dispose of toxic, radioactive, chemical or petroleum materials, oils, waste and ship waste, wastes of factories or factories, or untreated sewage, as well as foreign aquatic organisms, their eggs or larvae (these latter ones except with a license from the Agency) into the waters of lakes and territorial waters.

### 3.1.5 Law No. 117 of 1983 on Antiquities protection

The Antiquities Protection Law, promulgated by Law No. 117 of 1983 and amended by Law No. 3 of 2010, deals with the protection of antiquities. It is Egypt's primary law governing the preservation of archaeological and historical sites. The Ministry of State for Antiquities (MSA) is the government agency in charge of overseeing all archaeological affairs and sites in the country (Article 5).

The Ministry of State for Antiquities (MSA) is in charge of antiquity discoveries and all exploration efforts on Egyptian land. If an unrecorded ruin is discovered by anyone, the MSA must be notified (Article 23). Although there are no cultural heritage regions in the immediate vicinity of the location, appropriate restrictions nevertheless apply for improbable occurrences of chance findings.

When a project is carried out in a region containing archaeological artefacts, two distinct circumstances may develop, each necessitating a separate approach, according to Egyptian procedure:

- If the region is state property, it is subject to the judgement of the Supreme Council of Antiquities, and a request should be made to the Council, which would carry out a survey and excavations funded by the investor, and the remains would be relocated to a place chosen by the Council. The cost of the operation is determined by the inspecting committee and paid to the regional inspecting office to carry out the assignment. As an alternative, the investor might pay for the excavation and relocation activities directly. If any ruins are discovered at the proposed project site, this should be the case.
- If the area is designated as an archaeological area, a request should be issued to the Head of the Supreme Council of Antiquities, and the case is usually referred to the Antiquities Permanent Committee, which meets monthly. In general, this results in the acceptance of project activities when the project is seen to be of national interest while the remains are deemed to be of minor value and are thus relocated to another location. This is not the case with the proposed project because the land has not been designated as an archaeological site.

According to the location of the proposed project, there is only one site nearby Nabq protected area at wadi Ghoraby on the coast side used as a cultural site, where a yearly celebration is done there in August by the Bedouin community and this tradition is kept on for many years.

### 3.1.6 State Property

The articles of Law 7/1991 concerning State property focus mainly on assigning the development of desert areas outside the cities' boundaries (Tourism – Agriculture – Construction) to the entities that own the technical capacity to take responsibility of planning, supervising, implementing, and monitoring development projects.

***Presidential Decree 374/1991***

It establishes the TDA to be responsible for allocation and sale of land in designated tourism areas. The local Governorate approves development within the recognized boundaries of urban areas.

### 3.1.7 Building Law 119 of 2008

The law aims at consolidating all the Egyptian planning and building laws into a single comprehensive legislation. Article 3 establishes the Supreme Council for Planning and Urban Development, which is tasked with several functions as listed under Article 3. The General Organization for Physical Planning (GOPP) is mentioned under Articles 5 and 6. In particular, GOPP is responsible for drawing the general policy for planning and sustainable urban development. This policy is then used to prepare plans and programs of development at the national, regional and governorate levels. In addition, GOPP is tasked with the review, monitoring and execution of the general strategic plans for cities and villages and their urban areas as well as assisting in the development of capabilities of local urban planning departments.

Other matters addressed by this legislation include the expropriation of properties for public interest and the procedures to be followed. Articles 26, 27 and 29 deal with the National Urban Harmony Authority, which is responsible for the beautification and regulation of the external façade of buildings, urban void spaces and antiquities with the objective of safeguarding the natural environment.

**Executive Regulation 144/2009 of Building Law**

Article 10 states that the General Authority for Urban Planning and Development produces the report to be submitted to the Local Center for Planning and Development with the results concerning urban planning needs and priorities at the local level, as well as its recommendations on essential projects and work plan to achieve these needs. This is done in collaboration with the competent administrative authority, local popular councils, competent executive bodies, community representatives. The report is submitted after being approved by the city or village head according to the guidelines of the strategic plan for the city and village.

Article 13 states that the general strategic plan for the city or village is composed of maps and reports according to the business guidelines issued by the General Authority for Urban Planning. Among other steps, the preparation of the plan should consider Step 2 dealing with the Current Status, which includes:

- Urban studies including historical development, land uses, valuable buildings (for the preservation of the architectural heritage), defining building uses, ownership of vacant lands suitable for development, unplanned areas, etc.;
- Economic studies including the different local economy aspects such as local resources development potentials, main economic activities, job opportunities, etc.;

- Infrastructure studies including road and electricity networks, potable water and sewerage systems, etc.;
- Social studies including social services, population studies such as population growth, social and economic structure, as well as existing and planned social services; and
- Identify deficiencies, and areas of excellence, current programs and ongoing projects in the different development areas.
  - Current Status studies should take into account the following aspects:
- Protection of the urban environment and assessing the impacts on the population;
- Vulnerable groups including women and poor communities;
- Recommendations concerning improvement of the participation of the civil society and local administration, and defining the role of the local popular council, city/village council and civil societies in these recommendations.

  Article 14 states that the Local Center for Planning and Development receives the general strategic plan developed for the city or village and revises it according to the terms of reference, business guidelines and other revision requirements. Afterwards, it is sent to the General Authority for Urban Planning and Development, which in turn presents it to the citizens, relevant stakeholders and the local popular council. This is carried out according to a procedure which includes inviting other development partners within the city or village (including locals, representatives of the society, private sector bodies, civil associations, local popular council, and local administrative departments) to a general meeting with the responsible entity of the planning activities and in the presence of a representative from the Local Center for Planning and Development in order to present the general strategic plan for the city or village and its outputs.

### 3.1.8 Law no. 72 of 2017 concerning community benefit

Article 15 of the Investment Law 72/2017 and Article 2 of its Executive Regulation 2310/2017 address the social responsibility of investors and provide examples of areas to engage in to achieve development and sustainability. Investors may set aside a portion of their annual profit that does not exceed 10% of their total profit for community development programs.

### 3.1.9 Protected areas Declaration Decrees

- Prime Ministerial Decree no. 1068 / Jan. 1983 and amended by Decree no. 2035/1996 Declared the area of Ras Mohammed as National Park.
- Prime Ministerial Decree 1511/1992—Establishing Nabq protected area.
- Prime Ministerial Decree 33/1996— Establishing Dahab Marine PA as part of Nabq protected area and declaring the whole Gulf of Aqaba, the Egyptian marine side as a part of South Sinai PAs network.
- Prime Ministerial Decree no. 1511/1992 amended by decree no. 33/1996 – declaration of Abu Galum nature reserve.

## 3.2 International Agreements and Conventions

Egypt is a signatory to a variety of international and regional environmental treaties and conventions. The following section lists international treaties to which Egypt is a signatory and which are related to the project's activities.

### 3.2.1 Nature Conservation and Biodiversity

- **Global Convention of Protection of Biological Diversity (CBD) 1992**
  - was founded in Rio and entered into force in December 1993. Egypt ratified the convention on 31 August 1994.
  - The CBD comprises three main principles/objectives including:
    - conservation of biological diversity,
    - access to genetic resources, sustainable use of the components of the biodiversity,
    - and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

- **Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA)**
  - Egypt signed this agreement on 20th of August, 1997 and it entered into force on 11th of January 1983.
  - It is an intergovernmental treaty dedicated to the conservation of migratory waterbirds and their habitats across Africa, Europe, the Middle East, Central Asia, Greenland and the Canadian Archipelago.
  - Developed under the framework of the Convention on Migratory Species (CMS) and administered by the United Nations Environment Programme (UNEP), AEWA brings together countries and the wider international conservation community in an effort to establish coordinated conservation and management of migratory waterbirds throughout their entire migratory range.
  - AEWA covers 255 species of birds ecologically dependent on wetlands for at least part of their annual cycle.
  - All AEWA species cross international boundaries during their migrations and require good quality habitat for breeding as well as a network of suitable sites to support their annual journeys.

- **African Convention on the Conservation of Nature and Natural Resources**
  - Egypt signed this convention on 15th of September, 1968, ratified it on 12th of April, 1972 and it entered into force on 12th of May, 1972.
  - The convention recognizes the economic, social, cultural and environmental importance of natural resources including renewable and non-renewable resources as well as the soil, water, flora and fauna.
  - It aims to promote and enhance environmental protection and to encourage sustainable use of natural resources and to synchronize policies in the different fields.
  - It requires all parties to adopt measures to reach these aims.

- It requires all parties to implement preventative measure to avoid land degradation and soil deterioration.
- It also requires parties to sustainably manage their water resources and to prevent pollution and excessive abstraction of the water. In addition, it requires that parties maintain and enhance genetic diversity and floral cover.

- **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)**
  - It is an international agreement between states that aims to ensure that international species trade does not affect their survival.
  - It recognizes the importance of international cooperation in controlling animal trade to avoid over-exploitation. It was put on effect on 1 July 1975.
  - Egypt ratified the convention on 4 January 1978 and was put into force on 4 April 1978.

- **Ramsar Convention on Conservation and Wise Use of Wetlands**
  - This convention has entered into force on 9th of September, 1988.
  - The Convention on Wetlands of International Importance, called the Ramsar Convention, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.
  - The Ramsar Convention is the only global environmental treaty that deals with a particular ecosystem. The treaty was adopted in the Iranian city of Ramsar in 1971 and the Convention member countries cover all geographic regions of the planet.
  - The Convention mission is "the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world".
  - The Convention uses a broad definition of the types of wetlands covered in its mission, including lakes and rivers, swamps and marshes, wet grasslands and peatlands, oases, estuaries, deltas and tidal flats, near-shore marine areas, mangroves and coral reefs, and human-made sites such as fish ponds, rice paddies, reservoirs, and salt pans.

- **Convention on the Conservation of Migratory Species of Wild Animals (CMS), Bonn convention**
  - This convention has entered into force on 11th of January, 1983.
  - It is an environmental treaty under the aegis of the United Nations Environment Programme; CMS provides a global platform for the conservation and sustainable use of migratory animals and their habitats.
  - CMS brings together the States through which migratory animals pass, the Range States, and lays the legal foundation for internationally coordinated conservation measures throughout a migratory range.

- Migratory species threatened with extinction are listed on Appendix I of the Convention.
- CMS Parties strive towards strictly protecting these animals, conserving or restoring the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them.
- Migratory species that need or would significantly benefit from international co-operation are listed in Appendix II of the Convention.
- For this reason, the Convention encourages the Range States to conclude global or regional agreements.
- In this respect, CMS acts as a framework Convention.

### 3.2.2 Marine Pollution

- **Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment (Jeddah Convention) – (PERSGA)**
  - Egypt ratified this convention on 31 May 1990, and entered into force in 20th of August, 1985.
  - The Regional Convention for the Conservation of the Red Sea and Gulf of Aden, Jeddah, Saudi Arabia, 1982 (The Jeddah Convention), under the auspices of ALECSO, sets out the terms of regional cooperation among the signatory parties in regards to marine and coastal environmental protection.
  - It specifically priorities the need for collaboration in the control of marine pollution, scientific and technical assistance, environmental management and the development of environmental standards.

- **International Convention for the Prevention of Pollution from Ships (MARPOL)**
  - The MARPOL convention was ratified by Egypt on 7 August 1986 and was put into force on 7 November 1986.
  - The MARPOL Convention is a combination of two treaties adopted in 1973 and 1978.
  - It covers all technical aspects of pollution from ships, except the disposal of waste into the sea by dumping, and applies to ships of all types.
  - The Convention has five annexes covering oil, chemicals, sewage, garbage, and harmful substances carried in packages, portable tanks, freight containers, etc.
  - It aims to prevent pollution of the marine ecosystem from ships, caused by operational or accidental spilling.

### 3.2.3 Climate Change

- **UN Framework convention on Climate change (UNFCCC)**
  - Egypt signed this convention on 6$^{th}$ of September 1992, ratified it on 12$^{th}$ of May, 1994, and it entered into force on 3$^{rd}$ of May, 1995.
  - The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention,

stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.
  - Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

- **Paris Agreement for Strengthening Global Response to Climate Change Threats**
  - Egypt signed this agreement on 22nd of April 2016 and ratified it on 29th of June, 2017.
  - At COP 21 in Paris, Parties to the UNFCCC reached a historic agreement to combat climate change and to accelerate and intensify the actions and investments needed for a sustainable low carbon future.
  - The Paris Agreement requires all Parties to put forward their best efforts through nationally determined contributions (NDCs) and to strengthen these efforts in the years ahead.
  - This Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:
    - Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;
    - Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production; and
    - Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.
  - This Agreement will be implemented to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.

### 3.2.4 Cultural Heritage

- **Convention for the Protection of the World Cultural and Natural Heritage**

The General Conference of the United Nations Educational, Scientific and Cultural Organization (UNESCO) meeting was held in Paris from 17 October to 21 November 1972, at its seventeenth session.

- Egypt ratified the convention on the 7th of February 1974.
- The convention sets guidelines for parties to help them identify locations that can be world heritage sites and means to conserve them.
- The convention provides managing guidelines and possibly financial assistance.

- Moreover, raising awareness and education is also encouraged in order to improve the protection of those sites.

Article 1

For the purposes of this Convention, the following shall be considered as "cultural heritage":

- **Monuments:** architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science;
- **Groups of buildings:** groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science; and
- **Sites:** works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view.

Article 2

For the purposes of this Convention, the following shall be considered as "natural heritage":

- **Natural features** consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view;
- **Geological and physiographical formations** and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation; and
- **Natural sites** or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty.

Article 3

It is for each State Party to this Convention to identify and delineate the different properties situated on its territory mentioned in Articles 1 and 2 above.

- **Convention for the Safeguarding of the Intangible Cultural Heritage**
  The Convention for the Safeguarding of the Intangible Cultural Heritage is a UNESCO treaty adopted by the UNESCO General Conference on 17 October 2003, which entered into force in 2006. The “intangible cultural heritage” means the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artifacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. The purposes of the convention are: (a) to safeguard the intangible cultural heritage; (b) to ensure respect for the intangible cultural heritage of the communities,

groups and individuals concerned; (c) to raise awareness at the local, national and international levels of the importance of the intangible cultural heritage, and of ensuring mutual appreciation thereof; and (d) to provide for international cooperation and assistance. Egypt ratified the convention on 3 August 2005. Article 13 of the convention states that "to ensure the safeguarding, development and promotion of the intangible cultural heritage present in its territory, each State Party shall endeavor to: (a) adopt a general policy aimed at promoting the function of the intangible cultural heritage in society, and at integrating the safeguarding of such heritage into planning programs".

## 3.3 Potential International Sites

- **IUCN Green List – Ras Mohammed National Park (RMNP)**
  - First listed: 2018.
  - Due to its position, strong currents prevail throughout the year thus relatively enriching the waters. This attracts huge numbers of schools of pelagic and reef fish. RMNP contains extensive coral reefs which provide some of the best diving spots in the world. The area is noted for its extensive, luxurious, and sharply defined fringing reef platforms. Only 12 percent of the RMNP is accessible to visitors. Terrestrial tourism, some boat tours, and all camping, is managed by the local Bedouin community through a concession for traditional rights-holders, and exclusive management of tourism in Bedouin cultural zones.
  - About 220 hard coral species and about 120 soft coral species have been recorded, including some endemic ones. Coral cover in RMNP is an astounding 60–80%, with 20–25% on exposed fore-reef slopes, and in some places soft corals dominate up to 80%. Coral cover along the Gulf of Aqaba in general ranges from 11% to 63%, with the higher cover being within the protected area of RMNP which highlights the success of conservation efforts over the past 35 years.
  - <u>Conservation:</u>
    - Coral reef integrity demonstrated through an average of over 80% living cover for key reef areas.
    - Fish abundance and diversity is consistently high.
    - Mangrove and seagrass bed habitats are maintained with good integrity.
    - Seabird colonies, migratory birds (White Stork) and nesting turtles are all well conserved.
  - <u>Good governance:</u>
    - Inclusive governance and well-demonstrated stakeholder inclusion and satisfaction.
    - Successful concession arrangement with local Bedouin community.

- Community benefits:
  - Significant economic benefits (Community, including Bedouin, local municipality, Sinai region, national level GDP) from tourism in RMNP as a key attraction for Sharm el-Sheik resorts.
  - Fisheries outside the protected no-take RMNP area benefit from overspill and enhanced productivity, especially for artisanal fishers, including among Bedouin (such as in Naqba).

- **Important Bird Areas (IBAs) – Birdlife International**
  The Directory of IBAs in Egypt identifies 34 sites with a total area of 36173.82 $km^2$ as IBAs in the country. Egypt's IBAs comprise wide range of habitats critical for birds, including: wetlands, high altitude mountains, desert wadis, coastal plains and marine islands. Fifteen of Egypt's IBAs are in existing Protected Areas. Five further IBAs have been proposed for protection. However, not all IBAs can become Protected Areas. Bird conservation needs at sites such as Suez and Ain Sukhna can only be addressed through conscientious planning and management.

  The Directory of IBAs in Egypt Provides decision makers and planners with a practical tool that can aid in setting conservation priorities and environmental management.

  According to the proposed project's area, there are two IBAs that exist:
  - Nabq Protected Area
  - Ras Mohammed National Park (RMNP)

## 3.4 UNDP SES: Social and Environmental Assessment and Management

The UNDP social and environmental standards, which went into effect on 1 January 2021, contribute to the UNDP's commitment to incorporating social and environmental sustainability into its programs and projects in support of sustainable development. They are also a component of the UNDP's quality assurance and risk management programming. UNDP meets the requirements of the GEF Policy on Environmental and Social Safeguards through social and environmental screening.

UNDP's Social and Environmental Standards (SES) underpin commitment to mainstream social and environmental sustainability in UNDP's Programs and Projects to support sustainable development. The SES objectives are to:

- Strengthen the quality of programming by ensuring a principled approach,
- Maximize social and environmental opportunities and benefits,
- Avoid adverse impacts to people and the environment,
- Minimize, mitigate, and manage adverse impacts where avoidance is not possible,
- Strengthen UNDP and partner capacities for managing social and environmental risks, and

- Ensure full and effective stakeholder engagement, including through a mechanism to respond to complaints from project-affected people.

The SES are an integral component of UNDP's quality assurance and risk management approach to programming. This includes the project-level Social and Environmental Screening Procedure (SESP).

The standards are underpinned by an Accountability Mechanism with two key components:

1. A Stakeholder Response Mechanism (SRM) that ensures individuals, peoples, and communities affected by UNDP projects have access to appropriate grievance resolution procedures for hearing and jointly addressing project-related disputes; and
2. A Compliance Review process to investigate and respond to claims that UNDP is not in compliance with the Social and Environmental Standards.

### 3.4.1 Key Elements of UNDP's Social and Environmental Standards (SES)

The following table (**Table 2**) shows the programming principles and Project level standards of UNDP SES:

**Table 2: Key Elements of UNDP's Social and Environmental Standards (SES)**

| Programming Principles | Project-Level Standards | Procedures and Accountability |
|---|---|---|
| **Principle 1: Leave No One Behind**<br><br>**Principle 2: Human Rights**<br><br>**Principle 3: Gender Equality and Women's Empowerment**<br><br>**Principle 4: Sustainability and Resilience**<br><br>**Principle 5: Accountability** | **Standard 1:** Biodiversity Conservation and Sustainable Natural Resource Management<br><br>**Standard 2:** Climate Change and Disaster Risks<br><br>**Standard 3:** Community Health, Safety and Security<br><br>**Standard 4:** Cultural Heritage<br><br>**Standard 5:** Displacement and Resettlement<br><br>**Standard 6:** Indigenous Peoples<br><br>**Standard 7:** Labour and Working Conditions<br><br>**Standard 8:** Pollution Prevention and Resource Efficiency | Quality Assurance & Risk Management<br><br>Screening, Assessment and Management of SES Risks and Impacts<br><br>Stakeholder Engagement and Response Mechanism<br><br>Access to Information<br><br>Monitoring, Reporting and Compliance |

The following table summarizes the projects level standards of UNDP SES:

**Table 3: Project level standards of UNDP SES**

| Project Level Standards | Summary | Relevancey |
|---|---|---|
| 1- Biodiversity Conservation and Sustainable Natural Resource Management | • Conserving biodiversity, maintaining ecosystem services, and sustainably managing natural resources are fundamental to sustainable development.<br>• Biodiversity and healthy ecosystems strengthen our resilience to address environmental and social changes and shocks, including climate change impacts and disaster risks. UNDP seeks to maintain and enhance the goods and services provided by biodiversity and ecosystems in order to secure livelihoods, food, water and health, enhance resilience, conserve threatened species and their habitats, and increase carbon storage and sequestration | • Relevant |
| 2- Climate Change and Disaster Risks | • Climate change and disaster risks pose an increasing threat to sustainable development and the fight against poverty.<br>• They have the potential to stall and even reverse human development through impacts on key development sectors and activities, including agriculture and food production, water, ecosystems and other natural resources, and health.<br>• Climate change has become a key driver of hydro-meteorological disasters and has the potential to produce negative impacts through gradual environmental changes and may exacerbate extreme weather events, increasing the risk of slow and sudden-onset, high-impact disasters.<br>• Climate variability is contributing to the increasing frequency and impact of small-scale localized disasters with far-reaching long-term socio-economic and developmental impacts.<br>• Communities that are already subjected to impacts from climate change may experience an acceleration and/or intensification of impacts due to project activities that do not integrate and anticipate climate change and disaster risks | • Relevant |

| Project Level Standards | Summary | Relevancey |
|---|---|---|
| 3- Community Health, Safety and Security | • The Community Health and Safety Standard recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts.<br>• Potential negative impacts affecting health and safety may arise from a broad range of supported activities, including from infrastructure development and construction activities, changes in the nature and volume of traffic and transportation, water and sanitation issues, use and management of hazardous materials and chemicals, impacts on natural resources and ecosystems, the influx of project labour, and potential abuses by security personnel.<br>• This Standard addresses the need to avoid or minimize the risks and impacts to community health, safety and security that may arise from project-related activities, with particular attention given to disadvantaged and marginalized groups.<br>• Measures to ensure occupational health and safety issues are addressed in Standard 7: Labour and Working Conditions. | • Relevant |
| 4- Cultural Heritage | • UNDP recognizes that Cultural Heritage is central to individual and collective identity and memory, providing continuity between the past, present and future. Cultural Heritage reflects and expresses people's constantly evolving values, beliefs, knowledge, traditions and practices. Cultural Heritage also serves a crucial role within the sustainable development process through enhancing social cohesion, diversity, well-being and the quality of life; supporting cultural rights by protecting the heritage of minority and indigenous groups; fostering socio-economic regeneration; enhancing the appeal and creativity of cities and regions; boosting long-term tourism benefits; and enhancing sustainable practices. Cultural Heritage resources are often unique and irreplaceable, and may be particularly fragile due to neglect, exploitation, or even destruction given their symbolism. | • Relevant.<br>• |

| Project Level Standards | Summary | Relevancey |
|---|---|---|
| 5- Displacement and Resettlement | • UNDP seeks to avoid physical and economic displacement in its projects. In exceptional circumstances and where avoidance is not possible, displacement may occur only with full justification, appropriate forms of legal protection and compensation, and according to the following requirements.<br>• Activities that involve physical and economic displacement, including through land acquisition or restrictions on land use or access to resources, pose impoverishment risks. Potential impacts may include loss of livelihoods, homelessness, food insecurity, social cohesion, well-being and other adverse impacts. These impacts may lead to social unrest and political instability. | • Relevant |
| 6- Indigenous Peoples | • Indigenous peoples, as distinct people, are equal to all other peoples.<br>• Indigenous individuals and indigenous peoples or communities are entitled to enjoy and exercise their human rights without discrimination.<br>• Indigenous peoples possess collective human rights which are indispensable for their existence, well-being and development as peoples.<br>• The special relationship that indigenous peoples have with their lands, territories, resources, and Cultural Heritage is integral to their physical, spiritual and cultural survival. | • Not Relevant<br>• Please refer to section 3.4.2 |
| 7- Labour and Working Conditions | • The pursuit of inclusive and sustainable economic growth, full and productive employment and decent work for all requires the protection of workers fundamental rights, their fair treatment, and the provision of safe and healthy working conditions. Project activities seek to enhance employment promotion benefits, development outcomes and sustainability by ensuring sound worker-management relationships and cooperation in their design and implementation.<br>• The SES requirements have been guided by a number of international conventions and instruments, including those of the International Labour Organization (ILO) and the United Nations (UN). | • Relevant |

| Project Level Standards | Summary | Relevancey |
|---|---|---|
| 8- Pollution Prevention and Resource Efficiency | • The Pollution Prevention and Resource Efficiency Standard recognizes that increased industrial activity, urbanization, and intensive agricultural development often generate increased levels of pollution to air, water, and land, and consume finite resources in a manner that may threaten people and the environment at the local, regional, and global level.<br>• Pollution prevention and resource efficiency are core elements of a sustainable development agenda and UNDP projects must meet good international practice in this regard.<br>• This Standard outlines a project-level approach to pollution prevention and resource efficiency. Reduction of greenhouse gas emissions that contribute to climate change is addressed in Standard 2: Climate Change and Disaster Risks. | • Relevant |

Among the mentioned above Project level standards are applied on the proposed project except the indigenous people standard.

### 3.4.2 Indigenous Peoples in Egypt

Due to its oasis-like geography characterized by a major river, the Nile, crossing a desertic highly arid environment, Egypt has been, throughout history, a recipient of inward migration triggered by incidents of drought in its wider geographic region. These migrations were mainly from the east; the Arabian Peninsula and the Levant. Some early migrations also came from the Libya and the Maghreb to the west. More recent migrations, for economic reasons, came from the Mediterranean basin, e.g., Italy and Greece, or for safety reasons, e.g., Armenia and Bosnia[1].

These populations were totally assimilated and Egyptianized, although some have also preserved their parallel cultural identity. The most prominent example are Armenians which have established their schools, clubs and associations as well as transposed their Christian church.

There is no recent history of settler colonization in Egypt. Even Greek settlers, in historic Alexandria, which is after all a Greek city, have with time merged with the Egyptian population. Egypt's specific history over thousands of years, resulted in the current Egyptian population being of a mixed ethnic background, although mainly semitic. None of the population currently living on its land can be considered more "Egyptian" than others.

Migrations from the Arabian Peninsula settled on the shores of the Egyptian Red Sea, e.g. in Quseir, on the fringes of the Nile Valley in Upper Egypt, in Qena

[1] Currently, Egypt hosts large numbers of Iraqis, Syrians, Yemenis, Sudanese/South Sudanese and Libyans as well as smaller but still substantial numbers form Sub-Saharan Africa

and Sohag as well as in South Sinai. They, including Bedouins in South Sinai, self-identify as a distinct cultural community within the wider Egyptian cultural landscape and maintain specific customs and institutions, the most prominent of which is reconciliation mechanisms based on an unwritten ancestral code of conduct and customary law known as "Orf". As users of eco-system services, in terms of herding and fishing, they are attached to the natural resources of the territory they occupy. They also developed specific knowledge of their environment, e.g. the intricacies of desert paths, and the products it offers, e.g. the uses of medicinal plants.

These cultural variations exist in all known modern societies. In Egypt, the population of Upper Egypt have cultural traits distinctive from the population of the Mediterranean shore, and tribes of the Sinai have different ones compared to tribes of the Northwest Coast, which have their kinship extended to the west across the national border to Libya.

However, each and every cultural group share with the wider Egyptian society the same language, Arabic, and religion, whether Islam or Christianity, and are fully integrated with it, e.g., in terms of schooling and military service as well as in terms of national parliamentary representation. The fact that the criteria accepted as identifying "indigenous populations" are not totally compatible with the Sinai tribes can be inferred from the above, but these same tribes have made their own declaration that they are Egyptians above all else in the conference of "El-Hasana" in 1968, when the Israeli occupiers invited them to declare in front of international media their aspiration of independence from the Egyptian state. To the disappointment of the Israelis, the tribe representatives made the reverse declaration confirming their loyalty to the Egyptian state which have costed the leaders of these tribes years in Israeli prisons.

**There is no better support to the fact that although some of the characteristics of "indigenous populations" could apply to some extent to the local Bedouin population of South Sinai, they do not consider themselves as separate from the Egyptian society.**

## 3.5 Global Environment Facility (GEF) Environmental and Social Management Policies

The Global Environment Facility (GEF) is an international organization that is in collaboration with 184 countries and 18 Agencies. Their mission is to work with international institutions, civil society organizations and private sector entities to solve environmental issues around the globe. The GEF was established in 1991 to provide financial and technical support to developing countries and help them comply with international environmental conventions. The GEF serves as a funding mechanism for five international conventions: The Convention on Biological Diversity, The United Nations Framework Convention on Climate Change, The Stockholm Convention on Persistent Organic

Pollutants, The United Nations Convention to Combat Desertification, and the Minamata Convention on Mercury. These funds are used by both developed and developing countries to support the implementation of environmental protection projects related to biodiversity, climate change, international waters, land degradation, chemicals, and waste.

The policies of the GEF are a reflection of the principles and values adopted by the Council of the GEF, who controls the activities undertaken by the group in order to achieve their objectives. To prevent and reduce the negative environmental and social impacts of the GEF grant projects, the GEF has developed a series of policies and guidelines (listed below).

As an accredited Implementing Partner of the GEF, UNDP's standards have been assessed as complying with the GEF requirements, and thus the UNDP SES will be used as the applicable safeguard's framework for this project.

### 3.5.1 Environmental and Social Safeguard Policy

This policy was adopted on the 20th of December 2018, at the 55th Council Meeting of the GEF and has been effective as of 1st of July 2019. It sets out the mandatory requirements and standards for identifying and addressing environmental and social impacts in all GEF-financed projects and programs. It applies universally to the Secretariat and all GEF Partner Agencies. The document outlines GEF's approach to anticipating, avoiding, preventing, minimizing, mitigating, managing, offsetting or compensating any adverse impacts that GEF-financed projects and programs may have on people or the environment, thereby enhancing the environmental and social outcomes of such projects and programs (GEF 2019).

### 3.5.2 Gender Equality Policy

This policy was adopted in 2017, at the 53rd Council Meeting, and it supersedes the Gender Mainstreaming Policy which was introduced in 2011. The document sets out the guidelines and requirements for mainstreaming gender across the GEF's governance and operations with an enhanced objective to promote gender equality and the empowerment of women and girls in support of the GEF's mandate to achieve global environmental benefits (GEF 2017). These standards apply to the Council, Secretariat and all GEF Partner Agencies.

### 3.5.3 Public Involvement Policy

This policy was adopted in April 1996, at the 7th Council Meeting. The following principles have been approved by the GEF Council as the basis for public involvement in the design, implementation, and evaluation of GEF-funded projects (GEF 2014):

- Effective public involvement should enhance the social, environmental, and financial sustainability of projects and programs .

- Responsibility for assuring public involvement rests within the country, normally with the government and project executing agency or agencies, with the support of the GEF Partner Agencies .
- Public involvement activities should be designed and implemented in a flexible manner, adapting and responding to recipient countries' national and local conditions and to project requirements .
- To be effective, public involvement activities should be broad-based and sustainable. GEF Partner Agencies will include in project budgets, as needed, the necessary financial and technical assistance to recipient governments and project executing agencies to ensure effective public involvement .
- Public involvement activities will be carried out in a transparent and open manner. All GEF-financed projects and programs should have full documentation of public involvement.

The Council stresses the importance of context when applying these principles, specifically regarding the state and local conditions.

### 3.5.4 Principles and Guidelines for Engagement with Indigenous People

This policy has been effective since 2012. The objective of these guidelines is to recognise and acknowledge indigenous people as valuable contributors, potential stakeholders, and partners of the GEF. In addition, these guidelines aim to align the GEF's policies with the United Nations Declaration on the Rights of Indigenous People.

# 4. Environmental and Social Baseline

This baseline provides an overview of the current environmental and socio-economic conditions and main sensitivities of the project area of the Green Sharm project.

## 4.1 Methodology and Information Status

The present baseline is a desktop study based on literature and previous reports of the area under assessment. Desktop information was complemented with the results of the site visit carried out during the period 11-14 January 2023, as well as publicly available information collected through surveys carried out for other projects targeting the project area and surroundings.

## 4.2 The Project Area

Sharm El Sheikh is fundamentally a tourism city, of international fame. The city and its economic, tourism-based activities depend directly on the assets offered by the surrounding landscapes, beaches and coral reef ecosystems. Thus, the "**Green Sharm**" project's focus area will therefore include the **terrestrial area of the Sharm El Sheikh City**, as well as the bordering marine/coastal areas that are subject to economic activities originating from the city with estimated total area 2,130 $km^2$ covered by the project activities. This includes the three marine/coastal protected areas, namely, **Ras Mohamed National Park (RMNP)**, **Nabq Managed Resource Protected Area (NMRPA)**, and **Abu Galum Managed Resource Protected Area (AGMRPA)**.

**Figure 1** shows the project area including City of Sharm El Sheikh and the three protected areas.

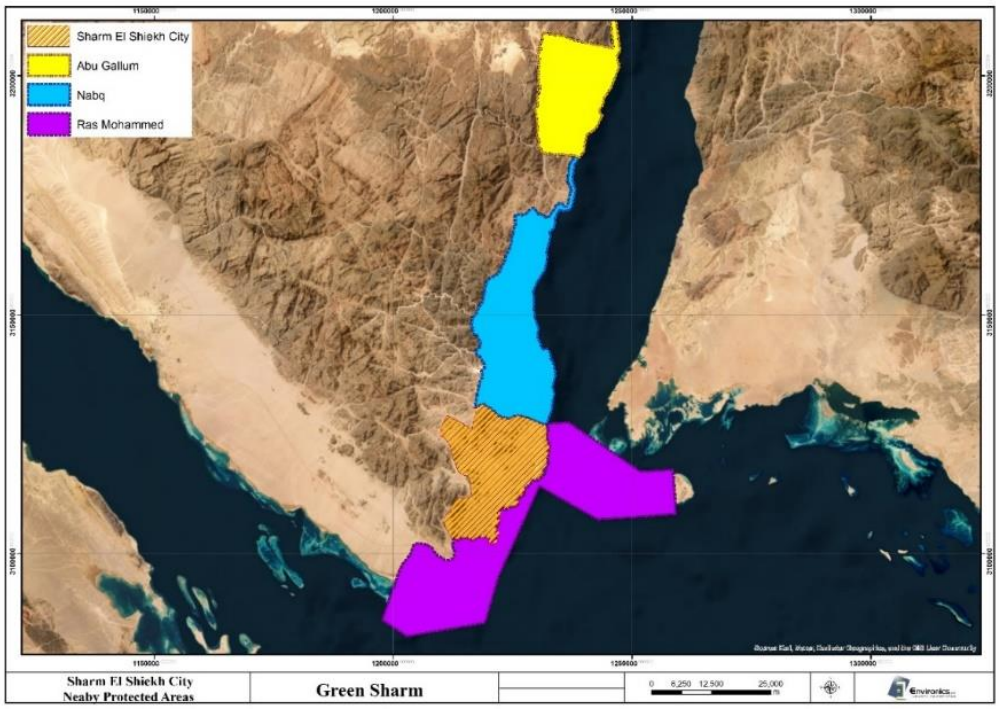


**Figure 1: Green Sharm project area**

## 4.3 Physical Environment

### 4.3.1 Meteorological Conditions

The climate in South Sinai is generally dominated by dry weather during most days of the year, with high summer temperatures, mild winters and low humidity.

Temperatures vary depending on the season throughout the year, where the maximum temperature reaches about 39.3° C, and a lowest temperature, recorded in January, of about 14.1 ° C. There is no rain in the summer months and the maximum amount of rain occurs in November (3.3 mm). The highest average relative humidity occurs in September and November reaching 63%. The wind direction in South Sinai governorate is northern and northwestern most of the year; wind speed rates vary depending on the month, with the average fastest wind speed occurring in July.

### 4.3.2 Climate Change Predictions

Globally, the effects of climate change are already well visible through increasing air temperatures, melting glaciers and decreasing polar ice caps, rising sea levels, increasing desertification, as well as through more frequent extreme weather events such as heat waves, droughts, floods and storms. However, climate change is not globally uniform and affects some regions more than others.

Weather data of the last 40 years, covering the time range from 1979 to 2021, in the region of Sharm El Sheikh were analyzed for long-term change in average temperature. Data visualization show an increasing trend (The dashed blue

line) of average temperature from 24.7 to 26.4 °C during the 40 years period (**Figure 2**). Likewise, precipitation data for the same period of time were analyzed for long-term trend detection. It was observed that the average total precipitation in the region of Sharm El Sheikh follows an increasing trend from 7.6 to 9.5 mm/year (**Figure 3**).

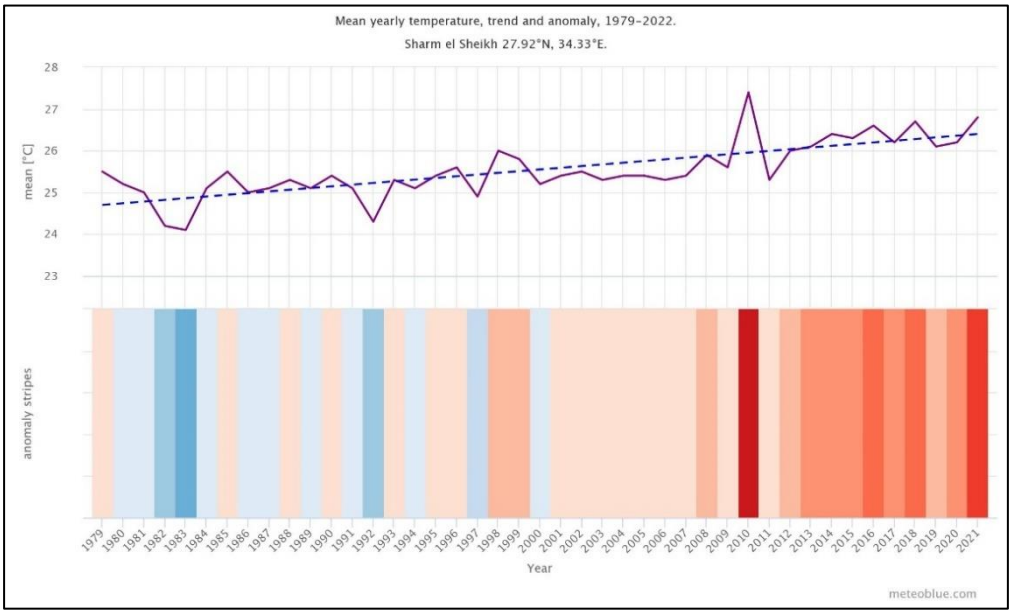


**Figure 2: An estimate of the mean annual temperature for the region of Sharm El Sheikh**
Source: Climate Change Sharm El Sheikh (Meteoblue, 2022)

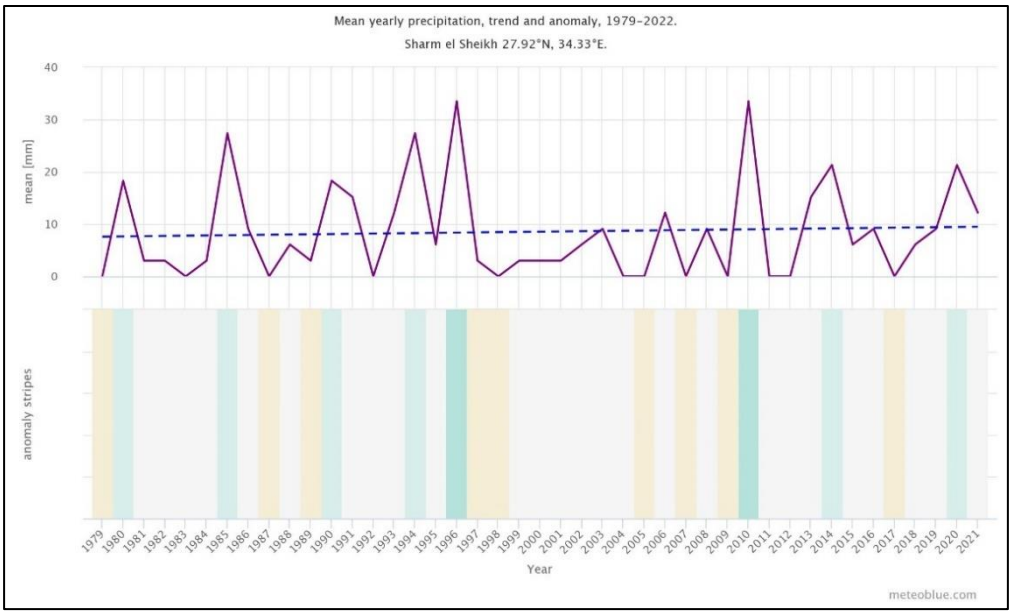


**Figure 3: Estimated mean annual precipitation for the region of Sharm El Sheikh**
Source: Climate Change Sharm El Sheikh (Meteoblue, 2022)

### 4.3.3 Terrestrial Environment

#### a) Morphology and Topography

Sharm El Sheikh city and RMNP are located at an elevation of less than 50

m (msl) as shown in **Figure 4**. Land elevation increases towards the north with NMRPA having a relatively wide coastal plain in comparison to AGMRPA where the coastal area is narrow and most of the PA is mountainous.

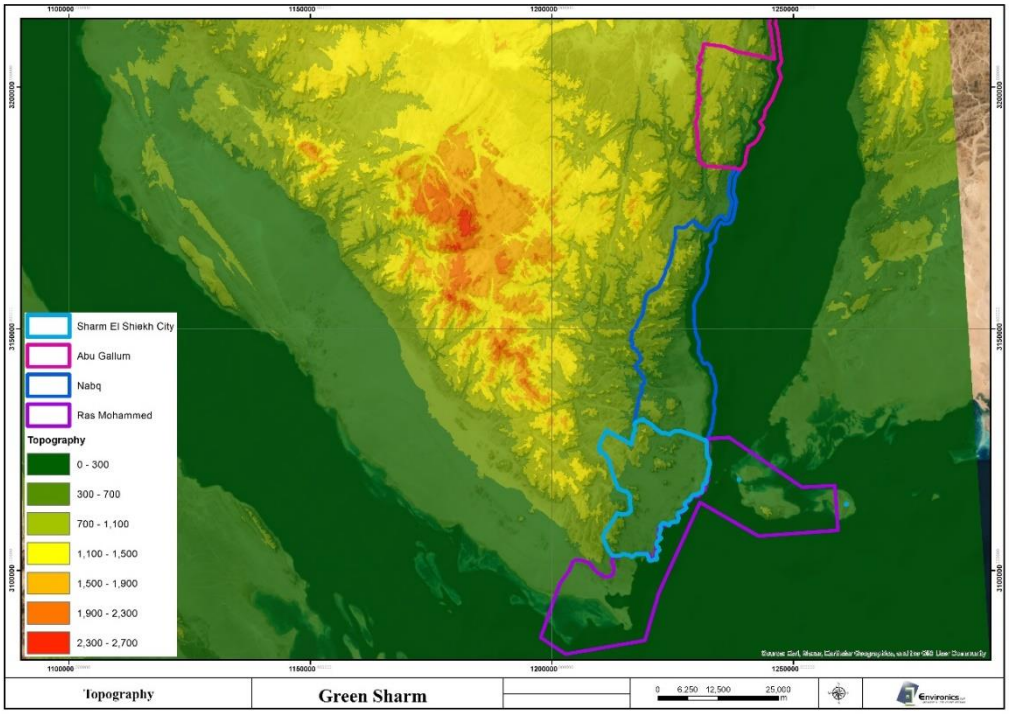


**Figure 4: Topography map of South Sinai governorate and the project area**

## b) Geology and Soils

Sharm El-Sheikh City and RMNP terrestrial part are covered with gravel, sand pebbles and some small rocks, and this layer extends to a depth of 10 meters from ground level, as shown in **Figure 5**. Within NMRPA, rocky surfaces are widely distributed and replacing sand and gravel northward with almost all AGMRPA being dominated by rocky structures.

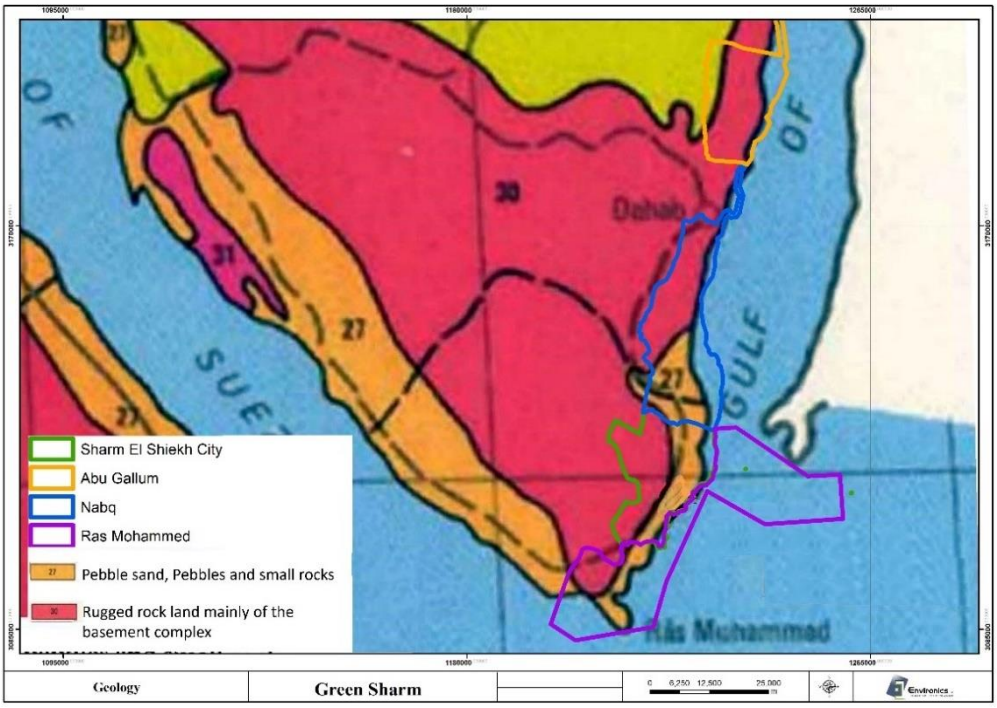


**Figure 5: Geology and soil features within the project area**
Source: Soil Association map of Egypt (1975)

### c) Hydrology and Hydrogeology

- **Surface waters and flashfloods**

  The area is divided into many basins based on three parameters: the slope degree, the geological classification, and the rates of precipitation. The intensity of the streams in each basin was calculated by multiplying the stream's velocity by the depth of the ground at different areas within every basin. The streams severity was divided into four degrees, from low to very high (**Figure 6**).

  The majority of the streams in the study area are characterized by low severity (less than 1 $m^2$/second) except for Nabq protectorate which is intersected by a very high severity stream (more than 5 $m^2$/second). This stream passes from the west to the extreme eastern part.

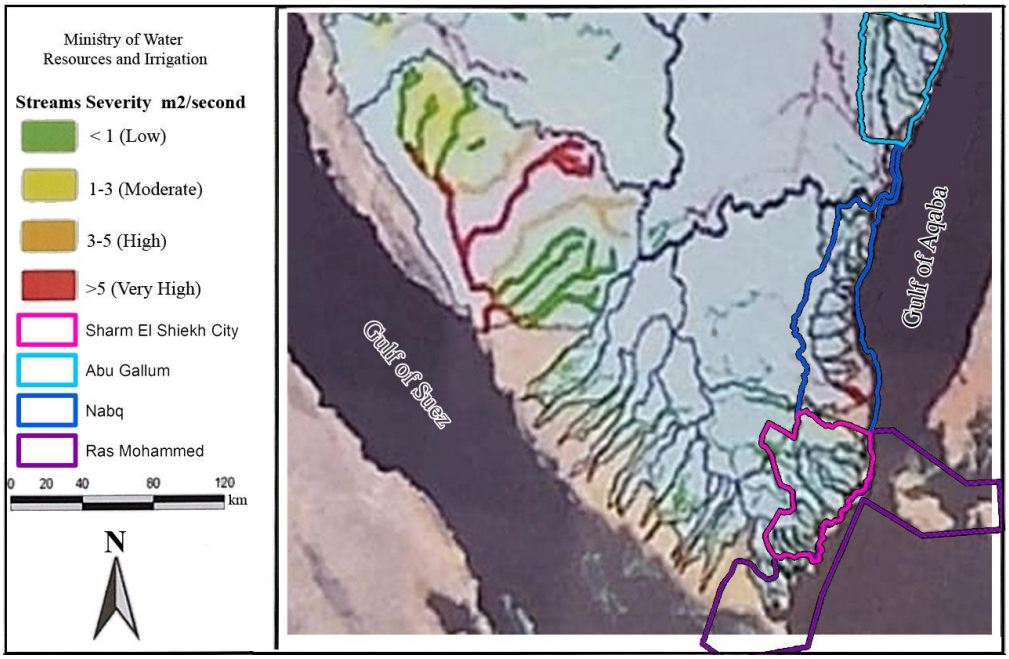


**Figure 6: Streams and flashflood severity within the project area**
Source: Freshwater Atlas stream network – Ministry of Water Resources (2010)

- **Groundwater**
  The most important groundwater source throughout South Sinai Governorate is the El Tur wellfield, which taps the El Qaa aquifer and produces up to 16,000 $m^3$/day (South Sinai Environment and Development profile, EEAA).

  There are also a number of local sources serving Bedouin communities, as as occasional springs, including the Wadi Kid spring, which traditionally served villages near Sharm El Sheikh (South Sinai Environment and Development profile, EEAA).

  The main reservoir in Sharm El Sheikh consists of alternating layers of cracked limestone and some alternating layers of sand and gravel. The depth of groundwater reaches about 30 meters below the ground level (Elewa and Qaddah, 2011).

**d) Seismic Hazards**

South Sinai is located in the seismic zones of high impact, according to the Map of seismic zones issued by the National Authority for Remote Sensing and Space Sciences (NARSS), as shown in **Figure 7**. Sharm El Sheikh city and the whole project area is either located in a major damage zone of an active fault zone. The requirements of the Egyptian Building Code shall be taken into account in any planned construction activities during the project.

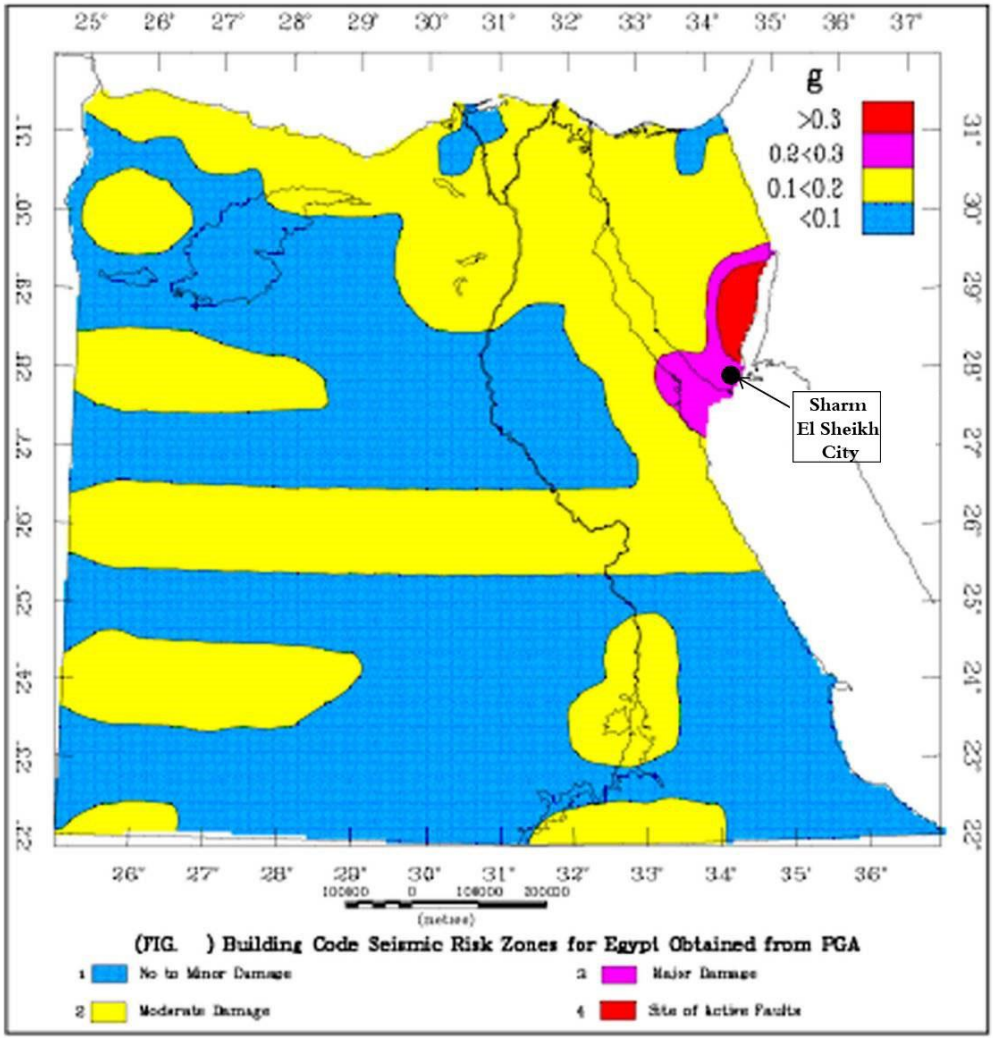


**Figure 7: Earthquake Ranges and Intensity Map of Egypt**
Source: National Authority for Remote Sensing and Space Sciences (NARSS)

### 4.3.4 Marine Environment

#### a) Bathymetry

Bathymetry mapping shows that depths in the marine part of the project area ranges from few meters to as deep as 1,800 m. The water depth increases towards the south in the Red Sea while in the Gulf of Aqaba the water depth increases towards the east reaching its maximum depth approximately at 1,800m. In the Gulf of Suez, the depth of water is less than -450m through its entire area. **Figure 8** shows bathymetry the marine part of the project area developed from The General Bathymetric Chart of the Oceans (GEBCO).

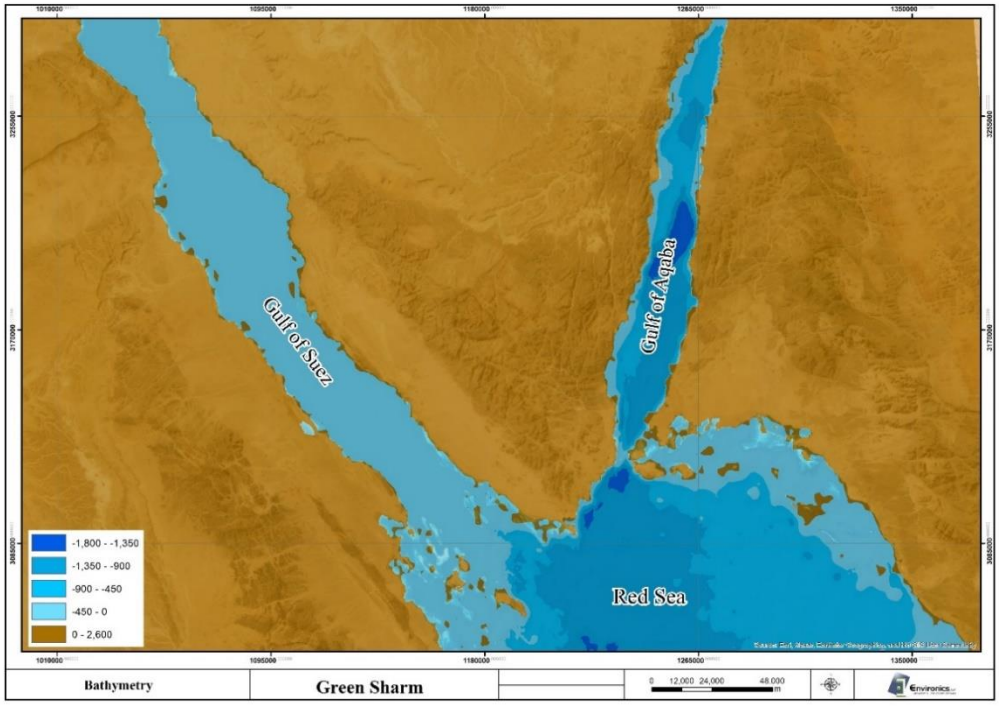


**Figure 8: Bathymetry of northern part of Red Sea, Gulf of Aqaba and Gulf of Suez**
Source: General Bathymetric Chart of the Oceans, GEBCO

## b) Marine Zones

Distribution and richness of marine biodiversity depend on several conditions including salinity, amount of nutrients as well as the amount of sunlight that penetrates the water column. These conditions depend mainly on two factors: distance from shore and depth of water.

Therefore, marine waters are divided into three principal zones according to the distance from the shore. These are:

- The intertidal (or littoral) zone, which refers to the area above water level at low tide and underwater at high tide (i.e., the area within the tidal range);
- The neritic zone, which is the relatively shallow part of the sea above the drop-off of the continental shelf, approximately 200 meters in depth. This zone is the richest in biodiversity; and
- The oceanic zone, which is the region of open sea beyond the edge of the continental shelf and includes 65% of the ocean's completely open water.

The neritic and oceanic zones are grouped within the pelagic zone, i.e., the open, free waters away from the shore, where marine life can swim freely in any direction unhindered by topographical constraints. The pelagic zone is vertically divided into two main zones, namely the photic and the aphotic zones, with several sub-divisions (**Figure 9**).

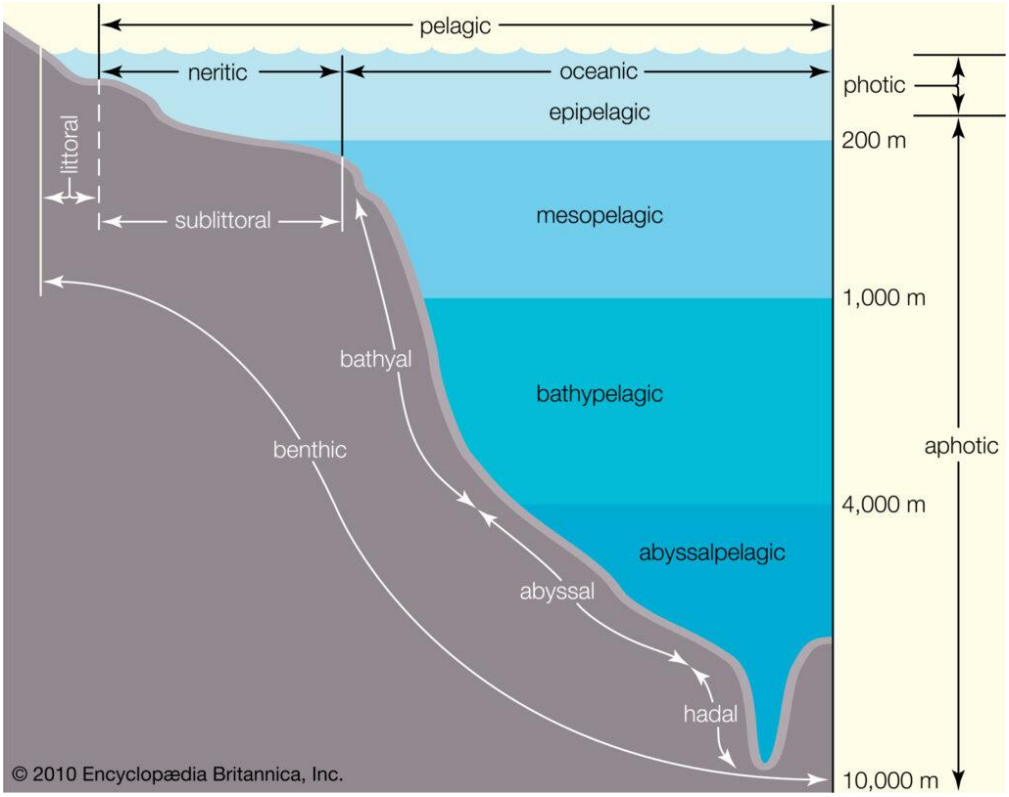


**Figure 9: Marine zones**
Source: Encyclopedia Britannica (2010)

### c) Oceanographic Conditions

- **Waves**
  Waves heights are less than 1 m throughout the year and rarely exceed 1 m during spring to early summer (March to July).

- **Currents**
  Consistent seasonal current trends along the west coast of the northern tip of the Gulf were detected during 80s and early 90s of the 20$^{th}$ Century. A southward current along the west coast of the Gulf of Aqaba was observed most of the year, with a short period (November–January) of northward flow and an abrupt reversal in early February.

- **Tides**
  The tide amplitude along Gulf of Aqaba is less than 1 meter. During spring tides with an offshore wind, a wider area of the littoral zone may become exposed. The same is true also on ledges or gently sloping rocks.

### d) Water Quality

Water quality in the coastal marine environment of the project area is obtained from results of the latest report for monitoring coastal water characteristics in the Red Sea (EEAA, 2021).

- **Dissolved Oxygen (DO)**
  DO concentration ranged between 7.0 and 7.74 mg/L which is higher than the minimum accepted limit, 4 mg/L, indicating good condition in regard to DO.

- **Potential of Hydrogen (pH)**
  Average pH value recorded was of 8.23 as reported for the nearby sampling stations.

- **Salinity**
  Average salinity value recorded was of 40.7 g/l as reported for the nearby sampling stations.

- **Bacteriological Water Quality**
  Bacteriological results were below the maximum accepted limit. Tested Water quality parameters included Coliform bacteria (up to 500 cfu/100 ml), Escherichia coli and fecal streptococci (up to 100 cfu/100 ml).

- **Eutrophication Parameters**
  Total nitrogen concentration averaged at 0.8 mg/l, whereas ammonia concentration ranged between 19.54 and 40.7 µg/l. Average nitrate concentration was 50.2 µg/l. Furthermore, active phosphorus concentration ranged from 12.5 to 13.0 µg/l.

- **Biological (BOD) and Chemical Oxygen Demand (COD)**
  Biological Oxygen Demand (BOD) ranged from 1.22 to 2.53 µg/l whereas the Chemical Oxygen Demand (COD) ranged from 10.45 to 11.22 µg/l indicating no water pollution from biological (anthropogenic) or industrial origin.

- **Heavy metals pollution**
  All measured heavy metals; Iron, Manganese, Copper, Zinc, Chrome, Nickel, Cadmium, Lead and Mercury; showed concentrations less than the maximum permitted limit.

- **Total Petroleum Hydrocarbon (TPH)**
  Total petroleum hydrocarbon concentrations fell below the upper permitted limit for marine environment. Average concentration in Gulf of Aqaba was less than those recorded in Red Sea and Gulf of Suez, most likely due to less (and far distance of) oil and gas drilling/manufacturing activities.

## 4.4 Biological Environment

### 4.4.1 Sharm El Sheikh City

Sharm El Sheikh City is almost totally urbanized city with some natural spots, but with a biodiversity-rich marine environment. However, scientific literature and reports emphasize the importance of terrestrial part of Sharm El Sheikh as a ground for number of bird species. Sharm El Sheikh provides one of the major

resting sites (with Burullus, Wadi El Rayan, Aswan and Wadi El Gemal PA) for passerine birds (Shaltout, 2019).

Moreover, the sewage ponds of Sharm El Sheikh are a popular destination for birdwatchers where aggregations of White Storks can be seen in the urban area of Sharm El Sheikh and in the national park Ras Mohammed, located on the extreme southern point of the Sinai Peninsula. Groups of white storks take off regularly from the sewage ponds, circles over the desert, land again or glided in big flocks of 300-500 individuals over the first mountain (Jebel Khashab) of Mount Sinai to the north of the sewage ponds. Altogether, about 1600-2000 White Storks were seen in this area on at least one occasion. This behaviour attracts raptors, e.g., juvenile Imperial Eagles *Aquila heliaca* as well as Lesser Spotted *Aquila pomarina* and Greater Spotted Eagles *Aquila clanga*, which circled between the Storks (Schimkat, 2013).

The coastal front of Sharm El Sheikh City is included within the marine part of Ras Mohamed National Park, which will be discussed in the following section. An extended marine biodiversity survey was conducted in the Northern Red Sea, including sites at throughout coastal front of Sharm El Sheikh City, Ras Mohamed, and Nabq, from 2007 to 2011. The survey results showed that sites within the marine part of the project area, along the coastal front of Sharm El Sheikh City, have lower Marine Biodiversity Indexes in comparison to other sites (Francesco, 2013). This indicates that urban-related activities (such as generated wastewater and solid waste, recreation, etc.) have a clear impact on marine ecology and constitute a threat to marine biodiversity located along the seafront of the city.

The main ecosystem services provided by the city deal with recreation and ecotourism. For further details on ecosystem services, refer to Section 4.5.1.

### 4.4.2 Ras Mohamed National Park

Ras Mohamed National Park (RMNP) is located at the Southern tip of the Sinai Peninsula, to the west of Sharm El Sheikh (**Figure 10**). The Park was established in 1983 as the first Egyptian national park and extended in 1989. It covers 480 km², 70% of which is marine (South Sinai Protectorates, personal communication, 2023; UNDP, 2022).

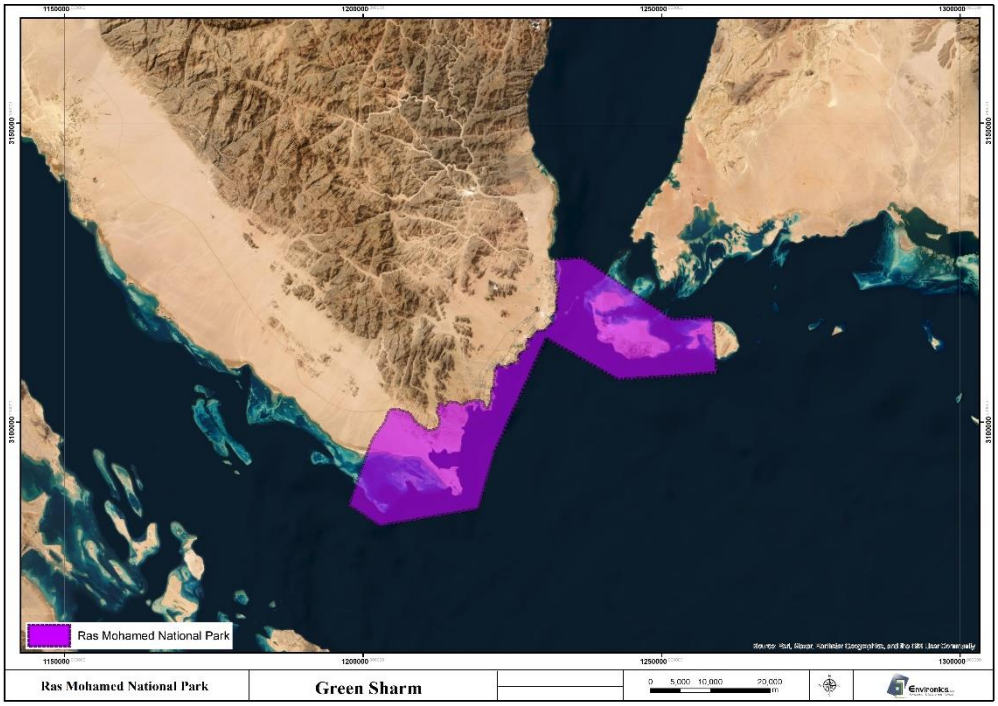


**Figure 10: Ras Mohamed National Park**

## a) Terrestrial Environment

- **Habitats**

  The terrestrial part of Ras Mohamed National Park encompasses a wide variety of ecosystems and habitat-types. The majority of the PA is occupied by mountain and wadi desert habitats as well as gravel plains and sand dunes ecosystem.

- **Flora**

  Ras Mohamed terrestrial flora is recorded to encompass about 80 species of plants (Galndo et al., 2008) of which more than 72 species are recorded in Wadi Watir (El-Demerdash et al., 1996).

- **Fauna**

  Ras Mohamed National Park encompasses diverse communities of fauna represented by mammals, birds and reptiles. The most important groups of fauna of NMRPA are as follows.

  ***Mammals***

  Terrestrial part of RMNP provides a suitable habitat for a number of mammals ranging from high mountains habitat to wadis and plains. Basuony et al. (2010) listed 11 species of mammals to be found in RMNP. Of this list, the most important and threatened mammals are the Dorcas Gazelle and Nubian Ibex.

  ***Birds***

  A list of 134 bird species were recorded in RMNP The most prominent species are soaring birds (24 kinds of raptors), the most common are Honey

Buzzard and Common Buzzard (Paleczny et al., 2007). Ras Mohamed is important as a bottleneck for migratory soaring birds. The majority of the world populations of White Stork (*Ciconia Ciconia*) pass through this area. Eastern Imperial Eagle (*Aquila heliaca*), which is recorded as native non-breeding in Sinai Peninsula is known to inhabit the terrestrial part of RMNP.

***Reptiles***

Eight reptile species are recorded in RMNP according to El-Gabbas (2012). However, number of terrestrial reptile species in RMNP estimated as 14 species (EEAA, 2008) of which the most common species are the Egyptian Dabb Lizard (*Uromastyx aegyptia*), Sinai Agama (*Pseudotrapelus sinaitus*) and Small Spotted Lizard (*Mesalina guttulate*).

**b) Marine Environment**

- **Habitats**

In RMNP habitats are defined according to their dominant biota, physical environmental influences, and or substratum type (Paleczny et al., 2007). However, previous studies indicate that several defined marine habitats exist inside the park, as follows:

- Coral reefs;
- Mangrove stands;
- Sea grass communities;
- Intertidal macroalgae; and
- Pelagic.

***Coral reef***

Coral reef ecosystems in RMNP are recognized internationally as among the world's best. About 205 hard coral species and about 120 soft coral species have been recorded in RMNP.

Fringing reefs are the most common reef type in RMNP. Offshore patch reefs occur in the Straits Ras Mohamed. Jackson Reef, Woodhouse Reef, Thomas Reef, Gordon Reef, Shark Reef and Yolande Reef are the major representatives.

The National Park offers outstanding coral reef and nature viewing experiences to the visitor (EEAA, 2008), popular diving sites are:

- The Eel Garden, named for its population of garden eels at 20m, also provides excellent and calm conditions.
- The Main Beach, often crowded, remains one of the best locations to see vertical coral walls. Access is restricted to the left side of the bay.
- The Old Quay, often calm but having more turbid water, has some of the best shallow water reef structure.

Marsa Bareika, newly opened with superior corals, calm water, and excellent beaches. Mangrove Channel – Hidden Bay are the best locations to view resident or migratory birds such as herons, White Stork, Osprey, etc.

***Mangrove stands***

Mangroves are well adapted to their saline costal environment and are the main vegetation type in protected intertidal areas along tropical and subtropical coastlines and are considered to be threatened. Mangroves are important habitat and feeding grounds for a range of benthic and pelagic marine animals and bird species

***Seagrass communities***

Seagrasses are flowering plants able to live permanently in the marine environment and are represented by about 50 species within 12 genera. Sea grasses are fairly widespread along Sinai's coasts, concentrated in shallow water areas such as lagoons, sharms and mersas. In the Gulf of Aqaba, high concentrations of sea grasses are found in just a few sites in Ras Mohamed, Nabq, and Abu Galum. Although the majority of sea grasses occur in depths of less than 10m, communities in the Gulf of Suez are found as deep as 30 m, and due to the more favorable conditions, they are more abundant.

Seagrass communities are amongst the most distinct habitats of RMNP, supporting similarly distinct communities of benthic fauna and fishes. Sea grasses are important food items for globally threatened Dugong (*Dugong dugon*) and Green Turtle (*Chelonia mydas*) (EEAA, 2008).

***Intertidal (macroalgae) habitat***

The marine environment of RMNP comprises two portions of intertidal habitat belonging to distinct waterbodies, Gulf of Suez and Gulf of Aqaba. Intertidal zone of the East Coast of Gulf of Suez is very wide and may exceed 1 km at some areas, which give the chance to migratory and resident birds to rest and feed without disturbance. The vegetation along the coast is very poor; the most common plant is *Zygophylum coccineum*. On the other hand, intertidal zone of the western Coast of Gulf of Aqaba is narrow and representing typical sea cliffs and fringing coral reefs. This is a key habitat for other related marine species, like hundreds of species of fish, sponges, snails and crustaceans (Paleczny et al., 2007).

***Pelagic***

This habitat includes the water column and ranges in depth from the surface to depths exceeding 1,000 m near the PA's eastern boundary.

- **Flora**

***Seagrasses***

Five seagrass species were recorded from RMNP as following, Halophila ovalis, *Halophila stipulacea, Halodule uninervis, Thalassia hemprichii* and *Thalassodendron ciliatum.*

***Mangrove Community***

Mangroves at RMNP located at the southern part of the park inside a channel 250 m length add greatly to the structural diversity of the shore

habitats, creating a multitude of niches for several animal species. Mangroves in Sinai are monospecific, with stands of *Avicennia marina* limited to Nabq (65 hectares) and Ras Mohamed (only 2 hectares) channel.

***Salt marsh flora***

It consists of herbaceous salt-resistant plants, growing mainly on the intertidal flat of the Gulf of Suez and around the Salt Lake in the middle of the park (EEAA, 2008).

- **Fauna**

  More than 200 species of corals, where 125 species are soft corals, around 1000 species of fish, 40 species of star fish, 25 species of sea urchins, more than a 100 species of mollusk and 150 species of crustaceans. Ras Mohamed is important as a bottleneck for migratory soaring birds. The threatened Green Turtle (*Chelonia mydas*) and Hawksbill Turtle (*Eretmochelys imbricata*) occur off Ras Mohamed regularly. Threatened mammal species include the Dorcas Gazelle (*Gazella dorcas*) and Nubian Ibex (*Capra nubiana*) (Ras Mohamed National Park, State Information Service, Egypt).

  ***Sea Turtles***

  Three marine turtle species were found in the area (Green turtle, Loggerhead and Hawksbill) with evidence for the breeding of the first two species in wide sandy beach which is a closed area and named Turtle Beach (EEAA, 2008).

  ***Seabirds***

  There are 241 bird species recorded in the area both of migratory and resident. Of these seabirds 230 species are known to use the shorelines inside RMNP (Paleczny et al., 2007). However, another published checklist of birds in the national park comprised 181 species (Lepage, 2022). Important species of the area include the Osprey, Sooty Falcon, Western Reef Heron, Caspian Tern, Slender-billed Gull, White-eyed Gull, Kentish Plover and Crowned Sandgrouse.

  ***Marine Mammals***

  *Cetaceans*

  The cetacean fauna[2] of the Red Sea is still poorly known. At least 17 species of cetaceans have been observed in the Red Sea (Costa et al., 2019).

  At the regional scale, 10 cetaceans are recorded in Gulf of Aqaba of which 5 species are also recorded in Gulf of Suez with possibility to be encountered in the marine environment of RMNP.

[2] A group of aquatic mammals including whales, dolphins and porpoises (Cetacea)

*Dugong*

In Egypt, Dugong is found in the southern Red Sea shores, but in summer it can be seen as far north as Ras Mohamed, as this species is very sensitive to temperature changes (Khalil et al., 2022). Dugong is known from seagrass areas in both the Gulf of Suez, and there were historical sightings at the Nabq mangroves. The dugong is listed as vulnerable in the IUCN Red List.

### 4.4.3 Nabq Managed Resource Protected Area

Nabq Managed Resource Protected Area (NMRPA) is located in the South Sinai, approximately 35 km north of Sharm El Sheikh (**Figure 11**). It was established in 1992 and later extended in 1996 with the addition of the Dahab Environmentally Managed Area. NMRPA covers an area of 587 km², including a marine area of approximately 122 km² extending 47 km along the western coast of the Gulf of Aqaba (UNDP, 2022).

NMRPA is the biggest marine protectorate in the region and is characterized by a great diversity of habitats and ecosystems in a uniquely compact setting, representing a complete terrestrial/marine ecosystem characteristic of the Gulf of Aqaba coast (Hassan et al., 2013).

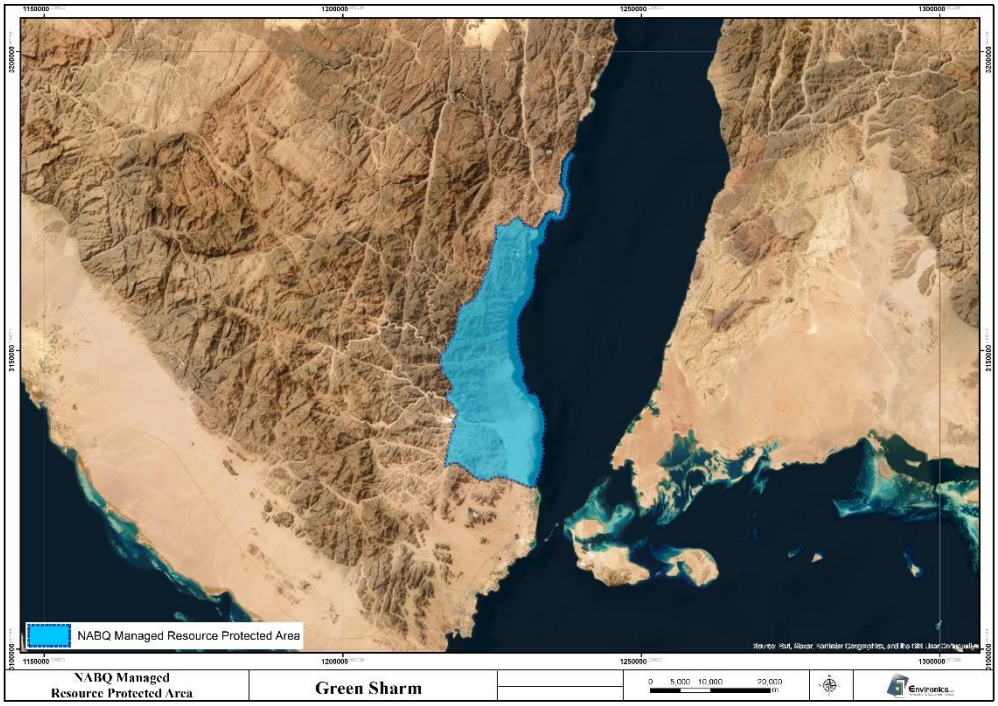


**Figure 11: Nabq Managed Resource Protected Area**

#### a) Terrestrial Environment

- **Habitats**

  NMRPA encompasses a wide variety of ecosystems and habitat-types. The majority of the Protected Area is occupied by mountain and wadi desert habitats as well as dunes ecosystem.

***Mountains and wadis ecosystems***

Nine mountains are of importance in NMRPA with heights ranging from 286 m (Gabel El Mauweerid) to 778 m (Gabel Qabila). Wadi Kid is the largest wadi in the area draining into the Gulf of Aqaba, where it forms a wide delta of alluvial fan where the biggest aggregation of the Arak bushes *Salvadora persica*.

The mountainous interior of the area is crossed by numerous wadis. Gazelles and Ibexes are found in theses habitat and are sustained by the periodic flooding of the valleys following heavy rains. The wadis also provide a supply of fresh water to local population and are an important grazing area for Bedouin sheep and goatherds. High altitude deserts and connecting wadi systems form catchments watersheds, providing fresh water to habitats at lower elevations. The highlands provide for a multitude of microhabitats supporting flora and fauna that are well adapted to this environment. During infrequent winter rains, flash floods will wash through wadis (Mabrouk, 2007).

***Dunes' ecosystem***

There are four types of dunes in NMRPA based on the characterizing vegetation. The most dominant type is the Arak Dunes dominated by *Salvadora persica*. These dunes also help to control the movement of sand in the region.

- **Flora**

Nabq contains 134 plant species, six of them are found only in Nabq, and 86 are perennial (Nabq Protected Area, State Information Service, Egypt). The area contains one of the largest single stands of Arak bushes, *Salvadora persica*, in the Middle East (Shaltout & Eid, 2016). NMRPA encompasses nationally threatened and/or endemic plant species (Shaltout & Eid, 2016) which are listed in **Table 4**.

**Table 4: List of nationally threatened and/or endemic plant species in NMRPA**

| Species name | Nationally threatened? | Endemism |
|---|---|---|
| *Kickxia floribunda* | No | Egypt & Palestine |
| *Avicennia marina* | vulnerable | No |
| *Zilla spinosa* | vulnerable | No |
| *Salvadora persica* | Vulnerable | No |
| *Glossonema boveanum* | Rare | No |
| *Hyoscyamus pusillus* | Rare | No |
| *Cleome droserifolia* | Indeterminate | No |
| *Zygophyllum coccineum* | Indeterminate | No |

Source: Shaltout & Eid (2016)

- **Fauna**

NMRPA encompasses diverse communities of fauna represented by mammals, birds and reptiles. Gazelle, Nubian Ibex, Hyrax and small

mammal populations inhabit the desert part of the PA. Heron, Spoonbill and Osprey have sustainable breeding populations in and around the mangroves (Nabq Protected Area, State Information Service, Egypt). The most important groups of fauna of NMRPA are as follows.

***Mammals***

The terrestrial part of NMRPA provides a suitable habitat for a number of mammals ranging from high mountains habitat to wadis and plains. Mabrouk (2007) listed 39 species of mammals found in NMRPA. However, a lower number (14 species) of mammals was included in the list of mammals of Egypt (Basuony et al., 2010).

***Birds***

A list of 66 bird species were recorded in NMRPA (Mabrouk, 2007) in both marine and terrestrial parts. One species the Rock Dove, *Columbia livia* is characteristic of the area.

***Reptiles***

Reptiles recorded in NMRPA include the Egyptian Dabb Lizard *Uromastyx aegyptius*, Sinai Agama *Pseudotrapelus siniatus* and Horned Viper *Cerastes cerastes* (El-Gabbas (2012),

**b) Marine Environment**

The marine part of NMRPA falls under four management zones of varying protection levels: strict natural zone, no-take zone (NTZ), recreational zone and multiple use zone. The strict natural zone (91.27 km²) includes a scientific reserve for about 15 km of the coastline where all activities are prohibited except scientific research. While four NTZs (**Figure 12**) cover about 5 km of the coastline where all fishing is prohibited, recreational activities (boating, scuba diving, snorkeling, reef walking), and scientific research are permitted (Mabrouk, 2007).


**Figure 12: Map of NMRPA showing No Take Zones**
Source: Benzoni et al (2006)

- **Habitats**
  Different habitats have been identified in marine environment of NMRPA, mainly:
  - Coral reef ecosystems;
  - Mangrove ecosystem; and
  - Sea grass ecosystem.

***Coral reef ecosystems***

The coastal ecosystem of Nabq MRPA is dominated by fringing coral reefs that extend along almost the entire 47 km of coastline, broken in only occasional places by lagoons or small reef pools. The reef is well developed, with the fore-reef between 100 m and 800 m from the shore. Extensive reef flats and back-reef lagoons are also present, the largest of which is the Abu Negila lagoon at up to 200 m wide and 10 m deep (Ashworth et al., 2006). This fringing reef is well-developed along most of the coastline; this becomes discontinuous at some locations, notably at Nakhlet El Tal, where occasional inland flooding reaches the sea. The reef edge runs parallel to the coast, with the reef flat ranging between approximately 50 and 650 meters in width (Galal, 1999).

Coral reefs in Nabq are extremely rich. Reef profiles and therefore community structures are different from reefs in the Ras Mohamed National Park. Visibility is often poor as a result of fine sediments washing out of the mangrove area, but this does not detract from the beauty and diversity of the reef.

***Mangrove ecosystem***

The coastline of Nabq is fringed by 4.8 km of mangrove forest. This mangrove, which is composed of just one species of tree, *Avicennia marina*, is very fragile. In addition, being the most northerly in the red sea-Indian Ocean system, it is the largest mangrove stand in the Gulf of Aqaba.

***Sea grass ecosystem***

At NMRPA, the seagrass beds provide habitat for the juveniles of some commercially important species, notably the emperors *Lethrinus mahsena* and *L. obsoletus* as well as for various species of wrasse (family: Labridae) and goatfish, *Upeneus* spp. (Galal, 1999).

- **Flora**

***Seagrasses***

Seven species of sea grass are present in NMRPA among which *Halophila stipulacea* is the most common, covering wide areas. It can be found until 70 meters depth.

***Mangrove Community***

Mangrove stands of *Avicennia marina* in Nabq cover 65 Hectares. Mangroves on NMRPA creates a multitude of niches for several animal species.

***Maerl beds***

Maerl (Rhodophyta: Corallinaceae) is a red alga that forms a living gravel deposited by unattached calcified red algae - its highly branched form provides protection for many invertebrate species. Scotland is home to some of the most extensive maerl beds in Europe but in 2001 Glasgow University students found a maerl bed within NMRPA. Maerl has not previously been described in the Red Sea (Brownlie et al., 2001).

- **Fauna**

Distribution and richness of marine fauna depend on several conditions including availability of suitable habitat, amount of nutrients/food sources as well as the depth and, therefore, amount of sunlight that penetrates the water column.

***Macro-benthic Fauna***

Macro-benthic fauna are those relatively larger organisms inhabiting the bottoms of aquatic environments. Macro-benthic species have received considerable attention due to their significance as biological indicators and also as sources of fish food (Mona et al., 2019).

A recent study of biodiversity in Nabq Protected recorded 112 macro-benthic species distributed among mangrove and rocky shore habitat.

Nabq Managed Resources Protected Area is known to host a high diversity of hard corals species that estimated to be 208 species of which 155 species are recorded in the northern extension of the NMRPA within the marine part of Dahab city (Mabrouk, 2007).

***Fish***

NMRPA is known to host 438 fish species of which the majority are reef-associated or use the mangrove habitat (particularly, mangrove lagoons) as nursery grounds for their larvae and other early-stage life forms (Mabrouk, 2007).

*Mangrove associated fish*

Early studies on fish diversity in mangal forests in Nabq PA (and Ras Mohamed national park) revealed that a total of 22 species were recorded in both protected areas with only 13 fish species associated with the four mangrove stands in NMRPA. Among these collected fish species, 7 species have not been recorded earlier in the studied areas. Some of the fishes recorded are economically important.

*Coral reef and seagrass associated fish*

A total of 169 species were identified during a survey. Coral patches were the most speciose biotope with 118 species, followed by reef flat (79 species), back-reef seagrass beds (46 species) and sandy lagoon areas (42 species). Deep forereef seagrass beds had the lowest abundance (35 species).

*Nearshore fish diversity*

Another study of fish diversity within inshore water of three marine protected areas of the Gulf of Aqaba, a total of 46 fish species were recorded in Nabq protected area, compared to 51 and 171 species recorded in Abu Galum and Ras Mohamed protected areas, respectively. The study sites within Nabq protected area were El-Gharqana, Marsa Abou Zabad, El-Ruwaysia, El-Monqata and Ras El-Tantor (El Dawi, 2000).

***Sea Turtles***

Five species of marine turtles have been recorded in the Red Sea among which the green turtle *Chelonia mydas* and the Hawksbill *Eretmochelys imbricata* are found within NMRPA.

***Seabirds***

A total of 66 bird species were recorded in NMRPA (Mabrouk, 2007) in both marine and terrestrial parts of which two marine species are of great importance: the Osprey *Pandion haliaetus* and Reef or Little Heron *Egretta garzetta*.

***Marine Mammals***

Ten cetaceans recorded in Gulf of Aqaba have the possibility to be encountered in the marine environment of NMRPA.

There were historical sightings of the Dugong at the Nabq mangroves with no recent records or estimates of population within the region.

### 4.4.4 Abu Galum Managed Resource Protected Area

Abu Galum Managed Resource Protected Area (AGMRPA) is located along the Gulf of Aqaba, approximately 60 km north of Sharm El Sheikh (**Figure 13**). It was established in 1992 to protect coral reefs and mangroves. The Park covers approximately 458 km² (UNDP, 2022).

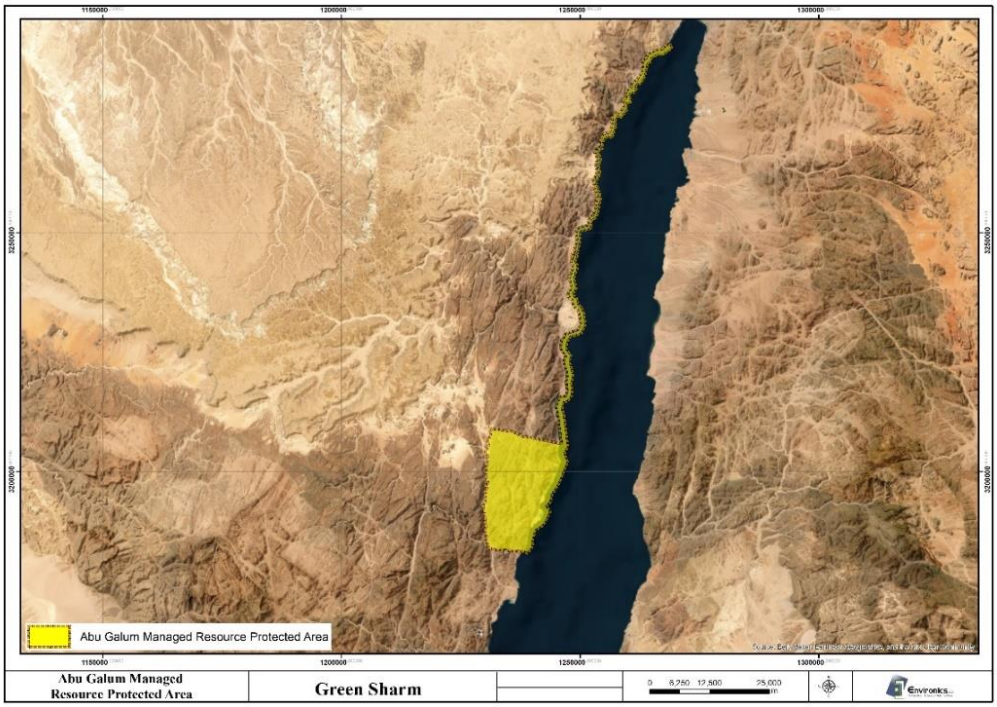


**Figure 13: Abu Galum Managed Resource Protected Area**

#### a) Terrestrial Environment

- **Habitats**

  The terrestrial portion consists high altitude deserts connected to the coast through narrow wadis that cut through high granite coastal mountains. The wadis provide fresh water to the coastal habitats, forming saline sabkha and gravel alluvial fans along the narrow coastal plain (UNDP, 2022).

- **Flora**

  Abo Galum Managed Resource Protected Area (AGMRPA) houses 167 plant species, 44 of these species are seen only in this area. It is a floristic frontier falling under the influence of a tropical climate but having predominantly Mediterranean conditions (Abu Galum Natural Reserve, State Information Service, Egypt).

- **Fauna**

  Ten species of lizards and snakes have been identified in the area where three of them are very dangerous namely the Black Cobra, the Horned Viper and Burton's Carpet Viper (Abu Galum Natural Reserve, State Information Service, Egypt).

  Abu Galum MRPA is known to hold the largest number of mammals common in the Gulf of Aqaba coastal region. Basuony et al. (2010) listed 15 mammalian species in AGMRPA. Among the most important and threatened mammals are, the Nubian Ibex *Capra nubiana* (Endangered), Dorcas Gazelle *Gazella Dorcas* (Vulnerable), Striped Hyena *Hyaena hyaena* (Vulnerable), Blanford's Fox *Vulpes cana* (Vulnerable in the Mediterranean) and Red Fox *Vulpes vulpes*.

**b) Marine Environment**

- **Habitats**

  Different habitats have been identified in marine environment of AGMRPA (Samy & Lizaso, 2011), mainly:

  - Coral reefs;
  - Sea grass meadows;
  - Rocky shores; and
  - Sandy shores.

  ***Coral reefs***

  The reef flat of Abu Galum (MRPA) includes several small depressions and some sand lagoons, its area is covered by dense of different algae species, in addition to including crevices and much bedrock are scattering in them, all these topography act as habitat for several macro benthic species.

  ***Sea grass meadows***

  Five species of seagrasses have been recorded in AGMRPA from 12 species recorded in the Red Sea. The most common species of sea grass present in the PA is *Thalassia hemprichii* (Geneid, 2009).

  ***Rocky shores***

  The rocky shores at Gulf of Aqaba comprise two main types, the exposed rocky and boulder shores. The exposed rocky shores are characterized by flattened horizontal or near horizontal platforms at about sea level. The boulder shores, which resulted from exposure of old coral to severe low tide cause death for small colonies which become boulders with thorny edges and rigid sculpture. The rocky shores provide space and food for algae, mollusks, echinoderms and other different groups of benthic organisms (El-Haddad, 2011).

  ***Sandy Shores***

  The sandy beaches of South Sinai are almost without exception having deposited on top of beach rock, in bays and back reef areas. The nature of

particles forming these beaches differs from one area to another (El-Haddad, 2011). The most common species include echinoderms and sea urchins as well as burrowing bivalve, mollusks and other animals. Holothurian species, polychaetes, other worms and many carnivorous species are commonly found in the sublittoral fringe.

- **Biodiversity**

  El-Sadek et al. (2022) performed a study aiming at monitoring and assessing the status of benthic components of the coral reef ecosystem and the coral-algal interactions in Abu Galum Protected Area. The study was carried out at El-Sokhn site in Abu Galum Protected Area during the period from January to December 2018.

  Nine categories constituted the benthic cover in the study area; hard coral was the main dominant category, followed by turf algae, while the lowest cover was soft coral.

  In all reef zones, *Acropora* was the most abundant coral genera, resulting in the greatest number of interactions with macroalgae that was dominated by *Sargassum*.

  High coral reefs are accompanied by a great diversity of fish that live in or near them. The Park hosts several marine mammals such as the Dugong (*Dugong dugon*) and dolphins, as well as the Green Turtle (*Chelonia mydas*) and the Loggerhead Turtle (*Caretta caretta*) (UNDP, 2022).

## 4.5 Biodiversity Value and Sensitivities

### 4.5.1 Biodiversity Value

The Red Sea with its expansions, Gulf of Aqaba and Gulf of Suez, are quite unique in terms of ecosystems and ecological value of these systems. The Red Sea has an important influence on the coral reef ecology worldwide. As reefs face increasing pressure from global climate change, many authors have suggested that corals in the Red Sea may provide insight into mechanisms of adaptation or tolerance to elevated temperatures (Berumen et al., 2013).

- **Biodiversity value of Ras Mohammed National Park**

  Ras Mohammed National Park is an important ecological, economic, social and cultural asset for Egypt and beyond. The coral reef ecosystems are a key element of the region's economy (Paleczny et al., 2007).

  ***Coral reef value in RMNP***

  The marine environment of PMNP encompasses parts of two distinct marine environments, Gulf of Suez and Gulf of Aqaba. Living hard coral cover is significantly higher in the Red Sea than in the Gulf of Aqaba. At 5m depth hard coral cover ranges from 16-67%, with an average of 45% in the Red Sea and 35% in the Gulf of Aqaba. Soft coral cover averages 10% in the

Gulf of Aqaba. The distribution and development of reef-building corals is restricted in the Gulf of Suez by several factors, including temperature, sediment load, salinity and light penetration. Coral cover averages 16%, although this can be as low as 1% in areas heavily impacted by oil pollution (Paleczny et al., 2007).

RMNP coral ecosystem is very complex, with approximately 350 species of fishes that spend at least part of their life on the reefs), and innumerable species of associated invertebrates, seaweeds, algae, etc. From marine mammals, dolphins pass and feed on fishes of the reef and area. A number of endangered species use this ecosystem, e.g., three species of marine turtles (Green, Loggerhead and Hawksbill). Diversity of shellfish species including top mollusks, e.g., *Lambes* spp., *Strombus* sp., *Tectus* sp., *Trochus* sp. and *Charonia* sp. Other species with ecological and economical value are associated with the coral reef ecosystem and include Sea cucumber *Holothuria fuscogilva* and lobsters.

***Mangroves value in RMNP***

Sinai mangroves have a diverse associated ecosystem of over 114 species including algae, crustaceans, fish, mollusks and insect species. They also provide habitat and food resources for birds. Detritus accumulating and trapped among the respiratory roots support a variety of invertebrates, e.g., Uca *Tabalassuca tetragonon, Dotilla sulcata* and *Balanus amphitrite*.

Mangroves of RMNP is a key species, considered as a good roosting site for migrating White Storks where they accumulate during the migrating season inside the channel at low tide to rest and to feed. Reef heron, Striated heron, Night heron, Slender-billed gull, and Caspian tern breed in the area. Mangrove trees are important supporting habitat that provide feeding grounds and shelter for a range of benthic and pelagic marine animals.

***Seagrass meadows value in RMNP***

One of the most distinctive ecosystems in the RMNP is the sea grass habitat, which supports fish and benthic animal species that are also quite diverse. A lot of fish species use the communities of sea grasses as a place to lay their eggs, nursery grounds, and as a source of food, particularly during the reproductive seasons. Seagrass patches provide important feeding grounds for turtles and dugong.

- **Biodiversity value of Nabq Managed Resource Protected Area**

  ***Coral reef value in NMRPA***

  Coral reefs in NMRPA are extremely rich. Reef profiles, and therefore community structure, are different from reefs in the RMNP. Visibility is often poor as a result of fine sediments washing out of the mangrove area, but this does not detract from the beauty and diversity of the reef. Coral reef habitat provide grounds for a diversity of fish species where 118 fish

species were recorded in coral patches and 91 species from reef flats (Ashworth et al., 2006).

***Mangroves value in NMRPA***

In addition to well-known ecosystem services provided by mangroves, NMRPA mangrove, which is composed of just one species of tree, *Avicennia marina*, is the most northerly in the red sea - Indian Ocean system, it worthy of protection. Mangrove forests play an important role in shoreline protection and are vital as fish breeding and nursery areas. They also support a large resident bird population, as well as providing a rest stop for migratory birds. Of total 112 macrobenthos recorded in NMRPA, mangroves associated macro-benthos were recorded with high diversity, ranging from 39 to 47 species in different sites (Mona et al., 2019).

- **Biodiversity value of Abu Galum Managed Resource Protected Area**

  Abu Galum contains the largest number of Hyrax (*Procavia capensis*), Red Fox (*Vulpes vulpes*), Striped Hyena (*Hyaena hyaena*), and the highlands support the Nubian Ibex (*Capra nubiana*).

  The littoral and marine environment include rocky and sandy beaches, seagrass meadows and coral reefs of high ecological value. The Blue Hole is an important diving hot spot.

- **Ecosystem services**

  Ecosystem services are defined as the benefits that people, including businesses, derive from ecosystems. Ecosystem services are organized into four types: (i) provisioning services, which are the products people obtain from ecosystems such as food, freshwater, timber, fibers and medicinal plants; (ii) regulating services, which are the benefits people obtain from the regulation of ecosystem processes such as surface water purification, carbon storage and sequestration, climate regulation and protection from natural hazards; (iii) cultural services, which are the nonmaterial benefits people obtain from ecosystems and may include natural areas that are sacred sites and areas of importance for recreation and aesthetic enjoyment; and (iv) supporting services, which are the natural processes that maintain the other services.

  Information on the use of ecosystem services were collected during the field visit carried out in January 2023 through meetings with protected areas' staff and local communities.

  Local Bedouin communities at Nabq and Abu Galum benefit from several ecosystem services provided by the area. Fishing is an important source of food and income, and the area provides grazing grounds for their livestock. There is a limited use of groundwater wells for drinking purposes, as potable water is regularly trucked to local communities. Moreover, no agricultural activities are performed in the area.

Moreover, the protected areas have an important recreational and cultural value (including educational, scientific and research value). Ecotourism constitutes a significant source of income for local Bedouins who organize Bedouin dinners, desert safaris and boat trips for tourists. Further details on local communities' activities are provided in Section 4.6.5.

The following table 5 provides a list of the most evident ecosystem services, as relevant to the present project, organized according to the four main service categories.

**Table 5: Relevant ecosystem services of the project area**

| Service categories | Relevant ecosystem service | Service supplier | Description |
|---|---|---|---|
| Provisioning services | Food for human consumption | Fish | Fishing activities are performed by local Bedouins in Nabq and Abu Galum. Fishing is also allowed in Ras Mohamed, 500 m away from the reef. |
| | Food for livestock | Vegetation | Grazing occurs in protected areas but this is a limited activity. |
| | Potable water | Groundwater wells | There is one groundwater well in Nabq |
| Regulating services | Regulation of pests | Predators | Local insectivore birds, bats, birds of prey and carnivore mammals contribute to the natural control of pest insects and rodents. |
| | Pollination | Insects | Insects and other invertebrate fauna present onsite play an important role in transferring pollen from male to female flower parts. |
| | Seed dispersion | Birds | Birds distribute onsite plant seeds in several ways, such as seeds attached to their feathers, carried in their beaks or claws, during feeding or through their droppings. |
| | Regulation of natural hazards | Wadis | Maintenance of wadis' natural flow reduce the damage caused by flash floods |
| Cultural services | Recreation and ecotourism | - Sharm El Sheikh beaches<br>- Protected areas | The floral and faunal diversity, the aesthetic value as well as the marine environment represent an attractive site for locals, Egyptians, and foreign visitors. |
| | Education and research | Protected areas | Protected areas area important assets for national and international researchers |
| Supporting services | Habitats | Protected areas | Include a variety of terrestrial, coastal and marine habitats of great ecological value. |

| Service categories | Relevant ecosystem service | Service supplier | Description |
|---|---|---|---|
| | Nutrient cycling | Natural vegetation and soil | The site vegetation contributes to the transfer of nitrogen and other nutrients from plants to soil, to the atmosphere, and from the atmosphere again to plants. |
| | Primary production | Vegetation | Plants transform sunlight and nutrients into biomass, thereby forming the base of the food chain in the ecosystem. |
| | Water cycling | Flow of water through ecosystems in its solid, liquid, or gaseous forms | Transfer of water from soil to plants, plants to air, and air to rain |

The above-mentioned relevant ecosystem services have been prioritized by identifying which of the relevant ecosystem services, if altered, could affect the livelihoods, health, safety, or culture of their beneficiaries.

Where a project is likely to adversely impact ecosystem services, as determined by the risks and impacts identification process, a systematic review to identify priority ecosystem services shall be conducted. Priority ecosystem services are two-fold:

1. Those services on which project operations are most likely to have an impact and, therefore, which result in adverse impacts to affected communities; and/or
2. Those services on which the project is directly dependent for its operations (not applicable to the Green Sharm Project).

In this respect, a rapid assessment on priority ecosystem services has been carried out using the Ecosystem Service Review (ESR) Methodology proposed by Landsberg *et al*. (2013), adapted and tailored to the present ESIA.

The following decision tree is used to prioritize the identified ecosystem services according to potential project impacts on beneficiaries (**Figure 14**).

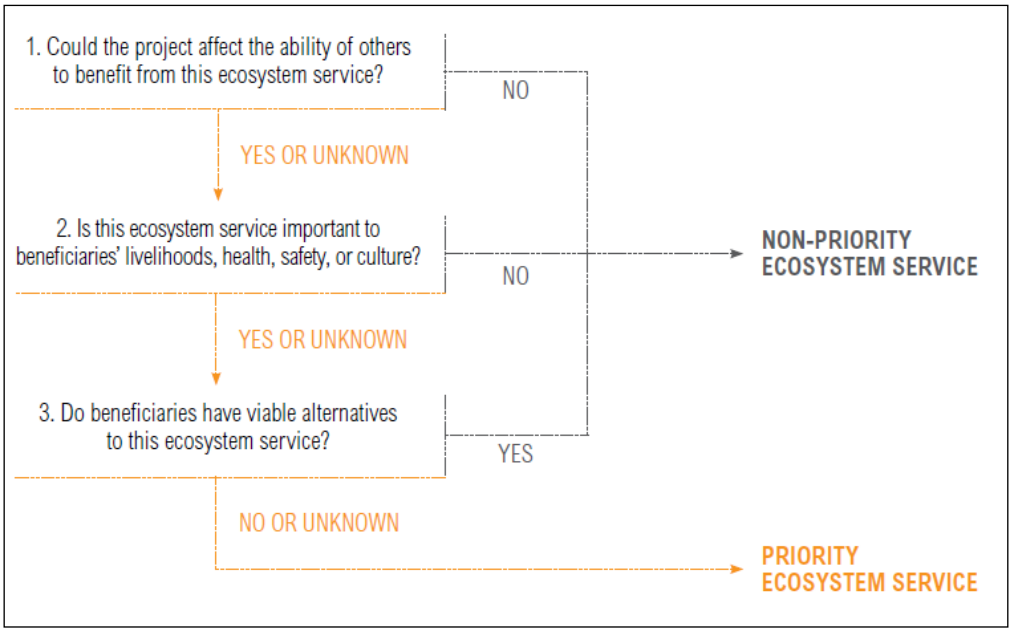


**Figure 14: Decision tree to prioritize relevant ecosystem services according to potential project impacts on beneficiaries (Landsberg et al., 2013)**

The impact prioritization spreadsheet systematically answers the three impact prioritization questions for each relevant service and automatically identifies the priority ecosystem services (**Table 6**). The spreadsheet allows prioritizing ecosystem services on a benefit-by-benefit basis following the logic that ecosystem services do not equally contribute to livelihoods, health, safety, or culture.

**Table 6: Identification of priority ecosystem services**

| Identified relevant ecosystem services | | | | 1. Could the project affect the ability of others to benefit from this ecosystem service? | 2. Is this ecosystem service important to beneficiaries' livelihoods, health, safety, or culture? | 3. Do beneficiaries have viable alternatives to this ecosystem service? | Priority ecosystem services |
|---|---|---|---|---|---|---|---|
| **Relevant ecosystem services** | **Key resource providing the service** | **Potentially affected beneficiaries** | **Potentially affected benefits** | | | | |
| **Provisioning services** | | | | | | | |
| Fish for human consumption | Marine fisheries | Local Bedouin communities at Nabq and Abu Galum. | - Food resources<br>- Income | Yes; Bedouin relocation or forbidding fishing could affect Bedouins' livelihoods. | Yes; it is an important source of food and income for local communities. | No; relocation far from the sea will affect the Bedouins' fishing activities | Yes |
| Food for livestock | Protected areas' vegetation | Herders at Nabq and Abu Galum | - Food resources<br>- Income | Unknown | No; grazing is an activity of limited importance for locals. | -- | No |
| Potable water | Groundwater well at Nabq | Local community | - Health<br>- Income | Unknown | No; potable water is trucked to local communities who do not rely on groundwater wells for drinking. | -- | No |
| **Regulating services** | | | | | | | |
| Regulation of pests | Predators in protected areas | - National regulators<br>- Local Bedouin communities | - National income<br>- Crop and livestock pests and diseases | No | -- | -- | No |
| Pollination | Insects in protected areas | - National regulators<br>- Local Bedouin communities | - Plants' reproduction and genetic diversity<br>- Provision of food and habitat for animal species | No | -- | -- | No |
| Seed dispersion | Birds | - National regulators<br>- Local Bedouin communities | Survival of plant species | No | -- | -- | No |

| Identified relevant ecosystem services | | | | 1. Could the project affect the ability of others to benefit from this ecosystem service? | 2. Is this ecosystem service important to beneficiaries' livelihoods, health, safety, or culture? | 3. Do beneficiaries have viable alternatives to this ecosystem service? | Priority ecosystem services |
|---|---|---|---|---|---|---|---|
| **Relevant ecosystem services** | **Key resource providing the service** | **Potentially affected beneficiaries** | **Potentially affected benefits** | | | | |
| Regulation of natural hazards | Wadis natural geomorphology | - Government<br>- Local communities | - Impacts on infrastructure<br>- Potential loss of lives | No | -- | -- | No |
| **Cultural services** | | | | | | | |
| Recreation and ecotourism | - Sharm El Sheikh beaches<br>- Protected areas | - National and international visitors<br>- Local Bedouin community | - Income for Bedouins<br>- Leisure for tourists<br>- Ecological awareness | Yes, relocation could affect Bedouins' service provisions for tourists. | Yes; ecotourism is an important source of income for local Bedouins who organize Bedouin dinners, desert safaris and boat trips for tourists. | No; local Bedouins rely on their presence in Nabq and Abu Galum to provide these services. | Yes |
| Research and education | Protected areas | - National and international scientific community | Scientific research | No | -- | -- | No |
| **Supporting services** | | | | | | | |
| Habitats | Project area | NA | Ecosystem functions | No | -- | -- | No |
| Nutrient cycling | Site vegetation and soil | NA | | No | -- | -- | No |
| Primary production | Site vegetation | NA | | No | -- | -- | No |
| Water cycling | Natural ecosystems | NA | | No | -- | -- | No |

The impact prioritization spreadsheet indicates that two of the relevant services provided by the ecosystem can be considered as priority ecosystem services; these are:

- Fish from marine fisheries (provisioning services); and
- Recreation and ecotourism (cultural services).

In fact, fishing is an important source of food and income for local communities and potential fishing ban could affect Bedouins' livelihoods. Similarly, ecotourism is an important source of income for local Bedouins who organize Bedouin dinners, desert safaris and boat trips for tourists. Accordingly, relocation could Bedouins who rely on their presence in Nabq and Abu Galum to provide these services.

### 4.5.2 Ecological Sensitivities

In addition to coral reefs and mangroves, sensitivities include:

- **Spawning ground in Ras Mohammed National Park**
  One of the main spawning grounds in RMNP is "Jackfish Alley". The main plateau in Jackfish Alley contains very rich coral reef communities with associated invertebrates and algal coverage which support the feeding needs of the fishes spawning in the site. The main common fish species using this spawning ground is the Spangled Emperor (*Lethrinus nebulosus*).

- **Important Bird Areas (IBAs) within the project area**
  The focus area of Green Sharm project encompasses two IBAs, namely, Ras Mohammed National Park and Nabq Protected Area. **Figure 15** shows the IBAs within the project area and surroundings.

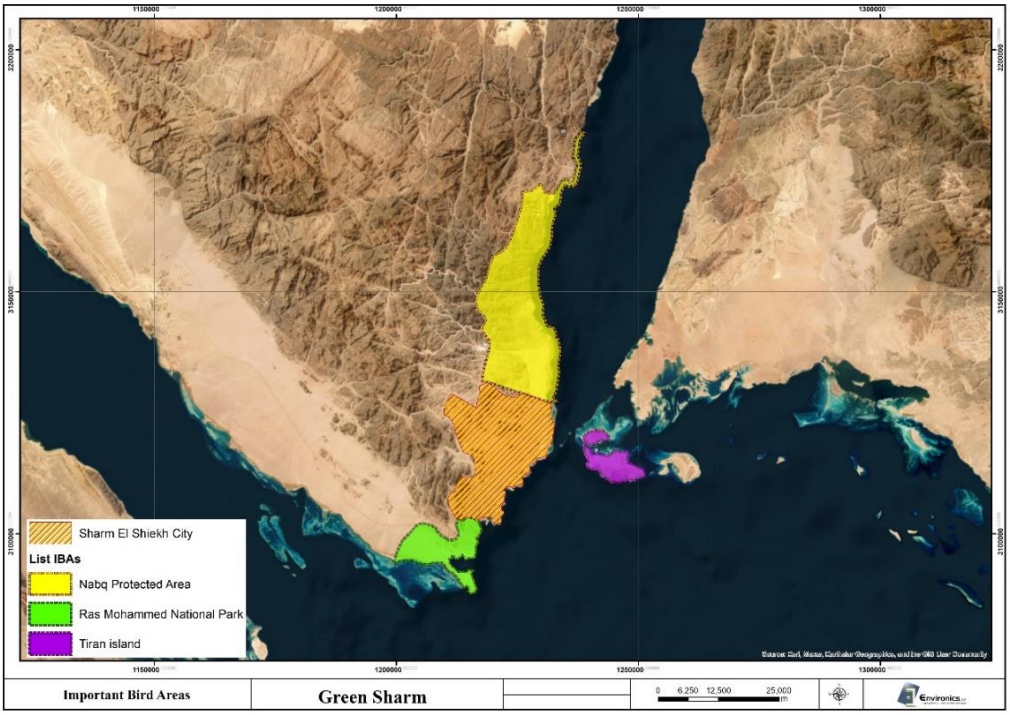


**Figure 15: Important Bird Areas (IBAs) within the project focus area**

### *Ras Mohammed National Park IBA*

Ras Mohammed's primary importance is as a bottleneck for migratory soaring birds, which concentrate in the area in large numbers and regularly stop to rest. White stork (*Ciconia Ciconia*) is the most numerous and prominent soaring bird occurring at Ras Mohammed. In autumn, birds of this species tend to concentrate in southern Sinai, where huge flocks build up at Ras Mohammed. A total of 275,743 individuals was counted over 27 days in August and September 1998, but the actual number of birds passing through was estimated to be 390,000–470,000. Many of the birds congregating in the area descend to rest on the sandy beaches, particularly on the western side of the peninsula, overlooking the Gulf of Suez. Smaller numbers also rest on higher ground in the surrounding desert. An estimated daily average of 12,000 birds' rests at Ras Mohammed during peak autumn migration.

Other prominent migrants concentrating at Ras Mohammed regularly include *Pelecanus onocrotalus, Ciconia nigra, Milvus migrans, Buteo buteo and Accipiter brevipes.* Spring migration is much less pronounced, and no significant concentrations have been noted. Notable breeding species include *Egretta gularis,* Sooty falcon *Falco concolor,* Osprey *Pandion haliaetus* and Kentish plover *Charadrius alexandrines* (BirdLife International, 2022a).

### *Nabq Protected Area IBA*

This IBA is represented by the desert habitats of the NMRPA. It supports a significant number of Saharo–Sindian biome-restricted species. The mangroves of Shorat El Manqata are of special importance for breeding waterbirds in the Gulf of Aqaba region. Eurasian spoonbill *Platalea leucorodia,*

Striated heron *Butorides striatus,* Western reef heron *Egretta gularis and* Osprey *Pandion haliaetus* have all been found breeding in this mangrove stand. In April 1990, a single Slender-billed Curlew (*Numenius tenuirostris*) was reported from the Nabq area (BirdLife International, 2022b).

## 4.6 Socio-economic and Cultural Environment

### 4.6.1 Administrative Context

The project area, including Sharm El Sheikh City and neighboring protected areas are located within three main administrative sectors: Kism Awal Sharm El Sheikh (Sharm El Sheikh 1), Kism Thani Sharm El Sheikh (Sharm El Sheikh 2), and Kism Dahab (Dahab City). Figure 16 shows the different administrative sectors of South Sinai Governorate in regards of the project area.

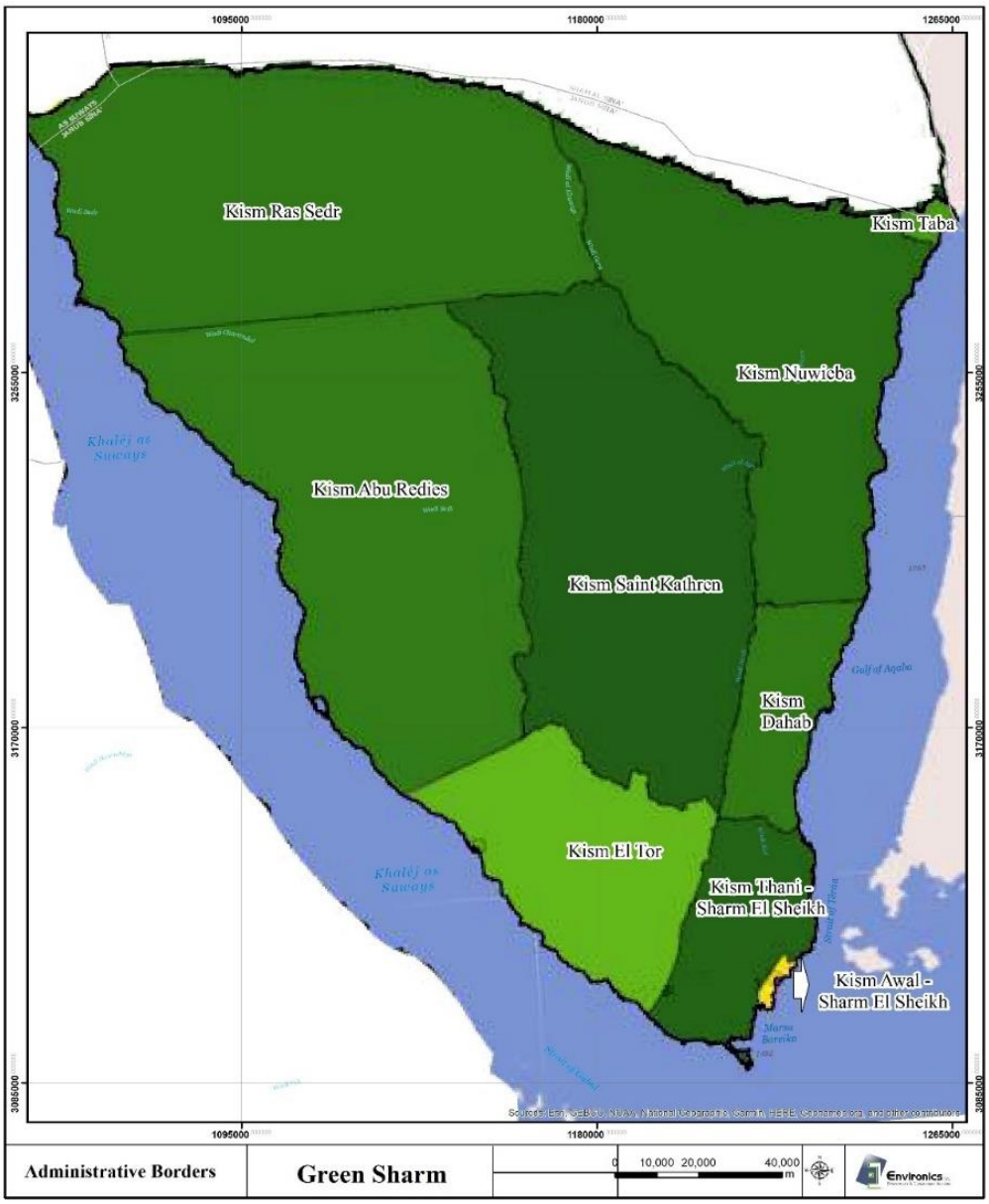


**Figure 16: Administrative sectors of South Sinai Governorate**

### 4.6.2 Demographic Profile

#### a) Population Size

Sharm El Sheikh metropolitan city occupies an area of 42 km$^2$, including Nabq Bay, Ras Nasrani, Naama Bay, Umm Sid, Sharm El Maya, Hay El Nour, Hadaba, Rowaysat, Montazah and Shark's Bay. Total resident population of Sharm El Sheikh city is 75,000 individuals, making a total of 90,000 with its neighboring city Dahab (pop. 15,000) (Project document, GEF).

#### b) Gender ratio and distribution

**Table 7** summarizes estimated population, gender ratio, and urbanization ratio in the different administrative sectors. The percentage of males is slightly higher[3] than females in both throughout the administrative sectors of the project area.

**Table 7: Administrative sectors of the project area with population estimates, gender ratio and urbanization ration**

| Administrative sector | Population (2021) | Gender ratio % (2017) | | Urbanization ratio % (2017) | |
|---|---|---|---|---|---|
| | | Male | Female | Urban | Rural |
| Kism Awal - Sharm El Sheikh | 13,561 | 54 | 46 | 100 | ---- |
| Kism Thani - Sharm El Sheikh | 1,532 | 53 | 47 | 35 | 65 |
| Kism Dahab | 3,106 | 52 | 48 | 30 | 70 |
| **Total population** | **18,199** | | | | |

Source: cited by citypopulation.de from CAPMAS

It should be noted that the GEF estimates the population of Sharm El Sheikh at 75,000 individuals, which is much more than what is reported in the table above (CAPMAS, 2017). This difference is probably due to the fact that the GEF probably considers the total number of residents (official and unofficial) including expatriates and people from other governorates (whose IDs indicate them as resident in their governorate of origin), while CAPMAS counts official registered residents only.

#### c) Households

The most recent population statistics for the project area are available from CAPMAS[4] (2017). The average size and number of households in the three administrative sectors of the project area are shown in **Table 8**. The household size in Kism Dahab sector, including Dahab City, is higher than the average household size in the other administrative sectors.

[3] Probably due to workers from outside the city.

[4] CAPMAS: Central Agency for Public Mobilization and Statistics, Egypt.

**Table 8: Number and average size of households as well as number of public housing unit within the administrative sectors of the project area.**

| Administrative sector | No. of Households | Average Household Size (Ind.) | No. of public housing units |
|---|---|---|---|
| Kism Awal - Sharm El Sheikh | 3,608 | 3.76 | 59 |
| Kism Thani - Sharm El Sheikh | 410 | 3.74 | 14 |
| Kism Dahab | 763 | 4.07 | 27 |
| Total | 4,781 | 4 | 100 |

### d) Age composition

Age composition, or age distribution, within the project area is presented in **Figure 17**. According to CAPMAS (2017), about 57% of the project area population fell in the age group from 0 to 20 years old. Moreover, less proportion of the population were in the working-age, with roughly 42% of the total population falling in the age group. However, recent statistics of age composition for the year 2022 show close estimates of individuals per age group.

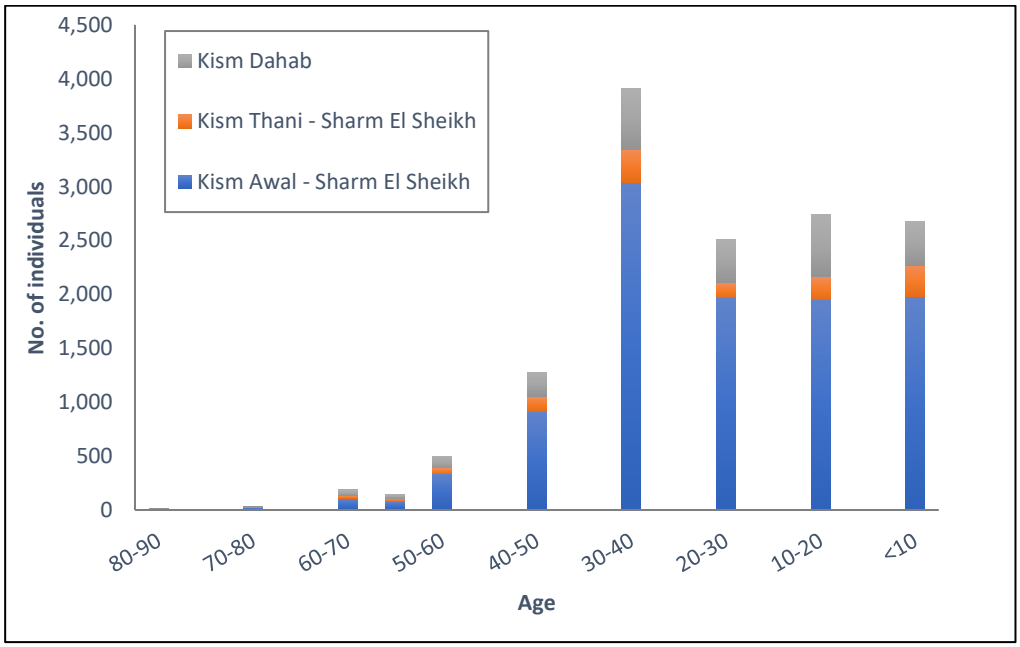


**Figure 17: Age distribution among population in the project area**

### e) Education and Literacy Rates

According to CAPMAS (2017), about 60 % of the population in the project area have completed secondary education or University degrees. Limited percentage of the population (10%) are totally illiterate with no ability to read and write. However, about a quarter of the population are able to read and write without finishing school education, i.e., have no educational certification or have obtained primary or preparatory school certification (**Figure 18**).

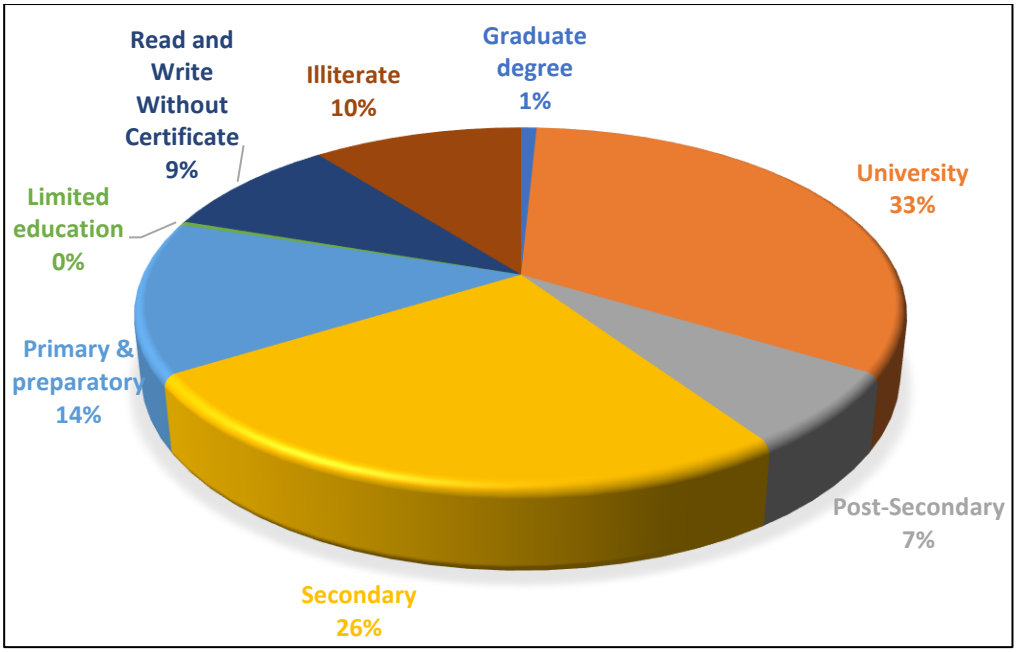


**Figure 18: Education and literacy rates within the administrative sectors covering the project area**

### 4.6.3 Economic Profile

#### a) Employment

Within the project area, the administrative sector of Kism Awal – Sharm El Sheikh, encompasses the highest number of establishments (3,300 public and private sector establishment) with 21,035 workers. The two other sectors have less employed persons and number of establishments, 2,310 persons in 475 establishment and 1,916 persons in 428 establishment in Kism Dahab and Kism Thani - Sharm El Sheikh, respectively (**Table 9**).

**Table 9: Employment within the project area**

| Administrative sector | No. of employed personnel | No. of establishments |
|---|---|---|
| Kism Awal – Sharm El Sheikh | 21,035 | 3,300 |
| Kism Thani – Sharm El Sheikh | 1,916 | 428 |
| Kism Dahab | 2,310 | 475 |
| Total | 25,261 | 4,203 |

The table indicates that the number of employed personnel is higher than the population. Again, this is probably due to the fact that large part of the workforce is not composed of locals and are registered in other governorates.

#### b) Types of Economic Activities

Information is available from different governmental organizations for the whole governorate with no detailed data available for administrative

sectors covering the project area. The main economic activities throughout South Sinai Governorate are shown in **Figure 19** which include tourism-related activities, manufacturing and Wholesale and retail trade in addition to other economic activities with less contribution to employment.

- **Tourism and tourism-related activities**
  Tourism and tourism related activities are the major economic activities within the project area. Throughout South Sinai Governorate, tourism-related activities provide about 30 % of employment opportunities. These activities mainly include accommodation and food and beverage services provided by hotels and restaurants.

  As a matter of fact, Egypt has put a lot of efforts to develop tourism in the country especially in Sharm El Sheikh, which resulted in an increase in direct contribution in GDP from 6.1% in 2011 to 11.9% in 2018, reaching a USD 12.2 billion in terms of tourist spending. Due to the successful development in Sharm El Sheikh, there are more job opportunities, and Sharm El Sheikh became very attractive for Egyptians living outside Sharm El Sheikh (Suddhoo, 2019).

  Sharm El Sheikh City is the most crowded touristic destination within the project area compared to other touristic areas like Dahab. The number of overnight stays in Sharm El Sheikh City during 2019 reached approximately 1 million overnight stays. Sharm El-Sheikh also provides various conference and large meeting facilities, which serve as highly attractive multipurpose destinations for conference tourists and businesspeople alike. Construction of a causeway is being considered between Saudi Arabia and Egypt, approximately 10 km north of the city of Sharm El Sheikh, would be transformational for the South Sinai, by opening a new trade route and by increasing access to Sharm El Sheikh by Saudi tourists.

  Sharm El-Sheikh city is a main center of tourism action in Sinai Peninsula and has the world top diving and shipwreck sites that attract both advanced and recreational divers from around the world. In 2020, Sharm El Sheik included more than 15% of the total number of hotels in Egypt (183 out of 1168 hotels), and more than 25% of total rooms capacity (51,695 out of 205,770 rooms), and it was targeted to add another 8,000 by the beginning of 2021 (The Egyptian Hotel Association, 2020).

  On the other hand, according to Tourism Development Authority, Nabq area encompasses a total number of rooms in certified hotels is 33,862 room in addition to 4,231 certified tourist housing unit (TDA, 2023).

  Regarding the tourism impact on the protected areas within the project area, it can be concluded that tourism development and touristic

activities have noticeable impacts on the PAs based on interviews with PA managers and staff during field visit. For RMNP, two of the main issues for the park were: (1) The new introduced marine activities such as DSD (Discovery Scuba Divining) and other water sports activities and, (2) Pressures from tourism developers to allocate areas from the PA. For NMRPA, the PA management pointed out that the PA has some development related to the visitor center and pilot project to develop ecolodge in the Mountain area.

- **Wholesale and retail trade**
  Wholesale and retail trade is the most contributing economic activity with the highest number of workers (32 % of total workforce) throughout South Sinai Governorate. It is likely to present the second economic activity to provide jobs within the project area, particularly in Sharm El Sheikh metropolitan area.

- **Manufacturing**
  Manufacturing is one of the main economic activities in South Sinai governorate with contribution of about 8 % of workforce. Main industries include non-metallic mineral products, food, beverages, textiles, and furniture.

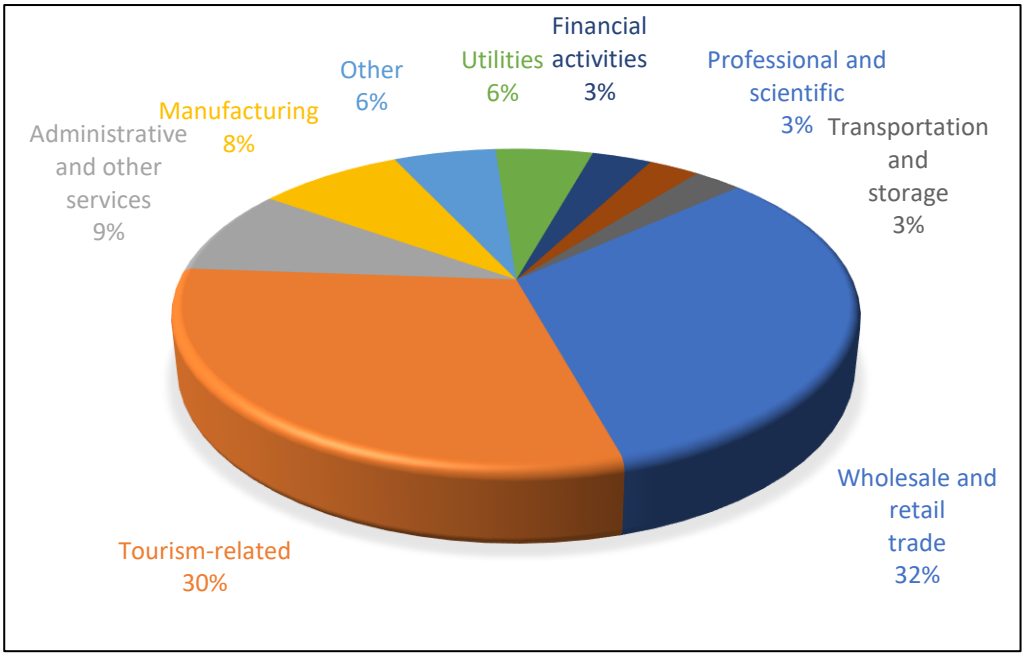


**Figure 19: Economic activities in South Sinai Governorate**
Source: CAPMAS (2017)

### 4.6.4 Infrastructure, Utilities and Services

#### a) Potable Water

According to Population, Housing and Establishment Census, CAPMAS 2017, almost all individuals in the project area have access to some source(s) of potable water (**Table 10**). The public network provides about

2-3% of individuals in the project area with potable water, while the rest obtain potable water from other sources. Although the public drinking water network covers a large part of the project area, bottled water is the main source of potable water for the majority of individuals due to the low suitability of desalinated water for drinking purposes. However, although groundwater from wells is not considered overall an important source of potable water, it still represents the other major source of potable water in Kism Dahab, especially for Bedouins.

**Table 10: Different sources of potable water and Numbers of individuals with access to potable water**

| Administrative sector | Total number of individuals with access to potable water | Source | | |
|---|---|---|---|---|
| | | Public network | Other (Bottled, rain or ground water) | |
| | | | No. of individuals with access | Major (other) source |
| Kism Awal - Sharm El Sheikh | 13,582 | 354 | 13,228 | Bottled water |
| Kism Thani - Sharm El Sheikh | 1,443 | 4 | 1,439 | Bottled water |
| Kism Dahab | 2,949 | 66 | 2,883 | Bottled water, Wells |
| Total | 17,974 | 424 | 17,550 | |

Source: CAPMAS (2017)

## b) Sewage System

Sewage collecting within the project area is achieved through public network, private networks, cesspits or, less commonly, open field disposal. In urbanized areas, e.g., Kism Awal - Sharm El Sheikh and Kism Dahab, the public network covers the majority of, if not the whole, the area. Other disposal modes, e.g., private networks and cesspits are more widely used in less urbanized areas (**Table 11**).

**Table 11: Sewage facility coverage within the project area**

| Administrative sector | Total number of individuals with access to sewage facility | Sewage facility (disposal mode) | | |
|---|---|---|---|---|
| | | Public network | Other (private network, cesspit or open field) | |
| | | | No. of individuals with access | Major (other) sewage facility |
| Kism Awal - Sharm El Sheikh | 13,582 | 11,643 | 1,939 | Cesspit |
| Kism Thani - Sharm El Sheikh | 1,443 | 488 | 955 | Private network |
| Kism Dahab | 2,949 | 2,827 | 122 | Cesspit |
| Total | 17,974 | 14,958 | 3,016 | |

Source: CAPMAS (2017)

**c) Electricity Network**

Almost all households within the project area are covered by the public electricity network. The other main source for electricity is the electric generators of which less than 3% of the electricity is obtained within the project area.

**d) Municipal Waste Management**

Annual report for solid waste management (NSWMP[5], 2013) provides attributes of municipal solid waste management, including quantities of waste generated, waste collection coverage and final disposal (**Table 12**). However, according to Green Sharm project document, GEF, 2018, 5 contracts were issued in 2018 by the municipal government private waste collecting companies that cover the city's residential and hotel areas in 5 blocks. Currently the waste collection rate is said to be at 89%. Inadequate collection in some non-touristic areas that emphasize needs for managed collecting system and disposal sites.

**Table 12: Municipal waste management parameters within the project area**

| Parameter | Value | Comment |
|---|---|---|
| Daily generated municipal solid waste in 2012 | 500 ton | About 100 ton from Sharm El Sheikh City (Green Sharm project document, GEF, 2018) |
| waste collection coverage % | 80 | Increased to 89 % in 2018 |
| Accumulated solid waste in the Governorate | 512,000 ton | |
| Number of plants | 1 | Location: Sharm El Sheikh |
| Efficiency | 60% | |
| Number of final disposal sites | 6 | Uncontrolled dumping |

- **Waste disposal site**

  Sharm El Sheikh City's solid waste is disposed of at Al Khanassir area approximately 15 km from downtown Sharm El Sheikh. Waste disposal areas are well defined, though active and abandoned waste areas now cover 200 hectares. The waste areas overlap a broad streambed encased between two peaks over 600 meters, with a drop from 350 m (where constructions are found) to 300 m next to the sorting and composting units to the Southeast. They are thus susceptible to erosion and transport to the Red Sea in the event of significant rainfall.

  No known waste collection or waste disposal sites within Abu Galum Managed Resource Protected Area as discussed during field visit with local community of Abu Galum. They raised the solid waste issue, mentioning that the existing landfill do not comply with requirements.

[5] NSWMP: National Solid Waste Management Program

**e) Public Health**

According to Egypt in Figures, CAPMAS (2021), number of health units with beds in South Sinai Governorate during 2019 was 8 public and 1 private unit with a total of 1,085 beds. The number of patients in outpatient clinic and reception of public and central hospitals was 573,172 during 2019. The total number of Frist Aid centers was 38 centers throughout the Governorate.

**f) Roads and Transportation**

The main trunk road runs from the port to the airport over a distance of 20 km and is maintained by the Roads and Bridges Department. The Sinai Reconstruction Authority (SRA) maintains the access roads to many of the tourist areas. The municipality also maintains some roads but many, particularly in the souk area, are in poor condition. A new road has been constructed about three kilometers inland at the back of the town to serve as a by-pass road to Naama Bay from the south of the town. Sinai Reconstruction Authority proposed to construct about 40km of access roads to open up land for development. Much private road development is also taking place (Borhan et al., 2003).

Public transport in Sharm El Sheikh city is mainly based on private taxis and shuttle buses operated by hotels. The city does not operate bus routes although over 20 bus stations for public transportation (air-conditioned with Wi-Fi and monitors) were implemented (UNDP, 2022). The city has also established a cycling route along the El Salam Road to encourage transportation alternatives.

### 4.6.5 Local Bedouins' Context

There are Bedouin communities along the coastal stretch where the project will work. They are involved in tourism activities in protected areas since Bedouin-style establishments can offer an important kind of diversity to the South Sinai tourism mix and can be combined with cultural and nature-oriented activities. Certainly, the Bedouin's local knowledge of the natural attractions of the coast and inland desert is an important asset, which should be promoted. Also, Bedouin communities are involved in fishing activities. Bedouin community will be beneficiaries of the project and hence be involved in the design and implementation of the project's site-level components (South Sinai Environmental action plan, EEAA, 2013).

**a) Bedouin Tribes**

In South Sinai, there are 12 Bedouin tribes with an estimated population of 22,000 (South Sinai Environmental action plan, EEAA, 2013).

**Bedouins in RMNP**

There is no local population at RMNP, as opposed to the other South Sinai Protectorates, NMRPA and AGMRPA, which include Bedouin populations. In the past, local communities from Bedouin populations included 8 tribes

that used Ras Mohamed area for fishing and grazing and some tourism activities. Local Bedouin fishermen are controlled by the park rangers if they enter the area. Fishing by trolling is allowed 500 m away from the reef edge. Camels left free for grazing, as a traditional right, may affect the natural vegetation (Acacia and bushes) in particular when the dry season is lasting numerous years (EEAA, 2006).

**Bedouins in NMRPA**

Approximately 366 Bedouin from the El Meziena tribe live within NMRPA, based in five settlements: Khriza, Gharqana, Abu Tolihat, Minhur Al Najat, and Shorft El Maraghi. There is significant Bedouin involvement in tourism, but few Bedouins are employed in hotels or related businesses. Most of the families in Gharqana are involved in fishing or tourism. Artisanal fishing by Bedouins is permitted using traditional methods. Khariza and Shorafa are inland, and its inhabitants contribute to tourism activities by organizing camel safaris and Bedouin dinners

The Government represented in the PA management is planning to upgrade the Gharqana village this includes:

- moving the village few meters (100-300m) back from the shore setback, and
- developing unified designs that comply with the environment and local community culture.

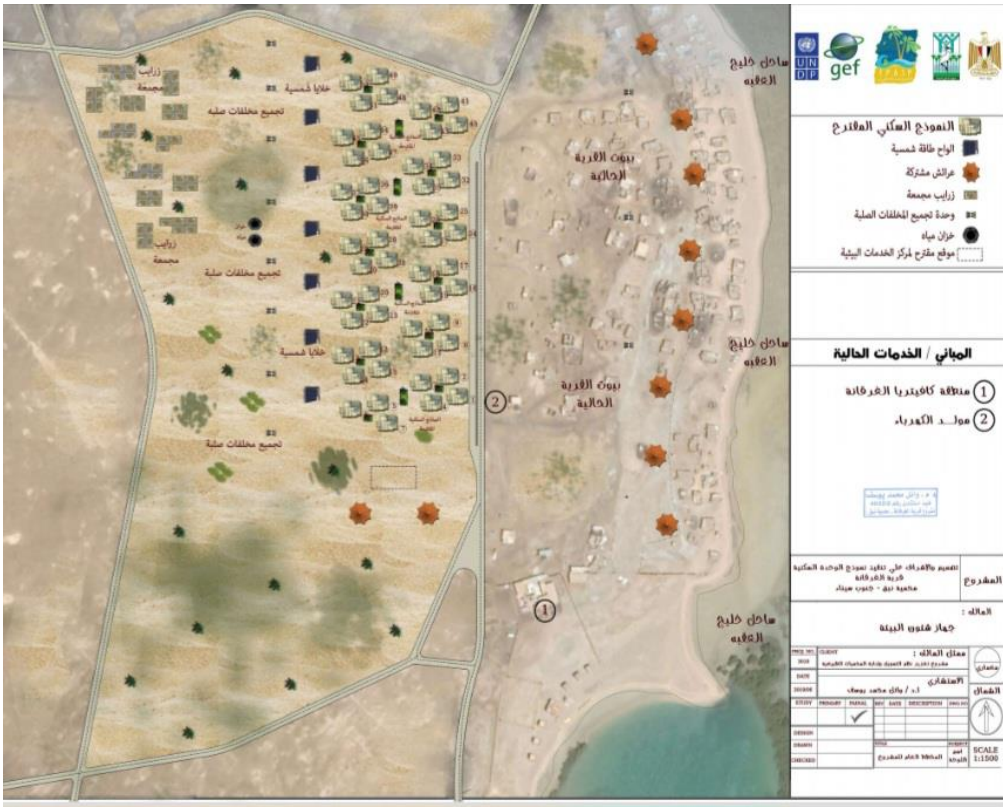


**Figure 20 Existing Gharqana village and proposed areas for moving**

When conducting the field visit and meeting with community representatives, most of them understand and support the idea of moving out of the Gharqana area as per the PA management directives. They also appreciate the protected area management efforts to keep and maintain the area in near pristine conditions that support their life and protect their identity. Recently, with the promotion of environmental protection and COP27, public awareness has greatly improved. Most of community members understand the importance of nature protection and have basic knowledge of the relevant laws and regulations.

Green Sharm project does not include any activities related to the mentioned development of Gharqana

**Bedouins in AGMRPA**

Abu Galum is used by approximately 250 to 300 Bedouins (approximately 35 families) that live mainly in two villages, Al-Dahaylla and Bir Al Rasasa, as well as in urban areas in Nuweiba and Dahab. Fishermen from Nuweiba and Dahab practice artisanal fishery at Abu Galum relying on the reefs. Individual fishing is common in Dahab and performed particularly by Bedouins (El Meziena tribe) using gillnets, trammel nets, harpoons, and spears (UNDP, 2022; Mabrouk, 2007).

Around the Blue Hole, economic activities mainly include Bedouins' cafes and restaurants. Bedouins provide camels or small traditional boats to move to Al-Dahaylla beach in Abu Galum which is located 5.5 km north of the Blue Hole through camel ride, or 4.5 km by boat (Mabrouk, 2007).

**b) Settlements**

In Nabq PA, the two main settlements are called Gharqana and Khriza villages and inhabited by Bedouin families. The Bedouins of these two villages used to move between the two settlements which are 9 km far. The other Bedouin settlement are called Abu Tolihat, Minhur Al Najat, and Shorft El Maraghi at the western boarder of Nabq protected area (Mabrouk, 2007).

All the Bedouin settlements in Nabq are involved in tourism activities in a way or another. Male Bedouins from El Gharqana Village are fishermen, with a total catch of 2,000- 4,000 kg/year. Fish is sold to restaurants to provide food for the tourists. They also catch octopuses and other mollusks, but this is usually for their own consumption. Bedouins also work in touristic establishments, such as restaurants. The girls are responsible for herding (Mabrouk, 2007).

### 4.6.6 Cultural Heritage and Archaeology

The archaeology and heritage of South Sinai is rich and varied. The most famous archeological site is St Catherine's Monastery, included in the UNESCO World Heritage List in 2002 (Saint Catherine Area, World Heritage Site). Several

archeological sites are distributed throughout South Sinai including the project area, but the archaeology and heritage of the coastal areas was never surveyed systematically until recently (**Figure 21**). As in the High Mountains, many of the coastal sites are under significant threat, but they do not enjoy the same level of recognition and protection (Tews et al., 2022).

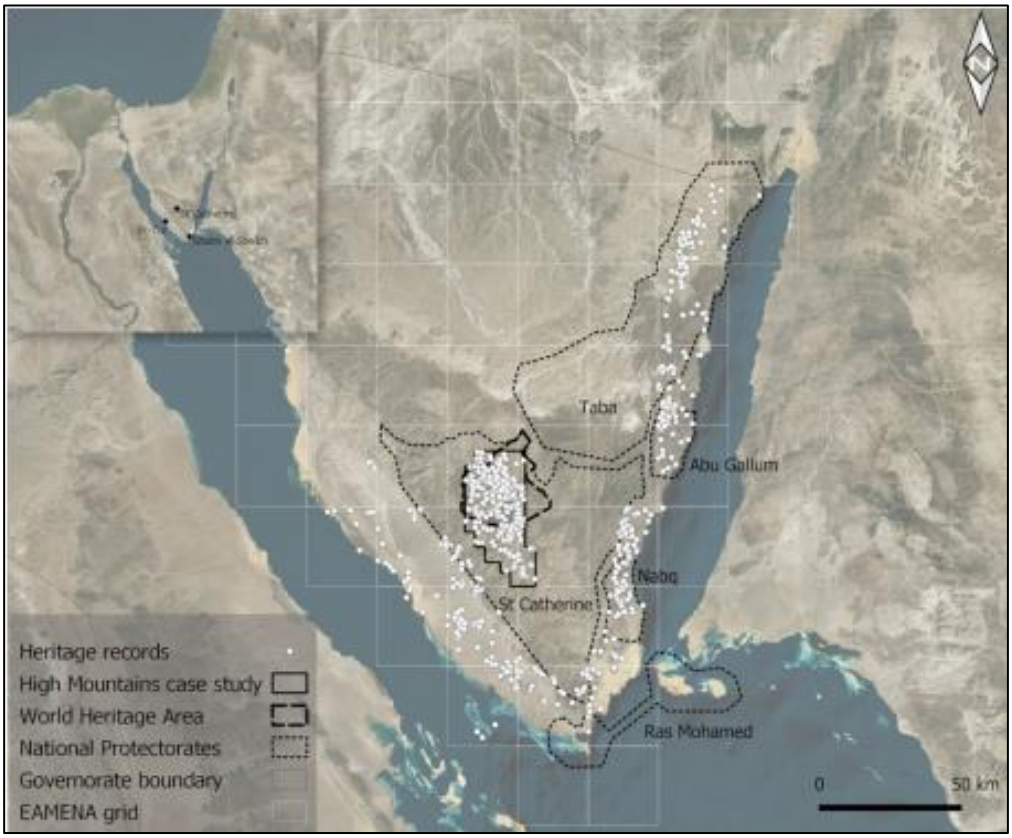


**Figure 21: Heritage places nearby and within the project area**
Source: Tews et al. (2022)

# 5. Assessment of Risks and Impacts

## 5.1 Impact Assessment Methodology

This chapter provides an assessment of potential environmental and social risks and impacts for the proposed Project. As per the UNDP requirements, the project underwent an initial Social and Environmental Screening Procedure (SESP) where a number of SES-related risks were identified. The scope of assessment covers project component 3, outputs, outcomes and activities.

The purpose of this ESIA is to identify the potential positive and adverse environmental and socio- economic impacts that may arise as a consequence of undertaking the respective project activities, identify the measures to be used to manage, mitigate, and monitor the impact of those effects, and to assess the residual impact following mitigation. Impacts are to be assessed using the environmental and social baseline conditions as a point of departure.

The potential impact of any activity will depend on the nature, location and specific mode of activity by the given project implementor.

Associated mitigation and management measures, for the identified potential risks and impacts, are presented in Section 6 of this ESIA report, with further thematic specific proposed environmental and social mitigation/management measures.

An impact is essentially any change to a resource or receptor brought about by the presence of a Project component or by the execution of a Project-related activity.

For this ESIA report, the assessment of risks and impacts will proceed through a systematic process considering the following key elements:

4. identified SES-related risks. The assessment relies on the identified risks in the ESMF based on the project's general activities. Prediction of potential impacts and their magnitude (i.e., the consequences of the development on the natural and social environment);
5. Evaluation of the importance (or significance) of potential impacts taking the sensitivity of the environmental resources or human receptors into account; and
6. Development of mitigation measures to avoid, reduce or manage the potential impacts or enhancement measures to increase positive impacts.

## 5.2 Assessment of Significance

Impacts are defined based on the following:

- Nature of impact: positive or negative;
- Type of impact: direct, indirect, or cumulative;
- Duration of impact: temporary, short-term, medium and long-term; and
- Scale of impact: onsite, local, regional, national, international.

In adhering to international best practice, this ESIA establishes a 'significance' level for each identified risk/impact. Criteria for assessing the significance of impacts will stem from the following key elements:

- Status of **compliance** with relevant host country legislation (i.e., Republic of Egypt), UNDP SES standards/requirements, as well as international best practice standards and guidelines;
- The **magnitude** (including nature, scale and duration) of the change to the natural or socio- economic environment, expressed, wherever practicable, in quantitative terms. The magnitude of all impacts is viewed from the perspective of those affected by considering the likely perceived importance as understood through stakeholder engagement;
- The nature and **sensitivity** of the impact receptor (physical, biological, or human). Where the receptor is physical, the assessment considers the quality, sensitivity to change and importance of the receptor. For a human receptor, the sensitivity of the household, community or wider societal group is considered along with their ability to adapt to and manage the effects of the impact; and
- The **likelihood** (probability) that the identified impact will occur. This is estimated based upon experience or evidence that such an outcome has previously occurred.

It is generally accepted that significance is a function of the magnitude of the impact and the likelihood of the impact occurring, which is consistent with UNDP SES.

For this assessment, significance is defined according to the following levels (as prescribed by UNDP's SES). When probability and consequence of impacts are combined, as shown in **Table 13**, it is possible to determine a significance value (low, moderate, or high) for each type of risk.

**Table 13: Rating of Probability/likelihood of Risk**

| Score | Rating |
|---|---|
| 5 | Expected |
| 4 | Very likely |
| 3 | Moderately likely |
| 2 | Low likelihood |
| 1 | Not likely |

**Table 14: Rating the Consequence/ "Impact" of Risk**

| Score | Rating | Social and environmental impacts |
|---|---|---|
| 5 | Extreme | Significant adverse impacts on human populations and/or environment. Adverse impacts of large-scale magnitude and/or spatial extent (e.g. large geographic area, large number of people, transboundary impacts, cumulative impacts) and duration (e.g. long-term, permanent and/or irreversible); areas adversely impacted include areas of high value and sensitivity (e.g. valuable ecosystems, critical habitats); adverse impacts to rights, lands, resources and territories of indigenous peoples; involve significant levels of displacement or resettlement; generates significant quantities of greenhouse gas emissions; impacts may give rise to significant social conflict |
| 4 | Extensive | Adverse impacts on people and/or environment of considerable magnitude, spatial extent and duration, but more limited than Extreme (e.g. more predictable, mostly temporary, reversible). *Impacts of projects that may affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples are to be considered at a minimum potentially Extensive*[15] |
| 3 | Intermediate | Impacts of medium magnitude, limited in scale (site-specific) and duration (temporary), can be avoided, managed and/or mitigated with relatively uncomplicated accepted measures |
| 2 | Minor | Very minor impacts in terms of severity and magnitude (e.g. small affected area, very low number of people affected) and duration (short), may be easily avoided, managed, mitigated |
| 1 | Negligible | Negligible or no adverse impacts on communities, individuals, and/or environment |

**Table 15: Rating the Risk Significance**

| Score | Rating | Social and environmental impacts |
|---|---|---|
| 4 | High Risk | Projects that include activities with potential significant adverse social and environmental risks and impacts that are irreversible, unprecedented and/or which raise significant concerns among potentially affected communities and individuals as expressed during the stakeholder engagement process. High Risk activities may involve significant adverse impacts on physical, biological, socioeconomic, or cultural resources, and may have the potential to aggravate existing situations of fragility or conflict, adversely affect human rights, lead to extensive environmental degradation and/or contribute to cumulative impacts. High Risk projects typically involve a range of issues regarding the SES Programming Principles and Project-level Standards. Activities that promote plans and policy reforms ("upstream" activities) that may lead to significant adverse social and environmental risks and impacts shall be analyzed and addressed, utilizing a potential range of tools, including Strategic Environmental and Social Assessment (SESA). A comprehensive environmental and social impact assessment (ESIA), including development of applicable social and environmental management plans, is required for physical interventions ("downstream" activities) with potentially significant adverse risks and impacts. Such assessments are required, for example, for projects that (i) may adversely impact critical habitats, (ii) involve significant displacement and/or resettlement, (iii) produce significant quantities of greenhouse gases, (iv) may adversely impact the rights, lands, resources and territories of the indigenous peoples, or (v) other circumstances that reflect potentially significant adverse impacts. |

| Score | Rating | Social and environmental impacts |
|---|---|---|
| 3 | Substantial Risk | Projects that include activities with potential adverse social and environmental risks and impacts that are more varied or complex than those of Moderate Risk projects but remain limited in scale and are of lesser magnitude than those of High Risk projects (e.g. reversible, predictable, smaller footprint, less risk of cumulative impacts). Substantial Risk projects may also include those with a varied range of risks rated as "Moderate" that require more extensive assessment and management measures. Scoping and assessment may determine that a scoped, fit-for-purpose Environmental and Social Impact Assessment (ESIA) or Strategic Environmental and Social Assessment (SESA) may be required in order to ensure that the SES requirements are appropriately addressed. |
| 2 | Moderate Risk | Projects that include activities with potential adverse social and environmental risks and impacts that are limited in scale, are largely reversible and can be identified with a reasonable degree of certainty and readily addressed through application of recognized good international practice, mitigation measures and stakeholder engagement during project implementation |
| 1 | Low Risk | Projects that include activities with minimal or no adverse social or environmental risks and impacts. Further assessment of potential adverse social and environmental risks and impacts is not required. However, the SES Programming Principles and stakeholder engagement requirements still apply to project activities. |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Impact** | ***5*** | *M* | *S* | *S* | *H* | *H* |
| | ***4*** | *L* | *M* | *S* | *S* | *H* |
| | ***3*** | *L* | *M* | *M* | *M* | *S* |
| | ***2*** | *L* | *L* | *M* | *M* | *M* |
| | ***1*** | *L* | *L* | *L* | *L* | *L* |
| | | ***1*** | ***2*** | ***3*** | ***4*** | ***5*** |
| | **Likelihood** | | | | | |
| **Low, Moderate, Substantial, High** | | | | | | |

**Figure 22: Determining the 'Significance' of Risk Matrix**

## 5.3 Screening of Relevant Risks

The ESMF has identified 12 potential risks for the all the project components. A screening process for these identified risks has been carried out in terms of relevant activities for component 3. Results of the screening were communicated and agreed with the project management at the UNDP. The table 4 shows the screened risks.

**Table 16: Risks screening**

| No. | Risk | Category | Scoped |
|---|---|---|---|
| Risk 1 | The COVID situation may cause health risks to staff, consultants and populations: a significant part of the projects involves consultations, meetings, on-the-ground studies and other opportunities for communicable diseases (such as COVID-19) to spread).<br>**On June 22, Egypt travel restrictions have been lifted. In addition, according to WHO data, no new cases have been recorded in Egypt since July 2022[6]. Therefore, this risk is scoped out.** | MODERATE | OUT |
| Risk 2 | The project will fund the development of policies (strategies and planning documents such as SESSDS, etc.) that may cause unintended downstream social and/or environmental impacts, including through the poor placement of new urban, protected area and tourism infrastructures, changes in protected area status or resource management regimes, opening of new areas for "sustainable" tourism development, etc.. | SUBSTANTIAL | IN |
| Risk 3 | The Project will fund feasibility studies in support of large-scale infrastructure that could lead to activities with high environmental or social risks and impacts, particularly if construction is involved; for instance: poorly designed, placed or operated desalination plants could impact coral reefs due to brine releases, and could pose a threat to worker safety if not properly built and operated.<br>**Component 3, Biodiversity Workstream, does not involve large scale infrastructures. According, this risk is scoped out.** | SUBSTANTIAL | OUT |
| Risk 4 | The rehabilitation of the solid waste sorting and composting units, as well as the construction of a new landfill, might result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local impacts on human and environmental health.<br>**Component 3, Biodiversity Workstream, does not involve solid waste management facilities. According, this risk is scoped out.** | SUBSTANTIAL | OUT |
| Risk 5 | The construction and operation of the energy efficiency and waste management pilot projects may pose potential occupational safety risks.<br>**Component 3, Biodiversity Workstream, does not involve solid waste management facilities. According, this risk is scoped out.** | MODERATE | OUT |
| Risk 6 | The project activities on solid waste management might impact the livelihoods of waste-pickers and users of organic waste (marginalised and disaffected groups) and lead to physical and/or economic displacement, if not forced evictions, because of changing waste management routines introduced by the project. This might happen without due consultations or consideration. It is possible that affected populations are not aware of their rights and do not have the capacity to claim them, and that duty bearers (municipality, private sector) do not have full control over related decisions.<br>**Component 3, Biodiversity Workstream, does not involve solid waste management facilities. According, this risk is scoped out.** | HIGH | OUT |

[6] https://covid19.who.int/region/emro/country/eg

| No. | Risk | Category | Scoped |
|---|---|---|---|
| Risk 7 | Biodiversity conservation activities under Component 3 are prone to curtail long-standing access to (or, unsustainable use of) natural resources (pastures and fisheries) by local marginalised (Bedouin) communities living near or within the targeted protected areas, which could lead to economic displacement, if not forced physical displacement and/or forced evictions, and affect women in particular. This might happen without due consultations or consideration. It is possible that affected populations are not aware of their rights and do not have the capacity to claim them, and that duty bearers (municipality, private sector) do not have full control over related decisions. | MODERATE | IN |
| Risk 8 | Enforcement of more restrictive access and practices especially in the marine/coral ecosystems around Sharm El Sheikh (including in PAs) could cause further economic hardship to tourism operators such as hotels, dive/snorkel shops, boat charters, etc. (after years of political instability, security issues and COVID-19), which could lead to local-level conflicts. | HIGH | IN |
| Risk 9 | The project could generate gender discrimination, limit the consultation and involvement of women in project decision-making and implementation | MODERATE | IN |
| Risk 10 | Climate change: Long-term changes in climate will exacerbate or present additional challenges for biodiversity in the targeted regions, most notably impacting the coral reefs | SUBSTANTIAL | IN |
| Risk 11 | Climate change: Long-term changes in climate can reduce efficiency of solar PV due to higher temperatures and dust. Increased air temperatures lower solar PV efficiency and energy output. Dry conditions increase dust events. **This risk is not related to Component 3, Biodiversity Workstream.** | MODERATE | OUT |
| Risk 12 | Climate Change: increased energy consumption from transport could contribute to increasing GHG emissions impacting climate change. This risk is not related to Component 3, Biodiversity Workstream. **This risk is not related to Component 3, Biodiversity Workstream.** | MODERATE | OUT |

Based on the scoping exercise presented in

**Table *16*** above, 5 risks are scoped in (Risks No. 2, 7, 8, 9 and 10) that will be considered in the assessment. Biodiversity Workstream activities will be assessed against these risks. The following table identifies the risk category for each of the workstream activity to be addressed in detail the risk assessment section.

**Table 17: Biodiversity Workstream Activities Associated Risks**

| No. | Activity | Risks | | | | | |
|---|---|---|---|---|---|---|---|
| | | No Risk | 2 | 7 | 8 | 9 | 10 |
| | **Support the improved management of Ras Mohamed National Park, Nabq National Park and Ras Abu Galum National Park** | | | | | | |
| 36. | ○ Identify key threats to biodiversity and ecosystems, and the activities causing these threats (*consultancy*) | √ | | | | | √ |
| 37. | ○ Conduct an assessment of stakeholders, including their roles in activities listed above (*consultancy and consultation*) | | √ | √ | √ | | |
| 38. | ○ Agree on integrated management strategies for each identified threat (*consultancy and consultation*) | | √ | √ | √ | √ | √ |
| 39. | ○ Identify alternative technologies/best practices to minimize and manage threats, including anchoring systems, carrying capacity assessments, zoning and waste management (*consultancy*) | | √ | √ | √ | | √ |
| 40. | ○ Implement new technologies pilots in 1-2 sites, build capacity and monitor effectiveness, and prepare guidelines (i*nvestment and consultancy*). | | √ | √ | √ | | |
| 41. | ○ Training and skills advancement (*consultancy*). | √ | | | | | |
| | **Improve revenue generation for Protected Areas** | | | | | | |
| 42. | ○ Establish an electronic system for the collection of entrance fees and permit charges (*investment and consultancy*). | | | | | | |
| 43. | ○ Expand electronic permitting system to include hotels and tour operators (*consultancy*) | | | | | | |
| 44. | ○ Develop a comprehensive financing and resource mobilization plan for South Sinai Protected Areas (*consultancy*). | | √ | √ | √ | | |
| | **Increase financing for Protected Area conservation activities** | | | | | | |
| 45. | ○ Support to transform the Nature Conservation Sector (now under the EEAA) into an autonomous body with its own financial rules for revenue generation and re-investment (*consultancy*) | | √ | √ | √ | | |
| 46. | ○ Develop guidelines and instructions for reinvesting revenues (*consultancy*) | | √ | √ | √ | | |

| No. | Activity | Risks | | | | | |
|---|---|---|---|---|---|---|---|
| | | **No Risk** | **2** | **7** | **8** | **9** | **10** |
| | **Establish clear baselines for marine, coastal and terrestrial biodiversity** | | | | | | |
| 47. | ○ Assess adequacy of available baseline (*consultancy*) | √ | | | | | √ |
| 48. | ○ Conduct rapid assessment of terrestrial biodiversity (*consultancy*) | √ | | | | | |
| 49. | | | | | | | |
| | **Monitor and assess economic practices that harm biodiversity** | | | | | | |
| 50. | ○ Finance biennial monitoring of marine, coastal and terrestrial areas to assess any changes in species or ecosystem health from baselines (*operational costs*) | √ | | | | | |
| 51. | ○ Conduct consultative workshops to review monitoring results and agree on proposed mitigation measures with relevant stakeholders (*consultation*) | √ | | | | | |
| 52. | ○ Recommend mitigation measures as appropriate (*consultancy*) | | √ | √ | √ | √ | √ |
| 53. | Create electronic website for data and information management (*consultancy*) | √ | √ | | | | |
| 54. | ○ Design Mobile app for diving instructors to report on any coral condition or related issues (*consultancy*) | | √ | | | | |
| 55. | ○ Organize an end of project workshop (*consultancy and consultation*) | √ | | | | | |
| | **Design a benefit sharing plan to alleviate loss of access to Nabq National Park by Gharana village** | | | | | | |
| 56. | ○ Locally recruit consultants | √ | | | | | |
| 57. | ○ Map resources used by the Bedouin (*consultancy and consultation*) | | √ | √ | √ | √ | |
| 58. | ○ Prepare an integrated development plan for Gharana village (*consultancy*) | | √ | √ | √ | √ | |
| 59. | Implement benefit sharing plan | | √ | √ | √ | √ | |
| 60. | ○ Build capacity through training (*consultancy*) | | | | | | |
| 61. | ○ Finance income generating activities (*investment*) | | √ | √ | √ | √ | |
| 62. | ○ Provide technical assistance for income generating activities (*consultancy*) | √ | | | | | |

| No. | Activity | Risks | | | | | |
|---|---|---|---|---|---|---|---|
| | | No Risk | 2 | 7 | 8 | 9 | 10 |
| | **Develop guidelines for hotels to promote conservation-friendly practices** | | | | | | |
| 63. | ○ Update guidelines for Chamber of Hotels (linked to Green Star Certification) to include specific biodiversity related aspects in hotel management (*consultancy*). | | √ | | √ | | |
| 64. | ○ Encourage the nomination of focal points within hotel senior management or a "Green Team" to take responsibility for overseeing environmental related aspects of hotel management (*consultancy*) | √ | | | | | |
| 65. | ○ Provide 2-day training in Years 2 and 4 to staff from the Environmental Management Unit of the Tourism Development Agency (TDA) and from the Governorate's Environmental Office to improve their capacity to oversee and guide EIA process, and the implementation, monitoring and enforcement of the environmental management measures. | √ | | | | | |
| | **Improve the awareness of hotel staff and guests regarding conservation actions.** | | | | | | |
| 66. | ○ Provide materials for hotel staff and organize workshops regarding the need for environmental stewardship and to recognize the linkages between good environmental ethics and tourism benefits (*consultancy and training*). | √ | | | | | √ |
| 67. | ○ Organize annual workshops for hotel staff to introduce best practices and improve hotel capacity to develop and promote education and awareness activities for hotel guests (*consultancy and training*) | √ | | | | | |
| 68. | ○ Finance actions that can be taken by hotels to protect the environment, such as improving inshore management, establishing demarcating buoys and poster boards to ensure that visitors do not trample coral reefs, organizing regular beach clean-ups, provision of waste collection bins, or revegetating degraded slopes (*investments*) | | √ | √ | √ | | |
| 69. | Produce electronic awareness materials including documentaries to promote of environmental stewardship by the Chamber of Diving and Water Sports, Association of Travel Agencies and Operators (Travco) and TUI Travel (*consultancy*). | √ | | | | | |
| 70. | ○ Support the development of procedures by the Nature Conservation Sector of EEAA to encourage direct involvement of hotels and enterprises in conservation efforts (consultancy) | √ | | | | | |

## 5.4 Assessment of Potential Environmental Risks/Impacts

### 5.4.1 Risk 2: Negative Unintended Consequences of Policies

The project will fund the development of policies (strategies and planning documents such as SESSDS, etc.) that may cause unintended downstream social and/or environmental impacts, including through the poor placement of new urban, protected area and tourism infrastructures, changes in protected area status or resource management regimes, opening of new areas for "sustainable" tourism development, etc.

The following activities may trigger Risk No. 2:

**Support the improved management of Ras Mohamed National Park, Nabq National Park and Ras Abu Galum National Park**

- Conduct an assessment of stakeholders, including their roles in activities listed above (*consultancy and consultation*)
- Agree on integrated management strategies for each identified threat (*consultancy and consultation*)
- Identify alternative technologies/best practices to minimize and manage threats, including anchoring systems, carrying capacity assessments, zoning and waste management (*consultancy*)
- Implement new technologies pilots in 1-2 sites, build capacity and monitor effectiveness, and prepare guidelines (i*nvestment and consultancy*).

**Improve revenue generation for Protected Areas**

- Develop a comprehensive financing and resource mobilization plan for South Sinai Protected Areas (consultancy).

**Increase financing for Protected Area conservation activities**

- Support to transform the Nature Conservation Sector (now under the EEAA) into an autonomous body with its own financial rules for revenue generation and re-investment (consultancy)
- Develop guidelines and instructions for reinvesting revenues (consultancy)

**Monitor and assess economic practices that harm biodiversity**

- Recommend mitigation measures as appropriate (consultancy)
- Create electronic website for data and information management (consultancy)
- Develop Mobile app for diving instructors to report on any coral condition or related issues (consultancy)

**Design a benefit sharing plan to alleviate loss of access to Nabq National Park by Gharana village**

- Map resources used by the Bedouin (consultancy and consultation)
- Prepare an integrated development plan for Gharana village (consultancy)
- Implement benefit sharing plan
- Build capacity through training (consultancy)

- Finance income generating activities (investment)

**Develop guidelines for hotels to promote conservation-friendly practices**
Update guidelines for Chamber of Hotels (linked to Green Star Certification) to include specific biodiversity related aspects in hotel management (consultancy).

**Improve the awareness of hotel staff and guests regarding conservation actions.**

Finance actions that can be taken by hotels to protect the environment, such as improving inshore management, establishing demarcating buoys and poster boards to ensure that visitors do not trample coral reefs, organizing regular beach clean-ups, provision of waste collection bins, or revegetating degraded slopes (investments).

- *Evaluation conclusion during project design - impact and probability: I = 1, P = 1. Significance: Low.*
- *Risk stage: both in project design and implementation phases.*

The goal of this project is to strengthen the PAs system in Gulf of Aqaba. At all stages of project initiation, implementation, and evaluation, it will focus on enhancing the effectiveness of the PA management, biodiversity status, improving the utilization efficiency of the existing nature PAs and surrounding areas, and improving the protection of PAs areas and sensitive habitats.

Nonetheless, should some malpractice occur, the project may inadvertently cause environmental pollution/disruption through the release of wastes (such as community sewage and garbage), and habitat destruction. Any such impact would be a clear contravention of the regulations and requirements. Other perceptible impacts include change of the natural flow of water bodies, occupation of the water source of wild animals, and causing human noise threats that affect the wild animal habitats. Considering these potential instances, the degree of magnitude should this impact exist is low, I = 3

In conclusion, the significance of this environmental impact risk is low, which is consistent with the initial overall risk assessment results.

## 5.5 Assessment of Potential Social Risks/Impacts

The assessment of social issues will be one key issue of the ESIA Report, taking into consideration the potential impacts of project activities on local people and their livelihoods.

### 5.5.1 Risk 2: Negative Unintended Consequences of Policies

The project will fund the development of policies (strategies and planning documents such as SESSDS, etc.) that may cause unintended downstream social and/or environmental impacts, including through the poor placement of new urban, protected area and tourism infrastructures, changes in protected area status or resource management regimes, opening of new areas for "sustainable" tourism development, etc.

The following activities may trigger Risk No. 2:

**Support the improved management of Ras Mohamed National Park, Nabq National Park and Ras Abu Galum National Park**

- Conduct an assessment of stakeholders, including their roles in activities listed above (*consultancy and consultation*)
- Agree on integrated management strategies for each identified threat (*consultancy and consultation*)
- Identify alternative technologies/best practices to minimize and manage threats, including anchoring systems, carrying capacity assessments, zoning and waste management (*consultancy*)
- Implement new technologies pilots in 1-2 sites, build capacity and monitor effectiveness, and prepare guidelines (i*nvestment and consultancy*).

**Improve revenue generation for Protected Areas**

- Develop a comprehensive financing and resource mobilization plan for South Sinai Protected Areas (consultancy).

**Increase financing for Protected Area conservation activities**

- Support to transform the Nature Conservation Sector (now under the EEAA) into an autonomous body with its own financial rules for revenue generation and re-investment (consultancy)
- Develop guidelines and instructions for reinvesting revenues (consultancy)

**Monitor and assess economic practices that harm biodiversity**

- Recommend mitigation measures as appropriate (consultancy)
- Create electronic website for data and information management (consultancy)
- Design Mobile app for diving instructors to report on any coral condition or related issues (consultancy)

**Design a benefit sharing plan to alleviate loss of access to Nabq National Park by Gharana village**

- Map resources used by the Bedouin (consultancy and consultation)
- Prepare an integrated development plan for Gharana village (consultancy)
- Implement benefit sharing plan
- Build capacity through training (consultancy)
- Finance income generating activities (investment)

**Develop guidelines for hotels to promote conservation-friendly practices**

- Update guidelines for Chamber of Hotels (linked to Green Star Certification) to include specific biodiversity related aspects in hotel management (consultancy).

**Improve the awareness of hotel staff and guests regarding conservation actions.**

- *Evaluation conclusion during project design - impact and probability: I = 3, P = 5. Significance: Substantial.*
- *Risk stage: both in project design and implementation phases.*

The project is anticipated to set out different strategies including for instance the SESSDS, as well as a number of updated/management plans for South Sinai Protected Areas sectors including Ras Mohamed, Nabq and Abu Galum. These strategies and plans will include actions that could trigger community and/or economic impact and accordingly would require careful consideration and management. The main concern will be around zoning and management regulations.

Zoning is one of the management strategies required to manage PA visitation and anticipated human activities inside a protected area. Rotich (2012) defines the zoning as "what can and cannot occur in different areas of protected areas including natural and cultural resources management, human use and benefit, visitor use and experience, access, facilities and Protected Area development, maintenance and operations."

While zoning regulates the levels of the different activities by employing site-specific zoning regulations inside the protected area, the simplest zoning scheme could include 3 zones. However, large number of zones is common depending on the PA category and management objectives. A simple zoning strategy comprises of the following:

- Core Zone: It is often allocated as a protection core area where most activities are banned with a few exceptions including very low impact activities such as monitoring and research activities.
- Buffer Zone: It is set to protect the protection zone, where certain activities are allowed within the resource thresholds, i.e. sustainable use.
- Transition Zone: It may be set to accommodate activities of medium-high impacts, usually on the boundary of the protected area.

Based on the existing baseline conditions, it is understood that the current management plans of South Sinai Protected Areas do not include comprehensive zoning strategies. Visitors and local community are accustomed to a different and traditional means of management where zoning is not part of their management strategies. For instance, if core areas or no

take zones are enforced, access to resources use may be restricted.

While Ras Mohamed is a national park, Nabq and Abu Galum have been declared as multiple resource managed protected areas. Furthermore, within these two protected areas a number of local community settlements are found, where they rely on the protected areas as a place to live and work. During site visits and meetings carried out for this assignment, it was confirmed that local community economic activities include mainly fishing, tourism and livestock grazing in Nabq. In Abu Galum, local community is involved mainly in tourist activities.

The zoning strategy/scheme is always accompanied by zoning regulations, which identify, designate and regulate activities at each of the management zones. Therefore, the zoning is anticipated to result in the following consequences:

- Restrict access to some sites/resources of high conservation values,
- Limit (determine) number of visits/visitors to some sites,
- Prohibit activities at some specific sites, and
- Relocate activities from one zone to another.

Accordingly, while the intention of the zoning strategy is to enhance management of the natural resources within protected areas, they may trigger physical impact, as well as economic impact.
Furthermore, if the entrance fees system is changed due to any new regulations imposed by the management plans, the following consequences are expected:

- Changing in access to resources (people may use resources outside protected areas to avoid payment of entrance fees that potentially increase environmental pressures on free accessible sites), and
- Economic impact.

### 5.5.2 Risk 7: Biodiversity conservation activities

Biodiversity conservation activities under Component 3 are prone to curtail long-standing access to (or unsustainable use of) natural resources (pastures and fisheries) by local (Bedouin) communities living near or within the targeted protected areas, which could lead to economic impact, if not forced physical moving and/or forced evictions, and affect women in particular. This might happen without due consultations or consideration. It is possible that affected populations are not aware of their rights and do not have the capacity to claim them, and that duty bearers (municipality, private sector) do not have full control over related decisions.

The following Activities may trigger Risk No. 7:

**Support the improved management of Ras Mohamed National Park, Nabq National Park and Ras Abu Galum National Park**

- Conduct an assessment of stakeholders, including their roles in activities listed above (consultancy and consultation)
- Agree on integrated management strategies for each identified threat (consultancy and consultation)
- Identify alternative technologies/best practices to minimize and manage threats, including anchoring systems, carrying capacity assessments, zoning and waste management (consultancy)
- Implement new technologies pilots in 1-2 sites, build capacity and monitor effectiveness, and prepare guidelines (investment and consultancy).

**Improve revenue generation for Protected Areas**

- Develop a comprehensive financing and resource mobilization plan for South Sinai Protected Areas (consultancy).

**Increase financing for Protected Area conservation activities**

- Support to transform the Nature Conservation Sector (now under the EEAA) into an autonomous body with its own financial rules for revenue generation and re-investment (consultancy)
- Develop guidelines and instructions for reinvesting revenues (consultancy)

**Monitor and assess economic practices that harm biodiversity**

- Recommend mitigation measures as appropriate (consultancy)

**Design a benefit sharing plan to alleviate loss of access to Nabq National Park by Gharana village**

- Map resources used by the Bedouin (consultancy and consultation)
- Prepare an integrated development plan for Gharana village (consultancy)
- Implement benefit sharing plan
- Finance income generating activities (investment)

**Improve the awareness of hotel staff and guests regarding conservation actions.**

Finance actions that can be taken by hotels to protect the environment, such as improving inshore management, establishing demarcating buoys and poster boards to ensure that visitors do not trample coral reefs, organizing regular beach clean-ups, provision of waste collection bins, or revegetating degraded slopes (investments).

- *Evaluation conclusion during project design - impact and probability: I = 4, P = 3. Significance: Substantial.*
- *Risk stage: both in project design and implementation phases*

The project will support the development of an integrated village development plan for Gharqana village. The plan seeks to develop and integrate ecotourism opportunities with improved development and marketing of local products, development of local handicrafts and service facilities to support the ecotourism efforts, as well as improved sanitation and waste collection and management. The project will also carry out participatory mapping of community resources and needs to assess the potential for livelihood and income improvements. Based on the participatory mapping and community consultations, a sustainable biodiversity-friendly investment plan for the Gharqana village will be developed. This would entail agreement with the community on sustainable livelihoods including ecotourism activities, livestock improvement, sustainable fisheries, handicraft and tourism services provision, waste management, sanitation, etc.

Within Nabq protected area, there are two main community villages, Gharqana and Khairiza. Gharqana is located on the coast, approximately 6km north of the protectorate southern gate. During the site visits and meetings for this assignment, it was informed that there are currently about 51 community shacks in Gharqana. It was also understood that the same community uses Khairiza during winters and move to Gharqana during the summers.

Based on meeting with Nabq PA manager and different representatives from the resident local community, they explained that their presence in this area is linked to the beachfront and activities related to sea such as fishing.

Nabq PA has a number of ecotourism activities including small cafeterias, camel riding, beach buggies (some of them are electric), sand skating, and camping activities. Some of these activities is operated by members of the local Bedouin community. The PA management fully supports these activities, due to their low impacts.

No physical displacement activities will be caried out through Green Sharm project.

When conducting the field visit and meeting with community representatives, most of them understand and support the idea of developing Gharqana area and import ecotourism. They also appreciate the protected area management efforts to conserve and maintain the natural resources so as to support their livelihood and protect their identity. Recently, with the promotion of environmental protection and COP27, related public awareness has greatly improved. Most of community could understand the importance of nature protection and basically knew the relevant laws and regulations (**Annex A** includes the field visit report).

Although the development plan may result in positive impacts including enhanced livelihood, and improved sanitation and hygiene conditions, it could potentially result in the following consequences:

- Restrict community access to some resources including fisheries,
- Change in traditional culture and knowledge[7] (for instance, If house design does not consider and support their life style, it is a threat to their culture),
- Inequitable gender treatment (gender marginalization), and
- Economic impact.

For gendered aspects to this risk, in traditional societies (Bedouin) in the project area, men and women share some livelihoods such as fishing from shore and handicrafts. Although most households in the communities covered by the project are male-dominated, most women still participate in the control and use of economic income.

Activities of Green Sharm, including those that play a supporting role in biodiversity conservation and protected areas management, that have the potential to trigger this risk must be undertaken in compliance with the national regulations, UNDP principles and definitions.

### 5.5.3 Risk 8: Enforcement of more restrictive access and practices

Enforcement of more restrictive access and practices especially in the marine/coral ecosystems around Sharm El Sheikh (including in PAs) could cause further economic hardship to tourism operators such as hotels, dive/snorkel shops, boat charters, etc. (after years of political instability, security issues and COVID-19), which could lead to local-level conflicts.

The following Activities may trigger Risk No. 8:

**Support the improved management of Ras Mohamed National Park, Nabq National Park and Ras Abu Galum National Park**

- Conduct an assessment of stakeholders, including their roles in activities listed above (consultancy and consultation)
- Agree on integrated management strategies for each identified threat (consultancy and consultation)
- Identify alternative technologies/best practices to minimize and manage threats, including anchoring systems, carrying capacity assessments, zoning and waste management (consultancy)
- Implement new technologies pilots in 1-2 sites, build capacity and monitor effectiveness, and prepare guidelines (investment and consultancy).

**Improve revenue generation for Protected Areas**

- Develop a comprehensive financing and resource mobilization plan for South Sinai Protected Areas (consultancy).

[7] Reference is made to traditional culture as per section 3.4.2 discussing indigenous people in Egypt

**Increase financing for Protected Area conservation activities**

- Support to transform the Nature Conservation Sector (now under the EEAA) into an autonomous body with its own financial rules for revenue generation and re-investment (consultancy)
- develop guidelines and instructions for reinvesting revenues (consultancy)

**Monitor and assess economic practices that harm biodiversity**

- Recommend mitigation measures as appropriate (*consultancy*)

**Design a benefit sharing plan to alleviate loss of access to Nabq National Park by Gharana village**

- Map resources used by the Bedouin (consultancy and consultation)
- Prepare an integrated development plan for Gharana village (consultancy)
- Implement benefit sharing plan
- Finance income generating activities (*investment*)

**Develop guidelines for hotels to promote conservation-friendly practices**

- Update guidelines for Chamber of Hotels (linked to Green Star Certification) to include specific biodiversity related aspects in hotel management (*consultancy*).

**Improve the awareness of hotel staff and guests regarding conservation actions.**

Finance actions that can be taken by hotels to protect the environment, such as improving inshore management, establishing demarcating buoys and poster boards to ensure that visitors do not trample coral reefs, organizing regular beach clean-ups, provision of waste collection bins, or revegetating degraded slopes (*investments*).

- *Evaluation conclusion during project design - impact and probability: I = 4, P = 5. Significance: High.*
- *Risk stage: both in project design and implementation phases.*

The Project will support the improved management of the three marine and coastal protected areas around Sharm El Sheikh. The three protected areas are: Ras Mohamed National Park, Nabq Managed Resource Protected Area, and Abu Galum Managed Resource Protected Area, which collectively encompass the entire inshore coral reef system along the south-eastern and eastern boundaries of the Sinai Peninsula. The intent of this exercise is to further reinforce their planning and management, especially regarding the management of biodiversity-harmful economic activities. It would provide an opportunity to ensure harmonization of economic development activities within the goals of biodiversity conservation and ensure effective planning of

tourism and related economic activities and management of threats posed by these development activities.

The impact of project's activities related to management such as restricting the use of resources in the PAs may affect the beneficiaries such as tour operators, diving centers and local community. For example, during the investigation of Nabq and Abu Galum PAs, some interviewees stated that restrictions on resources use inside the PA does not only affect the convenience of local residents, but also affects the development of local community and nature-based tourism. For example, one of the projects activities is the PA management plans, which shall include zoning activities. Some of these zones will be restricted zones such as core areas parts of which could be currently used for fishing or diving activities. Resource users may be affected if these areas are closed and access to resources restricted.

For example, Ras Mohamed PA has developed marine activities management plan in Sharm El-Sheikh and Ras Mohammed based on marine ecological surveys, resources carrying capacity and consultation with stakeholders. This plan provides regulations, executive rules and procedures for managing marine activities, rectifying randomness and inconsistency in the use of marine activities sites in a manner commensurate with the value and sensitivity of natural resources, and support restoring the characteristics of the quality of the tourism product. However, this plan affects resources accessibility, it was consulted and agreed by stakeholders.

Any activities of Green Sharm (including those that play a supporting role in biodiversity conservation and protected areas management) that have the potential to make this risk must be undertaken only after consultation and involvement of relevant stakeholders to ensure transparency of the consultation and consent processes.

### 5.5.4 Risk 9: Gender discrimination

The project could generate gender discrimination, limit the consultation and involvement of women in project decision-making and implementation.

The following Activities may trigger Risk No. 9:

**Support the improved management of Ras Mohamed National Park, Nabq National Park and Ras Abu Galum National Park**

- Agree on integrated management strategies for each identified threat (consultancy and consultation)

**Monitor and assess economic practices that harm biodiversity**

- Recommend mitigation measures as appropriate (consultancy)

**Design a benefit sharing plan to alleviate loss of access to Nabq National Park by Gharana village**

- Map resources used by the Bedouin (consultancy and consultation)
- Prepare an integrated development plan for Gharana village (consultancy)
- Implement benefit sharing plan
- Finance income generating activities (investment)

- *Evaluation conclusion during project design - impact and probability: I = 2, P = 3. Significance: Moderate.*
- *Risk stage: both in project design and implementation phases.*

Gendered aspects to this risk, in traditional societies (Bedoin) in the project area, men and women share some livelihoods such as fishing from shore and handicrafts and have different rules. Although most households in the communities covered by the project are male-dominated, most women still participate in the control and use of economic income. After any potential economic supportive activities, women job opportunities may be affected. Should women encounter these difficulties, they may face a net loss in income that is not experienced by their male counterparts.

## 5.6 Assessment of Potential Environmental and Climate Change Impacts

### 5.6.1 Risk 10: Climate change

Long-term changes in climate will exacerbate or present additional challenges for biodiversity in the targeted regions, most notably impacting the coral reefs.

The IPCC sixth report 2022 points out to the following on the global scale:

- Widespread, pervasive impacts to ecosystems, people, settlements, and infrastructure have resulted from observed increases in the frequency and intensity of climate and weather extremes, including hot extremes on land and in the ocean, heavy precipitation events, drought and fire weather (high confidence). Increasingly since AR5, these observed impacts have been attributed to human-induced climate change particularly through increased frequency and severity of extreme events. These include increased heat-related human mortality (medium confidence), warm-water coral bleaching and mortality (high confidence),

- Projected climate change, combined with non-climatic drivers, will cause loss and degradation of much of the world's coral reefs and low-lying coastal wetlands (very high confidence).
- Near-term warming and increased frequency, severity and duration of extreme events will place many terrestrial, freshwater, coastal and marine ecosystems at high or very high risks of biodiversity loss (medium to very

high confidence, depending on ecosystem). Near-term risks for biodiversity loss are moderate to high in forest ecosystems (medium confidence), kelp and seagrass ecosystems (high to very high confidence), and high to very high in Arctic sea-ice and terrestrial ecosystems (high confidence) and warm-water coral reefs (very high confidence),

- Many natural systems are near the hard limits of their natural adaptation capacity and additional systems will reach limits with increasing global warming (high confidence). Ecosystems already reaching or surpassing hard adaptation limits include some warmwater coral reefs, some coastal wetlands, some rainforests, and some polar and mountain ecosystems (high confidence).

**Climate change and sea level rise impacts on coral reefs**

Increased water temperatures due to global warming can result in mass coral bleaching, which happens when coral polyps, stressed by heat or ultraviolet radiation, expel the symbiotic algae that live within coral tissues. When the algae are expelled, the coral appears white or "bleached." These algae provide corals with most of their food and oxygen. Corals can recover after short periods of bleaching, but as the length and severity of the stress increase so does coral mortality. Coral bleaching events and subsequent reef mortality are expected to become more frequent as sea temperature increases.

In addition, due to sea level rise corals will be deeper, receive less sunlight, and grow more slowly. The combined effect of deeper reefs and slower growth are anticipated to cause two issues for coastal areas: first, corals will not be able to protect the shore as effectively and wave energy reaching the shore could increase in strength; and second, smaller reefs will produce smaller amounts of reef sediment which builds and supports island land-bases.

Furthermore, as extreme storm events and cyclones become more frequent and intense, physical damage and mortality is expected to increase where reef growth may not be able to keep pace with these destructive events.

Moreover, due to human-driven increased levels of carbon dioxide in the atmosphere, there is more carbon dioxide dissolving into the ocean. Therefore, ocean acidification is increasing, which threatens coral reef by reducing the concentration of carbonate ions that corals need to construct their skeletons. Mollica et al. (2017) show that skeletal density of Porites sp. could decline by up to 20.3% over the 21st century only due to ocean acidification.

Low laying coastal lands are anticipated to be flooded due to is Sea Level Rise. The Egypt's National Strategy for Adaptation to Climate Change and Disaster Risk Reduction (2011) states that in the Red Sea low-laying lands (0-+1 m) are prone to SLR.

**Potential climate change impact on tourism sector**

Sharaan et al. (2020) investigated the impact of SLR on beach revenues in the Red Sea. Results show that the expected losses in revenue are 84,000, 220,000, and 546,000 USD/day period (representing 3%, 7%, and 18%) for 2030, 2050, and 2100, respectively, considering the lowest scenario representative concentration pathway (RCP2.6); for the worst case (RCP8.5 SLR), the expected losses are 142,000, 369,000, and 897,000 USD/day period (representing 5%, 12%, and 30%) for 2030, 2050, and 2100, respectively. Additionally, Marsall, et al 2009 point out that climate change has the potential to permanently alter the attraction and value of many tourism destinations and impact the tourism income streams and social benefits.

Dadamouny and Schnittler analyzed temperature and rainfall data from 1970 to 2014. The analysis shows a clear tendency towards decreasing rainfall and increasing average temperatures, which caused severe droughts for many years. However, this trend was suddenly interrupted by high and unpredictable rainfall fluctuating heavily in space and time. They argue that if this tendency continues, the population dynamics of many plant and animal species will be negatively affected. According to the research, severe impacts can be expected on coastal and tourist cities such as Sharm El-Sheikh, Taba, El-Tor, St. Catherine, Ras Sedr and El-Arish. The research also calls for conservation efforts to be directed to conserve the biological and natural resources and to keep pace with this environmental change.

# 6. Analysis of Alternatives (Project Justification)

The purpose of the analysis of alternatives is to identify other options, including the 'no project' option, that could be used to achieve the project objectives and comparing their impacts against the original proposal.

The 'no project' alternative option would result in the integrity of local biodiversity not being effectively protected. If the Green Sharm project is not implemented, south Sinai PAs network will continue to be affected by unsustainable tourism in term of sensitive habitats and ecosystems with the resulting threat to species.

Unsustainable tourism and use of the natural resources increase the risk of biodiversity. Furthermore, without promoting enhanced biodiversity protection measures for management and mitigation of key threats, habitat degradation will continue to result from continued pressures on biodiversity and its ineffective management.

It is expected that the project activities will have a positive impact on the state of biodiversity in the project area through a number of main activities such as developing and implementing PA management plans, plans for increasing revenue and financial sustainability for them, and re-planning and developing local community areas. The project also aims to the involvement of stakeholders and the local community during the planning and implementation phases of the project activities.

Lastly, if knowledge awareness of biodiversity conservation is not raised among key stakeholders, there is a substantial risk that unsustainable land and natural resource use practices continue and result in incremental habitat degradation and fragmentation and disturbance to wildlife.

The 'no project' alternative option would further exacerbate the barriers identified in the Project Document. Total financing investment for the PA system in South Sinai is still insufficient, and some PAs are experiencing a serious shortage. Furthermore, weak coordination of planning and implementation of sectoral plans at the PA level and inadequate safeguards for biodiversity exacerbates the degradation of important habitats, impacting globally threatened species and ecosystem functions. Other barriers that would continue to exist in a 'no project' alternative scenario include weak institutional and individual capacities for PA management in reducing threats in South Saini PA network.

Thus, the "no project" alternative has not been given further consideration.

# 7. Mitigation and Management Framework

The SESP assessment (and in turn this ESIA) identified 12 project-associated environmental and social risks; five out of these risks have been screened in as relevant to the biodiversity workstream activities. For the purpose of presenting cross-cutting mitigation and management measures, these risks have been categorized into the following 4 categories:

| # | Category | SES Risk | Section |
|---|---|---|---|
| 1 | Physical and economic impacts, and traditional lifestyles. | *Relevant Risks: 2, 7, 8 and 10* | 7.1 |
| 2 | Gender-based barriers to participation in related project activities. | *Relevant Risks: 2, 7, 8 and 9* | 7.2 |
| 3 | Climate change related impacts on long-term outcomes. | *Relevant Risks: 2 and 10* | 7.3 |
| 4 | Disturbance to the natural environment, wildlife habitats and behaviors. | *Relevant Risks: 2* | 7.4 |

## 7.1 Mitigation Measures on Physical and Economic Impact and Traditional Lifestyles of Local Herders

*Relevant Risks: 2, 7, 8 and 10*

**Action 1: Mitigate negative impacts of physical and economic relocation**

The project activities do not have a real resettlement in the true sense of the word, as the relocation planned to take place in a parallel activity to the Green Sharm project will be a few hundred meters from the current location. It will thus be in the same area and will ensure access to the shore. Rather, it will have positive social and economic impact on the local community.

This action involves providing assistance in developing development plan, which might lead to economical impact. Any development plan will take into consideration the community reliance on natural resource and livelihood. The local community will have access to the same ecosystem services and meet the physical conditions of relocated settlements such as proximity to the shore, avoidance of Sabkha and sandy areas.

The livelihood development/engagement measures discussed below seek to mitigate and manage potential impacts that may be caused by restrictions on traditional livelihoods. In assisting the development of additional livelihoods, the intention is to reduce the need for relocation that otherwise may have been caused by impacts that may result by project and associated activities.

The PA management shall continue to encourage community residents to participate in species and habitat conservation work and implement ecotourism

small projects as an alternative to traditional livelihoods. community members who actively contribute to the protection and conservation of the ecological environment, incentives and awards could be given as a form of motivation and encouragement.

Traditional livelihood activities that could pose threats to species and habitats in the area such as fishing for the local community is currently allowed for self-consumption not for commercial use. The PA management will not prevent traditional fishing. Moreover, The PA management shall guide residents to alternative activities that are less dependent on, or detrimental to, natural resources, such as ecotourism. Developing ecotourism activities will improve the community income and will, accordingly, be likely to decrease the dependency on fishing and the potential stress on marine resources this might entail. One way to maintain and develop sustainable livelihoods in the community despite any restrictions that may be imposed on traditional livelihoods would be to invite the community to participate in exploring alternatives for future economic development. For instance, ecotourism has proven to be an effective alternative in many regions and could be an effective method to maintain and expand the economic sustainability within the protected areas of South Sinai.

According to the process framework mentioned in standard 5: Displacement and Resettlement of the UNDP Social and Environmental Standards guidance note, to mitigate economic impact, care to local community will be given during protected area management planning. Regulations that restrict access to specific sites/resources or that increase entrance fees of the protected areas of South Sinai shall be thoroughly studied and consulted. In this context, affected groups will be identified, communicated, educated, participated, and consulted. New management plans and associated regulations will be agreed with all stakeholders, particularly affected groups including local community as well as ecotourism and dive operators who depend on the natural wealth of the protected area.

Impacted communities will be provided access to project documents, impact assessment reports as well as other pertinent information in an appropriate form and language prior to discussion of options regarding their potential displacement.

Potential economically displaced persons are entitled to compensation and assistance for the loss of their income or livelihood sources due to project-related restrictions on land use or access-if any.
***(Annex 2 provides the process framework template)***

**Action 2: Community Cultural Heritage and Basic Infrastructure/Service Accessibility**

The cultural traditions of relevant communities will be fully respected in accordance with UNDP SES. These include mainly communities in Nabq and Abu Galum Protected Areas. The project's activities does not include any physical

displacement.

**Action 3: Flexible Management on the Protected Areas**
If habitat conservation requires resource use restrictions, then a "one-size-fits-all" approach may not be the right approach to be adopted. The ecological impacts of each activity practiced in each area will be assessed in detail to minimize the scope of economic disruption and resource use restriction.

For example, in ecological corridor areas, community residents can continue to engage in social and economic activities under the guidance of the PA biodiversity experts to ensure adequate habitat availability for wildlife. PA management and community can plan together to alleviate pressures on the resources that have economic values within the area.

Furthermore, Green Sharm project will support more effective community co-management and engagement in PA management achieving livelihoods improvement and threat reduction. This will include ecotourism development by selected local communities at the project demonstration sites.

The Green Sharm related activities in this aspect will comply with the PA management vision and policy to ensure effective synergies. Beneficiaries of these activities will be identified and consulted During the design phase of these activities, PA staff will fully involve the local community to minimize the environmental and social impacts and maximize the socioeconomic benefits

**Action 4: Consultations Process**
Culturally appropriate consultations shall be carried out with the objective of informing local communities about all activities that may potentially impact them or their resources.

The details of the prior consent and consultation shall be communicated to relevant local communities regarding any matters that may affect their rights and interests, lands, resources, territories, and traditional livelihoods. Any such activities shall not be conducted/undertaken unless agreement has been achieved and maintained through the consultation process.

For decisions affecting the community, the project shall include the communities and promote their full participation in decision-making. Decision-making processes shall involve consultation with all stakeholders in the community.

Consultation shall be undertaken in a matter that respects local community cultural vulnerability. In addition, consultation shall be conducted taking the following into account:

- Transparency: local community would expect that what is said to be achieved, raising their expectation must be avoided.
- good representation: representative members of all group of an effected

community will be engaged.

- sharing of information: to provide honest and relevant information to community to be able to contribute to decision making.
- encouragement: to give equal opportunity for community to speak and be listened.
- Bridging cultural gaps to use understandable and communicable terms: avoid using technical terms.

## 7.2 Mitigation Measures for Gender-based Barriers to participation in Project Activities

*Relevant Risks: 2, 7, 8 and 9*

**Action 5: Enhance gender mainstreaming**
Improving gender mainstreaming needs to meet the following principles:

- Men and women are asked equally about the needs and requirements of project intervention;
- Gender-sensitive complaint and grievance mechanisms are put in place and proactively managed;
- Advocate equal participation of men and women in project activities;
- When formulating strategies and plans, every effort will be made to consult the same proportion of men and women;
- Organize culturally appropriate gender equality training;
- Ensure equal pay for equal work of men and women;
- Half of the direct beneficiaries of the project should be women.

**Action 6: Gender and age inclusive consultation**
Gender and age inclusive consultations will include: female/elderly/youth-only interviews; gender or age specific focus groups and group consultations; separate meetings with women's cooperatives or youth associations; choosing consultation times and places that will increase gender and age inclusiveness; providing childcare during consultations; and tailored capacity building sessions.

## 7.3 Mitigation Measures for Climate Change related Impacts on Long-term Outcomes

*Relevant Risks: 2 and 10*

**Action 7: Systematically Include Climate Change Impact Planning in Decision-Making**
The PA management shall attach great importance to addressing climate change impacts within the scope of Green Sharm project activities. It shall actively participate in the formulation of counter measures and policies related to responding and adapting to global climate change.

The PA management shall strive to enhance the conservation status of natural resources so that they can build stronger climate change resilience. In addition, PA management shall contribute in: (i) further strengthen the construction of a climate change monitoring system, and (ii) improve forecasting and early warning capabilities.

**Action 11: Strengthen Disaster Management**
Natural hazards that present potential risks in the project area may include

flash flood, landslide, earthquake, extreme weather events, water scarcity, outbreak of natural predators.

The PA shall improve its disaster prevention and mitigation capabilities, raise awareness regarding disaster prevention and mitigation, identify potential natural disasters and develop corresponding disaster response plans. This could be undertaken by reaching out to national/regional authorities responsible for disaster risk reduction/preparedness planning in order to further develop relevant response mechanisms that align with the objectives of the project.

Strengthening disaster management measures will include the following actions:

- Monitoring program for marine life;
- implementation early warning systems;
- restoration of mangrove;
- implementation of flood defense;
- provision of sufficient on-site back-up and seismic protection of critical utilities;
- minimization of inappropriate excavation, slope loading, vegetation removal, and interference with natural waterways to limit landslides;
- adoption of heat management measures such as technological adaptation, building design, and changing working practices.

**Action 8: Ecological Restoration and Wildlife Rescue**

If damage is caused by natural disaster, remedial measures such as the rescue of injured wildlife, repair and replanting of damaged vegetation, invasive species control and repair of equipment that is used in monitoring the protected areas should be implemented in a timely and considered manner.

## 7.4 Mitigation Measures on Disturbance to the Natural Environment, Wildlife Habitats and Behaviors

*Relevant Risks: 2*

**Action 9: Public awareness for visitors**

Visitors shall be provided ecological protection and management knowledge in the form of models, display boards, video broadcasting, and interactive experiences. These knowledge-sharing methods promote an understanding of and respect for the ecological and social sensitivity of the areas among visitors.

**Action 10: Development of a nature conservation education plan**

Considering the sensitive habitats, fauna and flora in the project areas, a nature conservation education plan for visitors shall be prepared, displaying the characteristics of various animals, plants, and ecosystems in the area. Regular training of nature education instructors is needed to ensure that they understand the latest methods and means of nature education. The aim of this

educational initiative is to equip educators to promote the perception of these areas as a fragile and significant conservation environment that each visitor must seek to safeguard.

**Action 12: Visitor entrance system**

Visitors shall be required to make an appointment through the official entrance system website. This allows management to control the number of visitors accessing the PAs. Visitors entering the PAs shall experience activities within the specified scope and will be informed of the applied visitation regulations, and any precautions.

# 8. Environmental and Social Management Plan

This ESMP is a delivery mechanism for environmental and social mitigation and enhancement measures made in the ESIA Report (as described in Section 7 of this ESIA). The purpose of the ESMP is providing a general framework for the Environmental and Social Management System that shall be implemented within the scope of the Project, and the necessary management tools to ensure compliance with the UNDP standards as well as national standards. As a management tool, the ESMP shall be use to ensure that undue or reasonably avoidable adverse impacts of project's activities are prevented or reduced and that the positive benefits of the Project are enhanced.

## 8.1 Overview and Scope

The ESMP has been developed to meet international standards on environmental and social management performance, most notably UNDP's SES in addition to national environmental regulatory requirements, where it provides the outline requirements for environmental management.

The ESMP covers all activities described in Chapter 3 of this ESIA report. It will be subject to thorough reviews prior to the commencement of activities to ensure completeness.

## 8.2 Objectives

The ESMP aims to enhance the Project's social and environmental performance. Having this framework in place ensures a systematic approach to bringing environmental and social considerations into decision making during day-to-day operations. The ESMP establishes a framework for tracking, evaluating and communicating environmental and social performance and helps ensure that environmental and social risks and liabilities are identified, minimised and managed. The ESMP isa living document and will periodically updated and developed during the project's phases to enable continuous improvement of the Project's social and environmental performance.

In particular, the objectives of the ESMP are to:

- Ensure that all workers, subcontractors and others involved in the Project meet legal and other requirements with regard to environmental and social management;
- Incorporate environmental and social management into the project design and operating procedures;
- Address concerns and issues raised in the ESIA's stakeholder consultation process and those that will likely continue to arise during the Project's lifetime;
- Serve as an action plan for environmental and social management for the Project;

- Provide a framework for implementing project environmental and social commitments (i.e., mitigation measures identified in the ESIA); and
- Prepare and maintain records of project environmental and social performance (i.e., monitoring, audits and non-compliance tracking).

## 8.3 Institutional Arrangements

UNDP is accountable to the GEF for the implementation of this project. This includes overseeing project execution undertaken by the Implementing Partner to ensure that the project is being carried out in accordance with UNDP and GEF policies and procedures and the standards and provisions outlined in the Delegation of Authority (DOA) letter for this project. The UNDP GEF Executive Coordinator, in consultation with UNDP Bureaus and the Implementing Partner, retains the right to revoke the project DOA, suspend or cancel this GEF project. UNDP is responsible for the Project Assurance function in the project governance structure and presents to the Project Board and attends Project Board meetings as a non-voting member.

The PMU, led by the Project Manager, will be responsible for implementation of the stakeholder engagement plan and for installing adaptive management measures as deemed relevant based on progress made on project activities. The Project Board will be responsible for providing strategic guidance during implementation.

**Table 18: Roles and responsibilities of Project Board**

| Position / Function | Roles and Responsibilities |
|---|---|
| National Project Director | The Project Director will have overall responsibility for the implementation of the project and facilitate engagement with other high-level decision- making stakeholders. |
| Project Manager | The Project Manager will have responsibility for the day-to-day implementation of the project, be tasked with the important role of ensuring that stakeholders are engaged according to plan, oversee the procurement and implementation of project activities and be accountable that stakeholder engagement is inclusive and according to plan. |
| Project Board | The Project Board will provide strategic oversight to the project, ensuring that the interests of all stakeholders are considered, including stakeholder engagement objectives. |
| Technical Coordinator | The Technical coordinator will support the Project Manager with stakeholder engagement among national and local level governmental entities. |

## 8.4 Capacity Building

The PMU will competitively recruit a qualified Technical coordinator in charge of social and environmental standards who will on a part-time basis be responsible for the oversight and monitoring of **ESMP** implementation.

The project local coordinator shall have a background on environmental and social management. He will be responsible for:

- Coordinating project management activities, resources, equipment, and

information
- Breaking projects into doable actions and set timeframes
- Assigning tasks to internal teams and assist with schedule management
- Analyzing risks and opportunities
- Monitoring project progress and handle any issues that arise
- Using tools to monitor working progress and plans
- Creating and maintain project documentation, plans and reports
- Ensuring standards and requirements are met through conducting quality assurance tests

Specialists with relevant expertise in social and environmental standards will be engaged to support the completion of targeted social and environmental assessment(s) and the subsequent development of ESMPs and/or any stand-alone management plans. These experts will offer an induction session for key stakeholders including UNDP Egypt, Ministry of Environment/EEAA and the Project Management Unit once recruited on responsibilities for environmental and social standards and approaches.

The UNDP Regional Hub will provide additional guidance where required to UNDP Egypt, Ministry of Environment/EEAA and the Project Management Unit once recruited, to support the implementation of this ESMF and the preparation, implementation, and monitoring of ESMPs.

The Project Steering Committee will have the final responsibility for the integration of ESMPs in the execution of the project. The integration of those plans will need to consider particular institutional needs within the implementation framework for application of the ESMP, including a review of the required budget allocations for each measure, as well as the authority and capability of institutions at different administrative levels (e.g. local, regional, and national), and their capacity to manage and monitor ESMP implementation. Where necessary, capacity building and technical assistance activities will be included to enable proper implementation of the ESMP.

## 8.5 Environmental and Social Management

The environmental and social mitigation and enhancement measures, the monitoring and management responsibility for impacts during different phases of the Project are presented in the ESMP Matrix provided in

***Table 16***.

The ESMP Matrix provides a higher-level overview of the required E&S mitigation measures that should be employed by the project and its proponents. Additional tools and management plans will need to be developed in order to address key risks and impacts that were identified as part of the ESIA report.

**Table 19: Biodiversity Workstream Activities Associated Risks**

| Project Activities | Identified Risks | Potential E&S Impacts if risks materialize | Mitigation Actions |
|---|---|---|---|
| **Support the improved management of Ras Mohamed National Park, Nabq National Park and Ras Abu Galum National Park**<br>▪ Conduct an assessment of stakeholders, including their roles in activities listed above (*consultancy and consultation*)<br>▪ Agree on integrated management strategies for each identified threat (*consultancy and consultation*)<br>▪ Identify alternative technologies/best practices to minimize and manage threats, including anchoring systems, carrying capacity assessments, zoning and waste management (*consultancy*)<br>▪ Implement new technologies pilots in 1-2 sites, build capacity and monitor effectiveness, and prepare guidelines (i*nvestment and consultancy*).<br>**Improve revenue generation for Protected Areas**<br>▪ Develop a comprehensive financing and resource mobilization plan for South Sinai Protected Areas (consultancy).<br>**Increase financing for Protected Area conservation activities**<br>▪ Support to transform the Nature Conservation Sector (now under the EEAA) into an autonomous body with its own financial rules for revenue generation and re-investment (consultancy)<br>▪ Develop guidelines and instructions for reinvesting revenues (consultancy)<br>**Monitor and assess economic practices that harm biodiversity**<br>▪ Recommend mitigation measures as appropriate (consultancy)<br>▪ Create electronic website for data and information management (consultancy)<br>▪ Develop Mobile app for diving instructors to report on | Risk 2: Negative Unintended Consequences of Policies<br><br>Risk 7: Biodiversity conservation activities<br><br>Risk 8: Enforcement of more restrictive access and practices | ▪ Physical and economic displacement and traditional lifestyles of local herders | ▪ Mitigate negative impacts of physical and economic relocation<br>▪ Community Cultural Heritage and Basic Infrastructure/Service Accessibility<br>▪ Flexible Management of the Protected Areas<br>▪ Consultations Process |
| | | ▪ Gender-based barriers to participation in project activities | ▪ Enhance gender mainstreaming<br>▪ Gender and age inclusive consultation |
| | | ▪ Climate change related impacts on long-term outcomes | ▪ Systematically Include Climate Change Impact Planning in Decision-Making<br>▪ Strengthen Disaster Management<br>▪ Ecological Restoration and Wildlife Rescue |
| | | ▪ Disturbance to the natural environment, wildlife habitats and behaviors | ▪ Public awareness for visitors<br>▪ Development of a nature conservation education plan<br>▪ Visitor entrance system |

| Project Activities | Identified Risks | Potential E&S Impacts if risks materialize | Mitigation Actions |
|---|---|---|---|
| any coral condition or related issues (consultancy)<br>**Design a benefit sharing plan to alleviate loss of access to Nabq National Park by Gharana village**<br>▪ Map resources used by the Bedouin (consultancy and consultation)<br>▪ Prepare an integrated development plan for Gharana village (consultancy)<br>▪ Implement benefit sharing plan<br>▪ Build capacity through training (consultancy)<br>▪ Finance income generating activities (investment)<br>**Develop guidelines for hotels to promote conservation-friendly practices**<br>▪ Update guidelines for Chamber of Hotels (linked to Green Star Certification) to include specific biodiversity related aspects in hotel management (consultancy).<br>**Improve the awareness of hotel staff and guests regarding conservation actions.** | | | |
| **Support the improved management of Ras Mohamed National Park, Nabq National Park and Ras Abu Galum National Park**<br>▪ Agree on integrated management strategies for each identified threat (consultancy and consultation)<br>**Monitor and assess economic practices that harm biodiversity**<br>▪ Recommend mitigation measures as appropriate (consultancy)<br>**Design a benefit sharing plan to alleviate loss of access to Nabq National Park by Gharana village**<br>▪ Map resources used by the Bedouin (consultancy and consultation)<br>▪ Prepare an integrated development plan for Gharana village (consultancy)<br>▪ Implement benefit sharing plan<br>▪ Finance income generating activities (investment) | Risk 9: Gender discrimination | ▪ gender-based barriers to participation in project activities | ▪ Enhance gender mainstreaming<br>▪ Gender and age inclusive consultation |
| **Support the improved management of Ras Mohamed National Park, Nabq National Park and Ras Abu Galum National Park** | Risk 10: Climate change | ▪ Climate change related impacts on long-term outcomes | ▪ Systematically Include Climate Change Impact Planning in Decision-Making |

| Project Activities | Identified Risks | Potential E&S Impacts if risks materialize | Mitigation Actions |
|---|---|---|---|
| ▪ Identify key threats to biodiversity and ecosystems, and the activities causing these threats (consultancy)<br>▪ Agree on integrated management strategies for each identified threat (*consultancy and consultation*)<br>▪ Identify alternative technologies/best practices to minimize and manage threats, including anchoring systems, carrying capacity assessments, zoning and waste management (*consultancy*)<br>**Establish clear baselines for marine, coastal and terrestrial biodiversity**<br>▪ Assess adequacy of available baseline (consultancy)<br>**Monitor and assess economic practices that harm biodiversity**<br>▪ Recommend mitigation measures as appropriate (consultancy)<br>**Improve the awareness of hotel staff and guests regarding conservation actions.**<br>▪ Provide materials for hotel staff and organize workshops regarding the need for environmental stewardship and to recognize the linkages between good environmental ethics and tourism benefits (consultancy and training). | | | ▪ Strengthen Disaster Management<br>▪ Ecological Restoration and Wildlife Rescue |

## 8.6 Monitoring Framework

Implementation of the environmental and social management plan will be evaluated every year in an annual report. The project office and social inclusion specialists will be responsible for tracking the progress of the environmental and social plans and reporting on a quarterly basis.

| Project Activities | Identified Risks | No. | Potential E&S Impacts if risks materialize | Mitigation Actions | Indicators | Monitoring |
|---|---|---|---|---|---|---|
| **Support the improved management of Ras Mohamed National Park, Nabq National Park and Ras Abu Galum National Park**<br>▪ Conduct an assessment of stakeholders, including their roles in activities listed above (*consultancy and consultation*)<br>▪ Agree on integrated management strategies for each identified threat (*consultancy and consultation*)<br>▪ Identify alternative technologies/best practices to minimize and manage threats, including anchoring systems, carrying capacity assessments, zoning and waste management (*consultancy*)<br>▪ Implement new technologies pilots in 1-2 sites, build capacity and monitor effectiveness, and prepare guidelines (*investment and consultancy*).<br>**Improve revenue generation for Protected Areas**<br>▪ Develop a comprehensive financing and resource mobilization plan for South Sinai Protected Areas (consultancy).<br>**Increase financing for Protected Area conservation activities**<br>▪ Support to transform the Nature Conservation Sector (now under the EEAA) into an autonomous body with its own financial rules for revenue generation and re-investment (consultancy)<br>▪ Develop guidelines and instructions for reinvesting revenues (consultancy)<br>**Monitor and assess economic practices that harm biodiversity**<br>▪ Recommend mitigation measures as appropriate (consultancy)<br>▪ Create electronic website for data and information management (consultancy)<br>▪ Develop Mobile app for diving instructors to report on any coral condition or related issues (consultancy)<br>**Design a benefit sharing plan to alleviate loss of access to Nabq National Park by Gharana village**<br>▪ Map resources used by the Bedouin (consultancy and consultation) | Risk 2: Negative Unintended Consequences of Policies<br><br>Risk 7: Biodiversity conservation activities<br><br>Risk 8: Enforcement of more restrictive access and practices | 1 | ▪ Physical and economic displacement and transformative change in traditional lifestyles of local herders | ▪ Providing assistance in developing alternative areas for moving within protected areas development plan<br>▪ Community Cultural Heritage and Basic Infrastructure/Service Accessibility<br>▪ Flexible Management of the Protected Areas<br>▪ Consultations Process | ▪ Number of consultation sessions with community per year (at least one session semi-annually)<br>▪ Number of beneficiaries of local community with Basic/minimum financial support for community income generation activities<br>▪ provided by the project<br>▪ Percentage of natural resources areas accessible to local community based on the approved PA management plan | ▪ Consultation reports<br>▪ Project's records<br>▪ Grievance records log[8] for those have not fair access to natural resources |
| | | 2 | ▪ Enhance gender participation in project activities<br>• | ▪ Enhance gender mainstreaming<br>▪ Gender and age inclusive consultation<br>• | ▪ Number of genders related complains<br>▪ Percentage of women participating in the project activities<br>• Percentage of women participating in the consultation sessions | ▪ Grievance records log<br>▪ Gender segregated project's records<br>• Gender segregated consultation reports |
| | | 3 | ▪ Climate change related impacts on long-term outcomes | ▪ Systematically Include Climate Change Impact Planning in Decision-Making through strengthen the climate change monitoring system and improve forecasting and early warning capabilities.<br>▪ Strengthen Disaster Management<br>▪ Ecological Restoration and Wildlife Rescue | ▪ Number of climate change related policies and measures contributed by PA management<br>▪ Quarterly report of marine life monitoring program | ▪ Green Sharm management report<br>▪ Follow up monitoring program for marine life reports<br>▪ Mangrove restoration progress report |
| | | 4 | ▪ Disturbance to the natural environment, wildlife habitats and behaviors | ▪ Public awareness for visitors<br>▪ Development of a nature conservation education plan<br>▪ Visitor entrance system | ▪ Percentage of visitors that have received public awareness activities (PA visitor log)<br>▪ Number of trained tour guides in nature education<br>▪ | ▪ Public awareness activities for visitors<br>▪ Training records for tour guides<br>▪ |

[8] Green Sharm committee will be responsible for receiving grievances and assigning responsibilities for resolving these grievances. The committee will assign the responsible institution member of the committee who shall receive and report back these grievances.

| Project Activities | Identified Risks | No. | Potential E&S Impacts if risks materialize | Mitigation Actions | Indicators | Monitoring |
|---|---|---|---|---|---|---|
| ▪ Prepare an integrated development plan for Gharana village (consultancy)<br>▪ Implement benefit sharing plan<br>▪ Build capacity through training (consultancy)<br>▪ Finance income generating activities (investment)<br>**Develop guidelines for hotels to promote conservation-friendly practices**<br>▪ Update guidelines for Chamber of Hotels (linked to Green Star Certification) to include specific biodiversity related aspects in hotel management (consultancy).<br>**Improve the awareness of hotel staff and guests regarding conservation actions.** | | | | | | |
| **Support the improved management of Ras Mohamed National Park, Nabq National Park and Ras Abu Galum National Park**<br>▪ Agree on integrated management strategies for each identified threat (consultancy and consultation)<br>**Monitor and assess economic practices that harm biodiversity**<br>▪ Recommend mitigation measures as appropriate (consultancy)<br>**Design a benefit sharing plan to alleviate loss of access to Nabq National Park by Gharana village**<br>▪ Map resources used by the Bedouin (consultancy and consultation)<br>▪ Prepare an integrated development plan for Gharana village (consultancy)<br>▪ Implement benefit sharing plan<br>▪ Finance income generating activities (investment) | Risk 9: Gender discrimination | 9 | ▪ Enhance gender participation in project activities | ▪ Enhance gender mainstreaming<br>▪ Gender and age inclusive consultation<br>▪ | ▪ Same as section 2 | ▪ Same as section 2 |
| **Support the improved management of Ras Mohamed National Park, Nabq National Park and Ras Abu Galum National Park**<br>▪ Identify key threats to biodiversity and ecosystems, and the activities causing these threats (consultancy)<br>▪ Agree on integrated management strategies for each identified threat (*consultancy and consultation*)<br>▪ Identify alternative technologies/best practices to minimize and manage threats, including anchoring systems, carrying capacity assessments, zoning and waste management (*consultancy*)<br>**Establish clear baselines for marine, coastal and terrestrial biodiversity**<br>▪ Assess adequacy of available baseline (consultancy)<br>**Monitor and assess economic practices that** | Risk 10: Climate change | 10 | ▪ Climate change related impacts on long-term outcomes | ▪ Systematically Include Climate Change Impact Planning in Decision-Making<br>▪ Strengthen Disaster Management<br>▪ Ecological Restoration and Wildlife Rescue | ▪ Same as section 3 | ▪ Same as section 3 |

| Project Activities | Identified Risks | No. | Potential E&S Impacts if risks materialize | Mitigation Actions | Indicators | Monitoring |
|---|---|---|---|---|---|---|
| **harm biodiversity**<br>▪ Recommend mitigation measures as appropriate (consultancy)<br>**Improve the awareness of hotel staff and guests regarding conservation actions.**<br>▪ Provide materials for hotel staff and organize workshops regarding the need for environmental stewardship and to recognize the linkages between good environmental ethics and tourism benefits (consultancy and training). | | | | | | |

## 8.7 Stakeholder Engagement

Stakeholder participation at all project levels will contribute to the cost-effectiveness of the project. The governance (Project Board, Technical Coordination Groups) as well as the dialogue platforms will ensure adequate planning and implementation of activities in line with the project objectives, urban sustainability priorities, as well as complementarity with ongoing and planned programs and projects. Coordination mechanisms will be closely linked, ensuring in this manner that stakeholder concerns are up-streamed into higher project management levels and likewise project management decisions are down-streamed to keep stakeholders duly informed. The dialogue platforms will have a key role in this process. The project will benefit from the experiences and knowledge of civil society and private sector participating in the platforms. Systematization of project experiences and lessons learned will contribute to cost-effective upscaling and replication of project results throughout the region and other cities of the country.

*Technical Coordination Groups* will be installed and shall be composed of representatives from institutions and organizations involved in the achievement of Project outcomes, as generally identified below. The working groups will represent thematic priorities of the project and ensure a formal inter-governmental and inter-institutional dialogue throughout the Project duration. Within the first six months of project start-up, it is expected that this initial listing be complemented with other institutions, organizations and private sector companies preliminarily contacted during project design.

The following table presents the responsible partners within the main thematic priorities to be covered by the Project.

**Table 20: Responsibilities within the main thematic priorities to be covered by the Project**

| Project components | Key institutions and organizations involved |
|---|---|
| **Component 1:** Enabling framework for a green sustainable tourism city Sharm El Sheikh | Responsible: Governorate of South Sinai, Municipality of Sharm El-Sheikh, EEAA<br>relevant partners: GOPP, TDA, ETF, UN Habitat |
| **Component 2:** Reducing GHG and UPOP emissions in targeted urban zones through innovations and public and private partnership | Responsible: Municipality of Sharm El-Sheikh, WMRA, ETF<br>Relevant partners: NREA, EGYPTERA, S-Sinai Investors' Association, hotel owners, financing sector, waste management companies, NGOs |
| **Component 3:** Promote enhanced biodiversity protection measures for management and mitigation of key threats | Responsible: EEAA, NCS, ETF (CDWS, EHA)<br>Relevant partners: S-Sinai Investors' Association, Hotel owners/operators, diving centres, travel agencies, NGOs |

Table 21: Role of Stakeholders in the implementation of the ESMP

| Stakeholders | Role in Project Implementation |
|---|---|
| **Responsible partners** | |
| **EEAA** | Supervision |
| **NCS** | Monitoring |
| **South Sinai Protected Areas (Ras Mohamed, Nabq, Abu Galum)** | Site Monitoring |
| **ETF (CDWS, EHA)** | Partial implementation |
| **Relevant partners** | |
| **South Sinai Investor Association** | Beneficiaries |
| **Hotel owners/operators** | Beneficiaries |
| **Diving centers** | Beneficiaries |
| **Travel agencies** | Beneficiaries |
| **NGO's** | Resource users |
| **Local Community** | Resource users and beneficiaries |

## 8.8 Grievance Redress Mechanism

### 8.8.1 Purpose of the Grievance Redress Mechanism

During implementation, and particularly construction phases of any project, a person or group of people can be adversely affected, directly or indirectly due to the project activities. The grievances that may arise can be related to social issues such as eligibility criteria and entitlements, disruption of services, temporary or permanent loss of livelihoods and other social and cultural issues. Grievances may also be related to environmental issues such as excessive dust generation, damages to infrastructure due to construction related vibrations or transportation of raw material, noise, traffic congestions, decrease in quality or quantity of private/ public surface/ ground water resources during irrigation rehabilitation, damage to home gardens and agricultural lands, etc.

UNDP has policies of information disclosure and transparency; this includes ensuring that stakeholders who may be adversely affected by the project can communicate their concerns and grievances. The Grievance Redress Mechanism (GRM) is for people seeking satisfactory resolution of their complaints on the environmental and social performance of the component 3 activities in Green Sharm project.

The GRM provides a process to ensure that:

- The basic rights and interests of every person affected by poor environmental performance or social management of the project are protected; and
- Concerns arising from the poor performance of the project during the phases of design, construction and operation activities are effectively and timely addressed.

While recognizing that many complaints may be resolved immediately, the Complaints Register and Grievance Redress Mechanism encourages mutually acceptable resolution of issues as they arise. The Complaints Register and Grievance Redress Mechanism has been designed to:

- be a legitimate process that allows for trust to be built between stakeholder groups and assures stakeholders that their concerns will be assessed in a fair and transparent manner;
- allow simple and streamlined access to the Complaints Register and Grievance Redress Mechanism for all stakeholders and provide adequate assistance for those that may have faced barriers in the past to be able to raise their concerns;
- provide clear and known procedures for each stage of the Grievance Redress Mechanism process, and provides clarity on the types of outcomes available to individuals and groups;
- ensure equitable treatment to all concerned and aggrieved individuals and groups through a consistent, formal approach that, is fair, informed and respectful to a concern, complaints and/or grievances;
- to provide a transparent approach, by keeping any aggrieved individual/group informed of the progress of their complaint, the information that was used when assessing their complaint and information about the mechanisms that will be used to address it; and
- enable continuous learning and improvements to the Grievance Redress Mechanism. Through continued assessment, the learnings may reduce potential complaints and grievances.

### 8.8.2 Structure of the GRM

There are two-tier Grievance Redress Mechanism structure: tier one is for issues that can be resolved at the site or project level; while tier 2 is for more complex issues that cannot be readily resolved at the site or project level and therefore require escalating This is because it is anticipated that many complaints will be able to be readily resolved at the contractor/project level e.g., noise or dust complaints discussions between contractor and stakeholders. While more complex or significant grievances are likely to require escalation to the second tier of the GRM – the Grievance Redress Committee (GRC). The CRC may make recommendations to the Board for resolution of issues that required Board approval or Government intervention.

In addition to the project-level and national grievance redress mechanisms, complainants have the option to access UNDP's Accountability Mechanism.

Green Sharm committee will be responsible for receiving grievances and assigning responsibilities for resolving these grievances, the committee will built on the current grievance system.

- **Composition**
  The GRM will be administered by Green Sharm Project on behalf of UNDP and an ad hoc GRC in response to specific requests for grievance The GRC will be balanced in composition (government and non-government).

  In its role as GRM secretariat, Green Sharm project will perform the following core functions:
  - Publicize the existence of the GRM and the procedure for using it
  - Receive and log requests for dispute resolution
  - Acknowledge receipt to the requestor
  - Determine eligibility
  - Assign responsibility for review and action
  - Track and document efforts at grievance/dispute resolution and their outcomes.

  The Grievance Redress Committee will perform the following core functions:
  - Take direct action to resolve the grievance/dispute (e.g., bring the relevant parties together to discuss and resolve the issue themselves with oversight by the Project Board);
  - Request further information to clarify the issue, and share that information with all relevant parties, or ensure that a government agency represented on the Project Board took an appropriate administrative action to deal with a complaint;
  - Refer the grievance/dispute to the Project Board and/or independent mediation, while maintaining oversight; or
  - Recommend referral to the government or legal system (e.g., to the courts) if the issue is outside the mandate of the Project Board to resolve.

### 8.8.3 Disclosure of the GRM

Local communities and other stakeholders will be advised of the existence of the GRM and its operation. This shall be done via several mechanisms:

- During stakeholder meetings and workshops.
- A one-page brochure, clearly outlining the existence of the GRM, the processes included and the contact details of the project community focal point/administration officer. The brochure shall be in Arabic.
- Public notice boards.
- Green Sharm website, newsletter, and social media feeds.

### 8.8.4 Complaints Process

The Complaints process is for people seeking satisfactory resolution of their complaints on the environmental and social performance of component 3 activities of the Green Sharm project.

This Process is consistent with the Project's Environment and Social Management Plan.

For the purpose of this procedure, a community grievance or complaint is a notification provided to Green Sharm project by a community member or group that they have suffered some form of offence, detriment, impairment or loss as a result of Components 3 activities and/or employee or contractor behavior. The overall process is summarized in **Figure 23** below.

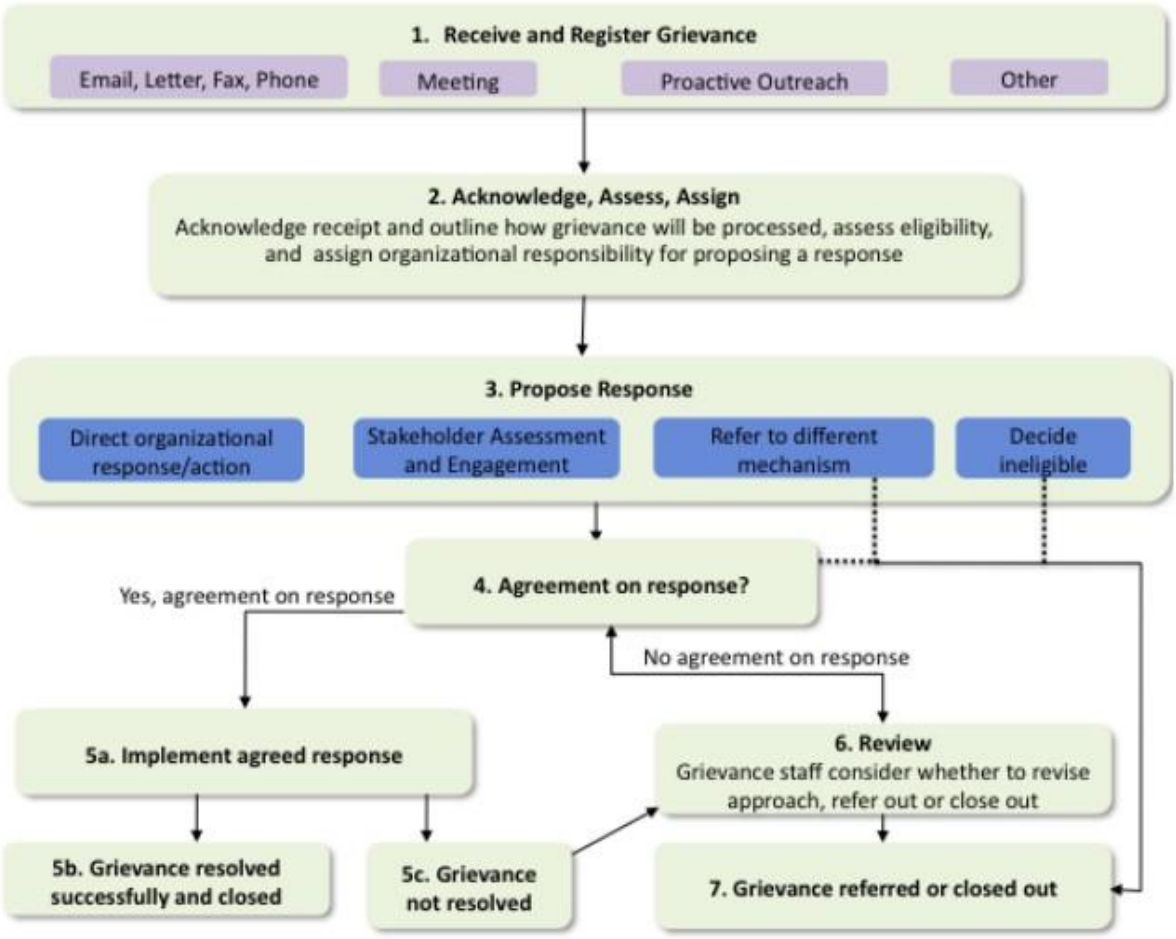


**Figure 23: General overview of grievance redress process**

- **Lodging a complaint**
  Anyone can make a complaint or grievance, ask for information on the project or get in touch for any project related reason. The various ways to get in touch are:
  - By Phone: ######
  - By email: #########
  - By mail: #################
  - In person: by visiting Green Sharm Project Office.
  - Via the Green Sharm website: ########

**Information to be included in a Grievance**

The Grievance should include the following information:

- Name of the individual or individuals making the Complaint (the "Claimant")
- A means for contacting the Claimant (email, phone, address, other)
- If the submission is on behalf of those alleging a potential or actual harm, the identity of those on whose behalf the Grievance is made, and written confirmation by those represented of the Claimant's authority to lodge the Grievance on their behalf
- The description of the potential or actual harm
- Claimant's statement of the risk of harm or actual harm (description of the risk/harm and those affected, names of
- The individual(s) or institutions responsible for the risk/harm, the location(s) and date(s) of harmful activity)
- What has been done by Claimant thus far to resolve the matter
- Whether the Claimant wishes that their identity is kept confidential; and
- The specific help requested from the GRM.

However, complainants are not required to provide all of the information listed above. Initially, the complainant need only provide enough information to determine eligibility. If insufficient information is provided, the Green Sharm project has an obligation to make a substantial, good faith effort to contact the complainant to request whatever additional information is needed to determine eligibility, and if eligible, to develop a proposed response.

**Eligibility criteria for the Grievance Redress Mechanism**

There is a procedural step for the assessment of eligibility for the GRM to ensure that the issue being raised is relevant to project. Eligibility will be determined based on the following four criteria:

- Does the complaint indicate that the program has caused a negative economic, social, or environmental impact on the complainant, or has the potential to cause such an impact?
- Does the complaint specify what kind of impact has occurred or may occur, and how the program has caused or may cause that impact?
- Does the complaint indicate that those filing the complaint are the ones who have been impacted, or are at risk of being impacted; or that those filing the complaint are representing the impacted or potentially impacted stakeholders at their request?
- Does the complaint provide enough information for GRM staff to decide on the first three questions?

- **Management of Complaints**

  The key to the successful management of community complaints is to act immediately. Proactively resolving complaints and disputes early is preferable rather than allowing community issues to escalate. Most

complaints can be resolved quickly and satisfactorily by:
- Dealing with complaints in persons
- Apologizing for inadvertent breaches
- Rectifying root causes
- Assuring complainants of future preventative action.

Wherever possible, the project team will seek to resolve the complaint as soon as possible, and thus avoid escalation of issues. However, where a complaint cannot be readily resolved, then it must be escalated.

**Complaints Register**

All complaints or grievances are entered into a register to enable tracking of each complaint/grievance. When a complaint is received the following information is to be recorded:
- Complaint number/identifier
- Date complaint received
- Complainants contact details (name, address, phone / fax, email)
- Details of complaint
- Receiving officer/medium (letter, email, verbal).

Complaint records (letter, email, record of conversation) are stored together, electronically or in hard copy. Each record has a unique identifier.

**Process for Managing Complaints**

The complaints and GRM process, including durations of each step are shown in

**Table** ***22*** Key features of the process are outlined below:

- When a complaint is received, the recipient of the complaint will be the Administrative Officer to immediately ensure there is awareness of the complaint. The Green Sharm Project Manager shall notify the person and/or the contractor responsible for the implementation of that particular activity for Component 3 activities in writing within 48 hours of awareness of the formal complaint.
- Each complaint will be acknowledged so that complainant is aware that complaint has been received.
- Complaints will be assessed for eligibility. If a complaint is found not be related to Green Sharm activities, then the complainant will be informed accordingly in writing and the complaint will be considered as closed
- Each complaint or grievance will have an action for addressing and closing out.
- Contractor or staff of the Green Sharm can address issues onsite as required. If necessary, meetings will be held with the concerned affected persons / complainant and the concerned officer to find a solution to the problem and develop plans to redress the grievance. Issues raised and resolved on-site should be registered in the complaints register the logging of these informal resolutions encourages responsiveness; and ensures that repeated or low-level grievances are being noted in the system.
- Use of community leaders and customary methods of conflict resolution is encouraged if necessary and appropriate when an issue is raised.
- If an issue/complaint cannot be resolved onsite, it is elevated to the Green Sharm Project Manager for resolution. If the Green Sharm Project Manager cannot resolve the issue, it is escalated to Tier 2 i.e., it is referred to the ad hoc Grievance Redress Committee.
- Every possible effort should be made by the Green Sharm and contractor to resolve the issues referred to in the complaint within their purview. However, there may be certain problems that are more complex and cannot be solved through project-level mechanisms. Such grievances will be referred to the Grievance Redress Committee.
- All simple complaints and grievances must aim to be closed out within 1 month. Complex complaints should aim to be closed out within 3 months or deferred to the Grievance Redress Committee.
- The Grievance Redress Committee will hold the necessary meetings with the aggrieved party/complainant and the concerned officer and attempt to find a solution acceptable at all levels.
- Grievance Redress Committee will communicate proposed responses to the complainant formally (including when issues have been escalated to the Project Board). If the proposed response satisfies the complainant, the response will be implemented, and the complaint and/or grievance closed. In cases where a proposed response is unsatisfactory to the complainant, the Grievance Redress Committee may choose to revise the proposed response to meet the complainant's remaining concerns, or to indicate to the complainant that no other response appears feasible

to the Grievance Redress Committee. The complainant may decide to take a legal or any other recourse if s/he is not satisfied with the resolutions due to the deliberations of the two tiers of the grievance redress mechanism.

- The deliberations of the meetings and decisions taken are recorded. All meetings in connection with the Grievance Redress Mechanism, including the meetings of the Grievance Redress Committee, must be recorded.
- Following completion of the agreed corrective action, a complaint can be closed. Actions taken are to be documented to evidence compliance e.g., photos, report or any supporting document. Acknowledgement from the complainant that appropriate actions have been undertaken and that complaint can be closed should be obtained, this is best done using a standardized complaint close out form. Once the form is completed, then the complaint can be closed in the complaint register.
- Details of all complaints and their responses status shall be provided in monthly reports to the PMU.

**Table 22: Summary of Key Grievance Redress Mechanism Steps and their Durations**

| Step | Process | Duration |
|---|---|---|
| 1. | Affected person (AP) makes complaint to the Green Sharm Project | Anytime |
| 2. | Complaint is logged in Complaint Register | 24 |
| 3. | Green Sharm receives the issue and in consultation with the implementer of the component 3 activities or whoever the complaint is directing towards (if appropriate) and assigns responsible person. Complainant notified of complaint registration and commencement of resolution process. | 48 hours |
| 4. | Green Sharm reports back to AP and gets clearance from the complainant | 15 days |
| 5. | Agreed actions are implemented and confirmation of satisfactory outcome obtained. | 1-3 months |
| 5. | Complaint closed out in complaint register. | 1-3 months |
| **If unresolved** | | |
| 6. | Green Sharm takes grievance to the Grievance Committee for resolution | As soon as it is apparent that issue cannot be resolved at project level or after 1 month, whichever comes first |
| 7. | Grievance Redress Committee meets and initiates second tier of resolution process. | Within 4 weeks of matter being referred |
| 8. | Grievance Redress Committee will communicate proposed responses to the complainant formally (including when issues are escalated to the Project Board). | Within 3 months |
| 9. | The response will be implemented, and the complaint and/or grievance closed | GRC to advise on timeframe |
| **If unresolved or if at any stage AP is not satisfied** | | |
| AP can take the matter to appropriate national court | | As per the judicial system |
| AP can utilize UNDP redress mechanisms | | As per institutions timeframes |

**Maintaining Communication and Status Updates**

Files for each Grievance will be available for review by the Claimant and other Stakeholders involved in the Grievance, or their designated representative(s). Appropriate steps will be taken to maintain the confidentiality of the Claimant if previously requested.

Green Sharm project will provide periodic updates to the Claimant regarding the status and current actions to resolve the Grievance.

Not including the acknowledgment of receipt of the Grievance, such updates will occur within reasonable intervals (not greater than every thirty (30) days).

**Grievance Redress Committee**

As noted above, a Grievance Redress Committee will be formed expressly for the purpose of resolving issues that cannot be readily solved by the Green Sharm project team and/or contractor. The Grievance Redress Committee represents a second tier of complaint resolution and therefore issues that cannot be readily resolved will be escalated to the Committee.

The GRM Committee is not a statutory body, nor has it authority to make project decisions that would require Board approval. The GRM Committee is a mediating body that will make recommendations for the resolution of complaints – these recommendations will be presented to the Project Board and/or appropriate authority for agreement and implementation.

At any point after receiving a Grievance and through to implementation of the proposed solution and way forward, the GRC may seek the technical assistance and/or an advisory opinion from any entity reasonably be believed to be of assistance.

The objectivity, transparency and credibility of the Grievance Redress Committee is of paramount importance to the success of the GRM process, and to maintaining good relations among stakeholders.

The Grievance Redress Committee will be made up of:
- Committee Chair – GEF
- Green Sharm Project Manager
- Community Leaders
- Community representatives
- Representative from the South Sinai Governorate

In accordance with the UN rules on ethical conduct, all members of the Grievance Redress Committee must declare any conflict of interests, actual or potential, with respect to grievances submitted for consideration.

The Terms of Reference for the Grievance Redress Committee are:
- providing support to the affected persons in solving their problems
- prioritize grievances and resolve them at the earliest
- provide information to the Project Board on serious cases at the earliest opportunity
- coordinate with the aggrieved person/group and obtain proper and timely information on the solution worked out for his/her grievance
- study the normally occurring grievances and advise PMU and Project Board on remedial actions to avoid further occurrences.

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# Annex A: Field Visit Report