

ANNEX 5.1

Environmental and Social Considerations Survey

Final Report

(March 2012)

ORIENTAL CONSULTANTS Co., LTD
Tokyo – Japan

**Environmental and Social Considerations Survey
Preparatory Survey to Establish a Wind Farm at the
West Nile Valley in the Arab Republic of Egypt**

FINAL REPORT



March 2012
Project No. 604

Submitted by



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Contents

EXECUTIVE SUMMARY

CHAPTER – 1.: INTRODUCTION

- 1.1 PREAMBLE
- 1.2 BACKGROUND
- 1.3 OBJECTIVES
- 1.4 SURVEY AREA
- 1.5 SCOPE OF THE SURVEY
 - 1.5.1 Site Reconnaissance
 - 1.5.2 Data Collection and Field Survey
 - 1.5.3 Data Analysis and Reporting

CHAPTER – 2.: METHODOLOGY

- 2.1 FIELD RECONNAISSANCE TRIP
- 2.2 SITE SURVEY TRIP
- 2.3 PLAN AND METHODOLOGY OF PROJECT SURVEY
 - 2.3.1 First : Climate Conditions, Geology and Hydrogeology of the Project Area
 - 2.3.2 Second: Terrestrial Ecology
 - 2.3.3 Third : Land Use/Land Cover
 - 2.3.4 Fourth: Socio-Economic Survey
 - 2.3.5 Fifth: GIS Processing
- 2.4 EXPECTED SOURCES OF DATA COLLECTION
- 2.5 EXPECTED INTERVIEWEES FOR DATA COLLECTION
- 2.6 SURVEY SCHEDULE

CHAPTER – 3.: POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

- 3.1 RELEVANT ENVIRONMENTAL POLICY, LEGAL AND ADMINISTRATIVE ISSUES
- 3.2 GOVERNMENT OF EGYPT LAWS AND REGULATIONS
- 3.3 EGYPTIAN REQUIREMENTS FOR AN ESIA
- 3.4 EGYPTIAN LAND ACQUISITION / PURCHASE LEGISLATION
 - 3.4.1 Applicable Social Legislation in Egypt
 - 3.4.2 Land Tenure
 - 3.4.3 Egyptian Civil Code
 - 3.4.4 Expropriation of Ownership for Public Interest (Law 10/1990)
 - 3.4.5 Transfer of Ownership and Compensation
 - 3.4.6 Valuation and Compensation Methods
 - 3.4.7 Crop Compensations:
- 3.5 INTERNATIONAL ENVIRONMENTAL COMMITMENTS
 - 3.5.1 Global Conventions
 - 3.5.2 Regional Conventions
 - 3.5.3 Nature Conservation Conventions

CHAPTER – 4.: PHYSICAL ENVIRONMENT

- 4.1 CLIMATE AND METEOROLOGY
 - 4.1.1 Introduction
 - 4.1.2 Regional Climatic Conditions
- 4.2 GEOLOGY, TOPOGRAPHY AND HYDROLOGY
 - 4.2.1 Regional Geomorphic Features
 - 4.2.2 Geological Setting
 - 4.2.3 Structural Setting
 - 4.2.4 Natural Resources
 - 4.2.5 Water Resources
 - 4.2.6 Natural Hazards
- 4.3 SOURCES OF POLLUTION IN THE AREA
 - 4.3.1 Sources of Pollution
 - 4.3.2 Policies of Cutting-down Pollution

CHAPTER – 5.: BIOLOGICAL ENVIRONMENTAL

- 5.1 INTRODUCTION
- 5.2 APPLIED METHOD
 - 5.2.1 Floral Species
 - 5.2.2 Faunal Species
- 5.3 FINAL RESULTS
 - 5.3.1 Floral Species

- 5.3.2 Faunal Species
- 5.4 CONCLUSION

CHAPTER – 6. : SOCIO -ECONOMIC ENVIRONMENT

- 6.1 SOCIAL ENVIRONMENTAL CONDITIONS
 - 6.1.1 Socio-economic Character
 - 6.1.2 Main Infrastructure Facilities in the Survey Area
 - 6.1.3 Nomadic Groups in the Project Area \
 - 6.1.4 Working Environment of Quarries Residents
- 6.2 LANDSCAPE, HISTORICAL AND CULTURAL HERITAGE
 - 6.2.1 Local Distribution
 - 6.2.2 Urbanization Trends
 - 6.2.3 Historical and Cultural Heritage
 - 6.2.4 Languages and Religions
- 6.3 MAIN FINDINGS
 - 6.3.1 Household and Poverty Indicators
 - 6.3.2 Characteristics of the Project Area

CHAPTER – 7.: DATA ANALYSIS: GIS DATA BASE

- 7.1 STRUCTURE OF THE GIS DATA BASE
 - 7.1.1 Data Acquisition
 - 7.1.2 Satellite Image
 - 7.1.3 Image Processing
 - 7.1.4 Geographic Information System (GIS)
 - 7.1.5 Scanning the Topographic Maps
- 7.2 FIELD SURVEY
- 7.3 TERRESTRIAL ECOLOGY
- 7.4 ENVIRONMENTAL CONSTRAINTS:
OUTPUT STUDY MAPS

CHAPTER – 8.: CONCLUSION AND RECOMMENDATIONS

- 8.1 MAIN FINDINGS
 - 8.1.1 Policy, Legal and Administrative Framework
 - 8.1.2 Physical Environment
 - 8.1.3 Biological Environment
 - 8.1.4 Socio-economic Environment
- 8.2 GENERAL CONCLUSION
 - 8.2.1 Key positive Impacts

8.2.2 Key Negative Impacts

8.3 RECOMMENDATIONS

8.3.1 Environmental Characterization for the Survey Area

8.3.2 Recommendations for the Implementation Process

APPENDICES :

- Appendix – A : Map of Flora and Fauna Reconnaissance Trips
- Appendix –B : Site Reconnaissance and Site Survey Trips: Selected Photos
- Appendix – C : Socio-economic Survey Questionnaires
- Appendix – D : Law 4/1994 (Law on the Environment) and the Prime Minister's Decree No. 338 of 1995, Promulgating Executive Regulation of the Law (Updates up to 2010)
 - 1. English Version
 - 2. Arabic Version
- Appendix – E : Overview of the Water Usage and Liquids-related Laws & Decrees
- Appendix – F : Guidelines for the "Egyptian Environmental Impact Assessment"- Update of January 2009 (English and Arabic)
- Appendix – G : Climate Information Available for the EI-Minya Area
- Appendix – H : Mean Concentrations of Gaseous Air Pollutants at Two Locations in the EI-Minya Governorate
- Appendix – I : Some of the Recorded Flora and Fauna Species
- Appendix – J : More Details on the Socio-economic Characteristics of the EI-Minya and Beni-Suef Governorates
- Appendix – K : Nomadic Groups and Living Style of the Bedouins
- Appendix – L : Characteristics of Households and Poverty Indicators
- Appendix – M : Elaboration on the Thematic Maps Produced for the Survey Study

List of Abbreviations and Acronyms

ACG	Al-AMAR Consulting Group S.A.
CAA	Competent Administrative Authority
CAPMAS	Central Agency for Public Mobilization and Statistics
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
DEM	Digital Elevation Model
EEAA	Egyptian Environmental Affairs Agency
EETC	Egyptian Electricity Transmission Company
EHRD	Egyptian Human Development Report
EIA	Environmental Impact Assessment
ESA	Egyptian Survey Authority
ESIA	Environmental and Social Impact Assessment
ETM	Enhanced Thematic Map
FGDs	Focus Group Discussions
GIS	Geographical Information System
GoE	Government of Egypt
GPS	Geographical Positioning System
H ₂ S	Hydrogen Sulfide
HCHO	Aldehydes
HDR	Human Development Report
JICA	Japan International Cooperation Agency
MALR	Ministry of Agriculture and Land Reclamation
MoEE	Ministry of Electricity and Energy
MSS	Multi-spectrum Scanned (Image)
MWRI	Ministry of Water Resources and Irrigation
NARSS	National Authority for Remote Sensing and Space Sciences
NGOs	Non Governmental Organizations
NO _x	Nitrogen Oxides
NREA	New and Renewable Energy Authority
OC	Oriental Consultants Co. Ltd.

PM ₁₀	Particulate Maters of 10 micron Diameter
RIGW	Research Institute for Ground Water
SIP	Survey Implementation Plan
SO ₂	Sulfur Dioxide
SO _x	Sulfur Oxides
TLVs	Threshold Limit Values
TM	Thematic Map
TSP	Total Suspended Particulates

List of Tables

Table 3-1	Principal Environmental Laws, Decrees and Regulations
Table 3-2	Summary of the Egyptian EIA System and Comparison with the World Bank
Table 4-1	Meteorological Stations in the El-Minya Governorate
Table 4-2	Sources of Pollution in the El-Minya and the Beni-Suef Governorates
Table 4-3	Policies of Cutting-down Pollution in both of the El-Minya and the Beni-Suef Governorates
Table 5-1(A)	List of the Recorded Plant Species in the Study Area and their Taxonomic Families and Life Forms
Table 5-1(B)	List of the Recorded Plant Species in the Study Area with Local Names
Table 5-2	Recorded Plant Species in the Study Area, Coordinates of the Sites and Quadrates
Table 5-3 (A)	Recorded Fauna Species in the Study Area
Table 5-3 (B)	Recorded Fauna Species in the Study Area with Local Names
Table 5-4	Frequency and Percentage of Different Animal Species Collected from Different Ecological Sites
Table 6-1	Population and Households Size in both of the El-Minya and Beni-Suef Governorates, 2007
Table 6-2	Basic Socio-economic Characteristics
Table 6-3	Energy Data for the El-Minya and Beni-Suef Governorates, 2007
Table 6-4	Use of the Petroleum Products in the El-Minya Governorate, 2007
Table 6-5	Building Distribution by Connection to Public Utilities (Natural Gas & Electricity) in the El-Minya Governorate according to Preliminary Results of Population, Housing & Establishments Census 2007
Table 6-6	Communications Services in The El-Minya and Beni-Suef Governorates, 2007
Table 6-7	Transport Services and Roads in the El-Minya and Beni-Suef Governorates, 2007
Table 6-8	Administrative Division of the El-Minya and Beni-Sueif Governorates
Table 6-9	Distribution of area and land use in the El-Minya and Beni-Sueif Governorates
Table 6-10	Distribution of Squatter and Unsafe Areas in the El-Minya and Beni-Sueif Governorates
Table 7-1	List of Thematic Maps Produced by the Study

EXECUTIVE SUMMARY

- Figure 4-19 Sketch Map of the Structural Aspects of the Nubian – Arabian Shield Margin in Northern Egypt and Sinai. The study area is located within the unstable shelf. (After Schlumberger, 1984)
- Figure 4-20 Sand Dune Change Detection (After El-Gammal , 2010)
- Figure 5-1 The Spatial Distribution of Flora Species over the Proposed Study Area
- Figure 5-2 The Spatial Distribution of Fauna Species over the Proposed Study Area
- Figure 6-1 Electrical Network of the El-Minya Governorate Region, 2010
- Figure 7-1 The Proposed Study Area with Topographic Features
- Figure 7-2 The Acquired Satellite Images in the years 1984 and 2001
- Figure 7-3 Unsupervised Classification of Satellite Images dated 1984 and 2001 of the Study Area
- Figure 7-4 Supervised Classification for TM Satellite Image (1984) for the Study Area
- Figure 7-5 Supervised Classification for TM Satellite Image (2001) for the Study Area
- Figure 7-6 Mosaic of Topographic Maps Available for the Study Area
- Figure 7-7 Route Line of the Field Study Team Movement during the Field Work
- Figure 7-8 Population Distribution in the El-Minya and Beni-Suef Governorates
- Figure 7-9 Land-use Map showing Main Classes of the Study Area in the Year 2011
- Figure 7-10 Mining and Agriculture Activities in the Study Area
- Figure 7-11 Selected Ecological Sites for the ISP
- Figure 7-12 Distribution of Fauna Species in the Study Area
- Figure 7-13 Distribution of Flora Species in the Study Area
- Figure 7-14 Geological Map of the Study Area
- Figure 7-15 Some Photos for Geological Observations over the Study Area
- Figure 7-16 Geomorphological Map of the Study Area
- Figure 7-17 Some Photos for Geomorphological Observations over the Study Area
- Figure 7-18 Topographic Map for the Study Area
- Figure 7-19 Hydrogeological Map for the Study Area
- Figure 7-20 Seismicity Map of the Study Area
- Figure 7-21 Electrical Transmission Lines Crossing the Study Area
- Figure 7-22 Road Network and Mobilization Route of Nomadic People
- Figure 7-23 Historical and Cultural Heritage in the El-Minya Governorate
- Figure 7-24 Sand Dunes in/or around the Study Area
- Figure 8-1 Environmental Characterization for the Survey Area

ORIENTAL CONSULTANTS Co., LTD Tokyo – Japan

Environmental and Social Considerations Survey Preparatory Survey to Establish a Wind Farm at the West Nile Valley in the Arab Republic of Egypt

EXECUTIVE SUMMARY

1. INTRODUCTION

AL-AMAR Consulting Group S.A. (ACG), a private consulting firm in Egypt was commissioned by the Oriental Consultants Co. Ltd. (OC), a Japanese company situated in Shibuya-ku, Tokyo to prepare the technical documents and procedures required by the Japan International Cooperation Agency (JICA) concerning the Environmental and Social Considerations Survey, a preparatory Survey to Establish a Wind Farm at the West Nile Valley in the Arab Republic of Egypt (Phase 1).

The New and Renewable Energy Authority (NREA), a Authority affiliated to the Egyptian Ministry of Electricity & Energy (MoEE) is seeking financial assistance from the JICA for the establishment of a Wind Farm at the West Nile Valley. The proposed project is designated as a Category (A) project under JICA rules and as a Category (C) project under the Egyptian environmental regulations and therefore requires, as per the EEAA regulations, a full Environmental and Social Impact Assessment (ESIA). The entire wind farm project with its related ESIA studies is conditioned first by investigating the environmental and social conditions in the survey area and utilizing the results for further ESIA Study for the purpose of obtaining approval for a proposed wind farm project. Financing from JICA is conditional upon obtaining the environmental clearance from all the Egyptian regulatory authorities & the JICA.

It is the intention of the Oriental Consultants to utilize the results of the ES Survey, conducted in Phase 1 of the survey, for the ESIA study in Phase 2 as effective as possible.

The aim of the Survey is to assess the 4,200 km² area allocated by the Government of Egypt (“GoE”) under the presidential decree No. 319 for the Year 2009 for possible wind power utilization, and to identify the most promising area for a 200 MWe wind park, while considering other wind parks that may be proposed by the GoE for that area.

This "Survey Report" presents the survey effort that has been conducted for investigating the Environmental and Social Considerations within the entire Survey Area.

The Survey Area is located in the desert area to the west to north-west of the city of El-Minya. However, due to height limitations on approximately 600 km² inside the allocated land, a reduced area of approximately 3,600 km² is considered for the wind farm development.

2. METHODOLOGY

FIELD RECONNAISSANCE AND SITE SURVEY

First field reconnaissance trip has been conducted by the study team which comprised four senior experts and four assistant experts during the period: Wednesday, 15– Sunday, 19 June 2011.

Second reconnaissance trip (Residual Reconnaissance) has been, also, conducted by the ecological (flora and fauna) team members during the period: Wednesday, 27- Sunday, 31 July 2011.

Site survey trip has been conducted for several days during September 2011 and additional site survey for more verification and validation has been conducted in November 2011.

PLAN AND METHODOLOGY OF PROJECT SURVEY

Based on the work exerted for the reconnaissance task, a detailed survey plan is specified as follows.

- ***First : Geology and Hydrogeology of the Project Area***

During reconnaissance trip , about 20 field stations, distributed on the study area, were investigated.

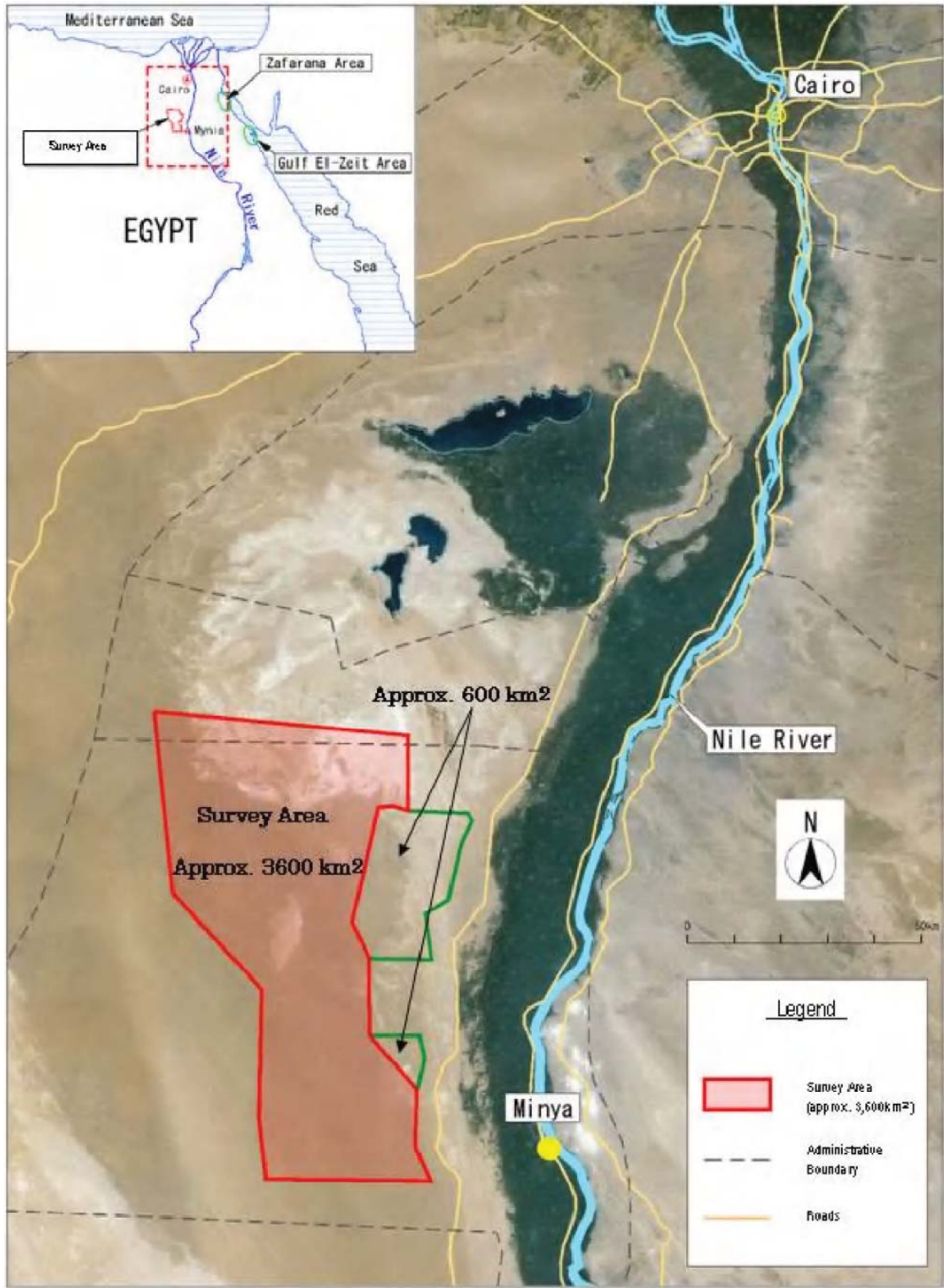
The plan implementation included surveys of the geological & physical resources Climatic conditions, Geomorphology, Geology, Hydrogeology, and Geological Hazards (Earthquakes , Sand dune encroachments)as well as mineral resources.

The Objectives was to study the geomorphology, geology (stratigraphic sequences, tectonics and the geological hazards) prevailing in the Study Area.

Method of implementation comprised:

- Use of topographic maps , satellite Images , GPS , Compass to survey the area under considerations
- Conduct field trip survey and collect data and information.
- Establish a data base using GIS techniques.

Figure-1
The Survey Area



- **Second: Terrestrial Ecology**

- **Floristic Analysis**

The plan was prepared based on site reconnaissance trip. Floristic analysis was carried out via selection of sites for sampling depending on the change in the vegetation structure and composition over the study area.

The survey included the sites based on vegetation pattern. Each site was Georeferenced using GPS device (Magellan GPS 315). Vegetation for each site was analyzed using quadrature methods (20x20m) that were positioned to represent the site vegetation pattern and floristic species.

The taxonomical nomenclature of the plant species in the study area was based on basic literature books [Täckholm (1974) and Boulos (1995, 1999, 2000, 2002 and 2005)], as well as the authentic herbarium material deposited in Cairo University Herbarium (CAI).

- **Faunal Analysis**

The unit of biodiversity was measured. Data collected could be either qualitative (presence/absence, also known as binary) or quantitative, in which the number of individuals for each species was counted. Small mobile animals such as insects were captured using traps or nets, while plants were visually identified in the field. Animals of the study area were traced during the survey through the animal foot prints, feathers, insects as well as flying birds rodents.

- **Third : Land Use/Land Cover**

Field work aimed at covering the study area and achieving the following:

- Verify salient photo-identified natural features;
- collect field observations and samples to support proposed thematic maps;
- collect field information that is valuable for the survey;
- check the results of satellite image analyses; and
- record types of fauna and flora over the study area.

Laboratory Work included:

- Identification and mapping of main natural features of the study area using available photo mosaics, and satellite images.
- Compilation of spatial data for thematic maps.
- Analyses and identification of all collected field samples.

- **Fourth: Socio-Economic Survey**

The main objective of the Socio-economic survey was to develop a socioeconomic profile for the areas that would host the project. to highlight the structure of the communities in, and surrounding to, the project area. Thus, the following objectives have been covered:

- Determine the socioeconomic conditions of the community hosting the project, as well as, identify the families and different social groups in the community.
- Identify potential obstacles that might face the project during implementation phase.
- Highlight the legislations under which the project will be implemented, in case of expropriation of lands^(*).
- Address the land use and investigate the willingness of illegal possessors of lands to be expropriated.
- Determine the preliminary perception towards the project and the level of acceptance and develop appropriate strategies to enhance the acceptance of the project.
- Investigate the potential community support that might be provided for the project.

The team has developed a cross-sectional study that uses a multi-methodological approach including primary data and secondary data.

Historical and cultural heritage included old monuments, religious buildings and other features that relate to any historic or cultural value.

The process has been applied to:

- Reviewing legislation to identify any restrictions on certain categories of cultural heritage;
- Collecting Maps which may reveal such information as field boundaries that conserve traces of ancient roadways, and other cartographic evidence of cultural heritage;

No air quality measurements were conducted in saharian (Desert) areas.

Air pollution sources were to be identified first through data collected and documents available on the survey area. Air Quality measurements were conducted only at these locations for main pollutants (i.e. SO_x, NO_x, TSP, PM₁₀).

• **Fifth: GIS Processing**

Referring to the GIS work, and upon reviewing an example received from OC, GIS work was produced for the study area and the following layers have been built:

- Land use / land cover map.
- Topographic maps (DEM).
- Socioeconomic map (Culture Heritage, housing sites, economic activities, etc).
- Ecology map (fauna and flora sites).
- Sand dunes dynamic map (movement rate, direction etc).
- Geological map (geomorphology, hydrogeology, etc).

(*) Regardless of having a decree to allocate lands by the governor in some cases, the project might find illegitimate possession of land.

Moreover, the evaluation approach has been done in both ways: quantitatively and scoring.

3. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

RELEVANT ENVIRONMENTAL POLICY, LEGAL AND ADMINISTRATIVE ISSUES

The environmental policy, legal and administrative framework which is relevant to the permitting of the Wind power plant comprises the following:

- Requirement to conduct an ESIA to accompany the development of the wind power plant.
- Regional development planning, which must be addressed in the development of the wind power plant, in particular:
 - Land use planning and control;
 - siting;
 - protection of land owners and potentially affected communities;
 - protection of environmentally sensitive areas;
 - protection of endangered species; and
 - Integrated Coastal Zone Management.
- Environmental standards which must be considered in the design, layout, construction and operation of the power plant, including:
 - Atmospheric emissions;
 - generation and disposal of liquid effluents;
 - generation and disposal of solid wastes;
 - ambient environmental quality; and
 - health and safety.

Each of these aspects is to be reviewed. In each case, both the Egyptian and International standards (represented by the Donor Agency's standards) and guidelines are to be considered, to reflect the relevant national requirements and those which may be expected from international financial institutions.

The Egyptian standards are to be drawn from the range of provisions in, inter alia, the following documents:

- Law 4/1994 and the Prime Minister's Decree No. 338 of 1995, which promulgates the Executive Regulations of Law 4.
- Amendment to the Law 4/1994 promulgated by the Prime Minister's Decree No. 1741 of 2005 for modifying some executive regulations of the Decree No. 338 of 1995.
- Law 9/2009, which modifies some articles of the Law 4/1994.
- Law No. 93 for 1962 regarding the drainage of liquid wastes, particularly sanitary drainage.
- Law of Labor No. 12/2003.
- Law No. 38/1967 amended by Law No. 31/1976 on public cleanliness and collection and disposal of solid waste.

Measures concerning the assessment of environmental impact of establishments or projects are stipulated in Articles No. 19 – 23 and 70 – 73 of Law No. 4 of 1994. The provisions of Articles No. 10 – 19 and 57 – 60 of the Executive Regulations of the Law 4/1994 complement these articles by the Prime Minister's Decree No. 338 of 1995.

To determine if a project is subject to an EIA and how detailed this EIA should be all projects must be classified into one of the three categories:

Category A (White projects): Projects that are believed to have little or no negative impact on the environment and where EIAs are not required.

Category B (Grey projects): Projects that may result in substantial environmental impact and it therefore has to be determined if a partial EIA should be carried out.

Category C (Black projects): Projects, which are likely to have a significant negative impact on the environment, and therefore requires a complete EIA.

"...Wind Farm power plant falls within the category of "C Listed Projects", which requires a Full EIA to be prepared and submitted to the Competent Administrative Authority. The EIA must analyze the impacts and specify what mitigation measures (if any) are necessary in order to minimize them.

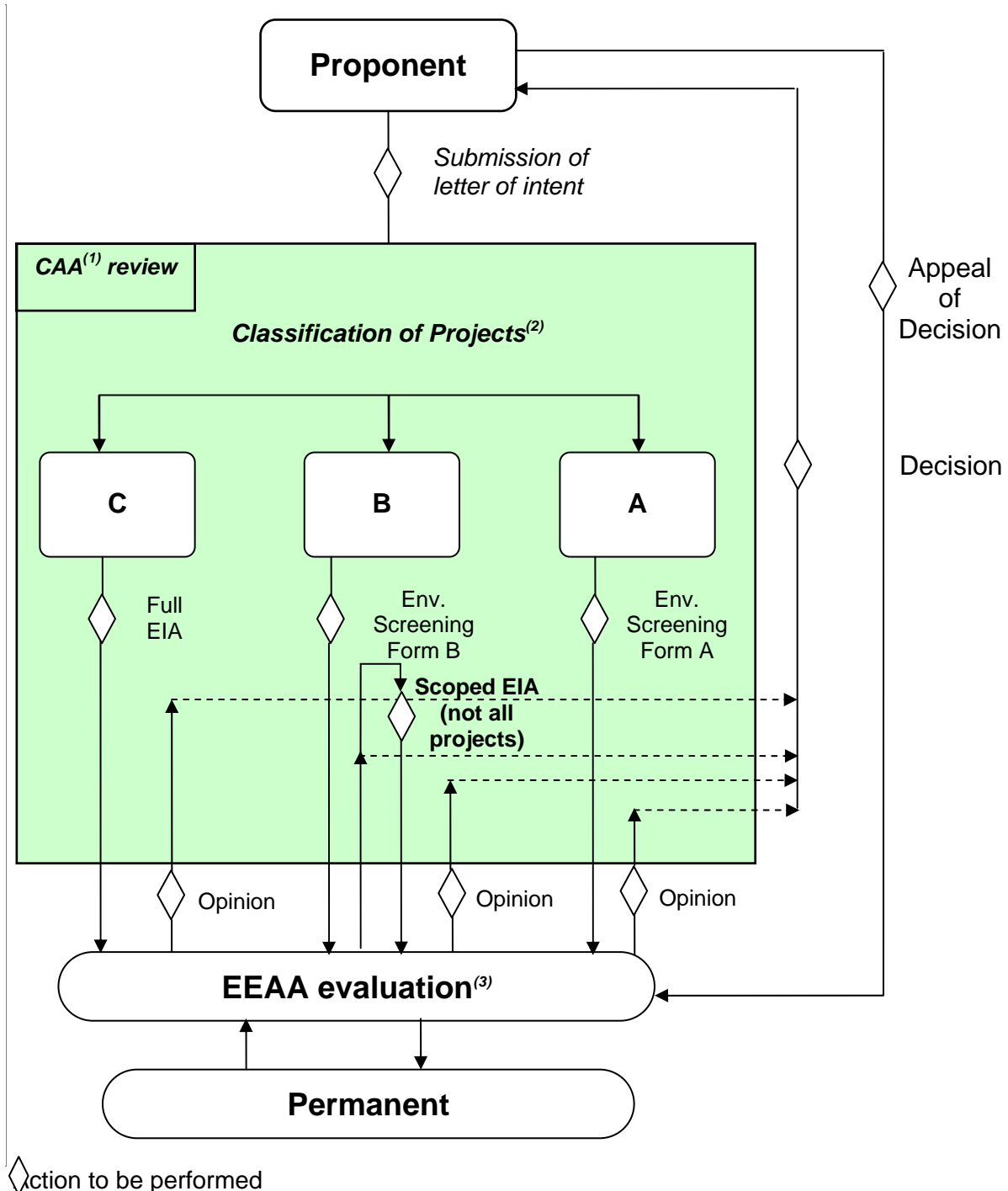
Figure-2 depicts ESIA procedure of the EEAA.

Applicable Social Legislation in Egypt

The legal frame revolves around the following laws:

- The Labor Law (No. 12 of 2003), the Investment Law (No. 8 of 1997),
- The Procurement Law (No.89 of 1998),
- Laws that are regulating the issues of building and physical planning, most importantly Law 453/1954, Law 106 / 1976, Law 59/1979 and Law 3 / 1982.
- Most important one is Article 34 of the Constitution states that "Private ownership shall be safeguarded and may not be placed under sequestration except in the cases defined by law and in accordance with a judicial decision."
- Other relevant laws governing expropriation and compensation include:
 - Law 577/54, which was later amended by Law 252/60 and Law 13/162, and establishes the provisions pertaining to the expropriation of real estate property for public benefit and improvement.
 - Law No. 27 of 1956, which stipulates the provisions for expropriation of districts for re-planning, upgrading, and improvement, and the amended and comprehensive Law No.10 of 1990 on the expropriation of real estate for public interest.

Figure-2
Diagrammatic Overview of the Egyptian EIA System and Processing of Application



◇ action to be performed

(1) CAA = Competent Administrative Authority.

(2) Categories A, B and C were first called: White, Grey and Black (1996), respectively, but they were changed since first review (2005) to the present symbolic categorization.

(3) All decisions will be copied to EEAA for inclusion in the EIA register.

- Law No. 252, issued in 1960 and amended by Law 577/54, was promulgated to balance the rights and guarantees of individuals with the rights of the state in expropriating private property. This law, moreover, stipulated that any judgment that justifies property expropriation for public benefit /interest must be made by presidential decree

4. PHYSICAL ENVIRONMENT

CLIMATE AND METEOROLOGY

The West El-Minya area is characterized by a sub-tropical desert climate with predominantly very hot summers, mild winters, and generally dry and sunny conditions. **Rainfall events are very rare and precipitation is almost nil. Occurrences of gales, thunderstorms, and dust storms are occasional.**

A 35-year El-Minya data base (1973-2008) indicates a prevailing northerly wind at the site (65 percent from North quadrant) with a secondary maximum of winds from the North-North-West quadrant (12 percent) followed by the North-North-East winds (9 percent). Calm and variable winds occur approximately 14 percent of the time. Wind speeds are generally light to moderate with an annual-average speed of approximately 3.34 meters per second and rarely exceed 30 m/sec. The temperature data collected at El-Minya for a 35 year period indicate a maximum monthly-average temperature of 29.72°C in July and a minimum monthly-average temperature of 4.2 °C in January. Summertime high temperatures average 36.13°C while winter lows reach 6.05°C. The annual-average temperatures is 21.57 °C with record high and low temperatures of 48.6 and -0.7°C, respectively. **Rainfall at El-Minya averages 3.922 millimeters per year occurring mostly during the winter months** (December-March). Relative humidity remains fairly low throughout the year, maximizing at 65 percent for December and reaching a low of 37 percent in May. The dryness of this climate is further demonstrated by the fact that nearly 80 percent of possible sunshine is received during the year.

GEOLOGY, TOPOGRAPHY AND HYDROLOGY

According to the geomorphic map published by NARSS and others 2005, the El-Minya Quadrangle map sheet, 1: 250,000, the following main geomorphic features can be abstract as follows: Platforms; Structural Karstified Platform; Gravelly Platform; and Lava Sheets; Scarps; Major Scarps; Secondary Scarps; and Flat-topped Outliers (Mesas); Forms of Fluvial Origin (Drainage Line); Depositional Forms; Nile Flood Plain (Cultivated); Nile Terraces; and Forms of Aeolian Origin (Wadi El-Rayan Dune Field).

Geomorphic Features

It can be summarized as follows:

- The Scarp faceruns parallel to the Nile Valley as far it was tectonically controlled. The elevation ranges from 30 m. to 50m. above the ground level . It consists of limestone at the top with marl and marly limestone at its scarp face.
- The Plateau Surface is made of limestone mostly covered with a dark gravel sheet wash. The elevation ranges from 117 m. to 172 m. above sea level.

- The Undulating Surface is in the form of dark undulated gravelly surface affected by the desert varnish.
- Isolated Hills represent the remnants of the ancient retreated scarp above the present one. It is tectonically controlled by folding and faulting process especially at the northern part of the study area.
- The Basalt Lava Sheet has a North West direction.
- Wadi Al-Rayan Dune Field starts south of Fayme Oasis and Wadi Al-Rayan Depression extends in the south east direction to the west of the El-Minya Governorate.
- Drainage Lines are not well developed in the southern part , but generally the size of the catchment areas is small and short in length and has no significant factors due to the low relief of the area and the absence of the rainfall.

Geological Setting: Stratigraphy

In the area under consideration, the different lithological units can be described as follows according to (NARSS et. al., 2006), from older to younger.

- **Eocene Limestone Bed Rock:**

The Nile sediments and the Pliocene deposits unconformable overlay the Middle Eocene limestone consist of the following:

- El-Minya Formation (E2mn).
- Samalut Formation (E2sm).
- Rayan Formation (E2ry).
- Qazzun Formation (E2qz).
- BirketQarun Formation (E2bq).
- Qasr El Sagha Formation (E2 qs).

- **Oligocene Bed Rock:**

- Katkut Formation (E3kt).
- Qatrani Formation (E3 qt).
- Extrusive Basalt (E3v).

- **Quaternary Deposits:**

- **Salt Crust:** It is made up of snow white hard salt crust forming a small semicircular area in the form of Playa occupied a low area in the limestone plateau surface.
- **Sand Dunes:** It extends in a longitudinal shape from the central part of Wadi El-Rayan Depression to the western margins of the Nile Valley flood plain opposite the Dayrut town in the south for a distance of about 185 km.

Structural Setting:

- **Faulting:**

The western part of the Nile Valley Plateau was structurally controlled by a group of faults. The general structural outlook of the area is one of the flat surface with very gentle dips (1 – 2) at the variable directions.

The main faults are:

- **Wadi Al-Muweilih Fault.**
- **Qaret Al-Abd Fault.**

Natural Resources

- Ornamental and Building Stones Materials: Basalt, Dolomite, gravels and building stone materials can be exploited from the exposed different rock units.
- The fertile agricultural soil
- The Groundwater Resources

Water Resources

- **Groundwater Resources:**

The main source for the groundwater aquifer in the proposed area is the fractured carbonate (Limestone and Dolomitic Limestone) rock units. The depth to aquifer ranges from 120 m. to 140 m. below the ground surface, while the water level ranges from 45 m. to 74 m. from the ground surface. The salinity of the water ranges from 2500 – 3500 ppm. The type of the water is NaCl.

- **Groundwater Formations:**

Past electric sound survey at the northern part of the study area revealed the occurrence of four geo-electric units as follows:

- Surface Unit: - With resistivity value ranges from 30 – 500 Omm. The thickness is ranging from 3 – 5 m. from the surface. It is made up of sand and gravel with some clay.
- The Second Unit: - Resistivity ranges from 2 30 Omm .The thickness ranging from 23 – 40 m .from the surface . It is mainly consists of shale with sand and gravel.
- The Third Unit: - The resistivity value ranges from 5 – 15 Omm. It is made of limestone mixed with some shale. The depth is from 132 – 140 m. from the surface. Most probably, this unit contains groundwater.
- The Fourth Unit: - The resistivity value ranges from 55 – 210 Omm. It consists of fractured limestone. Most probably, this unit contains groundwater.

- **Groundwater Level:**

On the eastern part of the study area, the shallow groundwater aquifer system (20 - 40 m.) , the groundwater level ranges from 3-5 m from the ground surface. Whereas in the central part, the depth of the well is about 120 - 140 m. and the water level ranges from 45 - 47 m. from the ground surface.

- **Groundwater Quality:**

The groundwater quality within the reclaimed areas along the fringes of the Nile Valley differs considerably from one place to another 2000 – 2500 ppm. It is brackish in the new reclaimed area and adjacent desert (TDS ranging from 1000 and 3500 ppm. and is of the Na-Cl type.

Natural Hazards

The area usually suffered and threatens by the main natural hazards; flash flood and earthquake.

- **Flash Flood:**

The proposed site for the project is safe and away from the threat of the flash flood due to the following factors: almost the rainfall is nil; simple flat topography (not rough and no high mountains); and the accumulation of thick gravel cover and sand dunes allow the rainfall water (if any) to be percolated to the underground.

- **Earthquakes:**

Generally, the study area is characterized by the occurrences of shallow, micro, small, moderate earthquakes. Activities are limited within the crust. The activity along this trend is mainly attributed to the GabalQatrani active faults. The Fayum (Gebel Qatranni – Dahshur) trend is characterized by the occurrences of shallow, micro, small, moderate and large earthquakes. Activities are limited within the crust.

- **Neotectonics:**

With regards to the neo-tectonics, the proposed site for the project are considered to be stable.

- **Sand Dune Encroachments:**

The linear dune, of Wadi El Rayan (northern part of the area), is relatively short (10 km) and narrow (0.1–0.2 km) organized in three parallel belts and apart from a few bones is concentrated in the eastern part of the depression. El Gindi (2000) stated that the inter dune area of the extreme eastern belt in this dune field is reclaimed and is cultivated during the last three decades, and the dunes appear as captured by cultivated land. A group of barchans and elongated sand dunes are located in N–S direction, parallel to the Nile Valley and close to the cultivated land, west of Samalut city. These sand dunes represent a natural hazard to the cultivated land, in an area subjected to development and settlements in Egypt; therefore it needs scientific studies elucidating the genetic development and characteristics of these sand dunes as well as their risk.

The dune movement and sand encroachment on the cultivated fields along the margins of the Nile flood plain represent a permanent threat to soil productivity and agricultural production in this region.

The dune size is expressed by the surface (area) of the dune as estimated from the image by the Arc GIS software. They are larger towards the east and smaller towards the west; the relation is an almost perfect linear relation. The same dunes tend to be also larger towards the south, but with a less perfect linear relation. The dunes are generally larger in the down wind direction (SE direction).

To conclude, the north-eastern part of the surveyed area is the most area vulnerable to the sand dune encroachments (Ground controlled points from 1 to 8 and from 11 – 15 on the location map), while the western and southern part are safe from the sand dune encroachments.

SOURCES OF POLLUTION IN THE AREA

- **Air pollution**

Gaseous emissions, dust and smoke are restricted to sugar factories in Abo korkas, cement factory in BeniKhaled, Samallout, some flour grinders and the industries of molasses, where bagas and mazot are still used as fuel in the industrial operations. This is the main source of pollution. As for grinders, dust percentage increases when using a high percentage of local heat due to the presence of impurities in the local wheat due to the presence of impurities in the local wheat. In case of using a small of local wheat, pollutants can then be controlled.

- **Water Pollution**

The sugar factory in Abo korqas is considered the biggest source of water pollution, as it dumps heavy weights of pollutants in Moheet drain which, in turn, drains in the Nile. The amount of drain coming from this factory only is estimated to be 1.43 m/sec. during the operation season that lasts about 8 months/year. It is true that the administration of the factory has exerted efforts to cut down liquid or gaseous pollutants, however, such efforts are still not enough. Worth mentioning is that there is an approach to relocate the sugar factory to the desert areas after the crawling of the housing block to it.

In conclusion, there are no/less pollution sources of air, water and waste in and near the survey area.

5. BIOLOGICAL ENVIRONMENTAL

Biodiversity of the West EI-MinyaDesert

The study has resulted in the following results:

Concerning Floral Species, seventeen plant species belong to 11 families were recorded. Of these species, 14 species are perennials and the remaining three species are annuals. The largest representative families in the present study are:

Asteraceae (4 species in 4 genera) and Chenopodiaceae (three species in three genera). The Zygophyllaceae is the only family which is represented by 2 species in two genera. The other 8 families: Capparaceae, Resedaceae, Mimosaceae, Geraniaceae, Tamaricaceae, Apiaceae, Solanaceae, and Poaceae are represented by only one species for each.

The number of species (17 species) in proportion to the total surface area (4182 km²) is considered very small. This is evidently due to the arid climatic conditions, where the annual rainfall nowhere exceeds is below 50 mm.

Most of the recorded plant species are belonging to Dicotyledons, while only one species (*Stipagrostisplumosa* (L.) Munro ex Anderson) is belonging to monocotyledons. Three plant species of these are shrubs or small trees (Phanerophytes): *Capparisdecidua* (Forssk.) Edgew (Capparaceae), *Acaciatortilis* (Forssk.) Hayne (Mimosaceae) and *Tamarixnilotica* (Ehernb.) Bunge (Tamaricaceae). Except for the three annuals species (Therophytes) :*Conyzabonariensis* (L.) Cronquist, *Sonchusoleraceus* L. and *Symphotrichumsquamatum* (Spring.) Nesom., the remaining recorded taxa are perennial herbs or under-shrubs (Chamaephytes) and only one species (*Stipagrostisplumosa* (L.) Munro ex Anderson is of Geophytes.

Stipagrostisplumosa(L) Munro ex Anderson proved that it is the most important plant species in the studied area with the highest frequency (46.7%) followed by *Fagoniaarabica* (40%). There were many species recorded once or twice, which reflects the natural vegetation of the studied area.

From the above results, the recorded plant species are common in other Egyptian deserts. These plants proved that they are with very low economic values. Although, the low distribution of these plants in the studied area, no species of them are threatened or endemic.

Regarding faunal Species, the present survey on the investigated sites indicated that there are 23 different species of animals and one larva including 16 species of insect and one larva, one species of Arachnida, one species of reptiles and 5 species of birds.

The study indicated that there are no constant species, two accessory species and 22 accidental species. In addition to some observed burrows, which may belong to rodents (mammals); mostly Gerbous.

6. SOCIO-ECONOMIC ENVIRONMENT

The two respective governorates assessed, namely, the El-Minya and Beni-Suef have been ranked according to their human development index scores (HDR, 2010), tracking the level of Human Development achieved in different governorates since 2005, five governorates occupied the bottom five ranks are Fayoum, Assuit, El-Minya, Beni-Suef and Suhag. This relatively reflects the poor conditions of the governorates. Some determinants constitute such index including, education, work status ...etc. The socioeconomic baseline data of the two governorates showed that they accommodate 8.87% % of the total population of Egypt. The two Governorates

face some challenges in terms of access to services, especially, access to sanitation. But for potable water supply and electricity, the indicators showed a high level of access to basic services. However, the rural areas of both the EI-Minya and Beni-Suef still suffer from declination in potable water quality indicators. Table-1 gives some basic socio-economic characteristics.

Table-1
Basic Socio-economic Characteristics

Socio-economic Character	EI-Minya	BeniSuef
Total population	4.166.299	2.291.618
Female % of the total population	48.9%	49.1%
Family Size	4.56	4.61
No. of households	910,529	495,687
Total Area	13184 km ²	10954 km ²
Total populated area	1191 km ²	1369.41 km ²
Housing and scattering areas	84 km ²	48.07 km ²
Facilities and cemeteries	120 km ²	121.93 km ²
Ponds and fallow	9 km ²	33.92 km ²
Agriculture lands within agricultural borders	776 km ²	1105.77 km ²
Agriculture land outside agricultural borders	202 km ²	59.72 km ²
Population density in the populated area	5.27 thousand person/ km ²	1.67 thousand person/ km ²
Population density in the total area	0.48 thousand person/ km ²	0.21 thousand person/ km ²
Populated area (% of total areas)	9.0%	12.5%
Total number of slums areas	36	52
Industry activities (by number of registered industrial establishments 2006)	1. Food products, beverage & tobacco (4999) 2. Building material, porcelain, china wares refractories (636) 3. Spinning, weaving, garment and leather (2419) 4. Metal products, machinery and transportation equipments (244)	1. Food products, beverage & tobacco (2576) 2. Building material, porcelain, china wares refractories (1107) 3. Spinning, weaving, garment and leather (951) 4. Metal products, machinery and transportation equipments (223)
Potable water		
Production of potable water	2047.0 thousand m ³ / day	235.4 thousand m ³ / day
Consumption of potable water	1880.0 thousand m ³ / day	184.1 thousand m ³ / day
% of household with access to water	98.4	88.6
Per capita potable water consumption	299.7	80.4
Per capita potable water production	326.3	102.78
Sanitation		
Capacity of Sanitation	1207.0 thousand m ³ / day	50.0 thousand m ³ / day
Per capita sanitation capacity	192.4 liter. Day/person	21.8 liter. Day/person
% of households with access to sanitation	69.3%	15.2%
Education		
Adult literacy rate (+15)	(59.5%)	(58.7%)
Combined Primary, Preparatory and Secondary level gross enrolment ratio	(74.2%)	(73.7)%
Education Index	0.639	0.642
Illiteracy rate of the total population	Total (60.0%) Female (52.9%) Male (30.07%)	Total (60.0%) Female (52.16%) Male (29.24%)

Table-1 (Contd.)
Basic Socio-economic Characteristics

Socio-economic Character	El-Minya	BeniSuef					
Employment							
Employment status % of the population in labor force	(35.4%) (31.4%) are females	(36.0%) (33.7%) are females					
Type of work	Agriculture (58.1%) Industrial (12.8%) Service (29.1%) Laborers (9.1%)	Agriculture (55.1%) Services (29.3%) Industrial 15.6% Professional and technical staff (12.0%)					
Unemployment status	(5.5%) total (9.0%) of the females Rural (4.4%) Urban(10.4%)	(3.5%) total (4.8%) of the females Rural (1.4%) Urban (11.4%)					
Unemployment rate: Secondary graduates University graduates Below secondary	(66.8%) (31.3%) (1.9%)	(68.7%) (30.6%) (0.7%)					
National Economy							
Gross domestic product (GDP) ⁽¹⁾ (US\$)	8655.9	8857.4					
* Industrial establishment	164	164					
* Industrial zones	2	7					
* Productive cooperation association	20	7					
Item	Unit	El-Minya			Beni-Suef		
		Urban	Rural	Total	Urban	Rural	Total
No. of Subscribers in the Electricity Network	1000 Subscribers	-	-	810	-	-	473
No. of Subscribers in Natural gas Services	1000 Subscribers	-	-	0.0	-	-	17.7
Total Electricity Consumption	M kWh/year	950	970	1,920	899	550	1449
Electricity Consumed for Lighting	M kW/year	846	947	1,793	566	523	1089
Electricity Consumed for Industrial Utilization	M kWh/year	104	23	127	333.0	27.0	360.0
Per Capita Consumption of Electricity for Lighting	kWh/year/person	1,075.5	279.1	429.0	1062.8	297.5	475.4

- GDP:** GDP per capita for Egypt is estimated from the National Income Accounts of 2006/2007. The estimated GDP per capita in local currency (LE) is transformed to its value in US\$ using an appropriate exchange rate (taking into consideration the estimations of the Ministry of State for Economic Development). Then the real GDP per capita (ppp S\$) is calculated by applying a suitable factor to the estimated GDP per capita in US\$ (the factor used in the International Human Development Report for 2008). This resulted in a national GDP per capita index for Egypt of 0.727 in 2008.

Source: The Egyptian Human Development Report (2010) and the Egypt's Description by Information, 2007 of the CABINET.

Land-use/Land-cover

The study area is almost free of any activity except very few ones such as the agricultural spot in the middle of the study area. The south-eastern part has the Italian Farmland. The eastern side of the project area is characterized by the extension of new reclaimed areas outside the study area, but may become so close in the future. The land cover has, also, some sand dunes ridges (acting as barrier) in the eastern-north of the study area. The western part has a sandy basaltic nature, the middle is rocky sand, the north-western part has a fine sand mixed with deposits, the northern part is formed of white marble rocks.

7. DATA ANALYSIS: GIS DATA BASE

In order to present a reasonable evaluation of the land use/ land cover maps and their using in the determination of ecological characteristics of the study area, necessary data were collected. This data has been processed and various geo-spatial data has been determined and automated into various GIS data sets. Produced thematic maps are given in Table-2 below:

Table-2

List of Thematic Maps Produce by the Environmental Study

Layer No.	Layer Fig. Caption	Raster data	Shp' Files data	Jpg' File data
1	Population density of El-Minia and Beni-Suef governorates with Marakez boundary		✓	✓
2	Supervised classification map 1984	✓		✓
3	Supervised classification map 2001	✓		✓
4	Land use / land cover map		✓	✓
5	Mining and agriculture map		✓	✓
6	Ecologic visiting sites in the study area		✓	✓
7	Spatial distribution of Fauna species		✓	✓
8	Spatial distribution of Flora species		✓	✓
9	Geological map of the study area	✓	✓	✓
10	Geological observations detected in the field works	✓		✓
11	Geomorphologic map of the study area	✓	✓	✓
12	Geomorphologic observations detected in the field works	✓		✓
13	Raw Data Mosaic map	✓		✓
14	2D elevation map		✓	✓
15	Hydrogeology map of the study area	✓	✓	✓
16	Seismicity of the study area	✓	✓	✓
17	Electrical		✓	✓
18	Roads		✓	✓
19	Cultural Heritage		✓	✓
20	Distribution of sand dunes over the study area		✓	✓
21	Route line used during the field trip		✓	✓

The provided data and the automated GIS layers have been used to understand and present baseline information about the study area and to conduct a preliminary assessment of both the natural hazards that might affect the planned project installations and the impact of the planned project.

8. CONCLUSION AND RECOMMENDATIONS

MAIN FINDINGS

Climate Condition

- The survey site locates in desert area. There has been less rain fall less than 4 mm/year.
- Wind direction is mostly from north to south, wind velocity is around 3.5 m/s.

Physical Condition

- The survey site is mostly founded by sand. Parts of northern area are comprised of rock foundation.
- Northern area is hilly, while southern area is almost flat. Elevation is sloped from south to north.
- There is less possibility of earthquake.
- Sand storms are occasional.

Fauna and Flora

- There are small vegetation areas existing, most of the survey area is desert. Animals, insect live in these small bushes only.
- All fauna and flora observed is common species, there are no endangered and rare species.

Socio-economic Condition

- The survey site is located in Al-Nimya and Beni-Suef governorates.
- Most residential zones are located along NileRiver. There is no community area in the survey site. Also there is less commercial and industrial activities, only small mining and farm land are operated.
- There are no Bedouins in the site.

Quarry Sites

The mining activity in the study area concentrates in the upper north part. The study area has four mining areas two of them are marble quarry (Khour El-Ghada and Al-Saqal Al-Abyad and Al-Door Al-Abyad) and the others are basalt quarry (El-Azyar and El-Koleib).

Italian Farmland

To the very southeast of the survey area located is the Italian Farmland. It is about 1000 x 1500 m² area and irrigated via underground water by sprinkler system. It is privately owned and cultivated (by an Italian investor), where its product (mainly fruits) is totally exported to the European market.

9. RECOMMENDATIONS

Environmental Characterization for the Survey Area

Based on the output maps derived from the baseline studies and field survey of the El-Minya Governorate and the southern part of Beni-Suef Governorate, the study area was scanned using satellite images, ancillary data and field cruises. The processing of these data and maps has resulted in producing about 20 environmental GIS Layers of the same geographic position and scale.

Some of these layers were used and compared to each other. The interaction between these layers has helped in identifying the study area criteria that have been applied to determine the "environmental constraint map" for the whole area.

Three distinctive sub-areas (or sections) of the whole study area have been determined as follows:

1. Area "A", which indicates the "no-environmental constraint" or the "lowest-environmental constraint" area in terms for the construction and operation of a wind farm, regarding environmental characteristics of both natural and anthropogenic activities.
2. Area "B", which indicates small sections of the whole area characterized by sand dunes terraces and some other constraints compared with Area "A" related to topographic conditions, accessibility, etc.
3. Area "C"; which indicates small sections of the whole area with steep topographic condition, existence of quarries, farmlands, far distance from access road and/or electric line, etc., due to which project implementation may face considerable constraints compared with Area "A" and "B".

These constraints are specified from the viewpoint of environmental conditions only, regardless wind condition, construction process/technique, project cost, etc.

This classification may guide to a main conclusion on the environmental eligibility for construction and operation of a wind farm, which emphasizes that the Area "A" as well as the Area "B" could accommodate wind farm development.

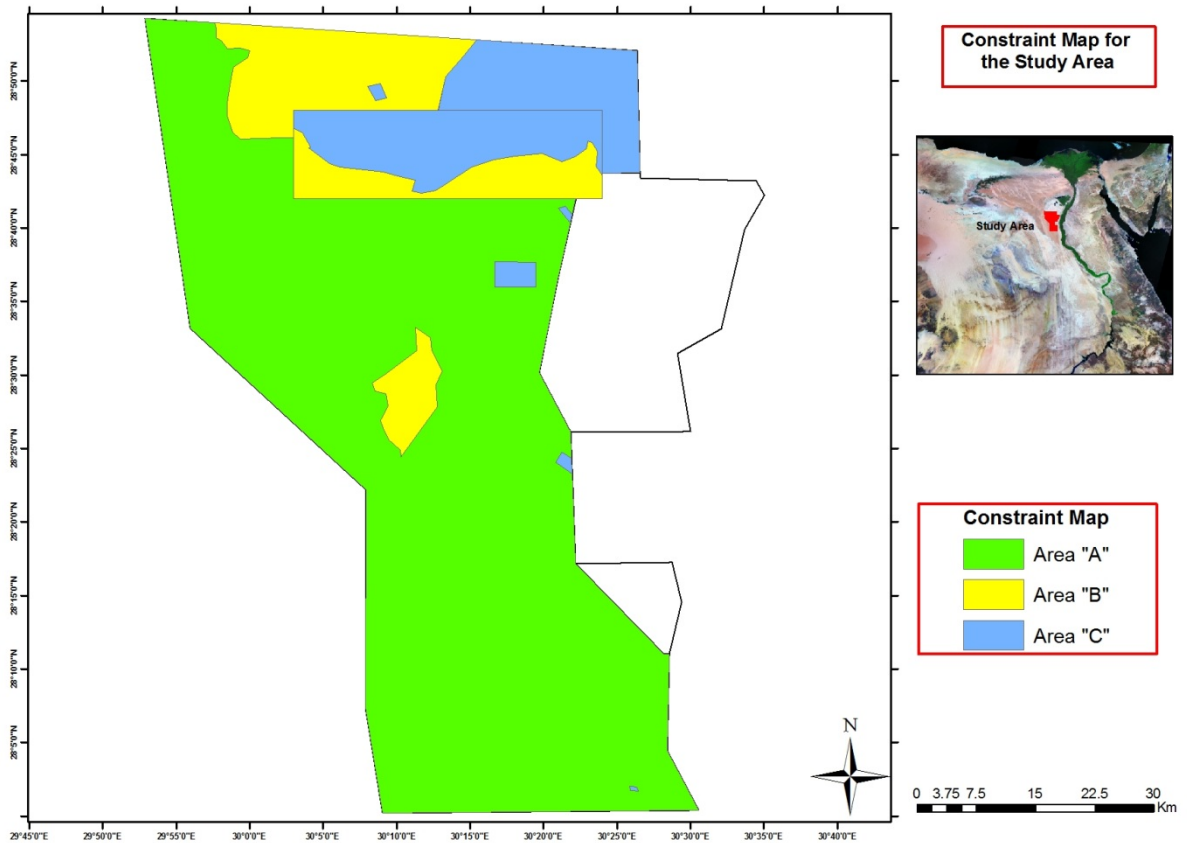
Figure-3 depicts the three categories of land environmental eligibility for wind farms development.

Recommendations for the Implementation Process

- Prior to construction, the project should be designed in such a way as to avoid affecting the surrounding areas and the environment
- During construction, all safety measures and regulations should be strictly complied with.
- In addition, the expropriation, if considered legitimate, should be avoided or kept to a minimum, in order to avoid negative impacts on the community.

Figure-3

Environmental Constraint Map for the Survey Area



CHAPTER – 1.: INTRODUCTION

1. INTRODUCTION

1.1 PREAMBLE

AL-AMAR Consulting Group S.A. (ACG), a private consulting firm in Egypt was commissioned by the Oriental Consultants Co. Ltd. (OC), a Japanese company situated in Shibuya-ku, Tokyo to prepare the technical documents and procedures required by the Japan International Cooperation Agency (JICA) concerning the Environmental and Social Considerations Survey, a preparatory Survey to Establish a Wind Farm at the West Nile Valley in the Arab Republic of Egypt (Phase 1).

The New and Renewable Energy Authority (NREA), a Authority affiliated to the Egyptian Ministry of Electricity & Energy (MoEE) is seeking financial assistance from the JICA for the establishment of a Wind Farm at the West Nile Valley. The proposed project is designated as a Category (A) project under JICA rules and as a Category (C) project under the Egyptian environmental regulations and therefore requires, as per the EEAA regulations, a full Environmental and Social Impact Assessment (ESIA). The entire wind farm project with its related ESIA studies is conditioned first by investigating the environmental and social conditions in the survey area and utilizing the results for further ESIA Study for the purpose of obtaining approval for a proposed wind farm project. Financing from JICA is conditional upon obtaining the environmental clearance from all the Egyptian regulatory authorities & the JICA.

It is the intention of the Oriental Consultants to utilize the results of the ES Survey, conducted in Phase 1 of the survey, for the ESIA study in Phase 2 as effective as possible.

In this regard, the AL-AMAR has conducted the ES Survey and produced this Survey Study Report, including its Annexes, taking into account the requirement of the ESIA study, with a focus on laws, regulations and guidelines applicable for wind power development in Egypt.

1.2 BACKGROUND

The aim of the Survey is to assess the 4,200 km² area allocated by the Government of Egypt ("GoE") under the presidential decree No. 319 for the Year 2009 for possible wind power utilization, and to identify the most promising area for a 200 MWe wind park, while considering other wind parks that may be proposed by the GoE for that area.

The Survey is to be conducted in two phases:

- Phase 1: - Survey of the wind conditions, environmental, infrastructure and social conditions, and other necessary surveys.
- Selection of an optimum site for wind power development, based on the results and analysis of the aforesaid surveys.
- Phase 2: - Identification (implementation planning) of a wind farm project at the selected site.

The Survey in Phase 1 is intended to investigate the "Survey Area" at the western Nile in both of the El-Minya and Beni-Suef Governorates, in several steps as follows:

- To select a most promising area inside the Survey Area;
- to select 3 candidate sites for 200 MWe wind parks within the most promising area;
- to investigate these three candidate sites on conceptual design level with regard to investment cost and wind energy generation; and
- to select the most promising 200 MWe site for preparation of a feasibility study in Phase 2 of the Survey.

Furthermore, wind power development options within the most promising area shall be investigated and a proposal for wind power development in the overall area shall be established in Phase 1.

This "Survey Report" presents the survey effort that has been conducted for investigating the Environmental and Social Considerations within the entire Survey Area.

1.3 OBJECTIVES

The objectives of the ES survey are:

- To investigate the environmental and social conditions in the survey area;
- to identify environmental constraints, if any, against wind power development;
- to propose guidelines/criteria for selecting alternative site(s) for wind power development from the environmental viewpoints; and
- to develop recommendations on screening for further ESIA Study.

1.4 SURVEY AREA

The Survey Area is located in the desert area to the west to north-west of the city of El-Minya as indicated in *Figure 1-1*. The area is located on the administrative boundary of the El-Minya Governorate and Beni-Suef Governorate.

The map of the Survey Area is as indicated in *Figure 1-1*. The originally allocated land for wind farms was 4,200 km². However, due to height limitations on approximately 600 km² inside the allocated land, a reduced area of approximately 3,600 km² is considered for the wind farm development.

Field survey has been carried out covering the above area of 3,600 km² ("Area A"). Survey items which were handled by desk study alone have additionally covered the "Area B", which is located between the survey area (3,600 km²) and the River Nile. "Area B" is roughly defined as the area surrounding access roads to "Area A" from the entry points at the existing highways along the river, as indicated in *Figure 1-2*.

1.5 SCOPE OF THE SURVEY

Scope and items of the survey include, but are not limited to, the following:

- Site Reconnaissance.
- Data collection and field survey.
- Data analysis and reporting.

1.5.1 Site Reconnaissance

Site reconnaissance is made in order to obtain the information on site characteristics for establishing optimized survey methodology and schedule.

All necessary permits are obtained and the right of way for entry into and work in the Survey Area during the entire period of the survey is secured.

1.5.2 Data Collection and Field Survey

All data collected and reviewed for the ES Survey are to be established as the base line data for the future ESIA study on wind farm development.

These data include the following:

Laws and Regulations

The information about laws and regulations related to the environmental matters, ESIA system, environmental standards/criteria, social environment, biodiversity/ natural protection, waste and wastewater management, global warming, and others related to environmental and social considerations.

Figure 1-1
The Survey Area

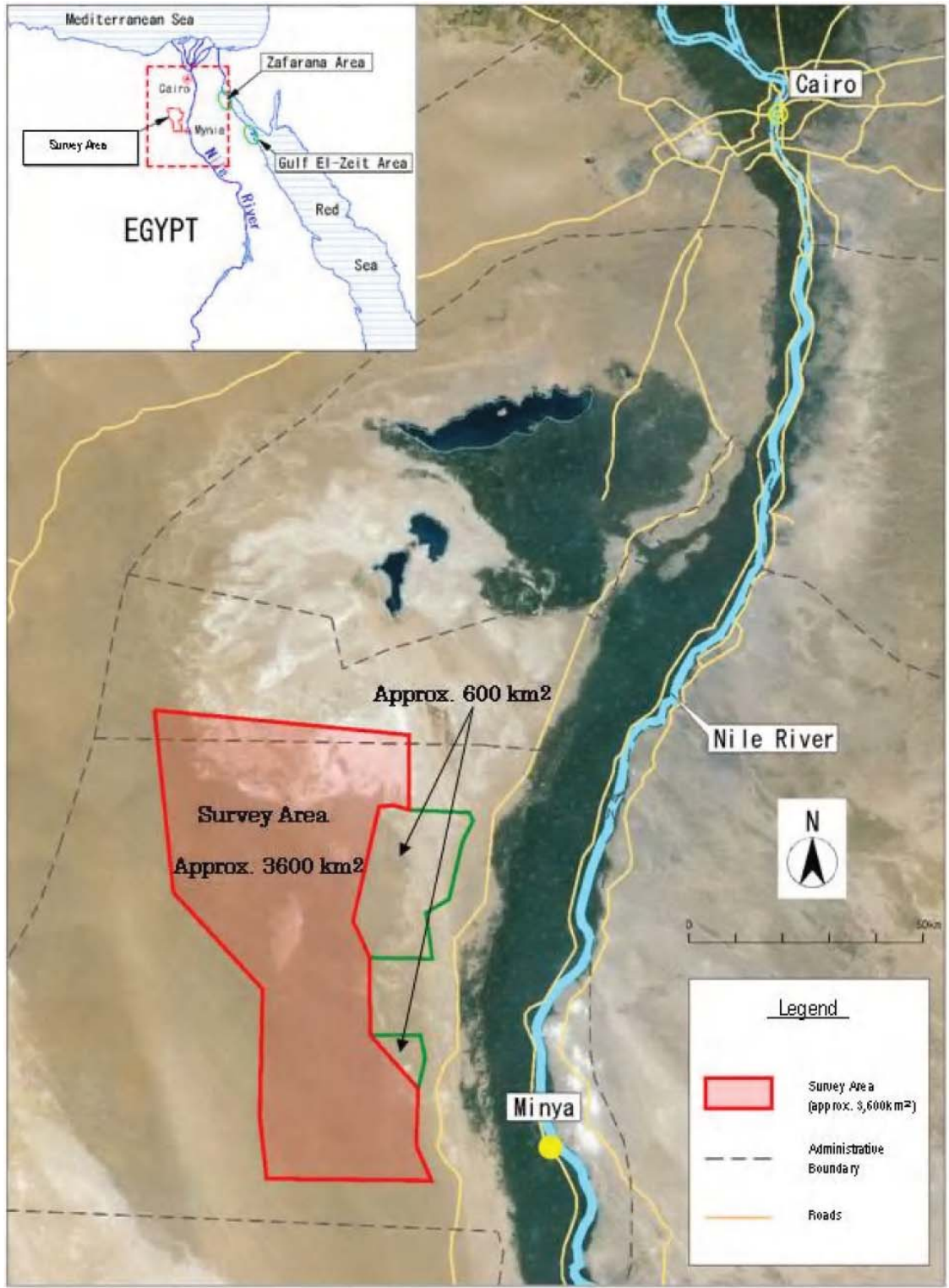
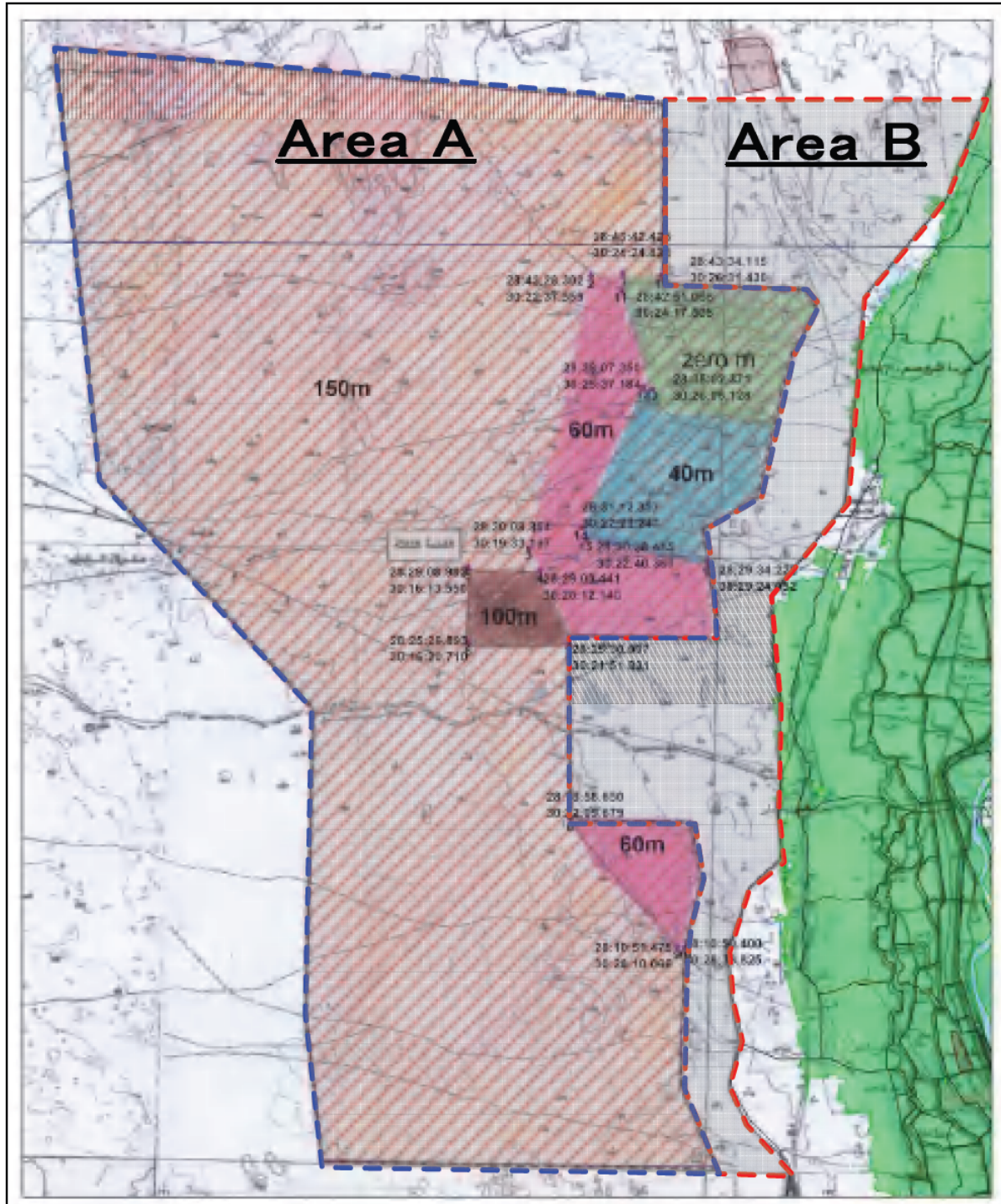


Figure 1-2

The Survey Areas "A" and "B"



Social Environmental Conditions

Data is basically collected from the local government information with district level in the El-Miniya and Beni-Suef governorates. It includes, as minimum, the following:

Survey Item	Methodology / Description
Socio-economic Character: Population structure Economic activity Education Culture Health service (if any)	Data collection Interview to local governments, academics, NGOs, etc.
Infrastructure Road network Electric grid (Transmission Line)	Data collection (if considered necessary, in addition to the data made available to the AL-AMAR). Data collection and analysis shall cover Area A and Area B.
Land use, land owner/occupation status	Data collection (if considered necessary, in addition to the data made available to the AL-AMAR).
Nomadic People (if any) Population Mobilization route Culture	Data collection Interview with local governments, academics etc., also nomadic people. Note: It is reported from local sources that there are no nomadic people living in the Survey Area, but back-up survey is required.

Climate

Data collection is required to achieve the level of general description of the last 10 years' trend.

Survey Item	Methodology / Description
Climate condition Temperature / humidity Rain fall / sandstorm Wind condition, Earthquakes, etc.	Data collection

Geology, Topography, Hydrology

Survey Item	Methodology / Description
Topography Geology	Data collection (if considered necessary, in addition to the data made available to the AL-AMAR).
Hydrology	Data Collection

Landscape, Historical and Cultural Heritage

Survey Item	Methodology / Description
Landscape Historical and Cultural heritage	Data collection Interview with local governments, academics, NGOs, etc.

Fauna and Flora, Biological Condition

Survey Item	Methodology / Description
Flora Species and distribution Inventory list Fauna (<u>except migratory birds</u>) Species and distribution Inventory list	Data collection Interview with local governments, academics, NGOs, etc. Site observation (field survey) at 20 locations (10 locations close to the proposed wind mast installation points (<i>Figure 1-3</i>), and 10 additional points (maximum) to be proposed by the AL-AMAR).

Inventory lists shall include status of endangered and rare species or the like based on Egyptian and international Red Data Book.

Figure 1-3 shows the 10 locations of wind mast installation and access roads in the Survey Area, as well as the locations of bushes, animal foot marks, etc. that were observed in the preliminary site reconnaissance conducted by the OC in December 2010.

Additional 10 locations need to be proposed that are considered appropriate for conducting survey on fauna and flora and biological conditions. Each of the 10 locations is to be determined on the basis of physical distances from each other and from each mast, site characteristics, ease of access, statistical relevance, etc.

Pollution

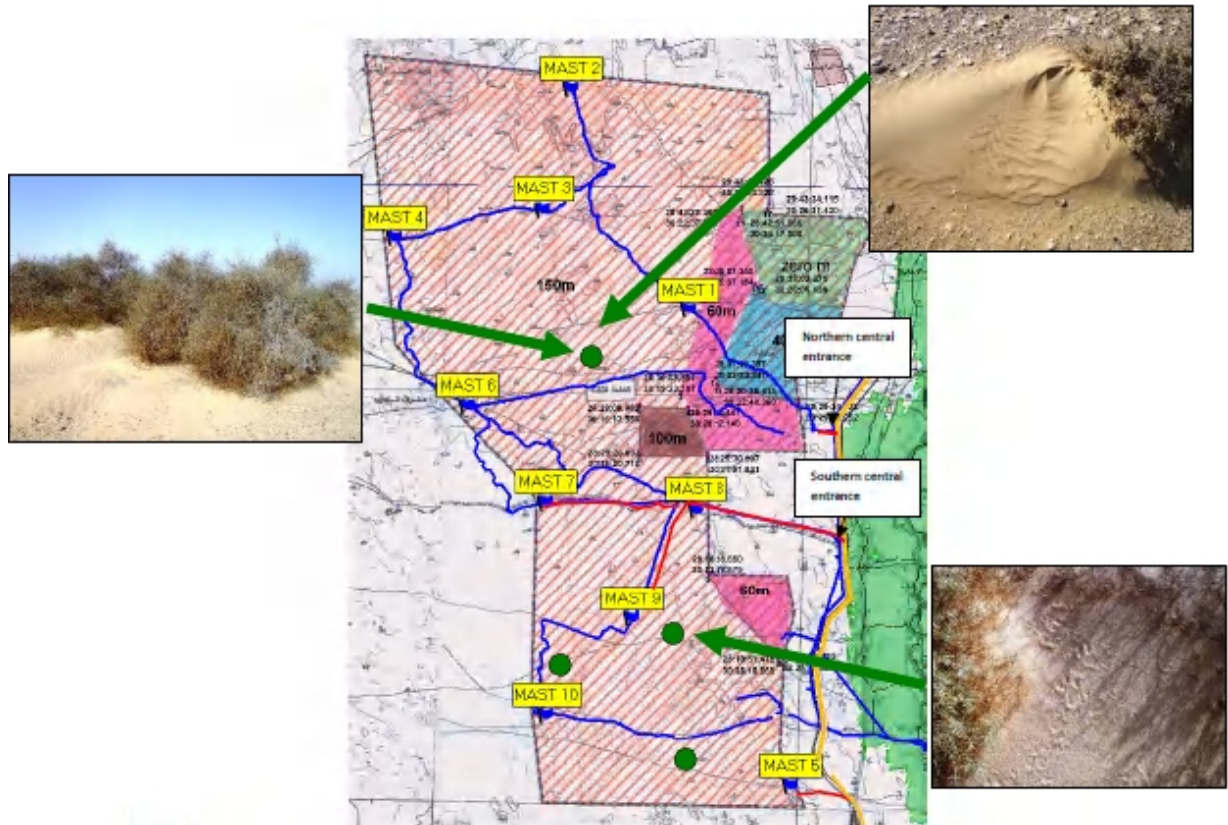
Survey Item	Methodology / Description
Water Pollution Air Pollution Noise disturbance	Data collection

1.5.3 Data Analysis and Reporting

All collected data and information are to be properly archived, analyzed and reported in a professional manner and presented in the standard form.

Figure 1-3

Locations of Wind Mast Installation



Legend:
 — Cairo – Luxor main Road (Asphalt road) — unpaved road — Track suitable for 4 wheel cars
 Figure 1: Proposed locations for wind measurement stations

Table 1: Coordinates of proposed locations

Location	Longitude	Latitude
MAST 1	28.59563	30.34280
MAST 2	28.86042	30.17608
MAST 3	28.71574	30.13455
MAST 4	28.68217	29.92312
MAST 5	28.02616	30.48980
MAST 6	28.48226	30.02510
MAST 7	28.36540	30.13917
MAST 8	28.35719	30.35323
MAST 9	28.22716	30.26155
MAST 10	28.11291	30.13891

Map Date: WGS 84. All values in decimal degrees

Data analysis and evaluation on environmental and social conditions is to be based on geographical information system (GIS) generated maps by applying widely used GIS software. The application of GIS is intended to develop the project database and identify environmental constraints against wind farm development, if any.

CHAPTER – 2.: METHODOLOGY

2. METHODOLOGY

2.1 FIELD RECONNAISSANCE TRIP

First field reconnaissance trip has been conducted by the study team which comprised four senior experts and four assistant experts during the period: Wednesday, 15– Sunday, 19 June 2011.

Second reconnaissance trip (Residual Reconnaissance) has been, also, conducted by the ecological (flora and fauna) team members during the period: Wednesday, 27 - Sunday, 31 July 2011 to fulfill the requirement of OC concerning the identification of the exact locations for fauna / flora survey.

According to these two trips, a survey implementation plan has been formulated as depicted in Figure 2-1.

The Reconnaissance field trips aimed at identifying the study area (difficulties, facilities). The sand dunes sheets are distributed along the NW corner of the study area and contribute to massive difficulties which couldn't be overcome in the real-time during the first trip and made the field team find the way to cover this NW area in the next survey trip.

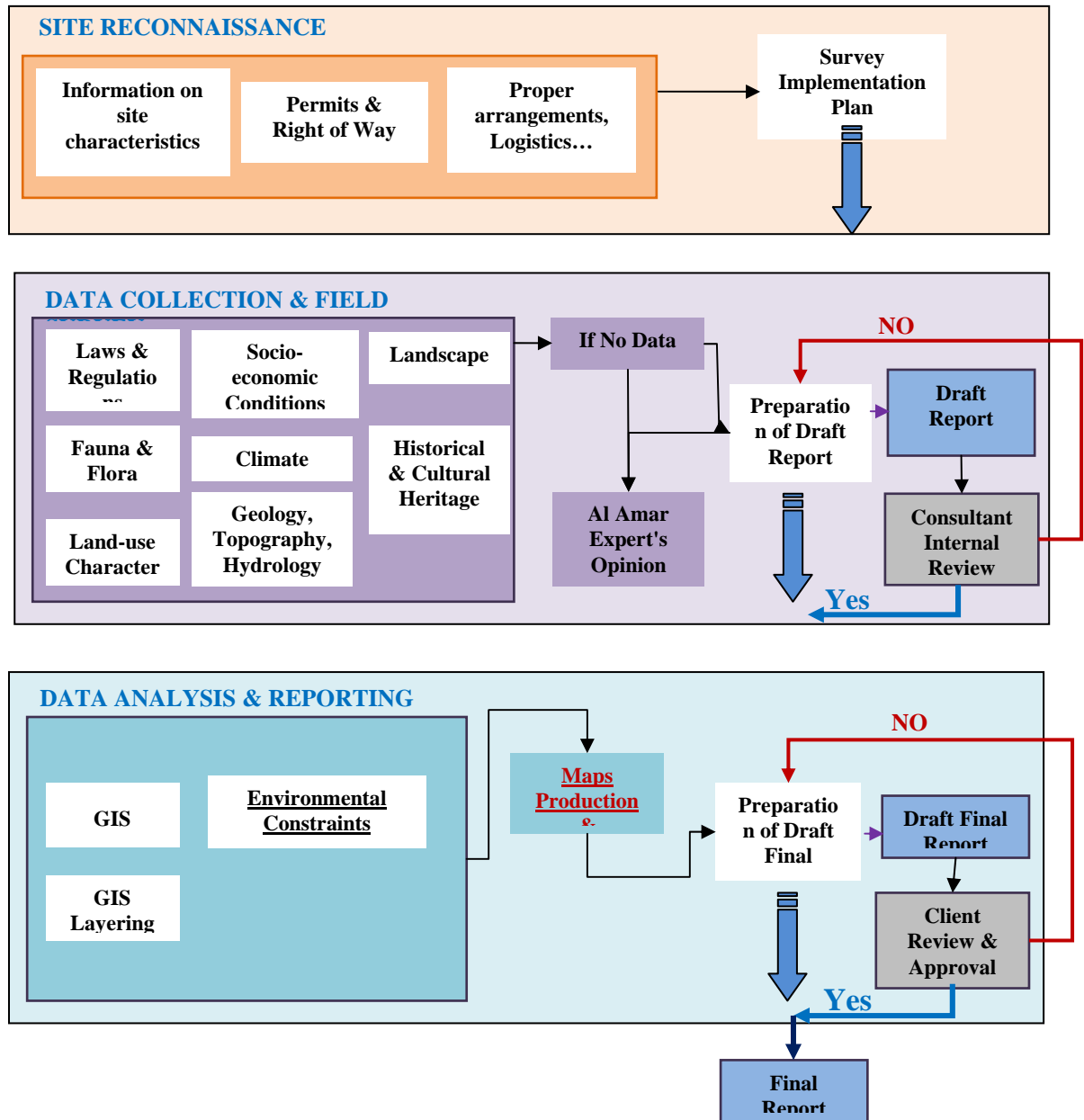
2.2 SITE SURVEY TRIP

Site survey trip has been conducted for several days during September 2011. Survey trip was more comprehensive to include all specificities depending on methodology explained below.

Additional complementary survey trip has been conducted during the period: Sunday, 20 – Wednesday, 23 November 2011 for more verification and validation to the property (quarries agriculture,...etc.) map.

Figure 2-1

Project Implementation Logistic Sequence



2.3 PLAN AND METHODOLOGY OF PROJECT SURVEY

Based on the work exerted for the reconnaissance task, a detailed survey plan is specified as follows.

2.3.1 First: Climate Conditions, Geology and Hydrogeology of the Project Area

During reconnaissance trip , about 20 field stations, distributed on the study area, were investigated.

The implementation plan included surveys of the geological & physical resources as well as mineral resources.

Objective

To study the geomorphology, geology (stratigraphic sequences, tectonics and the geological hazards) prevailing in the Study Area.

Topics

- Climatic conditions
- Geomorphology
- Geology
- Hydrogeology
- Geological Hazards (Earthquakes , Sand dune encroachments)

Method

- Use of topographic maps , satellite Images , GPS , Compass to survey the area under considerations
- Conduct field trip survey and collect data and information.
- Establish a data base using GIS techniques.

Expected Outputs

- Geomorphic map
- Geological map
- Hydrogeological map
- Risk zone and hazards map
- Egyptian Code of Practice for structural loads.

2.3.2 Second: Terrestrial Ecology

Floristic Analysis

The plan was prepared based on site reconnaissance trip. Floristic analysis was carried out via selection of sites for sampling depending on the change in the vegetation structure and composition over the study area.

The survey included the sites based on vegetation pattern. Each site was Georeferenced using GPS device (Magellan GPS 315). Vegetation for each site was analyzed using quadrat methods (20x20m) that were positioned to represent the site vegetation pattern and floristic species.

The species in each quadrat were listed and the number of individuals of each of the species was counted in each quadrat to be used in the estimation of its absolute and relative densities. The number of occurrences of a species in quadrats of each stand was used to calculate its frequencies.

Species Identification

The taxonomical nomenclature of the plant species in the study area was based on basic literature books [Täckholm (1974) and Boulos (1995, 1999, 2000, 2002 and 2005)], as well as the authentic herbarium material deposited in Cairo University Herbarium (CAI).

Fauna

The unit of biodiversity was measured. Data collected could be either qualitative (presence/absence, also known as binary) or quantitative, in which the number of individuals for each species was counted. Small mobile animals such as insects were captured using traps or nets, while plants were visually identified in the field. Animals of the study area were traced during the survey through the animal foot prints, feathers, insects as well as flying birds rodents.

In-situ Sampling

The survey aimed at:

- Identifying species in the given area .
- evaluating conservation priorities of the selected area (if any).
- assessing the intrinsic value of biodiversity in relation to national and international natural resources.
- monitoring the endangered populations or species.
- throwing light upon the potential wild species.
- valuing the site biodiversity as food pantry, genetic storehouse for biotechnology.
- ensuring that the removed species are represented elsewhere on national level.
- fitting with the global issues related to biodiversity.

Reporting

- Reporting was conducted to point out the following:
- General remarks on the biological spectrum (fauna and flora) of the study area
- Comments on the predicted project impact on the migratory birds (international and national).
- Degree of endemism and conservation status based on IUCN data.

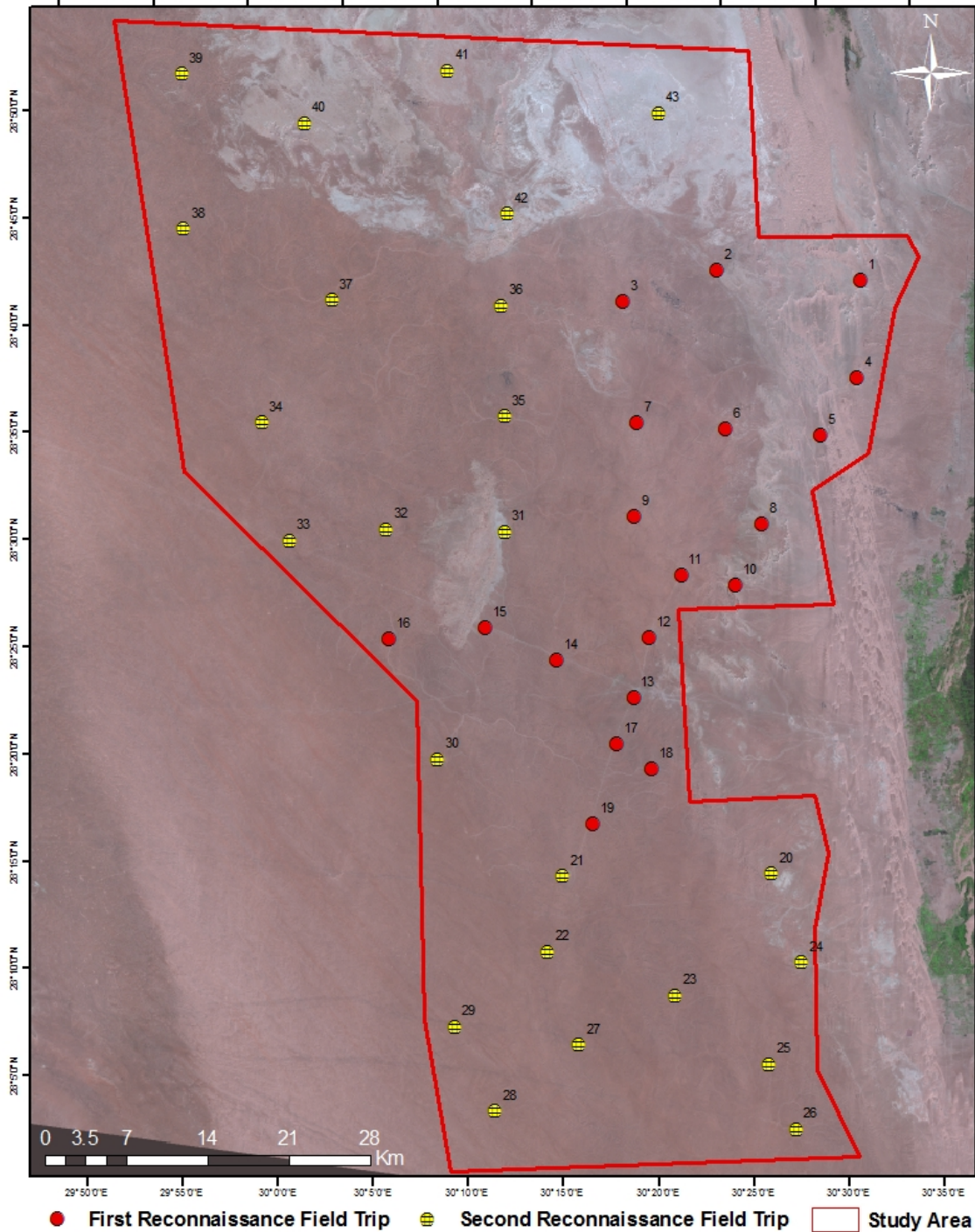
Appendix-A includes Figure-A, which depicts the survey locations for flora and fauna during the two trips.

Based on the two reconnaissance trips, Figure 2-2 depicts the exact selected locations for fauna / flora survey, which was conducted according to the SIP.

Appendix-B provides with some of the "Site Reconnaissance and site Survey Photos" that have been recorded during residual reconnaissance trip.

Figure 2-2

First and Second Reconnaissance Field Trips Covering the Whole Study Area



2.3.3 Third : Land Use/Land Cover

Detecting and Recording land use/ land cover change over time (Multi dates satellite images) are perhaps one of the most important applications of digital remote sensing data (Christensen et al., 1988).

Moreover, the use of change detection technique is to measure the changes in spatial distribution of desert soil and marginal vegetation and land in the study area.

Objectives

The objectives of this part of the proposed study is to:

- Map the existing land use and land cover of the study area;
- evaluate the flora and fauna of these ecosystems; and
- investigate environmental quality.

Field Work

Field work aimed at covering the study area and achieving the following:

- Verify salient photo-identified natural features;
- collect field observations and samples to support proposed thematic maps;
- collect field information that is valuable for the survey;
- check the results of satellite image analyses; and
- record types of fauna and flora over the study area.

Laboratory Work

- Identification and mapping of main natural features of the study area using available photo mosaics, and satellite images.
- Compilation of spatial data for thematic maps.
- Analyses and identification of all collected field samples.

Expected Outputs

- Land use / land cover maps covering the zone of the proposed site at a suitable scale.
- Documentary illustrated the terrestrial ecology of the study area.
- Ecology assessment of different ecosystems in the study area (Fauna and Flora).

The survey result regarding infrastructure has covered both "Area A" and "Area B".

2.3.4 Fourth: Socio-Economic Survey

The Socioeconomic team has conducted preliminary studies within the target areas that will host the new wind farm in the West Nile Valley within the El-Minya and Beni-Sueif Governorates(1). The project will be implemented in the desert areas passing parallel to these two Governorates.

Objectives

The main objective of the Socio-economic survey was to develop a socioeconomic profile for the areas that would host the project. to highlight the structure of the communities in, and surrounding to, the project area. Thus, the following objectives have been covered:

- Determine the socioeconomic conditions of the community hosting the project, as well as, identify the families and different social groups in the community.
- Identify potential obstacles that might face the project during implementation phase.
- Land expropriation will be less possible, however the legislations under which the project will be implemented, in case of expropriation of lands for construction of ancillary facilities such as access roads,..etc. may be highlighted⁽²⁾.
- Address the land use and investigate the willingness of illegal possessors of lands to be expropriated.
- Determine the preliminary perception towards the project and the level of acceptance and develop appropriate strategies to enhance the acceptance of the project.
- Investigate the potential community support that might be provided for the project.

Methodology

The team has developed a cross-sectional study that uses a multi-methodological approach including:

Primary Data

- Focus group discussions (FGDs) with the residents in the areas. The FGDs were used to gain specific details from specialized individuals and the general public opinions were used to enhance the survey questionnaires (at least four, see Appendix-C).
- In-depth interview with the governmental organizations and the NGOs (see Appendix-C).
- Surveys were used with communities in proximity to wind farms for evaluation of perception towards the project. (at least 20) (see Appendix-C).

Secondary Data

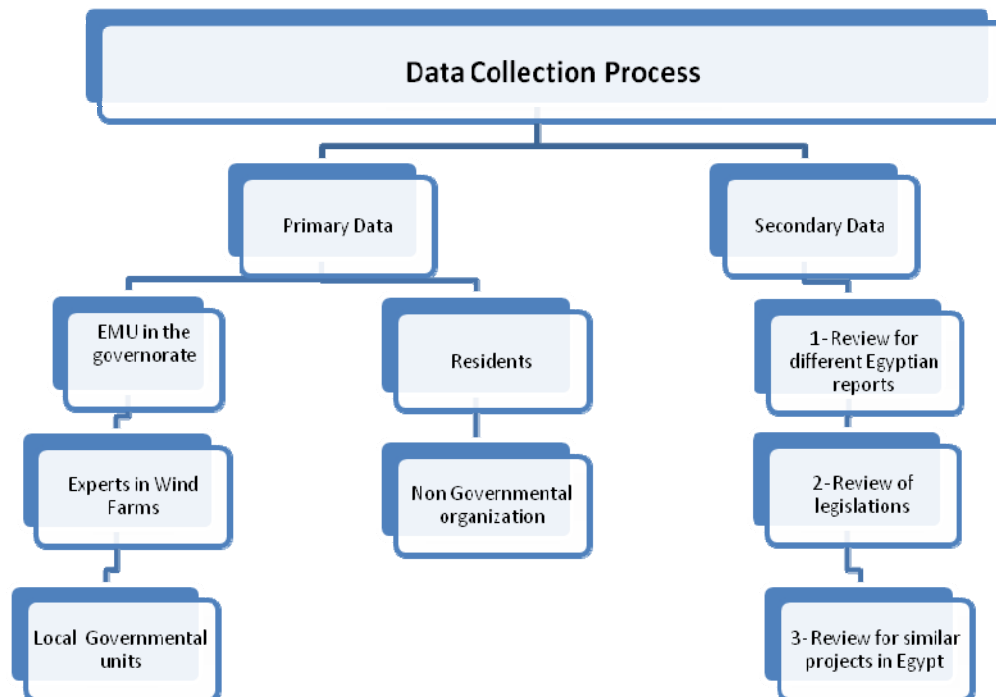
(1) A *governorate* is an administrative division of a country. It is headed by a governor.

(2) Regardless of having a decree to allocate lands by the governor in some cases, the project might find illegitimate possession of land.

It aimed at analyzing different reports about the project site. The secondary data analysis method has been used to review government and wind farm documents about economic and demographic information in the communities. Figure 2-3 depicts the data collection scheme.

Figure 2-3

Data Collection Scheme of the Socio-economic Survey



In addition, a clear documentation with maps and photos was presented and observation for different areas was used in order to facilitate the process of community mapping which was used to visualize the project partners and the implementing agencies as part of the socioeconomic studies.

Socio-economic survey has included land-own, possession and occupation in the Egyptian legal and customary condition, and procedures for land acquisition and/or resettlement. In addition, it covered the laws and regulations related to illegal occupancy shall be clarified.

The design of the interviews and/or questionnaires for the survey has avoided any misunderstanding, mis-expectation, conflict, etc.

For this, the purpose of the survey was emphasized as to clarify environmental base condition of the surveyed area.

Also, it was very clear to the interviewees that for the time being no developments have been planned for the surveyed area.

Also, during conduct of the interviews and questionnaires, any conflict, problem, etc. was reported, if occurred.

Historical and Cultural Heritage

Historical and cultural heritage included old monuments, religious buildings and other features that relate to any historic or cultural value.

Secondary data was collected about the sites from the following sources:

- Ministry of Antiquities
- The Egyptian Survey Authority
- Antiquities entities within the governorate
- Maps provided for historical sites (on the web, in the Ministry of antiquities)

This process has been applied as follows:

- Reviewing legislation to identify any restrictions on certain categories of cultural heritage;
- Collecting Maps which may reveal such information as field boundaries that conserve traces of ancient roadways, and other cartographic evidence of cultural heritage;

Upper Egypt governorates are rich in monuments, mosques, churches, temples...etc. Such culturally valuable sites could be categorized into three main categories:

- Governorate Plateau including the famous antiquities; (i.e. Beni Hassan tombs)
- Monuments and historical buildings of the governorate; and
- Architecturally valuable buildings.

Pollution

No air quality measurements were conducted in saharian (Desert) areas.

Air pollution sources were to be identified first through data collected and documents available on the survey area. Air Quality measurements were conducted only at these locations for main pollutants (i.e. SO_x, NO_x, TSP, PM₁₀).

The Survey Outputs

The socio-economic survey aimed at contributing to shaping a socioeconomic profile for the hosting communities through sound analysis. It proposed the strategies that targeted smooth implementation of the project, based on characteristics of the different communities.

The following categories of output data were considered:

- Provision of an overview for legislations, polices and relevant ministerial or presidential decrees.
- Description for the communities, including provision of detailed information about the basic characteristics of the population, i.e. education, employment, occupation, etc.
- Provision of a detailed profile of the governorates through developing community mapping for :
 - Land use of the area
 - Facilities
 - Population and groups (Bedouin (if any), upper Egyptian....etc)
 - Degree of rejection and acceptance
- Report on surveying results.

2.3.5 Fifth: GIS Processing

GIS software and its version that has been used was: ARC GIS 9.3

Developing GIS data base, including constraint maps from the GIS data, has followed the DEADP approach (Strategic Initiative to Introduce Commercial Land Based Wind Energy Development to the Western Cape).

Referring to the GIS work, and upon reviewing an example received from OC, GIS work was produced for the study area and the following layers have been built:

- Land use / land cover map.
- Topographic maps (DEM).
- Socioeconomic map (Culture Heritage, housing sites, economic activities, etc).
- Ecology map (fauna and flora sites).
- Sand dunes dynamic map (movement rate, direction etc).
- Geological map (geomorphology, hydrogeology, etc).

Moreover, the evaluation approach has been done in both ways: quantitatively and scoring. This was because three dates satellite images were used, which could monitor the dynamic changes for all of the above mentioned maps. The sand dunes sheets were digitized in every date and the three vectors were compiled to trace the dunes dynamics and it's possible impact on the project wind farms.

2.4 EXPECTED SOURCES OF DATA COLLECTION

- Field Survey.
- CAPMAS (Central Agency for Public Mobilization and Statistics).
- El-Minya Governorate.
- Beni-Suief Governorate.
- Institute for Environmental Studies and Research, Ain Shams University.
- National Authority for Remote Sensing and Space Sciences (NARSS).

- National Research Institute of Astronomy and Geophysics.
- Research Institute of Ground Water (RIGWA), Water Research Center, Ministry of Water Resources and Irrigation.
- Geological Survey and Mining Authority.
- Faculty of Sciences, Cairo University.
- Faculty of Sciences, Ain Shams University.
- Faculty of Sciences, El-Minya University.
- Text Books Related to the Survey Subjects.

2.5 EXPECTED INTERVIEWEES FOR DATA COLLECTION

- NREA Deputy Chairman and concerned staff members.
- EETC staff members responsible of wind farms interconnection projects.
- CAPMAS manger for governorates statistics.
- Management staff in the El-Minya Governorate.
- Management Staff in the Beni-Suief Governorate.
- Representatives of local population in the El-Minya and Beni-Suief areas.
- Active NGOs representatives in both areas.
- Government Official staff members in the following authorities:
 - Roads and Bridges
 - Rural Electrifications
 - Communications & Telecommunications
 - Petroleum & Gas
 - Water and Wastewater
 - Geological Survey & Mining
 - General Authority for Meteorology
 - Ministry of Water Resources and Irrigation
 - Research Institute for Ground Water
 - Ministry of Agriculture
 - Faculties of Sciences, Cairo, Ain Shams and El-Minya Universities

**CHAPTER – 3.: POLICY, LEGAL AND ADMINISTRATIVE
FRAMEWORK**

3. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

3.1 RELEVANT ENVIRONMENTAL POLICY, LEGAL AND ADMINISTRATIVE ISSUES

The environmental policy, legal and administrative framework which is relevant to the permitting of the Wind Power Plant comprises the following:

- Requirement to conduct an ESIA to accompany the development of the wind power plant.
- Regional development planning, which must be addressed in the development of the wind power plant, in particular:
 - Land use planning and control;
 - siting;
 - protection of land owners and potentially affected communities;
 - protection of environmentally sensitive areas;
 - protection of endangered species; and
 - Integrated Coastal Zone Management.
- Environmental standards which must be considered in the design, layout, construction and operation of the power plant, including:
 - Atmospheric emissions;
 - generation and disposal of liquid effluents;
 - generation and disposal of solid wastes;
 - ambient environmental quality; and
 - health and safety.

Each of these aspects is to be reviewed. In each case, both the Egyptian and International standards (represented by the Donor Agency's standards) and guidelines are to be considered, to reflect the relevant national requirements and those which may be expected from international financial institutions.

3.2 GOVERNMENT OF EGYPT LAWS AND REGULATIONS

Beginning in the 1950s, the Government of Egypt has promulgated several laws and regulations concerning protection of the environment.

The Egyptian standards are to be drawn from the range of provisions in, inter alia, the following documents:

- Law 4/1994 and the Prime Minister's Decree No. 338 of 1995, which promulgates the Executive Regulations of Law 4 (Appendix-D).
- Amendment to the Law 4/1994 promulgated by the Prime Minister's Decree No. 1741 of 2005 for modifying some executive regulations of the Decree No. 338 of 1995.
- Law 9/2009, which modifies some articles of the Law 4/1994.

- Law No. 93 for 1962 regarding the drainage of liquid wastes, particularly sanitary drainage.
- Law of Labor No. 12/2003.
- Law No. 38/1967 amended by Law No. 31/1976 on public cleanliness and collection and disposal of solid waste.

Table 3-1 provides with the principal environmental Laws, Decrees and Regulations. Appendix-E includes an overview of the Water usage and liquids related laws and decrees.

3.3 EGYPTIAN REQUIREMENTS FOR AN ESIA

The Egyptian Environmental Affairs Agency (EEAA) was established by Presidential Decree in 1982 to be the central coordinating body for environmental protection in Egypt. The EEAA is affiliated to the Ministry of State for Environmental Affairs, established in 1997.

With a mandate for implementation of Law No. 102 of 1983 on protected areas and Law No. 4 of 1994 on protection of the environment and its updating Law No. 9 of 2009 as well as a number of international environmental conventions, the EEAA is the principal governmental body responsible for nature conservation in Egypt.

Law No. 4 largely focuses on pollution issues, but also deals with wildlife conservation and offers protection of threatened species. It also addresses the possible negative impact of new development projects. Among other things, the law demands environmental impact assessments to be carried out if a proposed project is believed to have a negative impact on the environment.

Measures concerning the assessment of environmental impact of establishments or projects are stipulated in Articles No. 19 – 23 and 70 – 73 of Law No. 4 of 1994. The provisions of Articles No. 10 – 19 and 57 – 60 of the Executive Regulations of the Law 4/1994 complement these articles by the Prime Minister’s Decree No. 338 of 1995.

Law 4/1994 states that new establishments or projects, expansions or renovations of existing establishments must be subject to an environmental impact assessment before a permit is issued. Furthermore, the law states that the construction of any establishment on the seashore at a distance of 200 meters inwards from the coastline are prohibited without an Environmental Impact Assessment. Further information on when and how environmental impact assessment should be carried out is given in “Guidelines for Egyptian Environmental Impact Assessment” published by the EEAA in 1997 and updated in January 2009 (Appendix-F).

Table 3-1

Principal Environmental Laws, Decrees and Regulations

Environmental Law	Date	Authority	Decrees/Regulations	Implementing Agency
Law No. 4 on Environment	1994	Establishment of EEAA and Environmental Trust Fund; requirement of EIA, regulation of air pollution, hazardous waste management, and marine pollution.	Decree No. 338 of 1995 (Executive Regulations)	Ministry of State for Environmental Affairs (MoEA) EEAA
Law No. 117 on Cultural Heritage	1983	Preservation and management of cultural heritage	Presidential Decree No. 2828 of 1971 (cultural heritage)	Ministry of Culture SCA
Law No. 102 on Natural Protectorates	1983	Designation and management of cultural protectorates	Decrees designating sites	MoEA / EEAA
Law No. 124 on Fisheries	1983	Management and protection of fisheries and marine animals		Ministry of Agriculture and Land Reclamation
Law No. 48 on Protection of the Nile River and its Waterways	1982	Control of pollution of surface waters	Decree No. of 1983 (standards of wastewater discharge of surface waters)	Ministry of Public Works and Water Resources
Law No. 137 on Labor	1981	Control of work place safety and environment		Ministry of Manpower and Immigration
Law No. 27 on Public Water Sources	1978	Protection of public water sources for drinking and domestic purposes	Decree No. 27 of 1966 (Supreme Committee for water) Annex IV of 1975 (Standards for potable water)	Ministry of Health and Population Supreme Committee for Water
Law No 31 on Public Cleanliness	1976	Control of solid waste management (amends Law No. 38 of 1967)		Ministry of Housing, Utilities, and Urban Communities
Law No. 66 on Transport Air Pollution	1973	Control of air pollution from transportation sources	Decree No. 864 of 1969 (Supreme Committee) Decree No. 470 of 1971 (ambient air standards)	Ministry of Health and Population Supreme Committee for Protection of Air
Law No. 38 on Public Cleanliness	1967	Control of solid waste management (including hazardous waste)	Decree No. 134 of 1968 (waste from domestic and industrial sources)	Ministry of Housing, Utilities, and Urban Communities
Law No. 53 on Agriculture Cleanliness	1966	Regulation of purchase, importation, and handling of pesticides	Decree No. 50 of 1966 (registration and licensing requirements)	Ministry of Agriculture and Land Reclamation
Law No. 93 on Wastewater and Drainage	1962	Control of wastewater discharges and drainage to public sewers	Decree No. 643 of 1962 (standards for wastewater discharge to public sewers)	Ministry of Housing, Utilities, and Urban Communities

To determine if a project is subject to an EIA and how detailed this EIA should be all projects must be classified into one of the three categories:

Category A (White projects): Projects that are believed to have little or no negative impact on the environment and where EIAs are not required.

Category B (Grey projects): Projects that may result in substantial environmental impact and it therefore has to be determined if a partial EIA should be carried out.

Category C (Black projects): Projects, which are likely to have a significant negative impact on the environment, and therefore requires a complete EIA.

The development of a new power plant can only commence if a permit has been granted by the appropriate Competent Administrative Authority (CAA). Egyptian Law 4 of 1994 stipulates that applications for a license from an individual, company, organization or authority, subject to certain conditions, require an assessment of the likely environmental impacts.

Under the "Wind Atlas for Egypt" Project^(*), which was an element in a national effort to provide the best possible basis for planning of future environmentally sustainable development and utilization of wind energy resources and technology in Egypt, eight reports were developed to cover a wide band of interests. One of these interests was the development of "Specific Guidelines for Environmental Impact Assessment of Wind Turbines and Wind Farms in Egypt-EEAA Specific Guidelines". These Guidelines were put into force since December 2007 under the title: "Environmental Impact Assessment Guidelines for Electricity Generating Wind Farms". Issuance and enforcement of these regulations stipulate that "...Wind Farm power plant falls within the category of "C Listed Projects", which requires a Full EIA to be prepared and submitted to the Competent Administrative Authority. The EIA must analyze the impacts and specify what mitigation measures (if any) are necessary in order to minimize them.

This guideline identifies the main factors to be considered when preparing an Environmental Impact Assessment (EIA) study for electricity generating facilities based on wind power stations.

Public consultation and brain storming with competent authorities must be held before preparing the EIA studies, taking into consideration the following issues:

- The environmental issues and land uses.
- Assessment of alternate sites.
- Assurance of the proposed site suitability.

(*) This project was a result of a cooperative efforts between Government of Egypt and the Government of Denmark. The Danish contribution to this project was funded by Danish Ministry of Foreign Affairs through DANIDA and is implemented by the National Environmental Research institute, Denmark in collaboration with UNEP Risø. The Egyptian contribution was lead by New and Renewable Energy Authority (NREA), Egypt.

The EIA report should be submitted via Competent Administrative Authority to the Egyptian Environmental Affairs Agency (EEAA).

The aim of Environmental Impact Assessment (EIA) is to enable the approving authority and the developer to properly consider the potential environmental consequences of the project and to make recommendations to reduce it.

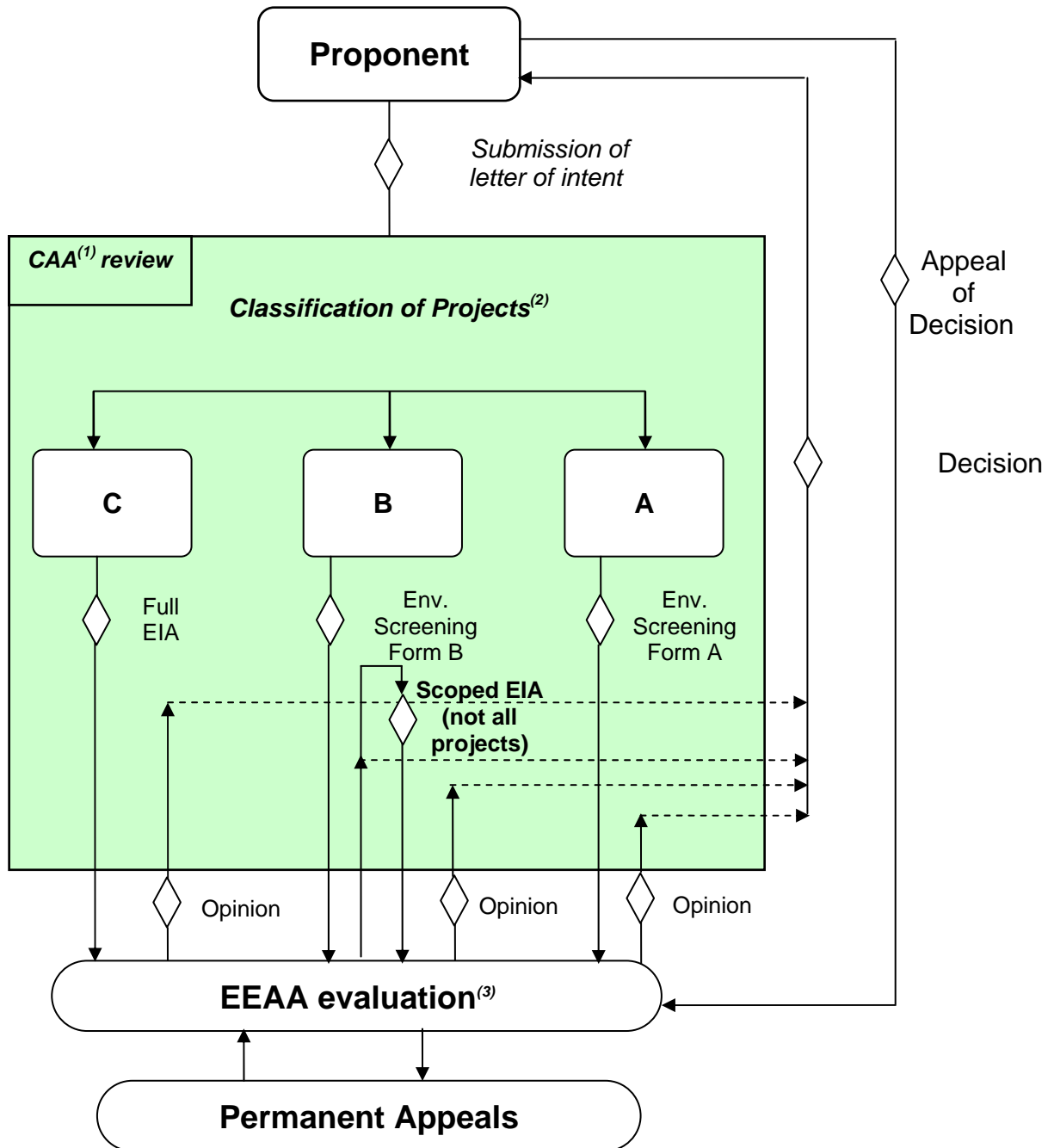
It is important to provide sufficient information for the approving authority to make a decision on whether to approve the project or not, and under what conditions. The information provided should be clear, objective, and supported by maps or other descriptive detail.

Figure 3-1 depicts a diagrammatic overview of the Egyptian EIA System and processing of application.

Table 3-2 gives a summary of the Egyptian ESIA system in comparison with the World Bank.

Figure 3-1

Diagrammatic Overview of the Egyptian EIA System and Processing of Application



◇ Action to be performed

(1) CAA = Competent Administrative Authority.

(2) Categories A, B and C were first called: White, Grey and Black (1996), respectively, but they were changed since first review (2005) to the present symbolic categorization.

(3) All decisions will be copied to EEAA for inclusion in the EIA register.

Table 3-2

Summary of the Egyptian EIA System and Comparison with the World Bank

		Egyptian ESIA System	World Bank Procedures
ESIA LEGISLATION AND PROCEDURES			
1	Enabling legislation for EIA	Law No 4 on Environmental Protection 1994	OP 4.01 1999 - EIA is the process that is specific to each specific operation, both category A and category projects. - Any report resulting from the process is an EA report.
2	Detailed legislation for EIA	Executive Regulations 1995 (Prime Minister's Decree 338)	BP/GP 4.01 1999
3	Formal provisions for SEA	None	Definitions of sectoral and regional EIA are provided. Sectoral and/or regional EIA is required when the project "is likely to have cumulative or regional impacts."
4	Local government EIA legislation or procedures	None	
5	Sectoral authority EIA legislation or procedures	Some Sectors have issued review criteria for their projects to be considered with those of the EEAA	
6	General and specific guidelines	Guidelines for EIA drafted by EEAA in 1995, include report content for each sector. Detailed guidance issued for several project types.	EA sourcebook and updates 1991-2000. Pollution Prevention and Abatement Handbook 1999.
ADMINISTRATION OF ESIA			
7	Main administrative body for EIA	Egyptian environmental Affairs Agency	Regional Environment Unit
8	Competent authority for environmental acceptability	EEAA: makes recommendations to sectoral and local competent authorities	Director, Regional Environment Unit
9	Review body for EIA	EEAA: uses independent consultants as reviewers	WB regional environment unit (BP)
10	Sectoral authority responsibilities	Initial screening according to lists. Final project approval	N/A
11	Local government Responsibilities (*)	Governorates act as CAA for certain types of project	N/A
12	Other bodies responsible for planning approval	Competent Administrative Authorities and Governorates	N/A

(*) In this case the role and responsibilities of the Local Government are the same as the role and responsibilities of the CAA.

Table 3-2 (Contd.)

Summary of the Egyptian EIA System and Comparison with the World Bank

		Egyptian ESIA System	World Bank Procedures
13	Method of co-ordination with other planning approval bodies	Occasional meetings, registered letters	<ul style="list-style-type: none"> - Internally with environment department anchor - Externally with national environmental agencies and concerned ministries/entities - For risky projects Quality - Assurance and control unit (QACu) of the environment anchor of WB
14	Method of co-ordination with pollution control approval and regulation	Pollution control is part of the EIA system. For discharges to water it is also regulated by the Ministry of Irrigation and Water Resources. Standards are defined in Law 4.	Use of <i>Pollution Prevention and Abatement Handbook</i> Available as guidance. The EA may recommend alternative emission levels and approaches to pollution prevention and abatement of the project. Exceptions should be rare.
STAGES OF ESIA Screening			
15	Screening categories	Three screening lists: black list, full EIA: grey list, approval with conditions or scoped EIA: white list, approval with conditions	<ul style="list-style-type: none"> • EA is the process that is specific to each specific operation, both category A and category B projects. • Any report resulting from the process is an EA report. • Screening categories : A, B, C and IF
16	Screening method	Lists, plus individual screening based on screening forms.	Individual screening for significance, with illustrative lists (BP, GP) and on the basis of sourcebooks
17	Scoping method	Individual scoping by proponent for black list projects, based on sectoral guidelines. Reviewed by EEAA, including site visits. Scoping by EEAA for grey list projects.	<ul style="list-style-type: none"> - Based on EA TOR for category A projects - Approval of WB - EA TOR after scoping

Table 3-2 (Contd.)

Summary of the Egyptian EIA System and Comparison with the World Bank

		Egyptian ESIA System	World Bank Procedures
18	Content of EIA report	As World Bank (sectoral guidance)	<ul style="list-style-type: none"> - Executive summary - Policy, legal and administrative framework - Project description - Baseline data - Prediction and assessment of environmental impacts and mitigation - Analysis of alternatives - Environmental management plan - List of EIA report preparers - Record of consultations - References and supporting data (Annex B)
19	Requirements for non-technical summary	Non-technical and executive summary	Executive summary (Annex B)
20	Requirements for considering alternatives	Study required (sectoral guidelines only)	Is a policy requirement as "EA evaluates a project's potential environmental risks and impacts in its area of influence, <u>examines project alternatives</u> ..."
21	Requirements for environmental management plans	Mitigation Management plan and monitoring plan required (guidelines)	Specifically required in the OP and also included as Annex C. OP strengthens and clarifies the role of the EMP by specifically listing EMP as a component of the category A project EA report, and specifically citing EMP provisions related to the implementation of the EA.
22	Requirements for trans-boundary impacts	None	Compliance with all international treaties <u>Specified</u> . The Bank does not finance project activities that contravene country obligations under relevant international environmental treaties and agreements.
23	Requirements for global impacts	None	Compliance with all international treaties <u>Specified</u> . The Bank does not finance project activities that contravene country obligations under relevant international environmental treaties and agreements.
Review, public participation and decision-making			
24	Method for review of content and substance of EA reports submitted	Comparison with content specified in guidelines, plus ad hoc review by independent reviewers. Review criteria for tourist projects.	Comparison with TOR (BP) Consistency with TOR as specified in the guide for preparation and review of EA reports for MENA region

Table 3-2 (Contd.)

Summary of the Egyptian EIA System and Comparison with the World Bank

		Egyptian ESIA System	World Bank Procedures
25	Requirements for public participation	Guidelines request public consultation during the EIA study, and a public consultation meeting once a draft EIA report is prepared.	<ul style="list-style-type: none"> - For all category A and B projects the borrower consults project - affected groups and local NGOs. - For category A projects, consultation occurs twice: <ul style="list-style-type: none"> - shortly after screening and before EA TORs are finalized (scoping) - once a draft EA report is prepared
26	Arrangements for access to EIA reports	No formal provisions. Access is given to scientific institutions for research purposes	<p>Disclosure :</p> <p><u>Mandatory for A and B projects</u> . The borrower provides relevant materials in a form and <u>language</u> that are understandable.....:</p> <ol style="list-style-type: none"> 1) For Category A projects: <u>prior to project appraisal</u>: <ul style="list-style-type: none"> - Same as OP. - EA available at the Bank's Infoshop. 2) For category B projects. EMP is disclosed prior to appraisal: <ul style="list-style-type: none"> - Borrower 's permission to release the EA report is still required.
27	Decision-making authority	Opinion given by EEAA on environmental acceptability, prior to project approval by CAA.	integrated with appraisal of project design and economic analysis (BP) Regional Environment Unit
28	Provisions for appeal	Permanent appeal committee	
Follow-up			
29	Requirements for follow-up and monitoring	Developer maintains records, EEAA undertakes follow-up inspections	Reports submitted to WB by borrower, supervision visits by WB (20, BP)
CAPACITY			
30	Expertise for conducting EIA	Internal EEAA guidance on the selection of consultants	Independent EA experts retained by proponent, independent international panel for major issues (4) for category A. EA is responsibility of borrower.
31	No. of EIAs conducted	Approx. 200 full EIAs per annum, plus approx. 7000 grey and white list submissions	
32	Approx. no. of EIA firms and individuals	Small number of consultancy firms, large number of individuals	

Table 3-2 (Contd.)

Summary of the Egyptian EIA System and Comparison with the World Bank

		Egyptian ESIA System	World Bank Procedures
33	Foreign consultants used?	In some WB and international projects	
34	Universities/ institutes with EA technical expertise	Approx. 6 universities	
35	Universities/ institutes with EIA systems expertise	Being developed in the American University at Cairo and in Suez Canal University	
36	Training provisions	Numerous internationally funded EIA courses, plus well-established training programs in universities	
37	Other EIA capacity-building programs	DANIDA, DFID, USAID, others	

3.4 EGYPTIAN LAND ACQUISITION / PURCHASE LEGISLATION

The Egyptian Constitution recognizes three main types of ownership. Article 29 of the 1971 Constitution provides that "Ownership shall be under the supervision of the people and the protection of the State. There are three kinds of ownership: public ownership, co-operative ownership^(*) and private ownership".

In accordance with Article 34 of the Constitution: "Private ownership shall be safeguarded and may not be placed under sequestration except in the cases defined by law and in accordance with a judicial decision. It may not be expropriated except for the general good and against a fair compensation as defined by law. The right of inheritance shall be guaranteed in it." According to this article, it is understood that procedures for private property expropriation are considered to be exceptional. The competent jurisdiction shall be entitled to take cognizance of the lawsuits raised by individuals against the administration for appropriate compensations.

3.4.1 Applicable Social Legislation in Egypt

The legal frame revolves around the following laws:

- The Labor Law (No. 12 of 2003), the Investment Law (No. 8 of 1997),
- The Procurement Law (No.89 of 1998),
- Laws that are regulating the issues of building and physical planning, most importantly Law 453/1954, Law 106 / 1976, Law 59/1979 and Law 3/1982.
- Most important one is Article 34 of the Constitution states that "Private ownership shall be safeguarded and may not be placed under sequestration except in the cases defined by law and in accordance with a judicial decision."
- Other relevant laws governing expropriation and compensation include:
 - Law 577/54, which was later amended by Law 252/60 and Law 13/162, and establishes the provisions pertaining to the expropriation of real estate property for public benefit and improvement.
 - Law No. 27 of 1956, which stipulates the provisions for expropriation of districts for re-planning, upgrading, and improvement, and the amended and comprehensive Law No.10 of 1990 on the expropriation of real estate for public interest.
- Law No. 252, issued in 1960 and amended by Law 577/54, was promulgated to balance the rights and guarantees of individuals with the rights of the state in expropriating private property. This law, moreover, stipulated that any judgment that justifies property expropriation for public benefit /interest must be made by presidential decree.

(*) "Cooperative Ownership" is the ownership that is shared by more than one owner and organized according to socialism principles.

3.4.2 Land Tenure

There are three main forms of land ownership in Egypt:

- Public or State land¹ (in Arabic Amlak Amiriya), which is divided into the State's public domain that cannot be alienated and the State's private domain, which can be alienated generally through sale, lease, Takhssiss (i.e. transfer of ownership conditional on meeting certain criteria, such as keeping the land use unchanged and paying the remaining installments of the land price) or through Haq Intifaa ,
- Private land (in Arabic Mulk horr), which may be alienated/transferred freely, and
- Waqf land (land held as a trust/endowment for religious or charitable purposes), which is often subject to covenants on transfer or use, and which is typically transferred through leasehold or usufruct.

In addition, there are some areas in Sinai and in the northern coast with implicitly recognized *customary rights* to land to the benefit of Bedouins. In these areas, someone wishing to acquire land often has to make two payments, first to the Bedouin claimant(s) for the right of use and then to the State to regularize and register their land tenure/ownership and be able to obtain services.

It is important to note that the Civil Code (No. 131 of 1948) recognizes *Hiyaza* (i.e. possession of immovable/movable property without ownership) as a legitimate channel to acquire ownership of the property in question through adverse possession, provided that the *Hiyaza* has been "peaceful, unchallenged and uninterrupted" for a period of 15 years.² By Law, ownership through adverse possession does not, however, apply to State lands.

3.4.3 Egyptian Civil Code

Within the framework of the Constitution, ***the Civil Code, in articles 802-805 concerning private property***, has recognized the private ownership right. Article 802 has stated that the owner, pursuant to the law, has the sole right of using and/or disposing his property. In Article 803, land ownership has been defined as land with all things above and below it and pursuant to the law, the property of the surface may be separated from the property of what is above or below it.

(1) The large majority of land in Egypt is public or State-owned desert land that is for the most part undeveloped (estimated to be 90-95% of the national territory).

(2) The Ministry of Local Administration estimates that 15.7 million Egyptians (22.3% of the population) live in 1,105 informal or squatter settlements, called *ashwa'iyat*, including unlawful urbanization of agricultural lands, unplanned/ unauthorized land subdivisions, and squatting on public or privately-owned lands.

Then, Article 805 provides that “No one may be deprived of his property except in cases prescribed by law and this would take place with an equitable compensation.”

3.4.4 Expropriation of Ownership for Public Interest (Law 10/1990)

Although, the constitution prohibits the expropriation of private property except for public interest against compensation determined pursuant to the law, Law 10 of 1990 concerning the Expropriation of Ownership for Public Interest was issued to reflect this constitutional mandate. In addition, expropriation of property is further regulated by Law 59 of 1979 concerning the Establishment of New Urban Communities and Law 3 of 1982 concerning Urban Planning.

The term “**public interest**” in the context of expropriation has been defined in Article 2 of Law 10/1990. The Article specifies the acts that are considered for public interest. These include:

- Constructing, widening, improving, or extending roads, streets, or squares, or the construction of new districts.
- Water supply and sewage projects, irrigation and drainages projects.
- Energy projects.
- Construction or improvement of bridges, cross roads for railway and tunnels
- Transportation and telecommunication projects.
- Urban planning purposes and improvements to public utilities.
- Other acts considered as acts for public interests mentioned in other laws.

The law further stated that expropriation can be exercised only with respect to:

- Real property and not movable property. The term real property means, “Anything that is fixed in its space affirmed therein, which may not be moved without being damaged.” Accordingly, real property includes only land (whether agricultural or vacant, whether in urban or rural areas) and buildings above this land.
- Real property belonging to private persons (individuals or corporate) or to State private property.
- State public property may not be expropriated; rather the concerned administrative parties would enter into an agreement with respect to such property either by divesting the property in question from its public characterization or by re-appropriating the said property to another public use or entity.

3.4.5 Transfer of Ownership and Compensation

Compensation assessment: Property expropriation shall only be made against a fair compensation in accordance to constitutional provisions. The legislator

has put forth some principles which should be taken into consideration with regards to compensation assessment:

- The compensation assessment for property expropriation shall not include structures, plants / crops, improvements / additions, or tenant agreements if it has been proved that the aforementioned acts were performed in order to acquire higher compensation.
- If the compensation amount for the un-expropriated part, in projects other than urban planning, increases or decreases (due to activities causing general public benefit), the increase or decrease in amount should be taken into consideration so that the amount to be added or reduced shall not exceed 50% of the compensation value of the expropriated property (*Article 19: Law No. 577 of 1954*).
- If the value of the property subject to expropriation for the upgrading or re-planning of districts /cities is increased as a result of the implementation of a public benefit project, the increase in value shall not be calculated in the compensation assessment if the property expropriation is performed within 5 years from the date of implementation in the previous project (*Article 20: Law No. 477 of 1954*).
- For real estate subject to improvement due to public benefit works (district/city replanning and upgrading projects), the owners shall be obliged to pay for the improvements, provided that the payment does not exceed 50% of the actual expenses for establishing or expanding the street or square which resulted in the improvement. This provision shall also be applicable if only part of the property within the district/city replanning/upgrading projects is expropriated, and the authority in charge has deemed that that keeping part of the real estate by the owner does not conflict with the purpose of the intended project. The assessment of the aforementioned charges made by the authority in charge of organizing affairs shall not be subject to any appeal (*Law No. 577 of 1954*).

3.4.6 Valuation and Compensation Methods

Determination of the valuation methods and compensation to be given to PAPs is made at two separate levels:

- The first is made by the Expropriating Entity in order to meet the requirement that the estimated compensation amount is deposited with ESA prior to proceeding with the remaining formalities as described in the preceding section.
- The second level is a review of that estimated compensation by the Compensation Estimation Committee within ESA.

The first level, as stated in Article 6 of Law 10/1990, requires the Minister of Public Works and Water Resources to form a Committee within each governorate to be charged with the determination of compensation (this contradict with Article 47 of Law 3, 1982 which authorized the concerned Governor to formulate this committee!).

The second level is conducted by ESA. The Compensation Estimation Committee within ESA makes a final administrative determination of the compensation to be granted to property owners and rights' holders after having received a consultative report from the General Department for Appraisal within ESA.

The following rules concerning the determination of the compensation for expropriation of ownership are worth noting:

- Should the value of the un-expropriated part of the expropriated property increase or decrease due to the public interest works in projects other than zoning projects within cities, such decrease or increase shall be taken into consideration when determining the compensation amount.
- Compensation is determined in accordance with Article (20) of Law 10/1990 on the basis of prevailing prices at the date of issuance of the expropriation decree in question. The committee and the courts would look to expert opinion in determining the prevailing prices, taking into account prices stated in recorded contracts.
- Should the value of the expropriated property increase due to prior public interest works in a previous project, such increase shall not be calculated in determining the compensation value if expropriation is exercised within 5 years from the date of executing the previous public interest project.
- Compensation under Law 3/1982 can be in one of two ways: (i) taking the value of the property; or (ii) postponing the taking of such value in full or in part until all or part of the area in question is sold. In such event, the owner or holder of rights deserves compensation equal to the said value in proportion to the total value of the properties in question together with one-half of the difference between the two values after deducting the costs of executing the project.

3.4.7 Crop Compensations:

The valuation of crop compensations areas are measured by field surveys during implementation for measuring lengths of affected areas along the transmission line or pipeline layouts and calculating the area based on a width of 10m. for collector pipes and 5m. for the lateral pipes. The affected area is then multiplied by the applicable unit rate depending on the type of crop to reach the crop compensation amount.

Unit rates for crop compensations based on the crop type are updated and issued in consecutive Ministerial decrees related to this matter and issued by the Minister of Water Resources and Irrigation. These updates are prepared by specialized committees established with representation from MWRI's relevant departments as well as participation of the MALR. Recent practice has been to issue updates of these crop compensation unit rates every three years or as needed depending on major occurrences such as repeated farmer requests.

Figure 3-2(A) depicts land acquisition procedures and *Figure 3-2(B)* summarizes compensation procedures.

Figure 3-2(A)

Land Acquisition Procedures

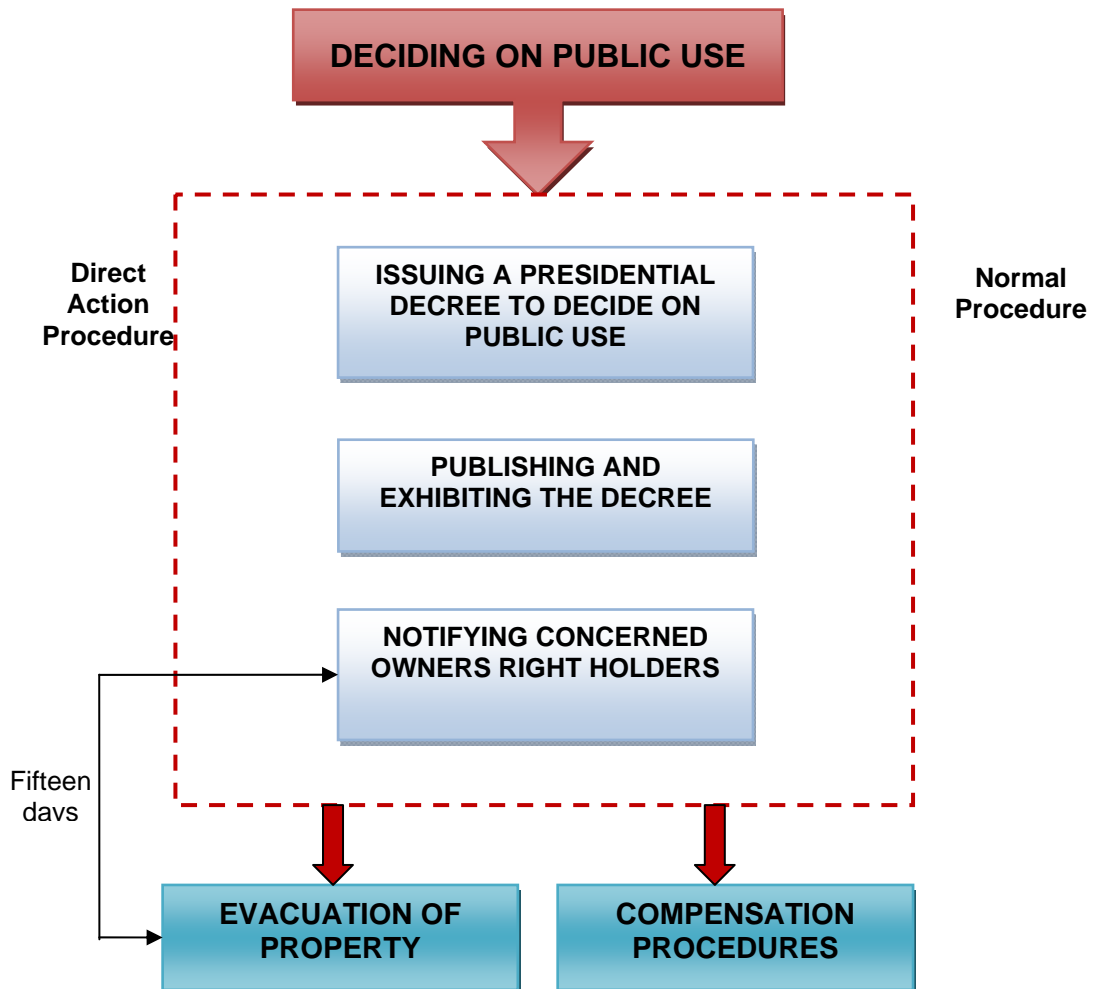
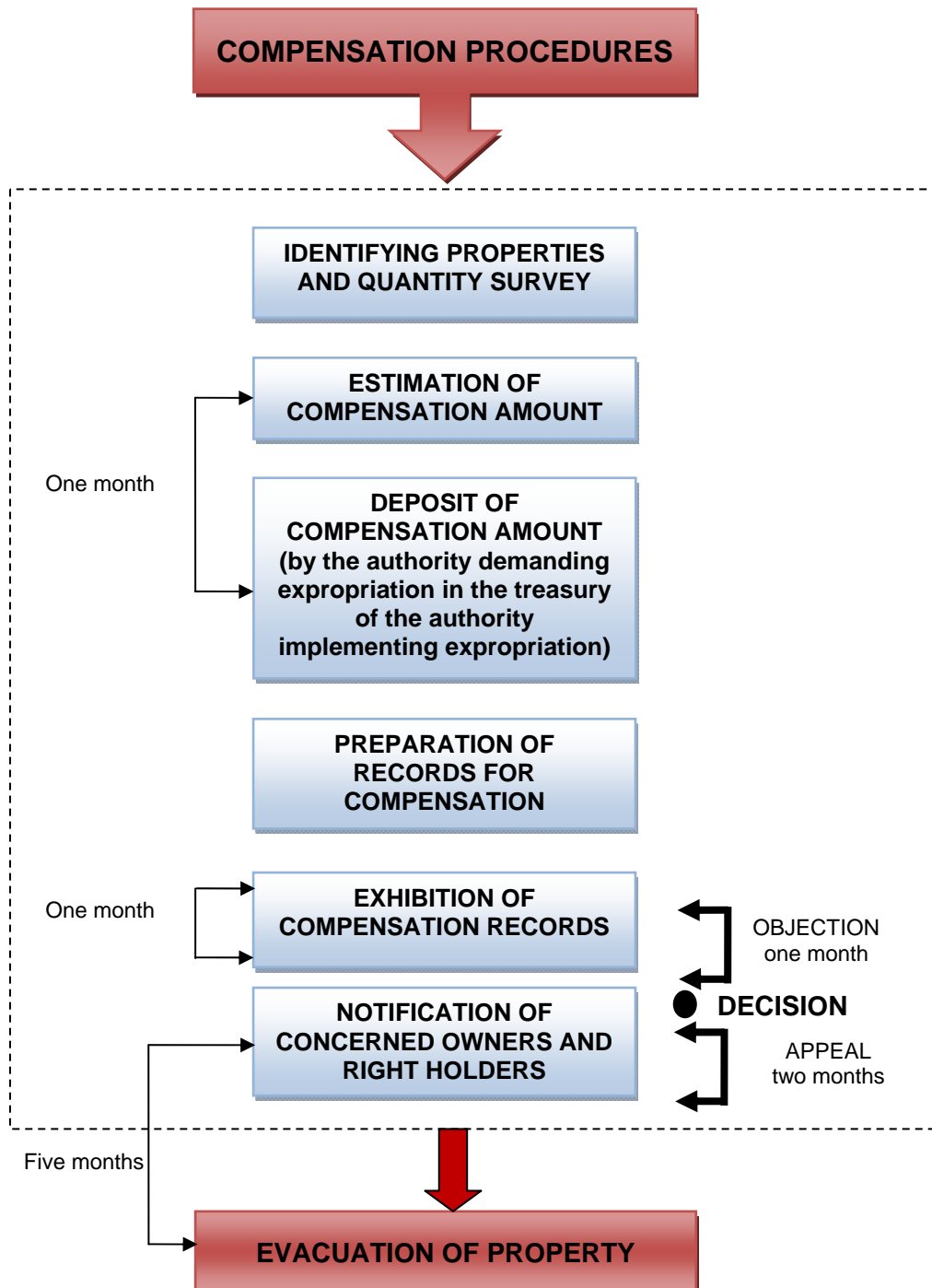


Figure 3-2(B)

Procedures of Compensation



3.5 INTERNATIONAL ENVIRONMENTAL COMMITMENTS

The following section identifies the global and regional environmental conventions of relevance to the proposed power plant, to which Egypt is party.

3.5.1 Global Conventions

- International Convention on the Civil liability for Oil Pollution Damage.
- United Nations Convention on the Law of the Sea (UNCLOS).
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter.
- Convention concerning the Protection of the World Cultural and Natural Heritage.
- International Convention on Economic, Social and Cultural Rights.
- United Nations Framework Convention on Climate Change (UNFCCC) (1992) and its Kyoto Protocol (1997).
- Convention on prevention and control of occupational hazards caused by carcinogenic substances and agents.
- Convention on the protection of workers against occupational hazards in the working environment due to air pollution, noise and vibration.
- Vienna convention for the protection of the ozone layer.
- Montreal Protocol on substances that deplete the ozone layer.
- (London) Amendment to the Montreal protocol on substances that deplete the ozone layer.
- (Copenhagen) amendment to the Montreal protocol on substances that deplete the ozone layer.
- Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal.
- Convention on the Means of Prohibiting and Preventing the Elicit, Import, Export and Transfer or Ownership of Cultural property.
- The Rio Declaration.
- Agenda 21.

3.5.2 Regional Conventions

- The African Eurasian Migratory Waterfowl Agreement (AEWA)
- Regional Convention for the Conservation of the Red Sea and Gulf of Aden and its protocol concerning Regional Co-Operation in combating pollution by Oil and other Harmful Substances in Cases of Emergency.
- African Convention on the Conservation of Natural Resources.
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973).
- Bamako Convention on the Ban of the Import Into Africa and the Control of Trans-boundary Movement and Management of Hazardous Wastes within Africa.

3.5.3 Nature Conservation Conventions

- World Heritage Convention.
- Convention on Biological Diversity, UN (1992).
- Bonn Convention on the conservation of Migratory Species of Wild Animals.
- Convention on Wetlands of International Importance especially as Waterfowl Habitat (RAMSAR Convention, 1971).
- United Nations convention to combat desertification in those countries experiencing serious drought and/or desertification. Particularly in Africa (1992).

CHAPTER – 4.: PHYSICAL ENVIRONMENT

4. PHYSICAL ENVIRONMENT

4.1 CLIMATE AND METEOROLOGY

4.1.1 Introduction

There are two meteorological stations in the El-Minya Governorate run by the Egyptian General Meteorological Authority (EGMA).

These two meteorological stations are located at the El-Minya Airport and Mallawi Agricultural as shown in Table 4-1.

Table 4-1

Meteorological Stations in the El-Minya Governorate

Station Number	Station Name	Coordinates						Height above Sea Level (meters)
		Longitudes			Latitudes			
62387	El-Minya Airport	30°	44\	-"	28°	5\	-"	37.15
62389	Mallawi Agricultural	30°	45\	-"	27°	42\	-"	44.00

Source: The Egyptian General Authority for Meteorology, 2011.

Figure 4-1 presents the location map of these meteorological stations.

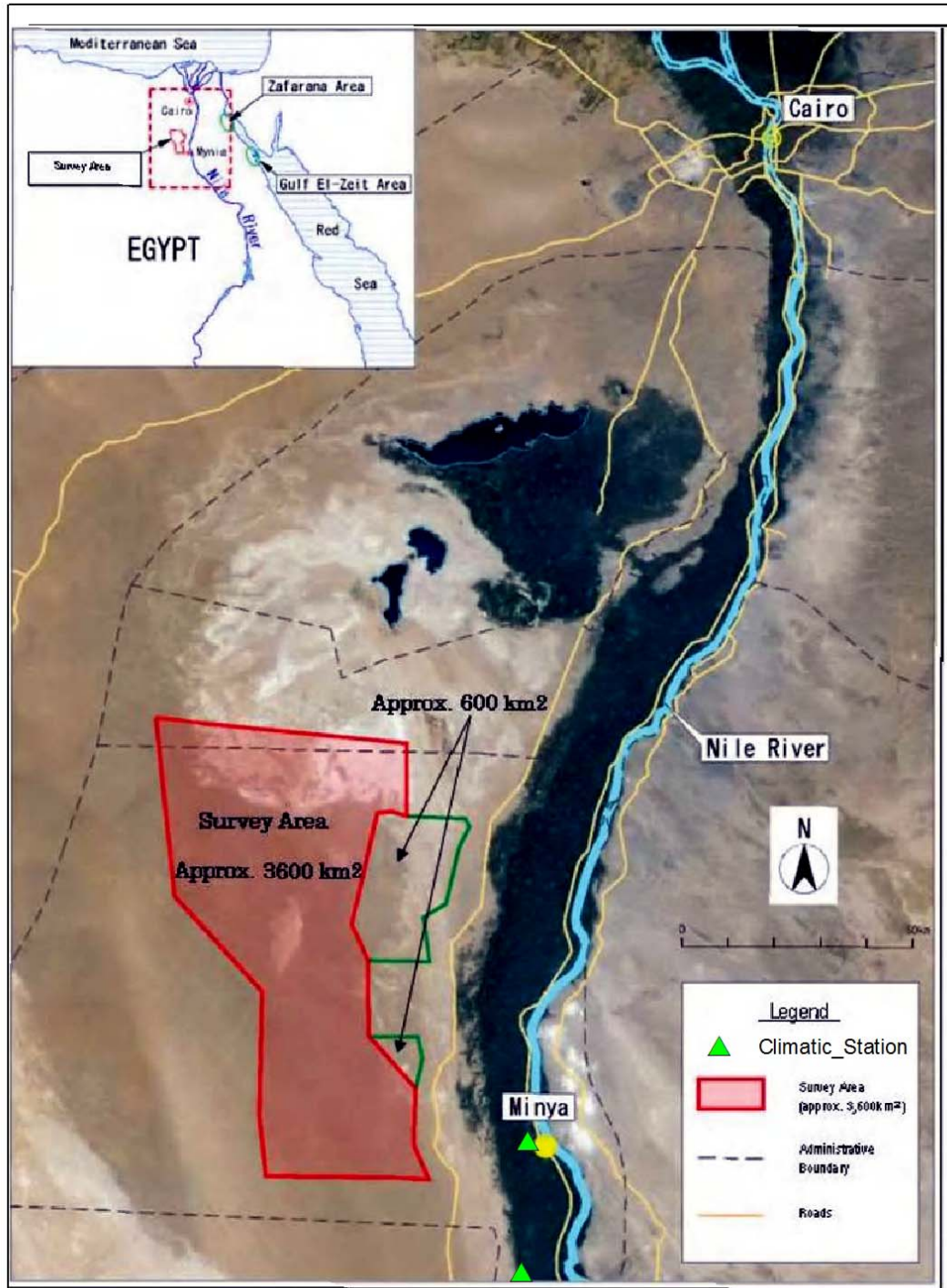
4.1.2 Regional Climatic Conditions

This section describes regional climatic conditions in the West El-Minya area. Table-1 through Table-4 in Appendix-G summarize climatic information available for the area using 35 year monthly rates (i.e. averages of 35 years) data and 2008 monthly averages.

The West El-Minya area is characterized by a sub-tropical desert climate with predominantly very hot summers, mild winters, and generally dry and sunny conditions. Rainfall events are rare and occurrences of gales, thunderstorms, and dust storms are occasional.

Figure 4-1

Location Map of the El-Minya Meteorological Stations



Source: The Egyptian General Authority for Meteorology, 2011.

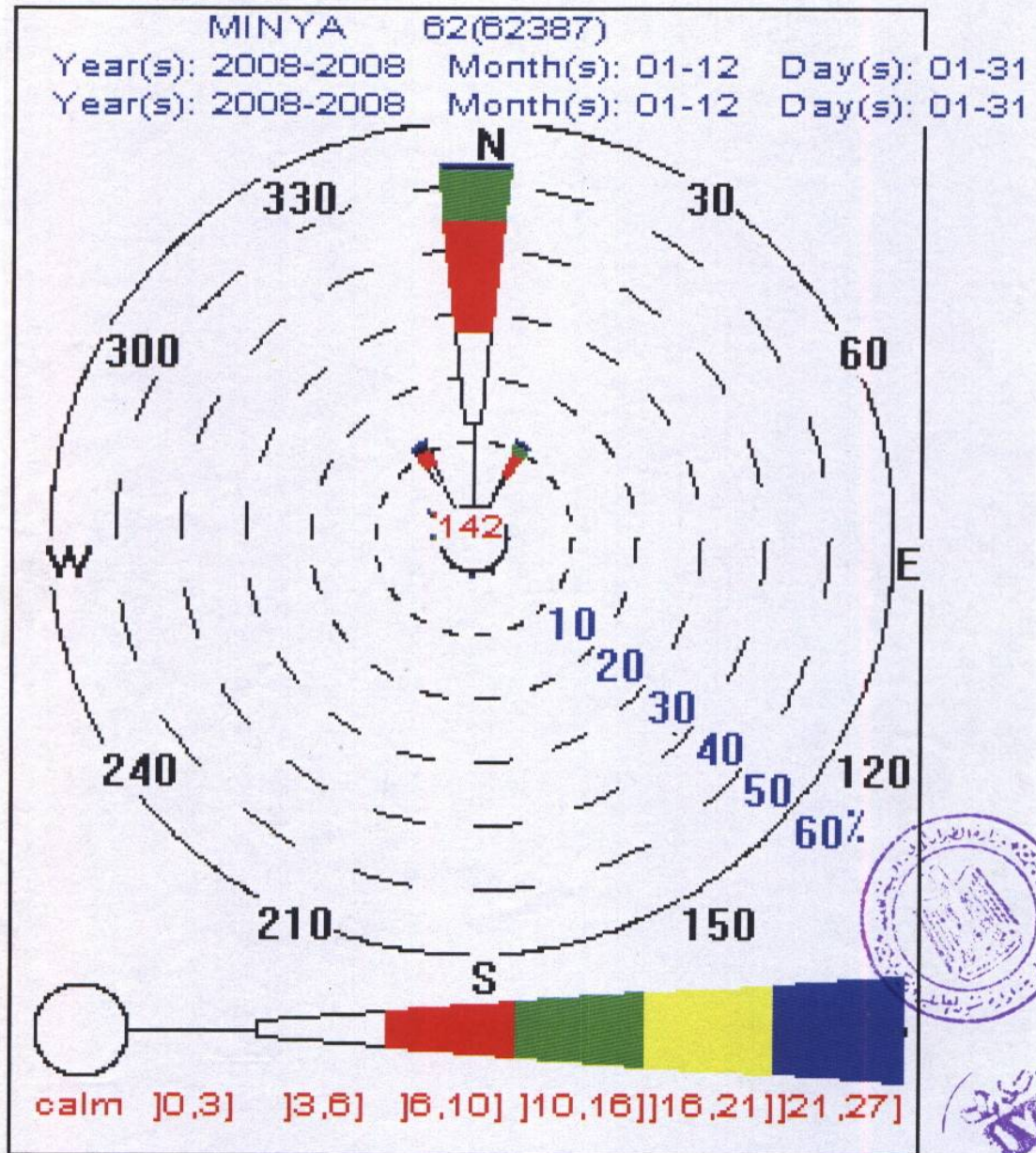
The climate of this region is caused primarily by the sub-tropical high pressure belt that is prevalent in this area, leading to clear skies for most of the time. The prevailing winds are northerly and can become strong during the winter. The northerly winds are caused by a sub-tropical high pressure cell in the western desert of Egypt during the winter months and by the western edge of a huge Asiatic low over northwestern India during the summer. The sparse rainfall in this area usually falls in the form of showers during the cold season (December, January, February) while the region is under the influence of cold upper level troughs to the north. The highest temperature generally occurs in June through August when tropical continental air masses arrive from western Syria and Iraq, and the lowest temperatures are recorded in January and February as polar continental air masses to the north are dragged down behind winter Mediterranean depressions. Relative humidities remain low for most of the year reaching a maximum in November and December or January and a minimum in April and May or June.

A 35-year El-Minya data base (1973-2008) indicates a prevailing northerly wind at the site (65 percent from North quadrant) with a secondary maximum of winds from the North-North-West quadrant (12 percent) followed by the North-North-East winds (9 percent). Calm and variable winds occur approximately 14 percent of the time. Wind speeds and directions measured for 2008 are shown on the Wind Rose in *Figure 4-2*. Wind speeds are generally light to moderate with an annual-average speed of approximately 3.34 meters per second and rarely exceed 30 m/sec. (Appendix-G, Table-1). The temperature data collected at El-Minya for a 35 year period indicate a maximum monthly-average temperature of 29.72°C in July and a minimum monthly-average temperature of 4.2°C in January. Summertime high temperatures average 36.13°C while winter lows reach 6.05°C. The annual-average temperatures is 21.57°C with record high and low temperatures of 48.6 and -0.7°C, respectively. Rainfall at El-Minya averages 3.922 millimeters per year occurring mostly during the winter months (December-March). **This explains that there has been almost no precipitation in the area** (see total precipitation in Appendix-G, Table-1). Relative humidity remains fairly low throughout the year, maximizing at 65 percent for December and reaching a low of 37 percent in May (Table 4-3). The dryness of this climate is further demonstrated by the fact that nearly 80 percent of possible sunshine is received during the year.

Figure 4-3 through Figure 4-7 depict total precipitation, surface wind speed, maximum and minimum temperatures, highest maximum & lowest minimum and relative humidity as monthly rates over last 35 years.

Figure 4-2

Wind Rose^(*) of the El-Minya Area, 2008

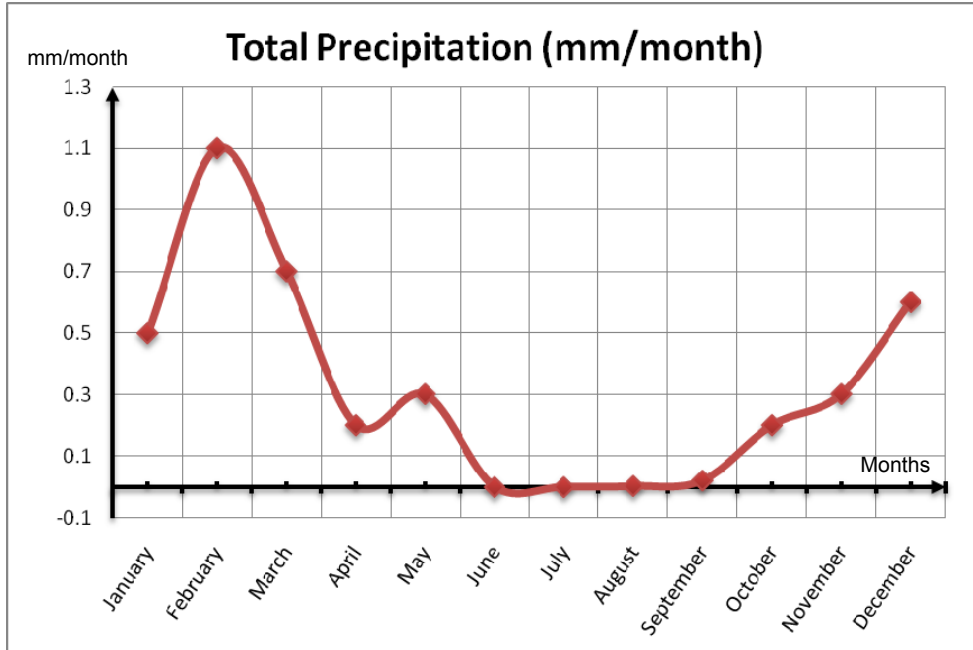


(*) Wind Velocity in m/s.

Source: The Egyptian General Authority for Meteorology, 2011.

Figure 4-3

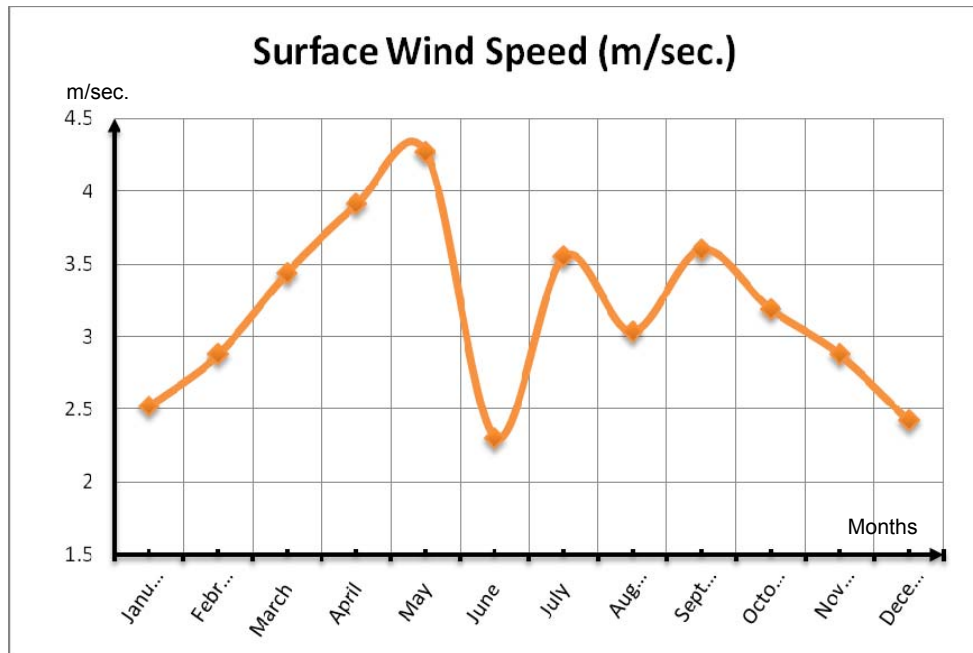
Total Precipitation (mm/month)



Source: The Egyptian General Authority for Meteorology, 2011.

Figure 4-4

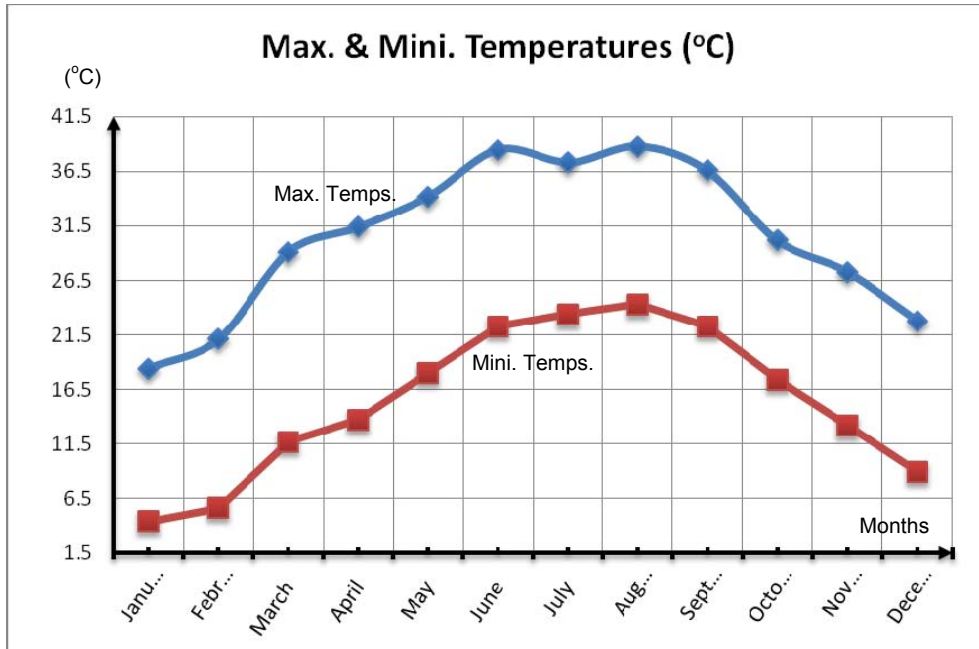
Surface Wind Speed (m/sec.)



Source: The Egyptian General Authority for Meteorology, 2011.

Figure 4-5

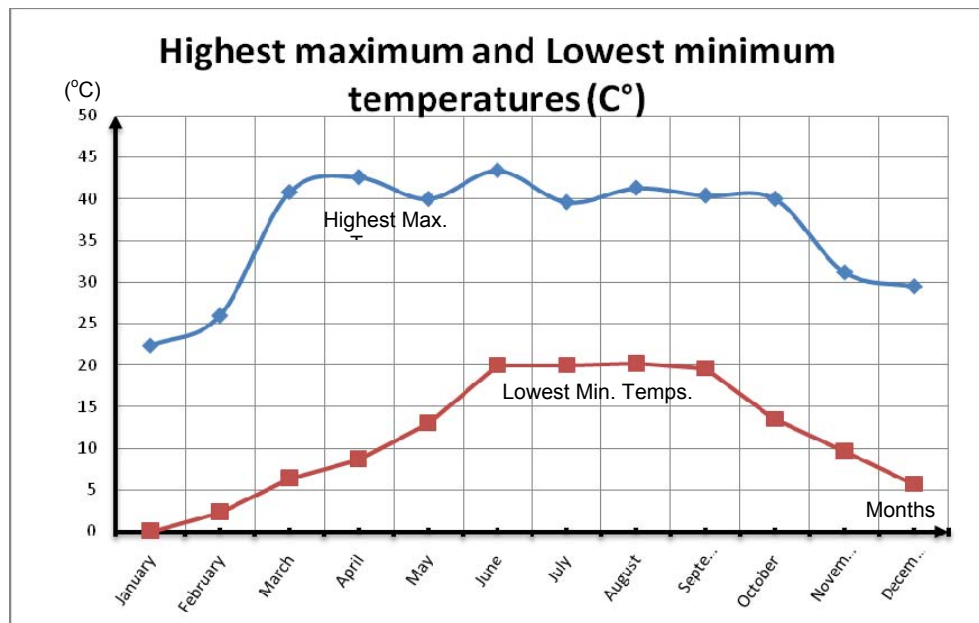
Max. & Mini. Temperatures (°C)



Source: The Egyptian General Authority for Meteorology, 2011.

Figure 4-6

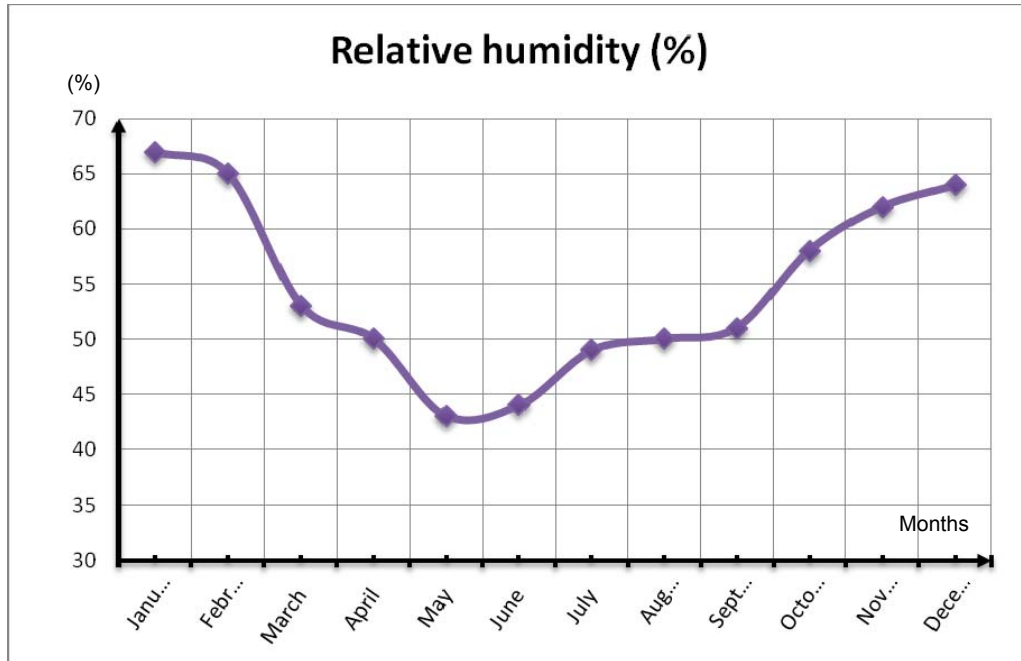
Highest Maximum & Lowest Minimum Temperatures (°C)



Source: The Egyptian General Authority for Meteorology, 2011.

Figure 4-7

Relative Humidity (%)



Source: The Egyptian General Authority for Meteorology, 2011.

4.2 GEOLOGY, GEOMORPHOLOGY AND HYDROLOGY

4.2.1 Regional Geomorphic Features

According to the geomorphic map published by NARSS and others 2005, El-Minya Quadrangle map sheet, 1: 250,000, the following main geomorphic features (Figure 4-8) can be abstracted:

- **Platforms**

- Structural Karstified Platform (The Plateau Surface): The plateau surface is made of limestone mostly covered with a dark gravel sheet wash. The elevation ranges from 117 m. to 172 m. above sea level.
- Gravelly Platform (the Undulating Surface): It is in the form of dark undulated gravelly surface affected by the desert varnish
- Isolated Hills: It represents the remnants of the ancient retreated scarp above the present one. It is tectonically controlled by folding and faulting process especially at the northern part of the study area.
- Lava Sheets: It is located west of Al-Bahnasa area along Darb Al-Bahnassawi (To Bahariya Oasis). It has a North West direction which mostly parallel to the tectonic and eruption activities during the Oligocene time.

- **Scarps:**

The Scarp face: It runs parallel to the Nile Valley as far it was tectonically controlled. It comprises of several promontory and embayment in which the depression of Wadi Al-Rayan is located. The elevation ranges from 30 m. to 50m. above the ground level . It consists of limestone at the top with marl and marly limestone at its scarp face.

It can be distinguished to the following three sub-units.

- Major Scarps
- Secondary Scarps
- Flat-topped Outliers (Mesas)

- **Forms of Fluvial Origin (Drainage Line)**

It is not well developed in the southern part , but generally the size of the catchment areas are small and short in length and has no significant factors due to the low relief of the area and the absence of the rainfall.

- **Forms of Aeolian Origin (Wadi El-Rayan Dune Field)**

Wadi Al-Rayan Dune Field: This dune belt started south of Fayme Oasis and Wadi Al-Rayan Depression and extended in a south east direction to west of Al-Minia Governorate . At the northern part it is located in the form of liner and seif dunes while in the south it become in the form of Barchans' and Barchanoid dune .

4.2.2 Geological Setting

Stratigraphy

Western Desert Plateau

In the area under consideration, the different lithological units can be described as follows according to (NARSS et. al., 2006), from older to younger (Figure 4-9).

- ***Eocene Limestone Bed Rock***

The Nile sediments and the Pliocene deposits unconformable overlay the Middle Eocene limestone.

- **Minya Formation (E2mn)**: It is made up of about 35m. of creamy to white massive and thick-bedded limestone , with some chalky limestone intercalations (Figure 4-10). Nodular and dolomitic limestone interbeds are common. The formation is rich in *Nummulites bassiounil*, *alveolina frumentiformis* , *operculina praespira* and other fossils. The age was assigned to the upper Lower Eocene.
- **Samalut Formation (E2sm)**: It consists of about 160m. of nummulitic limestone, with rare bands of marly and dolomitic limestone. The nummulitic limestone is grayish white, moderately hard and flooded with *Nummulites gizehensis* and other species. The age was assigned to the Middle Eocene (Lutetian) (Figure 4-11).
- **Rayan Formation (E2ry)**: It consists of about 100 – 130 m. of limestone, marly limestone with some chalky limestone and clay intercalations (Figure 4-12). The limestone and the marly limestone are grayish yellow to snow-white, moderately hard and highly fossiliferous. The age was assigned to the Middle Eocene (Lutetian).
- **Qazzun Formation (E2qz)**: The formation is made up of about 32 m. of chalky limestone to dolomitic and siliceous due south. The presence of calcite crystal and pockets along the bedding planes is a characteristic feature of the formation .The formation is highly fossiliferous with *Nummulites beaumonti* and others which assigned the age to the late Middle Eocene (Bartonian).
- **Birket Qarun Formation (E2bq)**: It consists of about 80 m. of calcareous sandstone, sandy shale, sandy limestone and sandstone rich in veinlets of gypsum. The formation is fossiliferous with *Nummulites contortus striatus* , *Ostrea plicata* , *Lucina pharaonum* , *Turritella angulata* and others. The age is Middle Eocene.
- **Qasr El Sagha Formation (E2 qs)**: This term was applied by Beadnell, 1905. It consists of about 160 m. The formation can be subdivided into five small units. The assemblage fossils assigned the age to the Upper Eocene.

- **Oligocene Bed Rock**

- **Katkut Formation (E3kt):** It consists of about 10 m. of angular to sub-rounded and occasionally disc-shaped limestone and chert pebbles, cobbles and boulders, embedded in a pale brown fine-grained matrix (Figure 4-13) of sand size composed of the same components.
- **Qatrani Formation (E3 qt):** The formation is made up of about 250 m. of brightly variegated rocks, including red. Purple, yellow, gray and brown sandy mudstones and shales, white, red, green and gray sandstones with occasional gravelly sandstone intercalations. Remains of many land animals are identified in certain horizons of the Qatrani succession such as crocodiles, tortoises, turtles and silicified wood.
- **Extrusive Basalt (E3v):** It consists of extrusive volcanic basalt flow in the form of basalt dyke and trending in a North west direction (Figure 4-14) which is parallel to the faulting system as exposed at Darb Al-Bahnasawi basalt quarries.

Quaternary Deposits

- **Salt Crust:** It is made up of snow white hard salt crust forming a small semicircular area in the form of Playa occupied a low area in the limestone plateau surface (Figure 4-15).
- **Sand Dunes:** It extends in a longitudinal shape from the central part of Wadi El-Rayan Depression to the western margins of the Nile Valley flood plain opposite the Dayrut town in the south for a distance of about 185 km.

4.2.3 Structural Setting

Faulting

The western part of the Nile Valley Plateau was structurally controlled by a group of faults (Figure 4-9 [A&B]). The general structural outlook of the area is one of the flat surface with very gentle dips (1 – 2) at the variable directions.

The main faults are:

- **Wadi Al-Muweilih Fault:** This fault runs in an N 30 W direction for a distance of about 20 Km. The fault plane swings few degrees to the west as well as to the east. The fault affects the Upper Eocene sections. The throw is to the west. Most probably, this fault is the extension of Gabal Al-Teir east Samalut on the eastern plateau crossing the Nile Valley.
- **Qaret Al-Abd Fault:** This fault runs along the northern flank of the Qaret Al-Abd in a N 48 W direction for a distance of about 10 Km. The throw of the fault is to the north east with an estimated amount of 10 m.

4.2.4 Natural Resources

The natural resources on the region can be summarizing in the following:

- The fertile agricultural soil

- The Groundwater Resources
- Ornamental and Building Stones Materials: Limestone; Dolomite, Basalt, Gravels and clay which quarried and used as a building stone materials, commercial marble, road pavement and Cement Factories .

4.2.5 Water Resources

Groundwater Resources

Due to the continuity of the water bearing formation, there is an east-west and west-east groundwater flow from the reclaimed area (high in elevation) to the flood plain aquifer. Because the water table in all investigated wells is above the Nile River level (RIGW, 1988) the modern Nile River is unlikely to be the sole source of the ground water under investigation.

Groundwater Bearing Formations

The main source for the groundwater aquifer in the proposed area is the fractured carbonate (Limestone and Dolomitic Limestone) rock units. The depth to aquifer ranges from 120 m. to 140 m. below the ground surface, while the water level ranges from 45 m. to 74 m. from the ground surface. The salinity of the water ranges from 2500 – 3500 ppm. The type of the water is NaCl.

The previous electric sound survey at the northern part of the study area, reveal the occurrence of four geo-electric units as follows:

- Surface Unit: With resistivity value ranges from 30–500 Ohm. The thickness is ranging from 3 – 5 m. from the surface. It is made up of sand and gravel with some clay.
- The Second Unit: Resistivity ranges from 2 30 Ohm .The thickness ranging from 23 – 40 m . from the surface . It is mainly consists of shale with sand and gravel.
- The Third Unit: The resistivity value ranges from 5 – 15 Ohm. It is made of limestone mixed with some shale. The depth is from 132 – 140 m. from the surface. Most probably, this unit contains groundwater
- The Fourth Unit: The resistivity value ranges from 55 – 210 Ohm. It consists of fractured limestone. Most probably, this unit contains groundwater.

Groundwater Level

On the eastern part of the study area, the shallow groundwater aquifer system (20 – 40 m.) , the groundwater level ranges from 3 – 5 m. from the ground surface. Whereas in the central part, the depth of the well is about 120 - 140 m. and the water level ranges from 45 - 47 m. from the ground surface.

Groundwater Quality

The quality of the groundwater in the desert reclaimed areas is brackish (TDS ranging from 2000 and 3500 ppm. and is of the Na-Cl type).

4.2.6 Natural Hazards

The area is usually suffering from and threatened by the main natural hazard; the sand dune encroachments.

Flash Flood

The proposed site for the project is safe and away from the threat of the flash flood due to the following factors:

- Almost the rainfall is nil.
- Simple flat topography (not rough and no high mountains).
- The accumulation of thick gravel cover and sand dunes allow the rainfall water (if any) to be percolated to the underground.

Earthquakes

Historical seismic activity was compiled from Badawy (1996, 1999), Badawy and Horvath (1999). Historical information indicated that many earthquakes caused severe damage in the northern part of Egypt. Some of these events are related to the convergence between the African and Eurasian plates while the others are located within the plate itself.

Generally, the study area is characterized by the occurrences of shallow, micro, small, moderate earthquakes (Figure 4-17). Activities are limited within the crust. The activity along this trend is mainly attributed to the Gabal Qatrani active faults. The Fayum (Gebel Qatranni – Dahshur) trend is characterized by the occurrences of shallow, micro, small, moderate and large earthquakes (Figure 4-18). Activities are limited within the crust.

Neotectonics

With regards to the neo-tectonics, the proposed site for the project is considered to be stable.

Sand Dune Encroachments

A group of barchans and elongated sand dunes are located in N–S direction, parallel to the Nile Valley and close to the cultivated land, west of Samalut city (Figure 4-19).

The study area dunes are part of large dune fields extending about 150 km in a longitudinal shape from the depression of Wadi El Rayan to the western margins of the Nile Valley; it lies between Latitudes 28°15'N and 28°21'N and Longitudes 29°30'E and 30°35'E. This dune field is built of several parallel compound and complex dune belts extending in the SSE direction. Landsat ETM images and topographic maps show that the dune form changes from linear ridges to barchan and barchanoid belts. From the topographic maps, the field can be divided into two parts: the northern part in Wadi El Rayan is

dominated by linear dunes, while barchans and barchanoid occur in the southern part outside the depression.

The dune size is expressed by the surface (area) of the dune as estimated from the image by the Arc GIS software (Figure 4-20). In general, it can be concluded that the dunes are generally larger in the down wind direction (SE direction). The most vulnerable area for the dune encroachments is the eastern areas which covered about 600Km² (Fig.4-1).

The north eastern part of the surveyed area (600 km²) is the most area vulnerable to the sand dune encroachments (Ground controlled points from 1 to 8 and from 11–15 on the location map, while the western and southern part are safe from the sand dune encroachments.

Figure 4-8

Geomorphic Map (after NARSS et.al.2005)

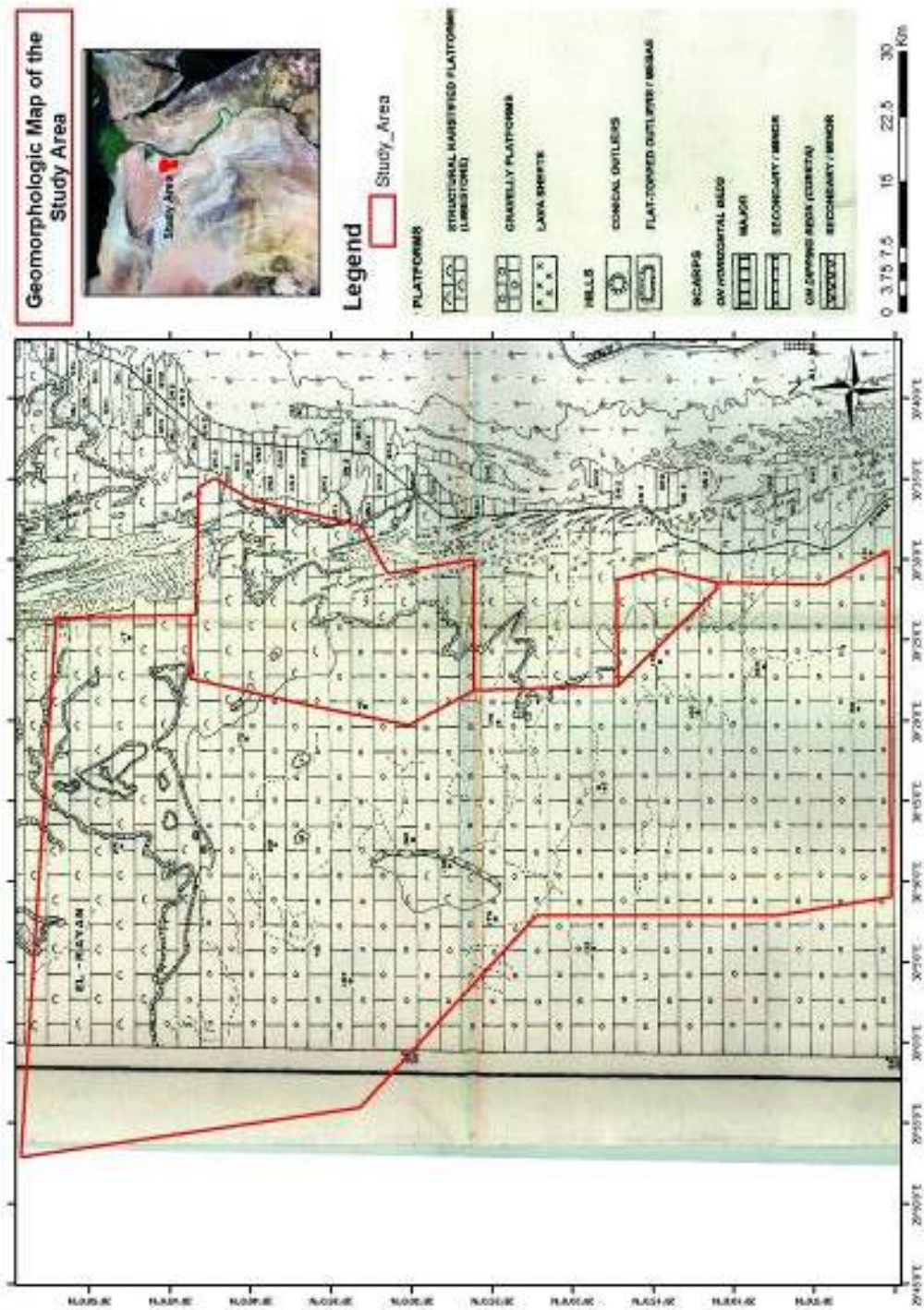


Figure 4-9(A)

Geological Map of the study area (after NARSS, et. al., 2006)
(Original in the Pocket)

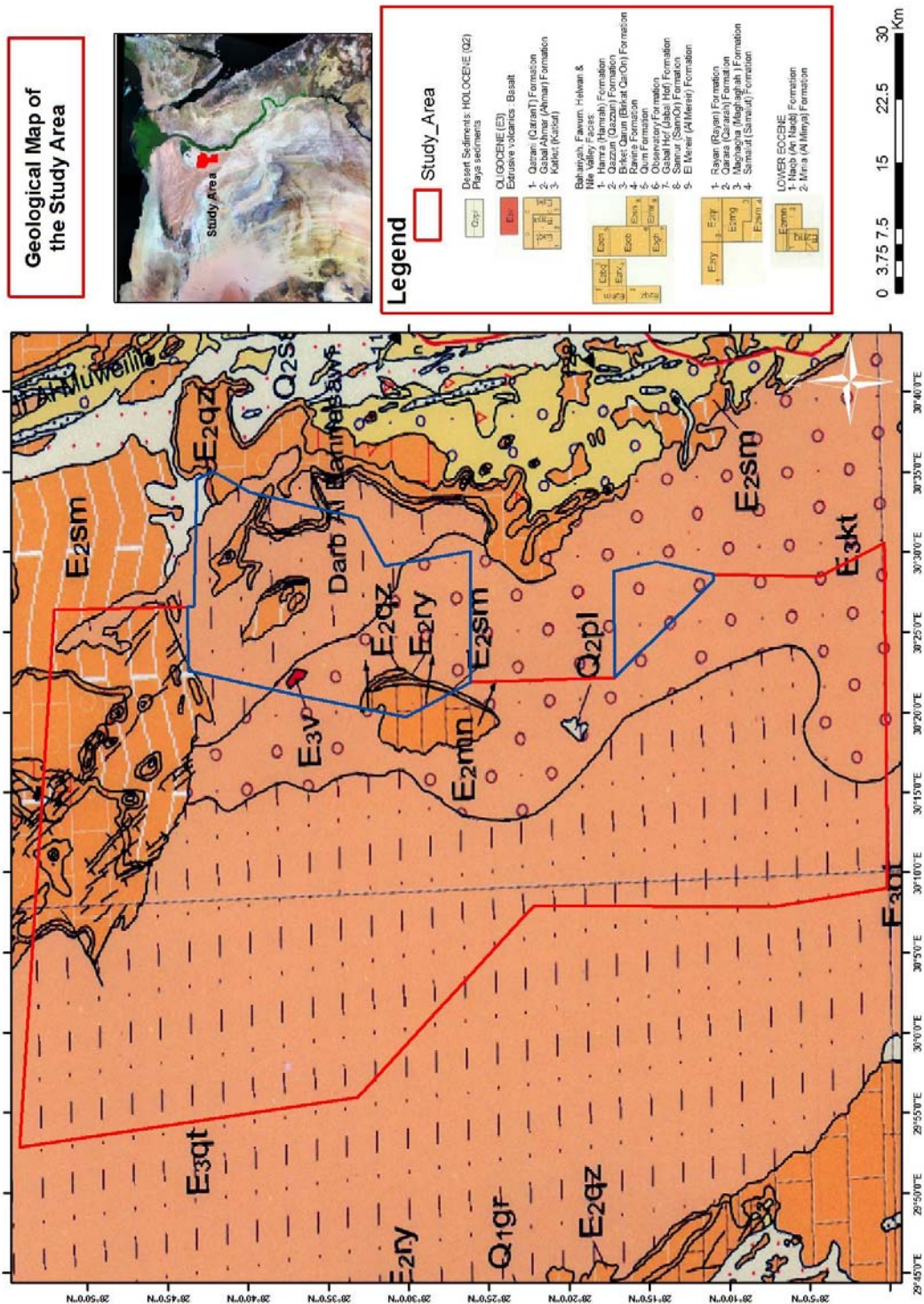


Figure 4-9(B)

Faults Location near the Study Area on the Geological Map
(after NARSS, et. al., 2006)
(Original in the Pocket)

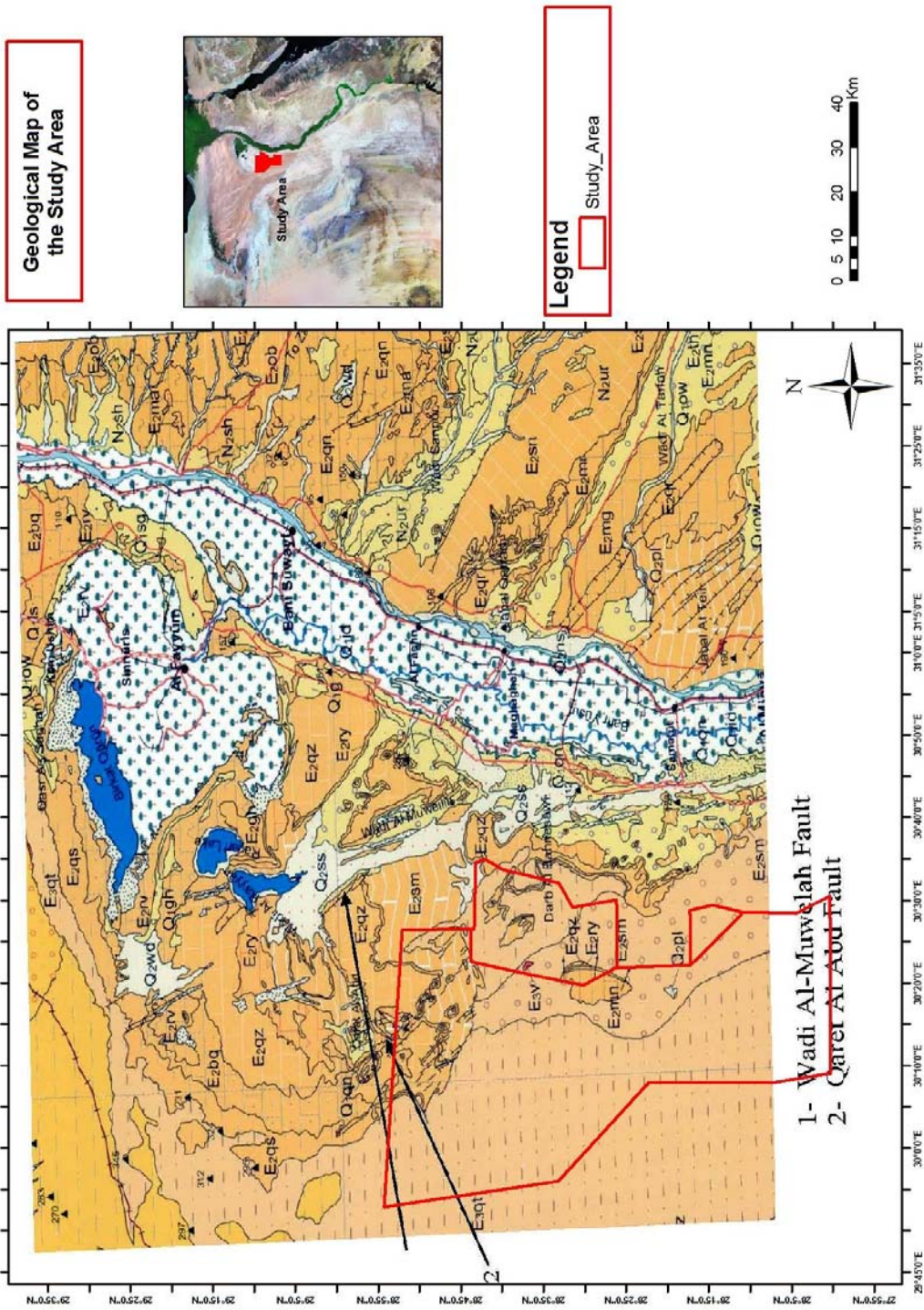


Figure 4-10

El-Minya Formation



Location : N. 28 144 33 - E. 30 515 53

Figure 4-11

Samallout Formation



Location: N. 28 32 965 - E 30 54 96.7

Figure 4-12

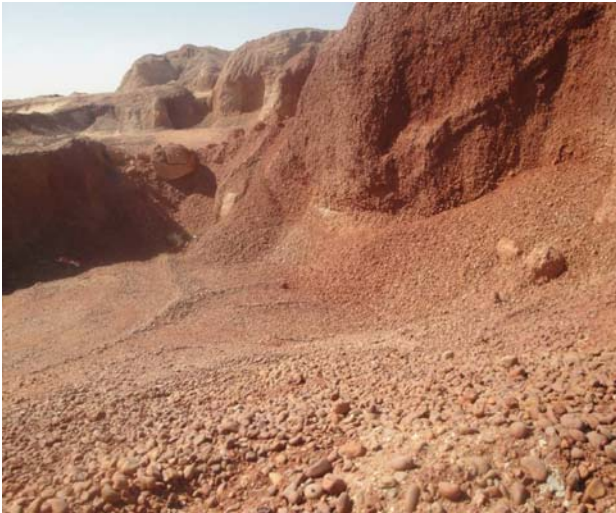
Rayan Formation Overlain by Qazzun Formation at the Top



Location : N: 28 59. 347 - E: 30 51. 207.

Figure 4-13

Katkut Formation of Oligocene Age



Location: N. 28 05 8.5 - E. 30 32 10.

Figure 4-14

Basalt Flow



Location : N 28 50 274 - E 30 57 539

Figure 4-15

Salt Crust in the form of Playa



Location : N. 28 46 110 - E. 30 36 974

Figure 4-16

Hydrogeological Map of the Study Area (after RIGW, 1992)

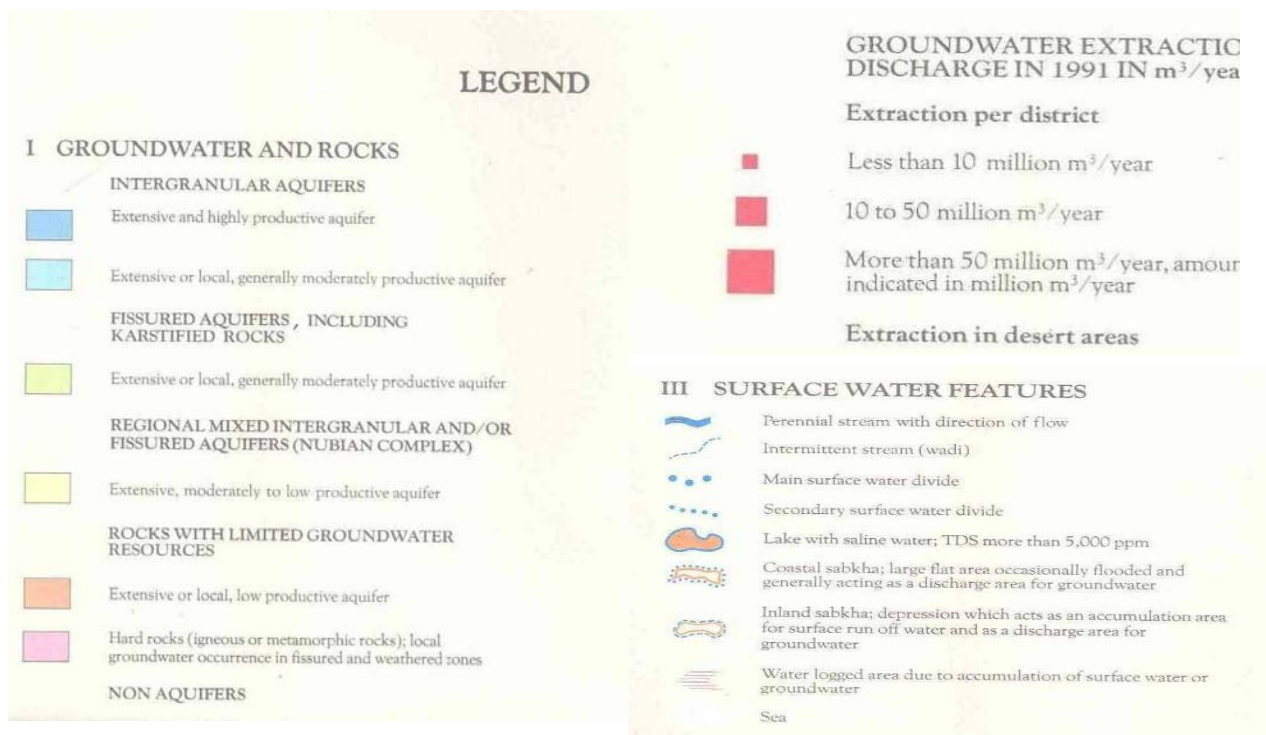
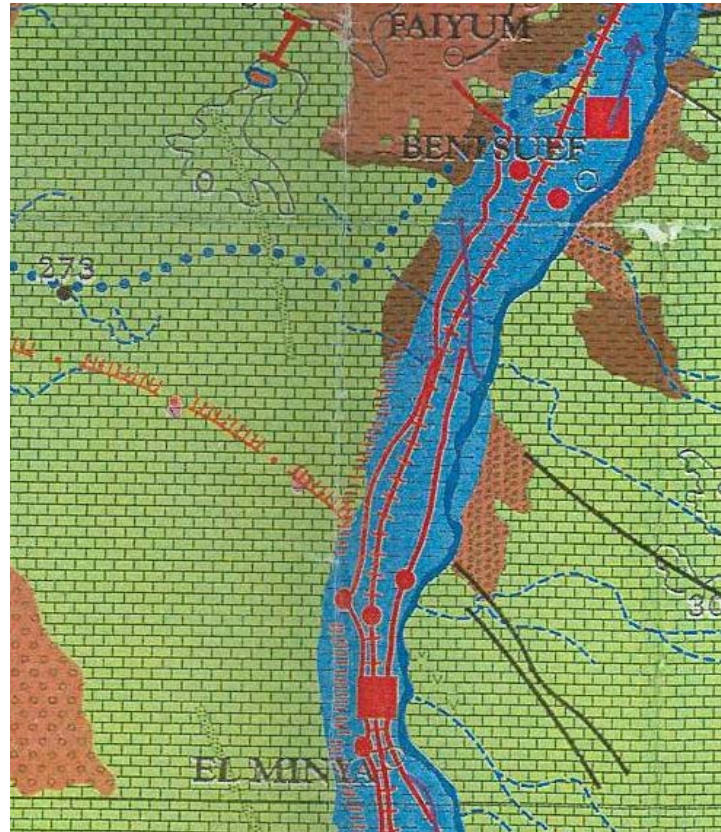


Figure 4-16 (Contd.)

Legend of the Hydrogeological Map (Contd.)

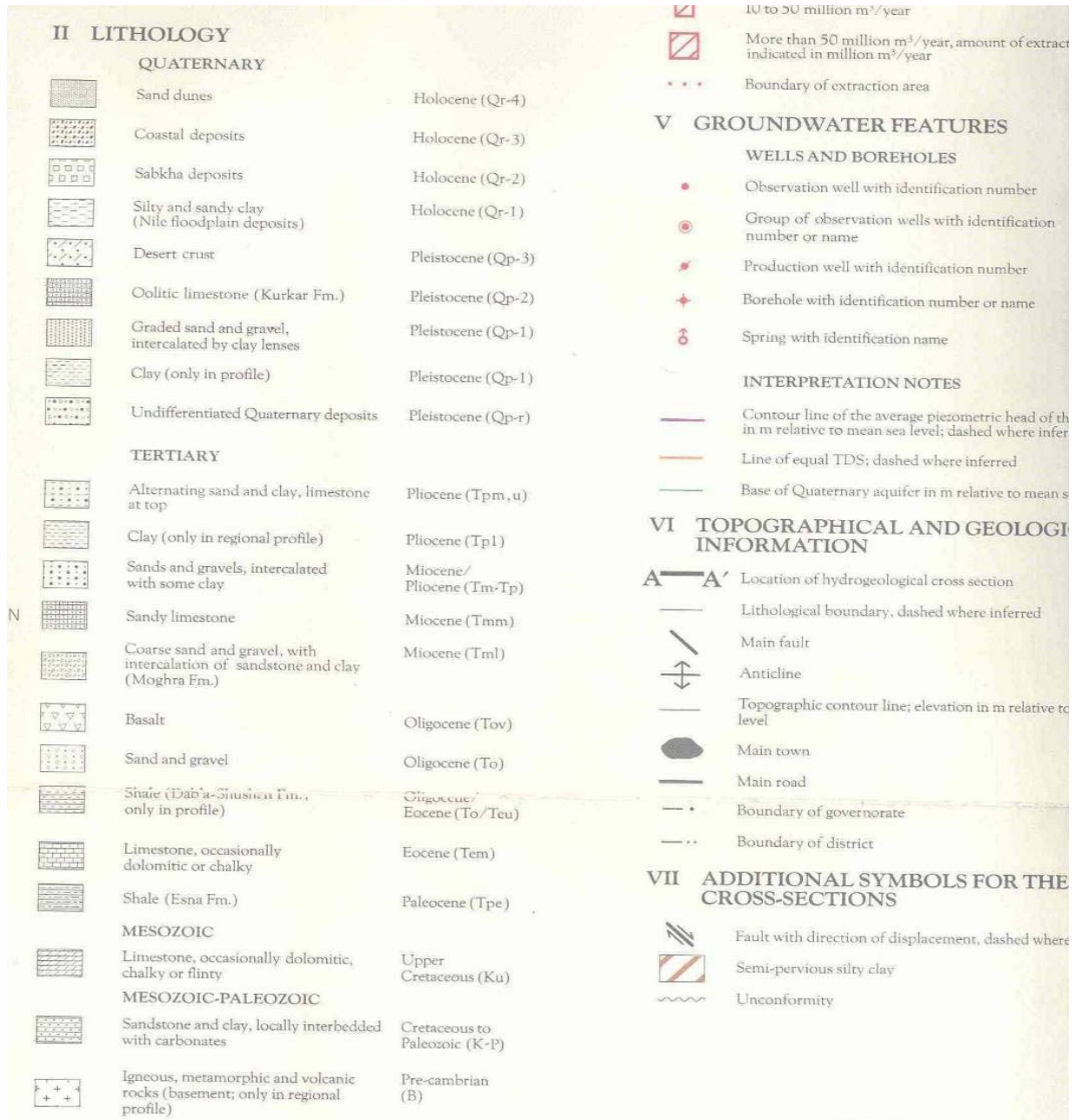
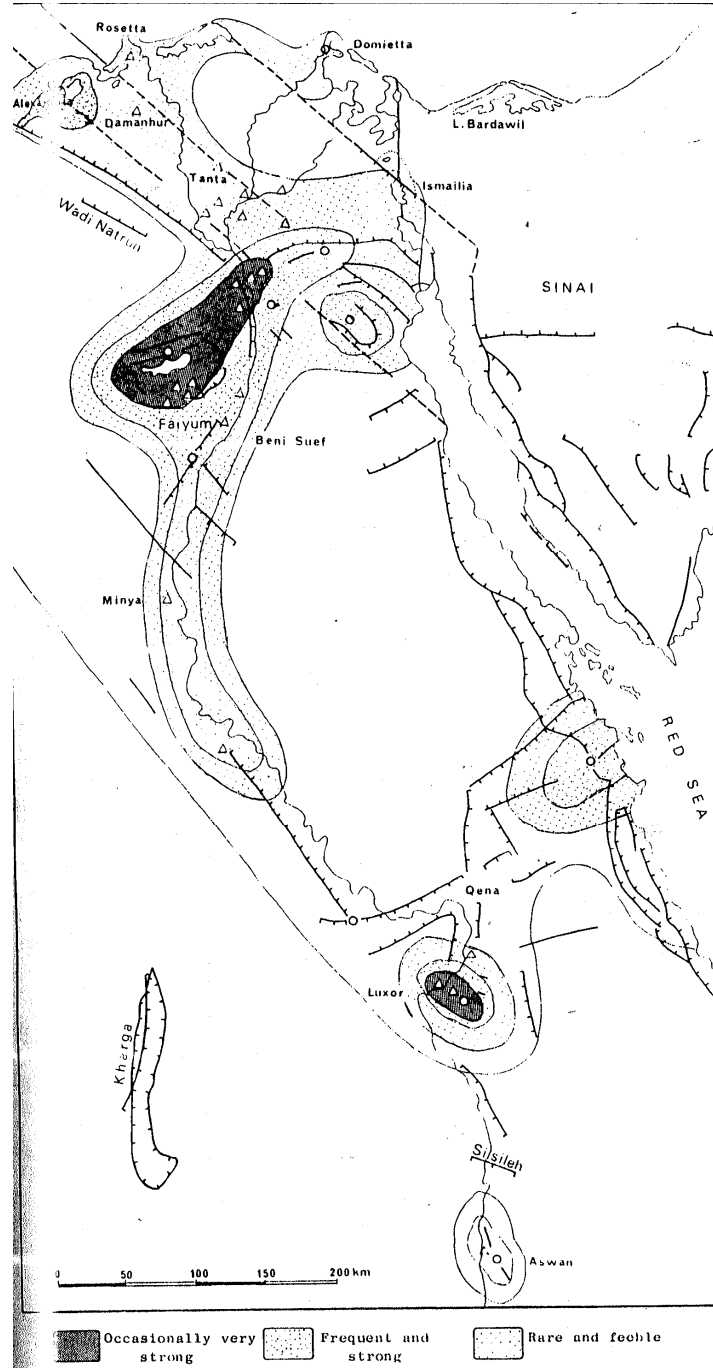


Figure 4-17

Seismicity Map of Egypt^(*)
(after Sieberg)



(*) The survey area is indicated on the same map in Figure 7-20.

Figure 4-18

Epicenter Distribution of Varying Magnitude Earthquake, Focal Mechanism of Principal Earthquakes and Active Seismic Trends
(A, B, C and D after Kebeasy 1990, and E after Maamoun and El-Khasab, 1978)

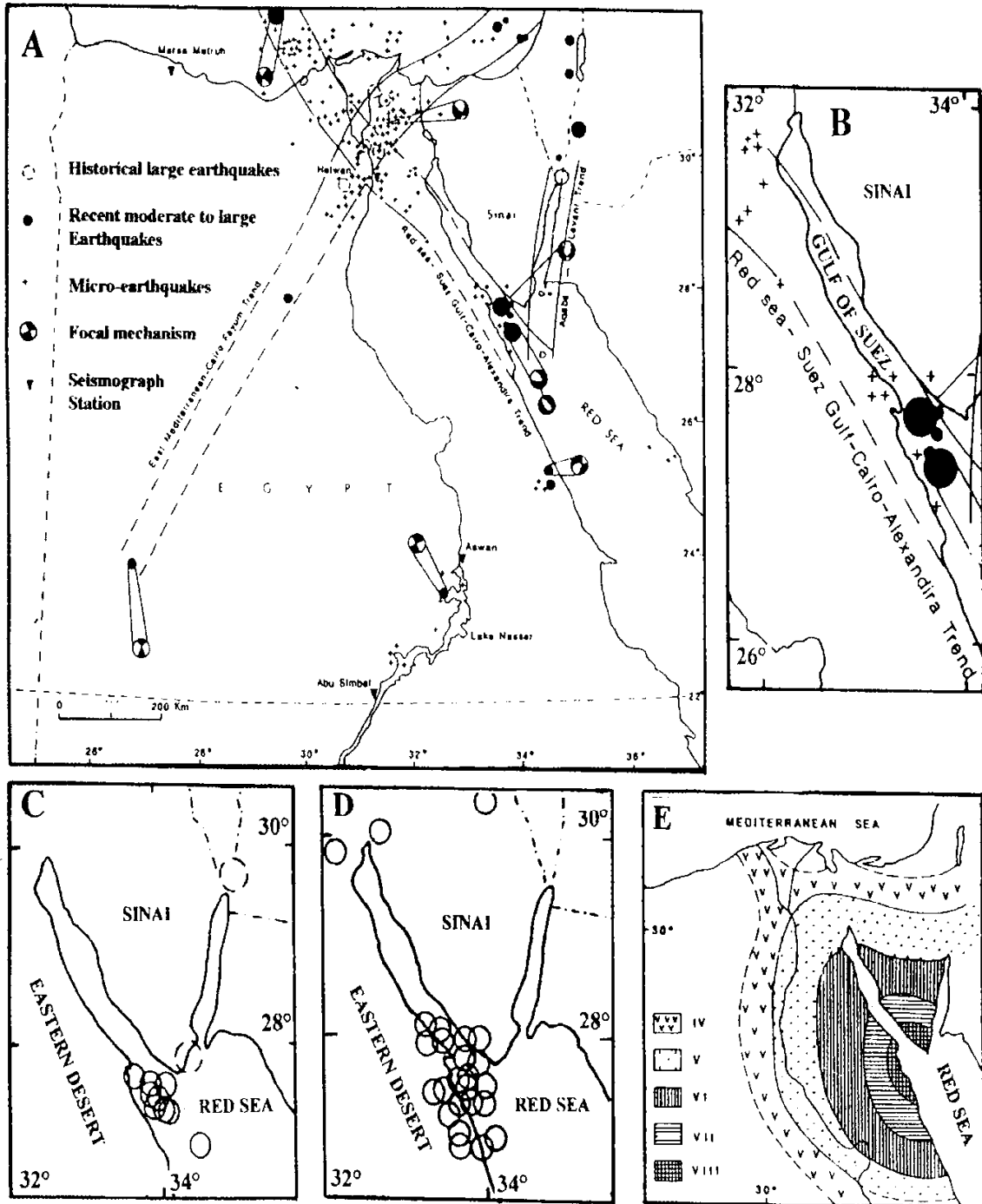


Figure 4-19

Sketch Map of the Structural Aspects of the Nubian – Arabian Shield Margin in Northern Egypt and Sinai. The study area is located within the unstable shelf. (After Schlumberger, 1984)

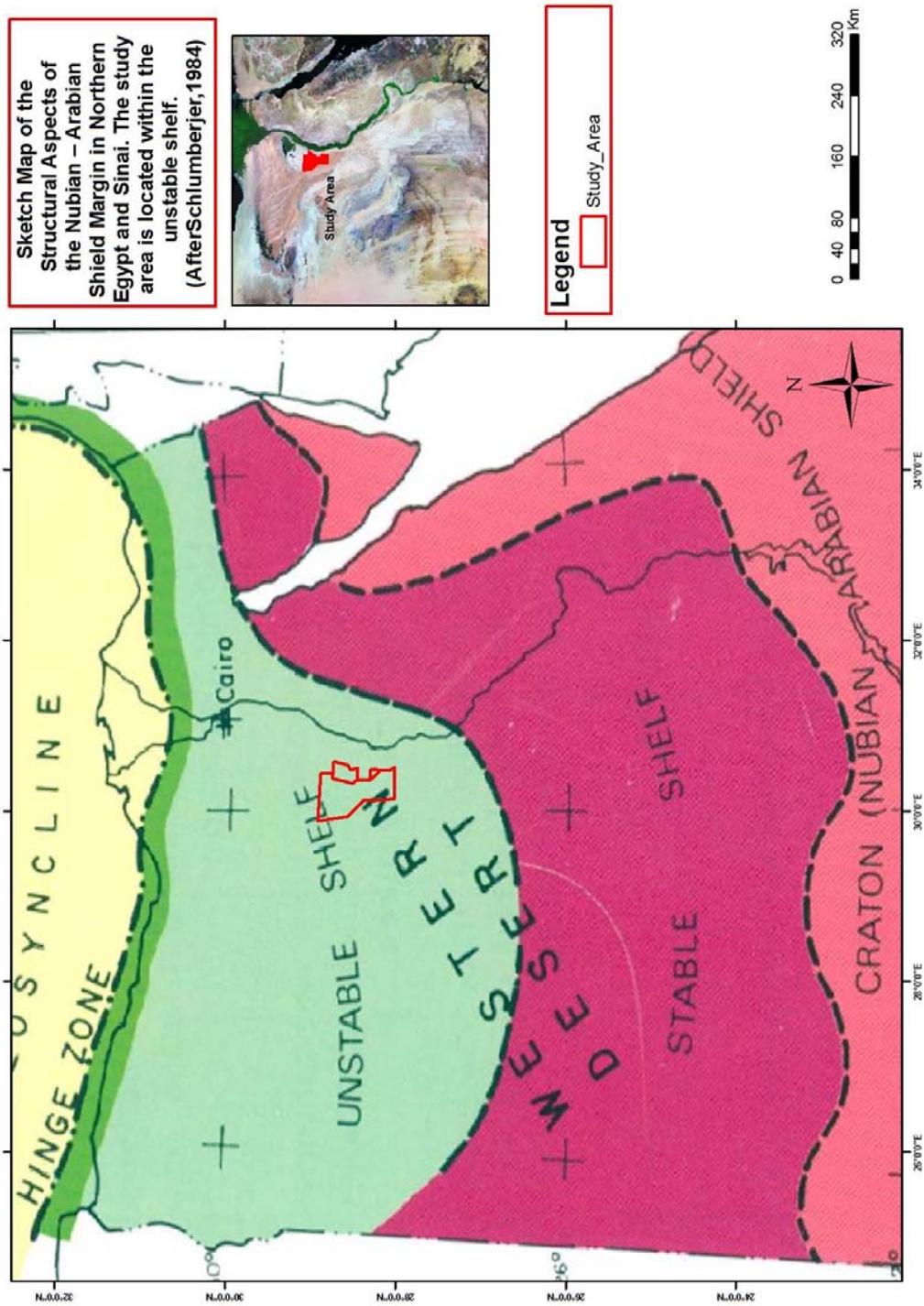
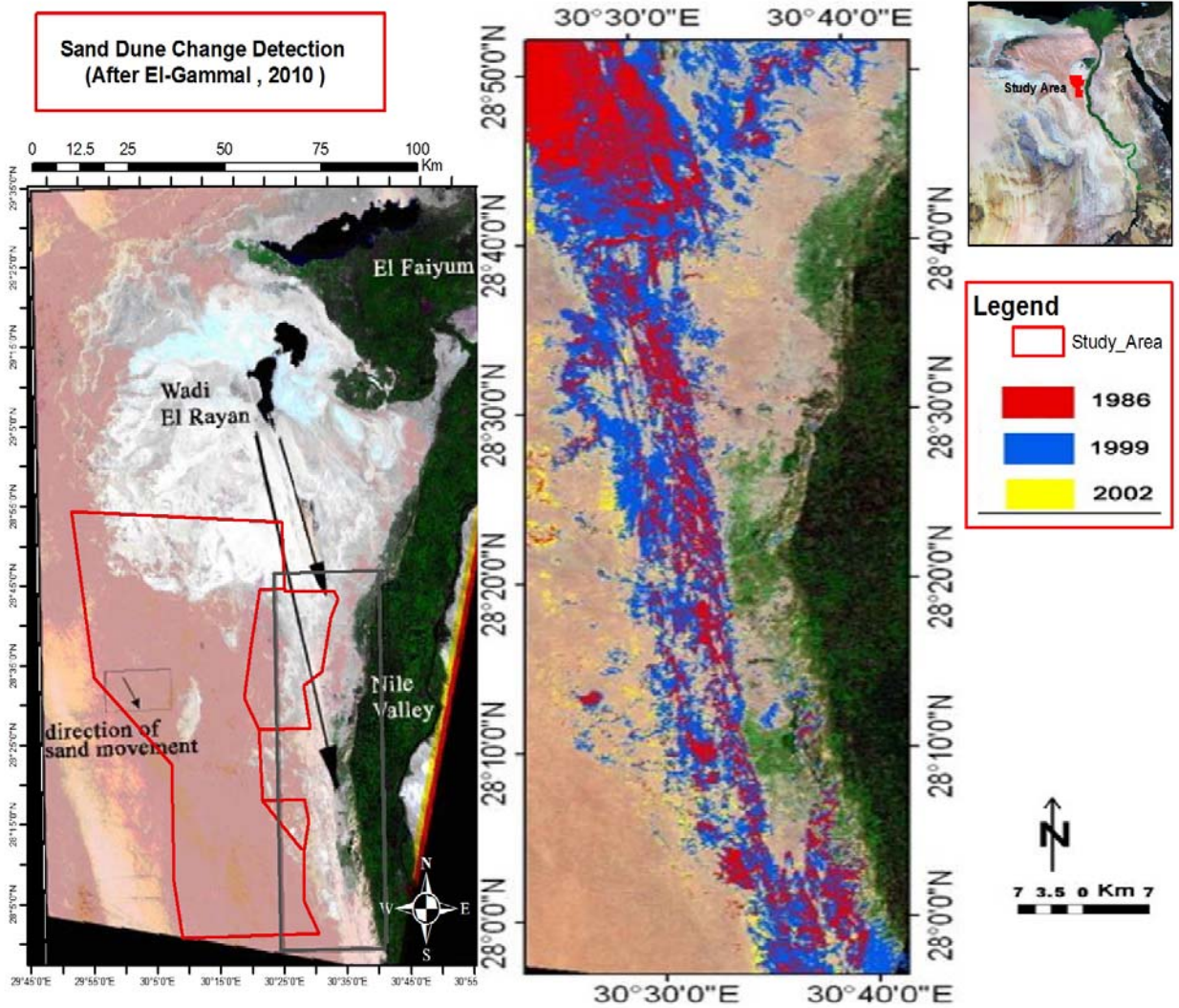


Figure 4-20

Sand Dune Change Detection
(After El-Gammal , 2010)



4.3 SOURCES OF POLLUTION IN THE AREA

4.3.1 Sources of Pollution

Table 4-2 gives a summary of the pollution sources in both of the El-Minya and Beni-Suef Governorates.

Table 4-2

Sources of Pollution in the El-Minya and the Beni-Suef Governorates

Sources of Pollution	
El-Minya Governorate	Beni-Suef Governorate
Air Pollution	
<p>Air pollution due to Industrial activities in the El-Minya governorate is limited to certain spots involving the major industries including sugar factories, cement, Nile Company for cotton ginning and some grinders. As for the industrial air born emissions resulting from medium and small industries, it is not as dangerous as those of the big industries although its impact is somehow tangible.</p> <p>Several registered craft workshops in El-Minya governorate, represent about 6.41% of the total productive workshops in the country, vary in type of activities.</p> <p>Metal products, machines, wooden products represent a good feature of small industries in El-Minya. The workshops that work in the field of machines and supplies can actually serve several other related industries.⁽¹⁾</p> <p>Gaseous emissions, dust and smoke are restricted to sugar factories in Abu korkas, cement factory and limestone quarries in Beni Khaled, Samallout, some flour grinders and the industries of molasses, where bagas and mazot are still used as fuel in the industrial operations. This is the main source of pollution. In case of using a small of local wheat, pollutants can then be controlled.</p> <p>A sample air quality monitoring was undertaken during the implementation of the ESIA study for Samallout/Suez Gulf/Jabal El-Zeit Transmission Line Interconnection Project by the Air Pollution Preclusion Department, National Research Center during February 2010 for the EETC. Monitoring took place at two sites, namely Beni Khalid and Samallout.</p> <p>Continuous measurements, over a period of 24 hours, were taken for nitrogen oxides (NOx), carbon monoxide (CO), carbon dioxide (CO2), sulfur dioxide (SO2), aldehydes (HCHO), hydrogen sulfide (H2S), smoke and total suspended particulates (TSP). The results of this monitoring are shown in Appendix-H. Comparison with Egyptian Threshold Limit Values (TLVs) (as stipulated in Law 4/1994) show that the concentrations of gaseous pollutants in ambient air at the proposed site are within the TLVs for 24 hour averages.</p> <p>Workshops scattering inside housing blocks and habitant communities are considered the main source of noise, most of which are workshops of smithery and car fixing as well as cutting and welding metals. As for big factories, it is only restricted on the workers there.</p>	<p>Air pollution results from the industrial pollution in the governorate is limited to certain spots involving the major industries including cement factories, bricks, ..etc. the industrial emissions resulting cement factories result huge amount of emissions and CO2. In addition to 37 factories that produce the bricks using <i>Mazot</i> in burning. As well as having 321 bakeries run with <i>Mazot</i> which causes a destructive tangible impact on the environment. It is also notable that the badly management of house wastes and agricultural wastes made people obliged to burn them.</p> <p>The last pollutant for air is that the exhausts result from the badly maintained old cars which is widely used in the governorate</p>

(1) Environmental profile of Menya 2008.

Table 4-2 (Contd.)

Sources of Pollution in the El-Minya and the Beni-Suef Governorates

Sources of Pollution	
El-Minya Governorate	Beni-Suef Governorate
Water Pollution	
<p>The sugar factory in Abo korqas is considered the biggest source of water pollution, as it dumps heavy weights of pollutants in Moheet drain which, in turn, drains in the Nile. The amount of drain coming from this factory only is estimated to be 1.43 m/sec. during the operation season that lasts about 8 months/year. It is true that the administration of the factory has exerted efforts to cut down liquid or gaseous pollutants, however, such efforts are still not enough. Worth mentioning is that there is an approach to relocate the sugar factory to the desert areas after the crawling of the housing block to it.</p>	<p>Surface Water in the governorate has so many pollutants they are as follow:</p> <ul style="list-style-type: none"> - Organic substances result from disposing sewage water - Disposing industrial water into the canals - The underground water is polluted with mineral hazards due to the excessive usage of fertilizers - The underground water is polluted due to the septic tanks which are not emptied but dispose water into the underground surface.
Solid and Hazardous Waste	
<p>Solid wastes produced from industrial plants, whether big or small, are being disposed by the plant itself, either through recycling, such as the sugar factory where some of its wastes join the production of fodders inside the factory. Other plants sell their wastes as junk, such as carpentry workshops, or dump it in regular dumps. However, some plants dispose their waters randomly the thing that negatively affects the surrounding environment.</p> <p>As for the hazardous wastes produced from big plants such as the sugar factory or the cement factory of the oil factory, such plants are contracted with special companies that receive these wastes to recycle it or dump it safely. Such actions are recorded in the environmental records of these plants, and it is being followed through an inspection team either in the department or the EEAA (in Cairo or the ROB in Assuit).</p>	<p>Wastes are collected by NCOs and local units which are not processing their work appropriately. In addition the transfer stations in Beni Suef use open burning method which don't cover the wastes with sand. Regarding landfills, they are located in Beba only. There was a plan to construct another 2 landfills or dumping station. Moreover, there is one unit for composting was constructed by a fund from Finland Aid. Two recycling factories were constructed.</p>

It should be emphasized that pollution sources are far from the survey area.

4.3.2 Policies of Cutting-down Pollution

Table 4-3 provides with policies of combating pollution in both of the El-Minya and Beni-Suef Governorates.

Table 4-3

Policies of Cutting-down Pollution in both of the El-Minya and the Beni-Suef Governorates

El-Minya Governorate	Beni-Suef Governorate
<p>The action plan includes inspection and follow up plans in association with EEAA and its ROB in Assuit, and the environmental affairs department in the governorate to inspect the existing projects in addition to forcing all the plants to readjust its status. In case of disobedience, legal procedures are taken along with directing these projects to the different institutions to get loan or grants for establishing treatment stations for its wastes.</p> <p>As for the under construction plants, they are not allowed the licenses or the operation unless they get the environmental approval and show commitment towards environmental conditions along with the continuous follow up after operation. Moreover, there is an approach towards transferring all the polluting industries outside the habitant area to industrial zones, especially in case of the high population cities.</p> <p>A crafts zone (for craft industries) was allocated insider the industrial zone. Crafts industries, especially the polluting ones, are currently being transferred from inside the cities to this zone.</p>	<p>The action plan includes inspection and follow up plans in association with EEAA, and the environmental affairs department in the governorate to inspect the existing projects in addition to forcing all the plants to readjust its status. In case of disobedience, legal procedures are taken along with directing these projects to the different institutions to get loan or grants for establishing treatment stations for its wastes.</p> <p>As for the under construction plants, they are not allowed the licenses or the operation unless they get the environmental approval and show commitment towards environmental conditions along with the continuous follow up after operation. Moreover, there is an approach towards transferring all the polluting industries outside the habitant area to industrial zones, especially in case of the high population cities.</p>

CHAPTER – 5.: BIOLOGICAL ENVIRONMENTAL

5. BIOLOGICAL ENVIRONMENTAL

5.1 INTRODUCTION

Desert is home of a number of species of kingdom Animalia. Biodiversity of the desert is as unique as other biomes of the world. Like in most of other ecosystems, plants are the primary producers, while rodents, insects and reptiles, which feed on these plants, are the primary consumers. The secondary consumers, which mainly comprise larger reptiles and insects feed on primary consumers. At the top of the desert food chain is the apex predators in the form of birds and mammals. Most of desert animals are nocturnal, i.e. active during the night, and spend the entire day burrowing. This adaptation helps them to fight the soaring temperatures that persist during the day. Water being scarce in deserts, so these animals have also modified themselves to make the most of the available water. Some animals absorb water from plants, while others store it in their fatty tissues.

5.2 APPLIED METHOD

5.2.1 Floral Species

Several trips to the selected area have been conducted between June and September 2011. Within the study area, seventeen stands (sites) and 45 quadrates, each (20 x 20 m.), were selected to represent the vegetation and geo-referenced using GPS model Trimble SCOUTm.

For collecting data, quadrat method has been used. In each of the selected quadrates, ecological notes, presence or absence of plant species were recorded. The recorded species were classified according to the life form system that proposed by Raunkiaer (1937) and Hassib (1951). Plant identification and taxonomic nomenclature of the recorded species were according to Boulos (1999, 2000, 2002, 2005), Tackholm (1974), Cope & Hosni (1991). Representative samples of each recorded plant species were collected and pressed for preparing herbarium sheets. These herbarium sheets are deposited at the herbarium of Assiut University. For the floristic analysis the frequency method is used as the following formula: (see Muller-Dombois & Ellenberg, 1974).

% Frequency of each species = number of quadrates in which species occurs / Total number of studied quadrates x 100.

5.2.2 Faunal Species

Fauna were investigated at nineteen sites. Reptiles and birds were observed by a simple binocular telescope and photographed by a digital camera.

Different species of invertebrates including insects were collected by the normal sweeping net, which is commonly used for collecting the insects.

The collected invertebrates including insects were examined and photographed in the laboratory using a binocular stereo microscope equipped with a digital camera. Some of the collected samples were deposited in the Museum of the Egyptian

fauna at Zoology Department, Faculty of Science Assiut University. Different keys were used for classification of invertebrates: Levi and Levi (1990); Picker et al. (2004); Chinery (2007); Eaton and Kaufman (2007); Brock and Hasenpusch (2009) and Hangay and Zborowski (2010).

Birds were identified using the following references: Fitter *et al.* (1984) and Tharwat (1997).

The recorded taxa during the survey were divided into constancy classes according to the system adopted by Weis-Fogh (1948) and Hussein (1972) (cited in Obuid-Allah, 2000) as the following:

- Constant taxon: present in more than 50% of the samples.
- Accessory taxon: present in 25-50% of the samples.
- Accidental taxon: present in less than 25% of the samples.

5.3 FINAL RESULTS

5.3.1 Floral Species

The present results revealed that, there are 17 plant species belong to 11 families. Of these species, 14 species are perennials and the remaining three species are annuals. The largest representative families in the present study are: Asteraceae (4 species in 4 genera) and Chenopodiaceae (three species in three genera). The Zygophyllaceae is the only family which is represented by 2 species in two genera. The other 8 families: Capparaceae, Resedaceae, Mimosaceae, Geraniaceae, Tamaricaceae, Apiaceae, Solanaceae, and Poaceae are represented by only one species for each (Table 5-1).

Table 5-1(A)
List of the Recorded Plant Species in the Study Area
and their Taxonomic Families and Life Forms

No	Family	Taxon	L. F
1-	Chenopodiaceae	<i>Cornulacamonacantha</i> Delile	Ch
2-		<i>Haloxylon salicornicum</i> (Moq.) Bunge ex Boiss	Ch
3-		<i>Salsola imbricate</i> Forssk.	Ch
4-	Capparaceae	<i>Capparis decidua</i> (ForssK.) Edgew.	Ph
5-	Resedaceae	<i>Ochradenus baccatus</i> Delile	Ch
6-	Mimosaceae	<i>Acacia tortilis</i> (Forssk.) Hayne	Ph
7-	Geraniaceae	<i>Monsonia nivea</i> (Decne.) Webb	Ch
8-	Zygophyllaceae	<i>Fagonia arabica</i> L.	Ch
9-		<i>Zygophyllum coccineum</i> L.	Ch
10-	Tamaricaceae	<i>Tamarix nilotica</i> (Ehernb.) Bunge	Ph
11-	Apiaceae	<i>Deverra tortuosa</i> (Desf.) DC.	Ch
12-	Solanaceae	<i>Hyoscyamus muticus</i> L.	Ch
13-	Asteraceae	<i>Conyza bonariensis</i> (L.) Cronquist	Ch
14-		<i>Pulicaria undulata</i> (L.) C.A. Mey.	Th
15-		<i>Sonchus oleraceus</i> L.	Th
16-		<i>Symphyotrichum squamatum</i> (Spring.) Nesom	Th
17-	Poaceae	<i>Stipagrostis plumose</i> (L.) Munro ex Anderson	Ge

Ph. = Phaenerophytes. Ch = Chaemaphytes, Th. = Therophytes,

Ge= Geophytes

Table 5-1(B)
List of the Recorded Plant Species in the Study Area with Local Names

No	Family	Taxonomic Name	Local Name (Common Name)		English Name
1	Chenopodiaceae	1- <i>Cornulaca monacantha</i> Delile	Shoak el-deeb	شوك الديب	
2		2- <i>Haloxylon salicornicum</i> (Moq.) Bunge ex Boiss	Rimth	رمس	
3		3- <i>Salsola imbricate</i> Forssk.	Khareet	خريط	
4	Capparaceae	<i>Capparis decidua</i>	Tondop	طنضب	Leafless cappar
5	Resedaceae	<i>Ochradenus baccatus</i> Delile	Undefined		
6	Mimosaceae	<i>Acacia tortilis</i> (Forssk.) Hayne	Syaal	سيال	Umbell thorn Acacia
7	Geraniaceae	<i>Monsonia nivea</i> (Decne.) Webb	Dahama	دهمه	
8	Zygophyllaceae	1- <i>Fagonia Arabica</i> L.	Shibreeq	شبرك	
9		2- <i>Zygophyllum coccineum</i> L.	Rutrart	رطريط	Rutrart
10	Tamaricaceae	<i>Tamarix nilotica</i> (Ehernb.) Bunge	Tarfa	طرفة	
11	Apiaceae	<i>Deverra tortuosa</i> (Desf.) DC.	Shabat el-gabal	شبت الجبل	
12	Solanaceae	<i>Hyoscyamus muticus</i> L.	Sakaran	سكران	
13	Asteraceae	1- <i>Conyza bonariensis</i> (L.) Cronquist	Hasheesh el-gebl	حشيش الجبل	
14		2- <i>Pulicaria undulata</i> (L.) C.A. Mey.	Kootkat or Abu ain Safra	كوتكات أو أبو عين صفر	
15		3- <i>Sonchus oleraceus</i> L.	Goodad	جعضيض	
16		4- <i>Symphotrichum squamatum</i> (Spring.) Nesom	Aster		
17	Poaceae	<i>Stipagrostis plumose</i> (L.) Munro ex Anderson	Undefined		

The number of species (17 species) in proportion to the total surface area (4182 km²) is considered very small. This is evidently due to the arid climatic conditions, where the annual rainfall nowhere exceeds is below 50 mm. Due to the very scanty rainfall, most vegetation of Egypt is concentrated primarily in Wadis and depressions (Boulos, 2008).

On the other hand, most of the recorded plant species are belonging to Dicotyledons, while only one species (*Stipagrostisplumosa* (L.) Munro ex Anderson) is belonging to monocotyledons. Most of the recorded plant species are xerophytes or halophytes. Three plant species of these are shrubs or small trees (Phanerophytes): *Capparisdecidua* (Forssk.) Edgew (Capparaceae), *Acaciatortilis* (Forssk.) Hayne (Mimosaceae) and *Tamarixnilotica* (Ehernb.) Bunge (Tamaricaceae). Except for the three annuals species (Therophytes): *Conyzabonariensis* (L.) Cronquist, *Sonchusoleraceus* L. and *Symphyotrichumsquamatum* (Spring.) Nesom., the remaining recorded taxa are perennial herb or under-shrubs (Chamaephytes) and only one species (*Stipagrostisplumosa* (L.) Munro ex Anderson) is of Geophytes (Table 5-2).

According to the present results, *Stipagrostisplumosa* (L.) Munro ex Anderson proved that it is the most important plant species in the studied area with the highest frequency (46.7) followed by *Fagoniaarabica* (40). There were many species recorded once or twice in the present study which reflects the natural vegetation of the studies area and the whole deserts in Egypt. These results confirm the previous results of Bornkamm & Kehl, (1990).

Most of the recorded plant species were found in associations. Of these, *Stipagrostisplumosa* is frequently found associated with *Fagonia arabica* L., *Salsolaimbricata* Forssk. *Cornulacamonacantha* Delile and *Monsonia nivea* (Decne.) Webb. Another association was found between *Cornulacamonacantha* Delile and *Fagonia arabica* L.. This association was found widely distributed in the study area. In spite of the following plant species are usually found in association but in some sites and quadrates of the studied area, some of these plants were found as separated individuals or in small patches as pure community such as: *Deverratortuosa* (Desf.) DC., *Zygophyllumcoccineum* L., *Tamarixnilotica* (Ehernb.) Bunge, *Acacia tortilis* (Forssk.) Hayne, *Capparis decidua* (ForssK.) Edgew. *Ochradenus baccatus* Delile, *Pulicariaundulata* (L.) C.A. Mey.. *Monsonia nivea* (Decne.) Webb in the present study was found associated with *Fagonia arabica* L. or with *Stipagrostisplumosa*.

From the above results, the recorded plant species are common in other Egyptian deserts. On the other hand these plant species are of a very low economic value. Although, the scanty grow of these plants but no of them threatened or endemic.

Figure 5-1 depicts the spatial distribution of flora species over the proposed study area.

Appendix-I, Figure-1 depicts some of the recorded plant species.

Table 5-2

Recorded Plant Species in the Study Area, Coordinates of the Sites and Quadrates

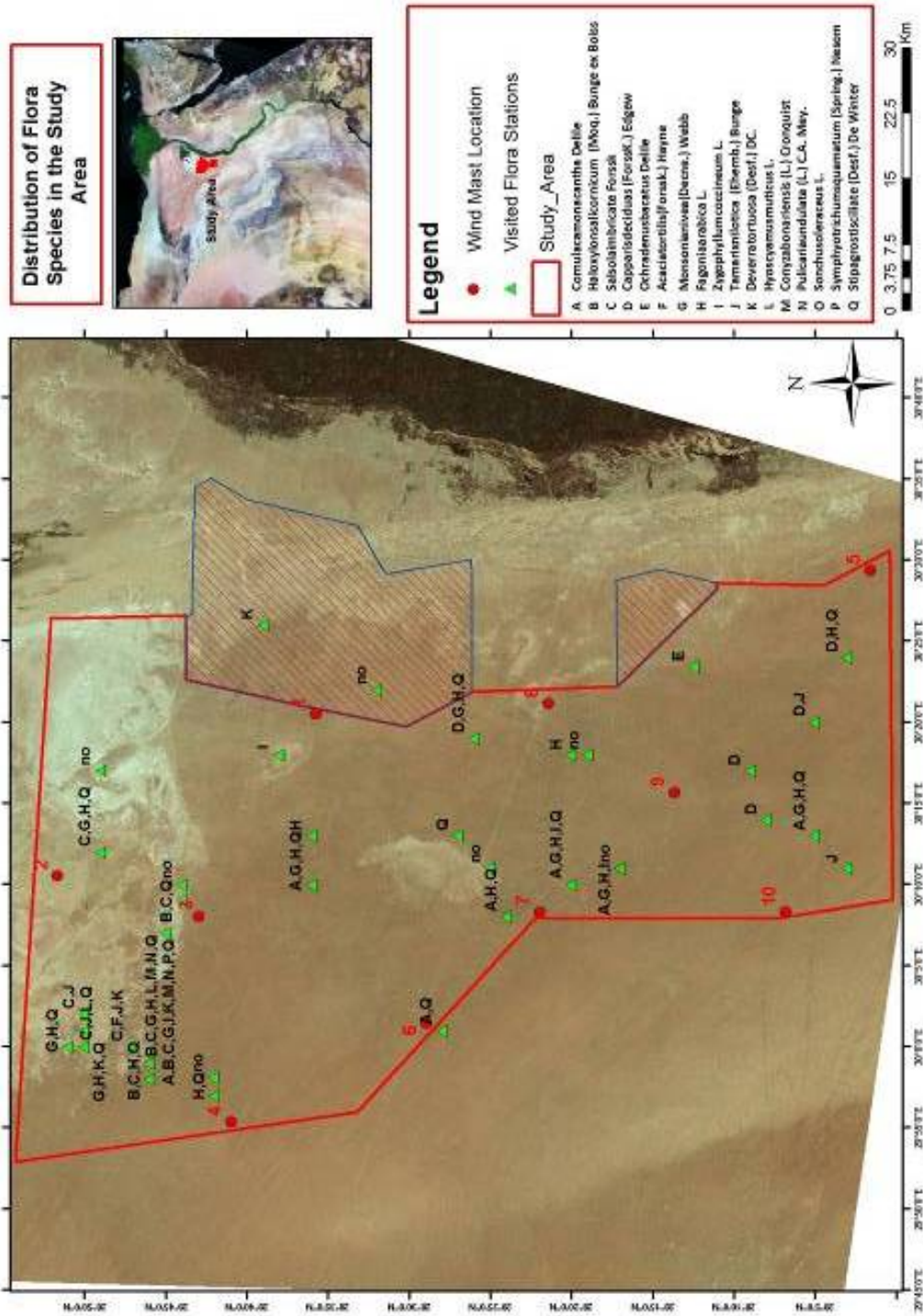
No	Site	N	E	<i>Cornulacamonacantha</i> Delile	<i>Haloxylon salicornicum</i> (Moq.) Bunge ex Boiss	<i>Salsola imbricate</i> Forssk	<i>Capparis decidua</i> (Forssk.) Edgew	<i>Ochradenus bacatus</i> Delile	<i>Acacia tortilis</i> (Forssk.) Hayne	<i>Monsonianivea</i> (Decne.) Webb	<i>Fagonia arabica</i> L.	<i>Zygophyllum coccineum</i> L.	<i>Tamarix nitida</i> (Ehemb.) Bunge	<i>Hyoscyamus muticus</i> L.	<i>Conyza bonariensis</i> (L.) Cronquist	<i>Pulicaria undulata</i> (L.) C.A. Mey.	<i>Sonchus oleraceus</i> L.	<i>Symphotrichum squamatum</i> (Spring.) Nesom	<i>Stipagrostis ciliata</i> (Desf.) De Winter	
1	1	30 10,890	28 44,880			+					+								+	
2	1	30 17,868	28 49,332																	
3	1	30 12,563	28 49,282			+				+	+								+	
4	2	29 58,794	28 46,292		+	+				+	+								+	
5	2	29 59,037	28 46,894		+	+				+	+			+	+	+			+	
6	2	30 00,002	28 47,534			+			+				+	+						
7	2	30 00,330	28 50,659							+	+			+					+	
8	2	30 00,018	28 51,010							+	+								+	
9	2	30 00,670	28 50,907			+							+	+					+	
10	2	30 01,462	28 50,449		+	+				+	+						+		+	
11	2	30 02,093	28 50,306			+							+							
12	2	30 07,133	28 45,729	+	+	+				+		+		+	+	+		+	+	
13	2	30 09,375	28 44,820		+	+													+	
14	3	30 10,511	28 44,736																	
15	10	30 19,950	28 26,576				+			+	+								+	
16	10	30 19,859	28 29,965	+		+	+			+	+			+	+				+	
17	8	30 22,655	28 32,882																	
18	5	30 26,458	28 39,415											+						
19	6	30 18,809	28 38,619									+								
20	6	30 13,521	28 36,013								+									
21	7	30 10,763	28 36,570	+						+	+								+	
22	7	30 08,218	28 24,743	+							+								+	
23	7	30 01,187	28 28,936	+															+	
24	9	30 01,362	28 13,477										+							
25	4	29 57,866	28 42,088																	
26	4	29 57,998	28 42,778								+								+	
27	4	29 58,794	28 46,292																	
28	4	29 59,037	28 46,899																	
29	4	30 00,002	28 47,534																	
30	4	30 00,330	28 50,659																	
31	17	30 24,948	28 03,041				+				+								+	
32	17	30 11,823	28 03,257										+							
33	17	30 20,921	28 05,193				+						+							
34	17	30 13,044	28 05,620	+						+	+								+	
35	16	30 11,766	28 25,849																+	
36	16	30 14,828	28 08,369				+													
37	16	30 16,511	28 08,755					+												
38	15	30 17,030	28 09,305				+													
39	13	30 11,045	28 17,828																	
40	13	30 10,043	28 20,651	+						+	+	+							+	
41	11	30 11,057	28 25,169																	
42	11	30 13,562	28 27,156																+	
43	12	30 18,303	28 19,735																	
44	12	30 18,502	28 20,887								+									
45	13	30 11,045	28 17,828	+						+	+	+								
			Qud ⁽¹⁾	8	5	11	6	1	2	12	18	4	6	4	3	3	2	1	1	21
			Fre ⁽²⁾	18	11	24	13	2	4	27	40	8	13	8	6	6	4	2	2	47

(1) Qud= Quadrant: a tool used for determining the number of species per meter squared.

(2) Fre= Frequency.

Figure 5-1

The Spatial Distribution of Flora Species over the Proposed Study Area



5.3.2 Faunal Species

Table 5-3 below gives a list for the recorded fauna and Table 5-4 presents the frequency and the percentage of different animal species collected from different sites.

The present survey on the investigated sites indicated that there are 23 different species of animals and one larva including 16 species of insect and one larva, one species of arachnida, one species of reptiles and 5 species of birds.

Figure 5-2 depicts the spatial distribution of faunal species over the proposed study area.

Appendix-I, Figure-2 Depicts taxonomy for some of the recorded fauna.

Table 5-3(A)
Recorded Fauna Species in the Study Area

A-Invertebrates
I- Class: Insecta
1- <i>Crocothemis erythraea</i>
2- <i>Schistocerca gregaria</i>
3- <i>Calosoma chlorostectum</i>
4- <i>Cataglyphis bicolor</i>
5- <i>Coccinellaundecimpunctata</i>
6- <i>Blaps polychresta</i>
7- <i>Sehirus morio</i>
8- <i>Naupactus</i> sp.
9- <i>Formicasp.</i>
10- <i>Cyrtobagouse</i> sp.
11- <i>Tricarinydnerusguerinii</i>
12- <i>Wohlfahrtia magnifica</i>
13- <i>Rhodnius</i> sp.
14- <i>Lepsima saccharina</i>
15- Heterocera
16- <i>Cicindela flexuosa</i>
17- Eruciform larvae
Class: Arachnida
18- <i>Cheiracanthium pelasgicum</i>
B- Vertebrates
Class: Aves
19- <i>Corvus ruficollis</i>
20- <i>Lanius excubitor</i>
21- <i>Ammomanes deserti</i>
22- <i>Bubulcus ibis</i>
23- <i>Pterocles coronatus</i>
I- Class: Reptelia
24- <i>Mesalina rubropunctata</i>

Table 5-3 (B)
Recorded Fauna Species in the Study Area with Local Names

A-Invertebrates				
1- Class: Insecta				
No	Taxonomic Name	Local Name (Common Name)		English Name
1	<i>Crocothemis erythraea</i>	Al-Raash	الرعاش	Scarlet Dragonfly
2	<i>Schistocerca gregaria</i>	Al-Garad al-Sahrawy	الجراد الصحراوي	Desert locust
3	<i>Calosoma chlorostectum</i>	khonfosaa al-Kalosoma	خنفساء الكالوسوما	ground beetles
4	<i>Cataglyphis bicolor</i>	Haramy al-hallah	حرامي الحلة	Sahara Desert ant
5	<i>Coccinella undecimpunctata</i>	Abu-Aleed zo Al-ehda ashrah noktah	أبو العيد ذو الإحدى عشر نقطة	eleven-spot ladybird or eleven-spotted lady beetle
6	<i>Blaps polychresta</i>	Al-Konfosaa Al-Manzelyyah	الخنفساء المنزلية	Egyptian beetles
7	<i>Sehirus morio</i>	Al-bak Al-haffar	البق الحفار	burrower bugs
8	<i>Naupactus sp.</i>	Khonfosaa	خنفساء	white-fringed weevil or white-fringed beetle
9	<i>Formica sp.</i>	Naml Al-khashab	نمل الخشب	wood ants-mound ants- field ants
10	<i>Cyrtobagouse sp.</i>	Sosat Al-Fetr	سوسة الفطر	Fungus weevils
11	<i>Tricarinodynerus guerinii</i>	dabor	دبور	wasps
12	<i>Wohlfahrtia magnifica</i>	Zobabet Allahm	ذبابة اللحم	spotted flesh fly- screwworm fly
13	<i>Rhodnius sp.</i>			
14	<i>Lepsima saccharina</i>	Al-samak al-Feddy	السمك الفضي	silverfish- fishmoths- carpet sharks- paramites
15	Heterocera	Farashah	فراشة	butter fly
16	<i>Cicindela flexuosa</i>	Khonofessa	خنفساء	Metallic beetles

17	<i>Eruciform larvae</i>	Dodah	دوده	_____
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Table 5-3 (B) (Contd.)
Recorded Fauna Species in the Study Area with Local Names

A-Invertebrates				
2- Class: Arachnida				
No	Taxonomic Name	Local Name (Common Name)		English Name
18	<i>Cheiracanthium pelasgicum</i>	Ankaboot	عنكبوت	Agrarian sac spider -long-legged sac spiders
B- Vertebrates				
1- Class: Aves				
No	Taxonomic Name	Local Name (Common Name)		English Name
19	<i>Corvus ruficollis</i>	Al-gorab alnoohy	الغراب النوحى	The crow
20	<i>Lanius excubitor</i>	Asfoor	عصفور	Great Grey Shrike / Northern Shrike -typical shrikes
21	<i>Ammomanes deserti</i>	Asfoor	عصفور	The desert lark
22	<i>Bubulcus ibis</i>	Abu-Gerdan	أبو قردان	The cattle egret
23	<i>Pterocles coronatus</i>	Alkata	القطا	Sand grouse
2- Class: Reptelia				
No	Taxonomic Name	Local Name (Common Name)		English Name
24	<i>Mesalina rubropunctata</i>	Sehleyyah	سحلية	Red-spotted Lizard

Table 5-4
Frequency and Percentage of Different Animal Species Collected from Different Ecological Sites

	E	N	<i>C. erythraea</i>	<i>S. gregaria</i>	<i>C. chlorostectum</i>	<i>C. bicolor</i>	<i>C. undecimpunctata</i>	<i>B. polychresta</i>	<i>S. morio</i>	<i>Naupactus sp.</i>	<i>Formica sp.</i>	<i>Cyrtobagouse sp.</i>	<i>T. guerinii</i>	<i>W. magnifica</i>	<i>Rhodnius sp.</i>	Lepidoptera	Heterocera	<i>C. pelagicum</i>	<i>L. saccharina</i>	Eruciform larvae	<i>M. rubropunctata</i>	<i>C. ruficollis</i>	<i>L. excubitor</i>	<i>A. deserti</i>	<i>B. ibis</i>	<i>P. coronatus</i>
site 17	30 24 .948	28 03 .041	+	+	+	+	-	-	-	+	+	-	-	-	-	-	-	-	+	-	-	-	+	-	+	+
site 17	30 11 .823	28 03 .257	+	+	-	-	-	+	-	+	+	+	-	+	-	-	-	-	+	-	+	-	+	-	-	-
site 17	30 20 .921	28 05 .193	+	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
site 17	30 13 .044	28 05 .620	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	-	+	+	-
Site 16	30 11 .766	28 25 .849	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Site 16	30 14 .828	28 08 .369	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Site 16	30 16 .521	28 08 .755	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Site 15	30 17 .030	28 09 .305	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Site 13	30 11 .045	28 17 .828	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Site 13	30 10 .043	28 20 .651	+	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	+	-	-	+	-	-
Site 11	30 11 .057	28 25 .169	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Site 12	30 18 .303	28 19 .735	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Site 2	30 00 .018	28 51 .010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Site 2	29 58 .794	28 46 .292	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-
Site 3	30 10 .509	28 44 .736	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Site 9	30 01 .362	28 13 .477	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Site 4	29 57 .866	28 42 .088	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Site 6	30 18 .809	28 38 .916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Site 7	30 10 .761	28 36 .570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
Site 8	30 22 .655	28 32 .882	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 5-4 (Cont'd)
Frequency and Percentage of Different Animal Species Collected from Different Ecological Sites

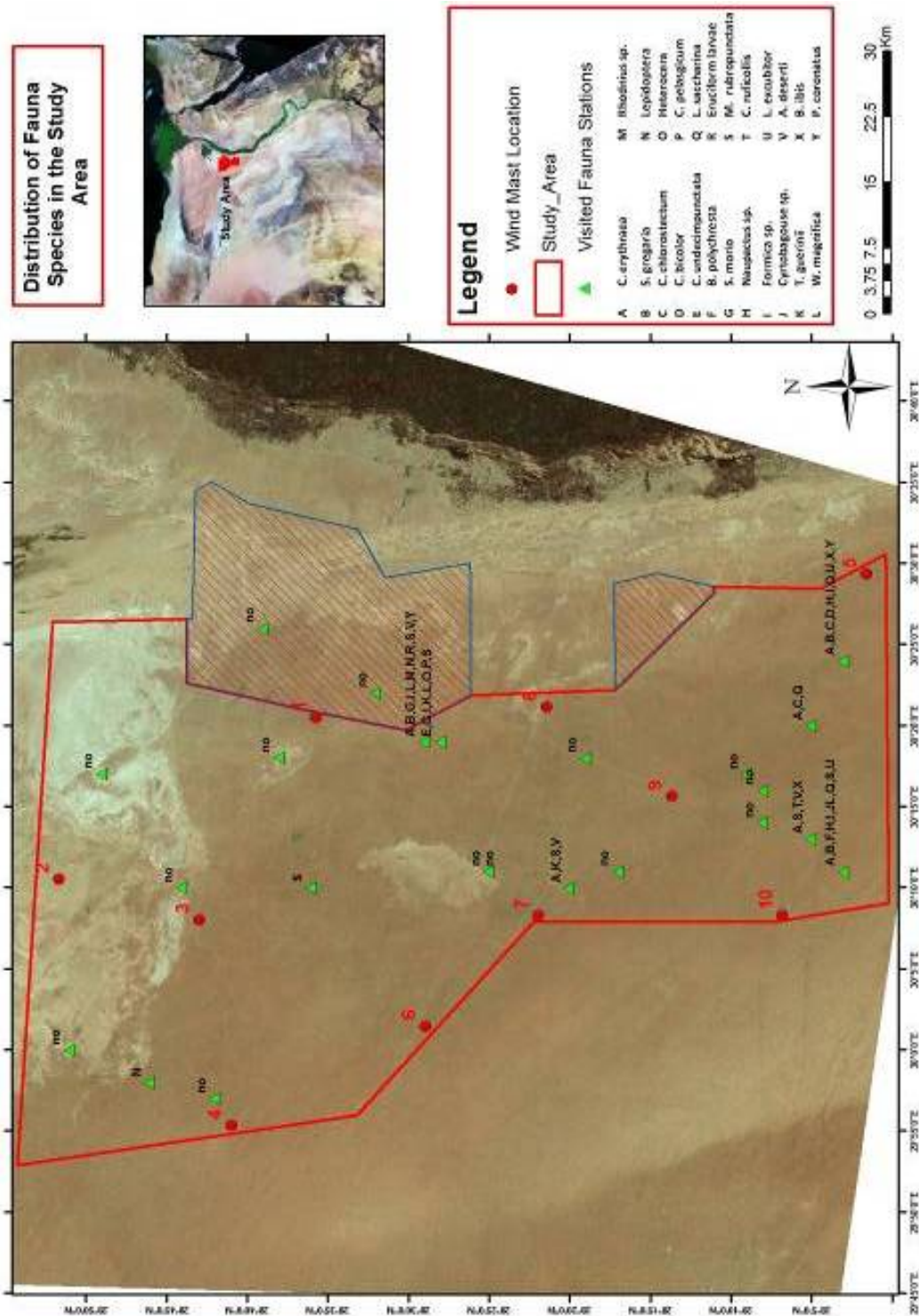
	E	N	<i>C. erythraea</i>	<i>S. gregaria</i>	<i>C. chlorostectum</i>	<i>C. bicolor</i>	<i>C. undecimpunctata</i>	<i>B. polychresta</i>	<i>S. morio</i>	<i>Naupactus sp.</i>	<i>Formica sp.</i>	<i>Cyrtobagouse sp.</i>	<i>T. guerinii</i>	<i>W. magnifica</i>	<i>Rhodnius sp.</i>	Lepidoptera	Heterocera	<i>C. pelagicum</i>	<i>L. saccharina</i>	Eruciform larvae	<i>M. rubropunctata</i>	<i>C. ruficollis</i>	<i>L. excubitor</i>	<i>A. deserti</i>	<i>B. ibis</i>	<i>P. coronatus</i>	
Site 5	30 26 .298	28 39 .700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Site 10	30 19 .080	28 28 .178	-	-	-	-	+	-	+	-	+	-	+	+	-	-	+	+	-	-	+	-	-	-	-	-	-
Site 10	30 19 .859	28 29 .965	+	+	-	-	-	-	+	-	+	-	-	+	+	+	-	-	-	+	+	-	-	+	-	-	+
Site 1	30 17 .868	28 49 .332	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	F ⁽¹⁾		6	3	2	1	1	1	2	2	4	1	2	3	1	2	1	1	3	1	6	2	1	3	2	2	
	% ⁽²⁾		25	13	8	4	4	4	8	8	17	4	8	13	4	8	4	4	13	4	25	8	4	13	8	8	

(1) F= Frequency.

(2) Percentage of the (+) signs per total number of (+) and (-) signs.

Figure 5-2

The Spatial Distribution of Fauna Species over the Proposed Study Area



5.4 CONCLUSION

Biological condition in the study area is of very low density at the site and there are no endangered species.

CHAPTER – 6. : SOCIO -ECONOMIC ENVIRONMENT

6. SOCIO-ECONOMIC ENVIRONMENT

6.1 SOCIAL ENVIRONMENTAL CONDITIONS

6.1.1 Socio-economic Character

Socio-economic survey was prepared by a social team and conducted during August- October 2011. The New and Renewable Energy Authority of Egypt has provided the survey with the necessary permission. The results of this study will provide both of the JICA and the NREA with the needed information about the areas where the project will be implemented.

Basic Information about the Two Governorates

The project will be implemented in two governorates namely, El-Minya and Beni-Suef. Information given in *Table 6-1 and Table 6-2* has been collected from different Egyptian reports and census.

Table 6-1

Population and Households Size in both of the El-Minya and Beni-Suef Governments

	El-Minya	Beni Suef	Total
Total population	4.166.299	2.291.618	6457917
Female % of the total population	48.9%	49.1%	49.0%
Family Size	4.56	4.61	4.585
No. of households	910,529	495,687	1.406.216

Source : CAPMAS: Egypt Census, 2006.

Table 6-2

Basic Socioeconomic Characteristics

Socio-economic Character	El-Minya	Beni Suef
Total Area	13184 km ²	10954 km ²
Total populated area	1191 km ²	1369.41 km ²
Housing and scattering areas	84 km ²	48.07 km ²
Facilities and cemeteries	120 km ²	121.93 km ²
Ponds and fallow	9 km ²	33.92 km ²
Agriculture lands within agricultural borders	776 km ²	1105.77 km ²
Agriculture land outside agricultural borders	202 km ²	59.72 km ²
Population density in the populated area	5.27thousand person/ km ²	1.67 thousand person/ km ²
Population density in the total area	0.48 thousand person/ km ²	0.21 thousand person/ km ²
Populated area (% of total areas)	9.0%	12.5%
Total number of slums areas	36	52

Source: Ministry of Housing Utilities & Urban Development, 2007.

Table 6-2 (Contd.)
Basic Socioeconomic Characteristics

Socio-economic Character	El-Minya	Beni Suef
Industry activities (by number of registered industrial establishments 2006)	1. Food products, beverage & tobacco (4999) 2. Building material, porcelain, china wares refractories (636) 3. Spinning, weaving, garment and leather (2419) 4. Metal products, machinery and transportation equipments (244)	1. Food products, beverage & tobacco (2576) 2. Building material, porcelain, china wares refractories (1107) 3. Spinning, weaving, garment and leather (951) 4. Metal products, machinery and transportation equipments (223)
Potable water		
Production of potable water	2047.0 thousand m ³ / day	235.4 thousand m ³ / day
Consumption of potable water	1880.0 thousand m ³ / day	184.1 thousand m ³ / day
% of household with access to water	98.4	88.6
Per capita potable water consumption	299.7	80.4
Per capita potable water production	326.3	102.78
Sanitation		
Capacity of Sanitation	1207.0 thousand m ³ / day	50.0 thousand m ³ / day
Per capita sanitation capacity	192.4 liter. Day/person	21.8 liter. Day/person
% of households with access to sanitation	69.3%	15.2%
Education		
Adult literacy rate (+15)	(59.5%)	(58.7%)
Combined Primary, Preparatory and Secondary level gross enrolment ratio	(74.2%)	(73.7%)
Education Index	0.639	0.642
Illiteracy rate of the total population	Total (60.0%) Female (52.9%) Male (30.07%)	Total (60.0%) Female (52.16%) Male (29.24%)
Employment		
Employment status % of the population in labor force	(35.4%) (31.4%) are females	(36.0%) (33.7%) are females
Type of work	Agriculture (58.1%) Industrial (12.8%) Service (29.1%) Laborers (9.1%)	Agriculture (55.1%) Services (29.3%) Industrial 15.6% Professional and technical staff (12.0%)
Unemployment status	(5.5%) total (9.0%) of the females Rural (4.4%) Urban (10.4%)	(3.5%) total (4.8%) of the females Rural (1.4%) Urban (11.4%)
Unemployment rate:		
Secondary graduates	(66.8%)	(68.7%)
University graduates	(31.3%)	(30.6%)
Below secondary	(1.9%)	(0.7%)

Table 6-2 (Contd.)

Basic Socioeconomic Characteristics

Socio-economic Character	EI-Minya	Beni Suef
National Economy		
Gross domestic product (GDP) ⁽¹⁾ (US\$)	8655.9	8857.4
* Industrial establishment	164	164
* Industrial zones	2	7
* Productive cooperation association	20	7

(1) **GDP:** GDP per capita for Egypt is estimated from the National Income Accounts of 2006/2007. The estimated GDP per capita in local currency (LE) is transformed to its value in US\$ using an appropriate exchange rate (taking into consideration the estimations of the Ministry of State for Economic Development). Then the real GDP per capita (ppp S\$) is calculated by applying a suitable factor to the estimated GDP per capita in US\$ (the factor used in the International Human Development Report for 2008). This resulted in a national GDP per capita index for Egypt of 0.727 in 2008.

Source: The Egyptian Human Development Report (2010) and the Egypt's Description by Information, 2007 of the CABINET.

Appendix-J gives more details on the Socio-economic Characteristics of the EI-Minya and Beni-Suef Governorates.

6.1.2 Main Infrastructure Facilities in the Survey Area

Electricity and Fossil Fuel

Table 6-3 gives basic energy data for the El-Minya Governorate in terms of number of subscribers in both the electricity network and natural gas services as well as the electricity consumption. Table 6-4 gives the use of petroleum products in the El-Minya Governorate. Table 6-5 gives building distribution by connection to public utilities (electricity & natural gas).

Figure 6-1 shows the existing electrical facilities for the entire El-Minya Governorate in 2010. These facilities are running around the location and supplying all industrial, commercial and residential demands sited in the El-Minya Governorate and connected to the unified power grid.

Table 6-3

Energy Data for the El-Minya and Beni-Suef Governorates, 2007

Item	Unit	El-Minya			Beni-Suef		
		Urban	Rural	Total	Urban	Rural	Total
No. of Subscribers in the Electricity Network	1000 Subscribers	-	-	810	-	-	473
No. of Subscribers in Natural gas Services	1000 Subscribers	-	-	0.0	-	-	17.7
Total Electricity Consumption	M kWh/year	950	970	1,920	899	550	1449
Electricity Consumed for Lighting	M kW/year	846	947	1,793	566	523	1089
Electricity Consumed for Industrial Utilization	M kWh/year	104	23	127	333.0	27.0	360.0
Per Capita Consumption of Electricity for Lighting	kWh/year/person	1,075.5	279.1	429.0	1062.8	297.5	475.4

Source: The Cabinet, Information and Decision Support Center: The Egypt's Description by Information 2007, 7th Edition.

Table 6-4
Use of the Petroleum Products in the El-Minya^(*) Governorate, 2007

Type	Stock (ton)			Supplied(ton)			Consumed(ton)		
	Total Stock	Monthly Average	Annual Average	Total	Monthly Average	Annual Average	Total	Monthly Consumed	Annual Consumed
Benzene	112940	5647	67764	195382	9769	117228	201626	10081	120972
Kerosene	11637	582	6984	48328	2416	28992	58393	2920	53040
Solar	96441	4822	57864	625359	31268	375216	637703	31885	382620
Diesel	26	0	0	0	0	0	0	0	0
Mazot	48753	2438	29256	141965	7098	85176	143203	7160	85920
Oils	10643	532	6384	12631	632	7584	12564	628	7536

(*) This Table is not available for Beni-Suef.

Source: Petroleum Products Supply Bureau, 2008.

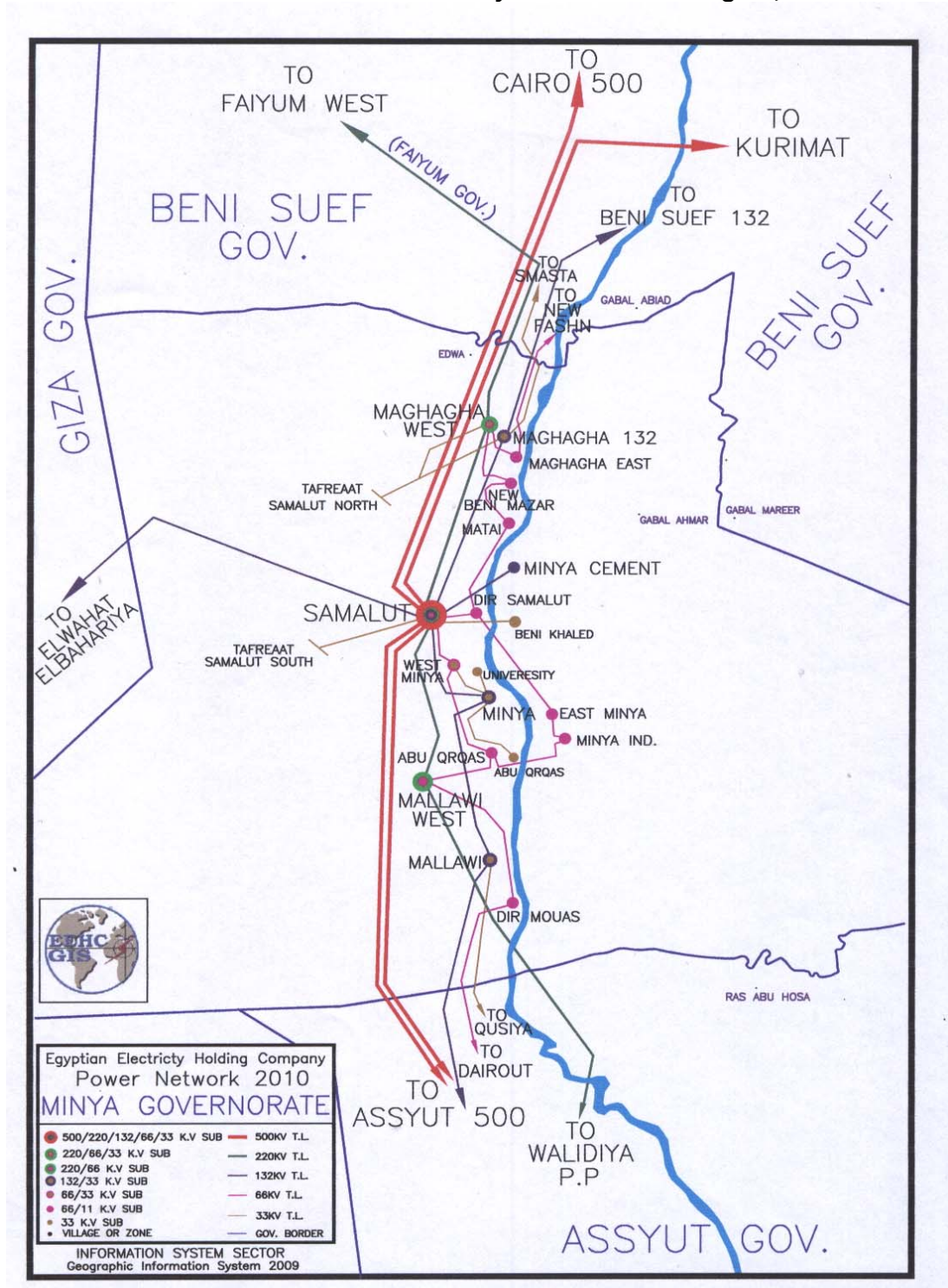
Table 6-5
**Building Distribution by Connection to Public Utilities
 (Natural Gas & Electricity) in the El-Minya and Beni-Suef Governorates according to
 Preliminary Results of Population, Housing & Establishments Census 2007**

Connection to Public Utilities	Category	Unit	Unit: No.	
			El-Minya Value	Beni-Suef Value
Natural Gas	Connected	Number	36	3,776
		%	-	0.9%
	Not Connected	Number	826,332	423,612
		%	100	99.1
Electricity	Public Network	Number	720,865	387,419
		%	87.2	90.6
	Other	Number	9,650	3,133
		%	1.2	0.7
	Nil	Number	95,853	36,837
		%	11.6	8.6%
Total No. of Buildings			826,368	427,388

Source: CAPMAS: Statistical Year Book, Dec. 2008.

Figure 6-1

Electrical Network of the El-Minya Governorate Region, 2010



Source: Egyptian Electricity Holding Company (EEHC): Geographic Information Center, 2011.

Communications and Transport

Table 6-6 lists the available communication services in the El-Minya and Beni Suf Governorates. The El-Minya region, includes 75 Telephone Centrals and about 365,100 telephone lines. The Governorate is currently in the process of providing additional telephone lines for thousands of list-waited customers. Table 6-4, also, gives the total number of working post offices, where 211 post offices provide the entire El-Minya Governorate with posting services.

The transportation network available within the El-Minya Governorate includes 66 km main paved roads, and 1,828 km un-paved ones.

About 644 buses run within all over the El-Minya Governorate. A total of 76,390 licensed vehicles provide transportation services in the El-Minya Governorate, out of them about 17,142 private cars and 4,367 taxis (CAPMAS, 2008).

Table 6-7 gives some details on transport services in the El-Minya and Beni Suf Governorates.

Table 6-6

Communications Services in The El-Minya and Beni-Suef Governorates, 2007

Item	Unit	El-Minya			Beni-Suef		
		Urban	Rural	Total	Urban	Rural	Total
No. of Telephone Centrals	Central	11	64	75	8	31	39
No. of Telephone Lines	1000 Lines	195.4	169.7	365.1	131.1	89.5	220.6
Telephone Density	Line/100 persons	24.8	5.0	8.7	24.6	5.1	9.6
No. of Working Post Offices	Post Office	38	173	211	21	93	114
No. of Inhabitants per Post Office	1000 inhabitant/ Post Office	20.7	19.6	19.8	25.4	18.9	20.1
No. of Information Technology Clubs	Club	-	-	55	-	-	34

Source: Ministry of Communications & Information Technology, 2007.

Table 6-7

***Transport Services and Roads in
the El-Minya and Beni-Suef Governorates, 2007***

Item	Unit	El-Minya	Beni-Suef
Length of Paved Roads	km	1,828	1474
Length of Un-paved Roads	km	565.00	260.00
No. of Inhabitants per km of Paved Roads	Inhabitant/km	2,286.27	1553.95
Length of paved roads (% of total roads)	%	76.39	85.01
No. of Licensed Vehicles	1000 Vehicles	66.0	66.89

Source: Ministry of Transport - General Authority for Roads & Bridges - Ministry of Interior, 2007.

6.1.3 Nomadic Groups in the Project Area

Due to lack of information about nomadic groups in project areas, the study relied upon interviewing the residents of different areas in El-Minya and Beni Sueif governorate, as well as reviewing the reports about Bedouin in western deserts of Egypt. There was no foreseen any nomadic groups in the project areas. However, as some of them move from a place to another, there is no guarantee that they might go to the project site. Moreover, they seize land in desert areas illegitimately. Therefore, they might occupy plots of lands around or near to the project area, but the project area itself doesn't inhabit Bedouin groups.

Further information on Nomadic Groups and Living Style of the Bedouins is given in Appendix-K.

6.1.4 Working Environment of Quarries Residents

Northern part of the project area contains some quarries. They are state-owned. Some people have legally rented these quarries against rental fee paid to the local government under the Right to Benefit Law (*Haq Intefaa*). However, state has full supervision on the quarries. White blocks and marbles are the main product of the quarries.

600-700 people work and live in the quarries. They live in 20 accommodation units. They get between 50-70 EGP per day (equivalent to 10 \$). The drivers get more wage which is 100 EGP daily (17\$).

The guards of the site are Bedouins. they are 15-20 guards. This is consistent with what has mentioned by the residents of neighboring areas. As the Bedouins are responsible for guarding any development project implemented in different areas. The Bedouins live in surrounding Marakez⁽⁷⁾, namely, Samalluot, Bahnasa, Beni-Mazar and El-Minya Markaz.

The main source of electricity in the quarries area is electrical generators. The workers get water in tanks. Their mean of transportation is 4x4 vehicles. they work in the quarry site for a month then they take their holidays.

The laborers have their food in 3 restaurants. In addition, they might get soft drinks in 3 cafeterias located in the site. They have 3 mosques.

Mobile cell phones and TV are not working properly there due to lack of receiving microwaves inside the area.

There is no children or women in the areas due to the difficulty of environmental conditions, as well as the families of the workers not live in the quarries' sites, but in their main villages.

6.1.5 Italian Farmland

To the very southeast of the survey area located is the Italian Farmland. It is about 1000 x 1500 m² area and irrigated via underground water by sprinkler system. It is privately owned and cultivated (by an Italian investor), where its product (mainly fruits) is totally exported to the European market.

(Figure 7-10 in the next Chapter depicts both of the quarries and the Italian Farmland areas).

6.2 LANDSCAPE, HISTORICAL AND CULTURAL HERITAGE

6.2.1 Local Distribution

Based on the information provided in Egypt Description by Information 2010. It is notable that the El-Minya Governorate is distributed into 9 Markaz and 9 cities. In addition to that 61 rural local units and 299 affiliated villages are reported. Regarding Beni-Sueif Governorate, it is distributed into 7 markaz, 7 cities, 29 districts, 180 affiliated village and 3 local units. In addition to that a big number of hamlets were reported in both governorate, 1741 in El-Minya and 844 in Beni- Sueif (Table 6-8).

Table 6-8

Administrative Division of the El-Minya and Beni-Sueif Governorates

Administrative Division	El-Minya	Beni-Sueif
No. of Marakz	9	7
No. of cities	9	7
No. of districts	0	0
No. of rural local units	61	29
Affiliated villages	299	180
Villages outside local units	0	3
Hamlets	1741	844

Source: The CABINET: Egypt's Description by Information, 2010.

(*) "Marakez" is the plural of "Markaz".

The total area of the El-Minya Governorate is up to 32279 Km². The total populated area represents about 7.47% of the total area. While housing and scattering areas represent 0.25%. The agriculture land is about 6.12% of the

total area. Regarding Beni-Sueif, the total area of the Governorate is up to 10954 Km². The total populated area represents about 12.50% of the total area. While housing and scattering areas represent 0.44%. The agriculture land is about 10.9% of the total area (Table 6-9). The distribution of the land use reflects that the majority of lands in both governorates is empty desert lands. This is a common feature of the Egyptian society, that people gather around the Nile river and the majority of Egyptian lands are desert lands. Yet, there is a reclaiming for lands in the whole areas. However, it is still slow process.

Table 6-9

Distribution of area and land use in El-Minya and Beni-Sueif Governorates

Area	El-Minya	Beni-Sueif
Total area	32279 km ²	10954 km ²
Total populated area	2411.65 km ²	1369.41 km ²
Housing and scattering areas	81.79 km ²	48.07 km ²
Facilities and cemeteries	168.28 km ²	121.93 km ²
Ponds and fallow	29.70 km ²	33.92 km ²
Agricultural land within agricultural borders	1975.59 km ²	1105.77 km ²
Agricultural land outside agricultural borders	156.29 km ²	59.72 km ²
Population density in the populated area	1.94 Thousand person/ km ²	1.86 Thousand person/ km ²
Population density in the total area	0.14 Thousand person/ km ²	0.23 Thousand person/ km ²
Total populated area (% to total area)	7.47%	12.50%

Source: The CABINET: Egypt's Description by Information, 2010.

6.2.2 Urbanization Trends

Due to the Egyptian society conditions urbanization is not a systematic organized process but sometimes it happens haphazardly. Due to that the problem of squatters and slums come to the scene. The total number of slums in El-Minya is 30 areas that are being developed now. But for Beni Sueif the slums represents 52 areas among which 18 have been developed and 34 are still in the process.^(*)

The total number of unsafe areas in El-Minya is up to 9 areas among which 3 of them are located in Magaga and 3 in Malawy. In Beni-Sueif , the number of unsafe areas is up to 17 areas the majority of them are located in Ehnasia and Nasser Markaz (Table 6-10).

(*) Egypt's Description by Information, The CABINET, 2007.

Table 6-10

Distribution of Squatter and Unsafe Areas in the El-Minya and Beni-Sueif Governorates

Minya		Beni Sueif	
Markaz Minya	1 area	Markaz Beni Sueif	2 areas
Markaz Samalot	1 area	Markaz Beba	1 area
Markaz Magaga	3 areas	Markaz Ehnasia	6 areas
Markaz Abu Qorqas	1 area	Markaz El Fashn	2 areas
Markaz Malawy	3 areas	Markaz Nasser	6 areas
Total	9 areas	Total	17 areas

Source: The CABINET: Egypt's Description by Information, 2010.

6.2.3 Historical and Cultural Heritage

Reviewing the cultural heritage in El-Minya and Beni-Sueif, there is no foreseen any monuments or historical sites in/near to the sites. However, putting into consideration that Egypt has a treasure of monuments in these areas, whenever any monuments show up during the construction of the project all procedures will be taken in cooperation with the Ministry of Antiquates.

El-Minya governorate enjoys special monumental sites holding and featuring the Egyptian Pharonic history (old state – middle state – modern state) then the Greek age, Roman age, Christian and Islamic age. El-Minya Environmental Profile report 2007 provided detailed information about the history and culture of El-Minya Governorate

Monumental and touristic sites in El-Minya Governorate

- Deir Mowas Markaz
- North Tombs
- Haj Kandeel: They are 19 tombs.
- Mallawi Markaz that contains the following sites:
 - Ashmonein Region
 - Tona el Gabal Region
 - Betozeis Tomb
 - Sheikh Ebada Region
 - Deir El-Barsha
 - Deir Abo Hans

Islamic Monuments

- Abo Korkas Markaz
- Beni Hasan Region
- Sultan Beni Hasan Zawya

- Antar Stable

Samallout Markaz

- Virgin Mary Convent in Global El-Teir
- The Old Mosque

Beni Mazar Markaz

Bahnasa region

There are a number of tombs that goes back to the Christian age with colored engravings, a monumental church was recently discovered as well.

Islamic Monuments

- The mosque of Al-Hasan Be Saleh Ben Ali Zein El-Abedeem Ben Al-Hussein Ben Ali Ben Abi Taleb. It is the only mosque in Egypt that has two kiblans.
- The grove of Sidi Fath' El-Bah, one of the Islamic conquest heroes.
- "The seven girls".
- A group of domes, such as the dome of Abo Samra, the dome of prince Zeyad Al-Fadel Ben Al-Hareth Ben Abdel Mottaleb (the cousin of prophet Mohammed, PBUH).

El-Minya Markaz

- Zawyet Soltan region Islamic monuments Represent in Omarawi mosque following fatimi style. It was called so after Oman Ebin El-Khattab.

Christian Monuments

Father Abahora church in Sowada 4 km south east Minya city. It goes back to the fourth century.

Old Places, Houses and Buildings

At the end of the 19th century and the beginning of the 20th century, Big families in Minya started to build palaces and houses in them in the governorate's cities and villages. Certain palaces of specific families began to surface, such as palaces of Sharayya in Samallout, palaces of the Abdel Razeks in Beni Mazar, and palaces of Seif El Nasr family in Mallawi and others. Most of it are found in the capitals of the Marakez, few in the villages. They were built in different styles: local architecture, foreign ones, especially the Italian. Some of them were later used as public buildings and still for now.

Monumental and touristic sites in Beni Sueif Governorate

- It includes the second oldest step pyramid "Medium",
- "Ehnasia" city that was Egypt's most important city and its capital in ancient times.
- It also includes Monasteries of Saint Antonius, Anba Pula, Mar Gergis, the tomb of Marwan Ibn Mohamad, the last ruler of the Umayyad Caliphate. Snoor huge Cave is one of Egypt's treasures that lies in the heart of the mountain, and is 19 meters deep.

6.2.4 Languages and Religions

Arabic is the mother tongue and the dominant religion in the governorates is Islam. However, the Christianity represents at least 10% of the population of the governorates according to the last census 2006. Today, El-Minya governorate has a large numbers of Christians, particularly in the city of Mallawy. There are a number of active monasteries in the region.¹

6.3 MAIN FINDINGS

6.3.1 Household and Poverty Indicators

Characteristics of Households and Poverty Indicators are given in Appendix-J

6.3.2 Characteristics in/around the Project Area (El-Minya & Beni-Suef)

Based on different site visits to the project areas and reports developed by consultants, the following characteristics describe the current status of the project areas:

- The majority of the project sites are completely empty desert lands. However, few plots are reclaimed lands owned by different people from the surrounding residence.
- Due to the nature of the project areas "desert lands" there is no means of transportations other than the pickups and small trucks, while the surroundings of the area are served by minibuses, motorcycle carts and tuctucs (small 3-cycled carts).
- Regarding the nature of people in the surrounding areas they are mainly farmers upper Egyptians, employees, merchants and vendors.
- Norms and traditions are respected in these areas (including the community sessions held to settle disputes). Moreover, they care for the community leaders, respect them and obedient to them.
- Some of the surrounding areas have association for land reclamation. Those associations provide the needed support during the long process of land reclamation

(1) Source: From Wikipedia, the free encyclopedia.

- Few poultry farms are located within the areas where the project might be constructed in.
- About the ownership of the lands in the areas, the majority of lands are estate property (*Amlak Dawla*).
- The majority of residents are farmers and Bedouins who earn their living through raising sheep
- Quarries are located in the northern area.
- People alleged that the majority of lands surrounding the area are legitimately owned. That is sound not true as the governmental group reported that the majority of lands are illegally owned. Screening for the lands should be done prior to implementation in order to avoid any potential problems during land acquisition process.

6.3.3 Recommendations Concerning Expropriation (in general and if any)

- Community people should have a role, if considered legitimate, in expropriation of lands.
- The expropriation process, if considered legitimate, should be applied at a limited scale in order not to foster community anger and dissatisfaction.
- The compensation, if considered legitimate, should be based on the market price not haphazardly chosen. Hence, a detailed resettlement action plan that includes all information and condition for each area should be planned. In addition, that plan should put into consideration the differences between each area, the condition of the dwelling and the real value of the dwelling.
- All details of expropriation should be disclosed transparently, according to the relevant laws.
- The issue of compensation , if considered legitimate, should be approached in comprehensive, empathetic manner, in order to gain the support of community members.
- In case of expropriation, the alternative unit provided should be in an appropriate area and in good condition.

CHAPTER – 7 : DATA ANALYSIS: GIS DATA BASE

7. DATA ANALYSIS: GIS DATA BASE

7.1 STRUCTURE OF THE GIS DATA BASE

7.1.1 Data Acquisition

In order to present a reasonable evaluation of the land use/ land cover maps and their using in the determination of ecological characteristics of the study area, the following data were collected. This data has been processed and various geo-spatial data has been determined and automated into various GIS data sets. These data sets include:

- Topography.
- Topographic maps of a scale 1:100,000 (Figure 7-1).
- GIS layers.
- Spot height (Figure 7-2).
- Major and Minor structures.
- Contours of elevations.
- The shoreline.
- Road network.
- Stream network (unsupervised classification- Figure 7-3).
- Digital Elevation Model (DEM) (supervised classification- Figures 7-4 & 7-5)
- Satellite data (mosaic of topographic map- Figure 7-6)
- MSS Landsat TM image year 1984.
- ETM Landsat Image year 2001.

The provided digital data and automated GIS layers have been used to understand and present baseline information about study area and to conduct a preliminary assessment of both of the natural hazards that might affect the planned project installations and the impact of the planned project installations on the surrounding environment.

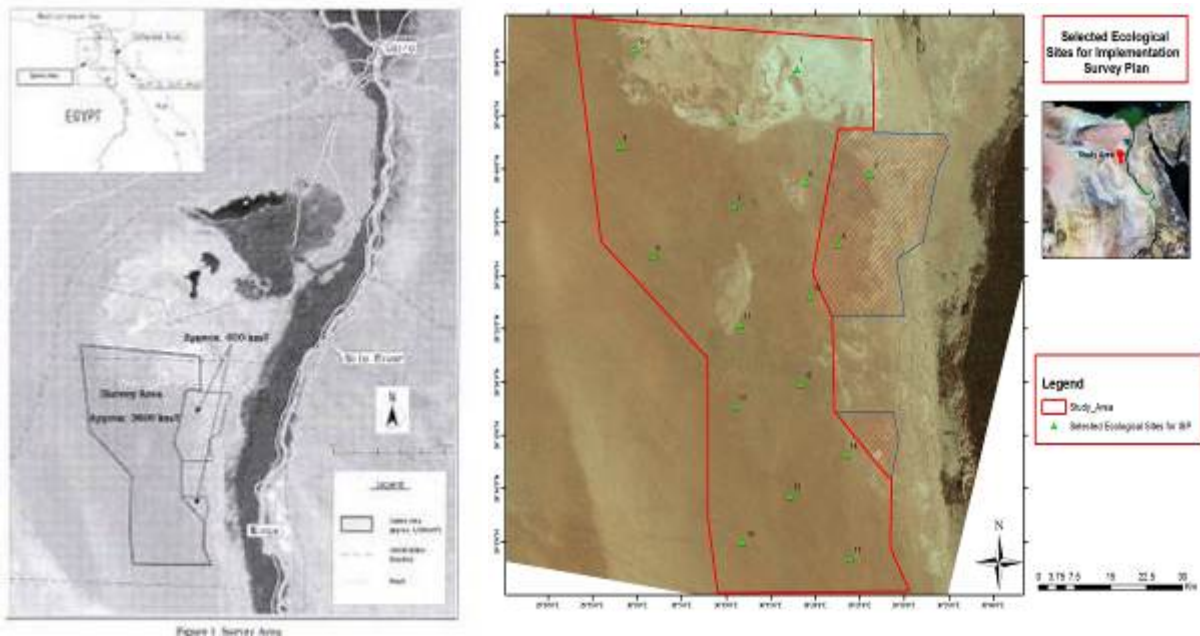
7.1.2 Satellite Image

The Thematic Mapper (TM 2001) and (TM 1984) image in addition to 5 topographic sheets (scale 1:100,000) that cover the study area with Digital Terrain Models DTM have been used for producing the maps i.e. land cover maps. A selection of the most adequate combination of bands (4, 3, 2) was executed according to Lillesand and Kiefer (1979). The digital images processing using ERDAS imagine version 9.2 software include:

- Layer staking.
- Image geometric correction.
- Image mosaic.
- Image enhancement.
- Radiometric correction (haze reduction-histogram matching-histogram equalization-noise reduction-destripping).

Figure 7-1

The Proposed Study Area with Topographic Features



- Image unsupervised classification, Enhancement.
- Image supervised classification.
- Satellite image interpretation.

Satellite images as shown in Figure 7-2 were visually interpreted to delineate the different geomorphologic features using ERDAS imagines, ENVI software and Geographic Information System (Arc View 9.3).

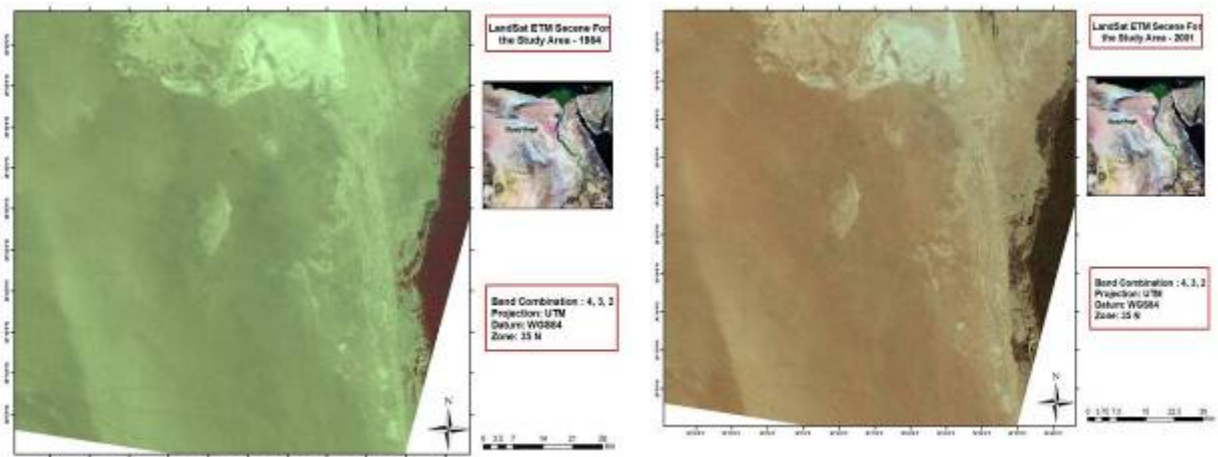
7.1.3 Image Processing

Image processing (IP) is a branch of computer graphics based on image data, which are pieces that make up a picture. In essence, image processing is a special form of two-dimensional (and sometimes three-dimensional) signal processing.

Computer system treats images as arrays, or series of elements. The size of elements in an array determines the resolution of the image, and the number of bits available to any element of the array determines the number of colors that each element can have.

Figure 7-2

The Acquired Satellite Images in the years 1984 and 2001



Images occur in various forms. Some visible and others not, some abstract and other physical, some suitable for computer analysis and others not, It is thus important to have an awareness of different types of images. An image is: “a representation, likeness, or imitation of an object or thing, a vivid or graphic description, something introduced to represent something else”.

Digital image processing is subjecting a numerical representation of an object to a series of operations in order to obtain desired result. The following are the steps used in the analysis of the satellite image.

Geo-Referencing

It is the process of assigning map coordinates to image data. The image data may already be projected onto the desired plane, but not yet referenced to a proper coordinate system. Rectification involves geo-referencing as all map projection is associated with map coordinates.

Image-to-image registration involves georeferencing only if the reference image is already georeferenced. Georeferencing, by itself, involves changing only the map coordinate information in the image file, the grid of the image does not change.

Geocoded data are images that have been rectified to a particular map projection and pixel size, and usually have radiometric correction applied.

Image Registration (Rectification)

In order to be useful and to be able to compare separate images pixel by pixel, the pixel grid of each image must conform to the other images in the database; they have to be registered to a common coordinate system. This coordinate system can be one of the images or can be a map projection. The

selection of appropriate map projection and coordinate system is based upon the primary use of the data.

Any conversion to another coordinate system is usually done through the manual identification of ground control points 'GCPs' of the same object in both coordinate systems.

A transformation matrix is computed from the GCPs, the matrix consists of coefficients that are used in polynomial equation to convert the coordinates. The size of the matrix depends on the order of transformation; linear transformation or 1st order transformation is used to drive the polynomial equations with a least error to be used to transform the reference coordinate of the GCPs to the UTM coordinates. Control points, which have large errors with respect to the polynomial, are described, and a new fit is carried out. This procedure is repeated until an acceptable error is reached. After the polynomial is defined, it is used to transform the image into the desired coordinate system.

The objective of this procedure is to automatically register the imagery to a sub-pixel level of accuracy. The registration is carried out on the shapes of significant objects in the imagery. Each of the topographic sheets were registered to the TM images and a set of control points (four corner) were defined to describe the polynomial to transform the topo sheets images to UTM coordinates for the GIS.

Image Mosicking

After rectification and Resampling of the desired images, Mosicking of every two images to obtain the area under study took place. Now two images dated 1984 and 2001 in addition to the topographic maps are ready for work.

Image Classifications

Change detection algorithm used is based upon the unsupervised classification technique (Pilon et al, 1988). Methods used for this work were adapted from methods used for land-cover classification (Lillesand et al. 1998) and for change detection (Liza et al., 1998). Unsupervised classification ISO-Data technique was applied to the Landsat TM data for spectral bands 4, 3 and 2 for the study area (see Figure 7-3). An arbitrary number of 6 classes are selected to represent all types of different features (see Figures 7-4 & 7-5).

Figure 7-3

Unsupervised Classification of Satellite Images dated 1984 and 2001 of the Study Area

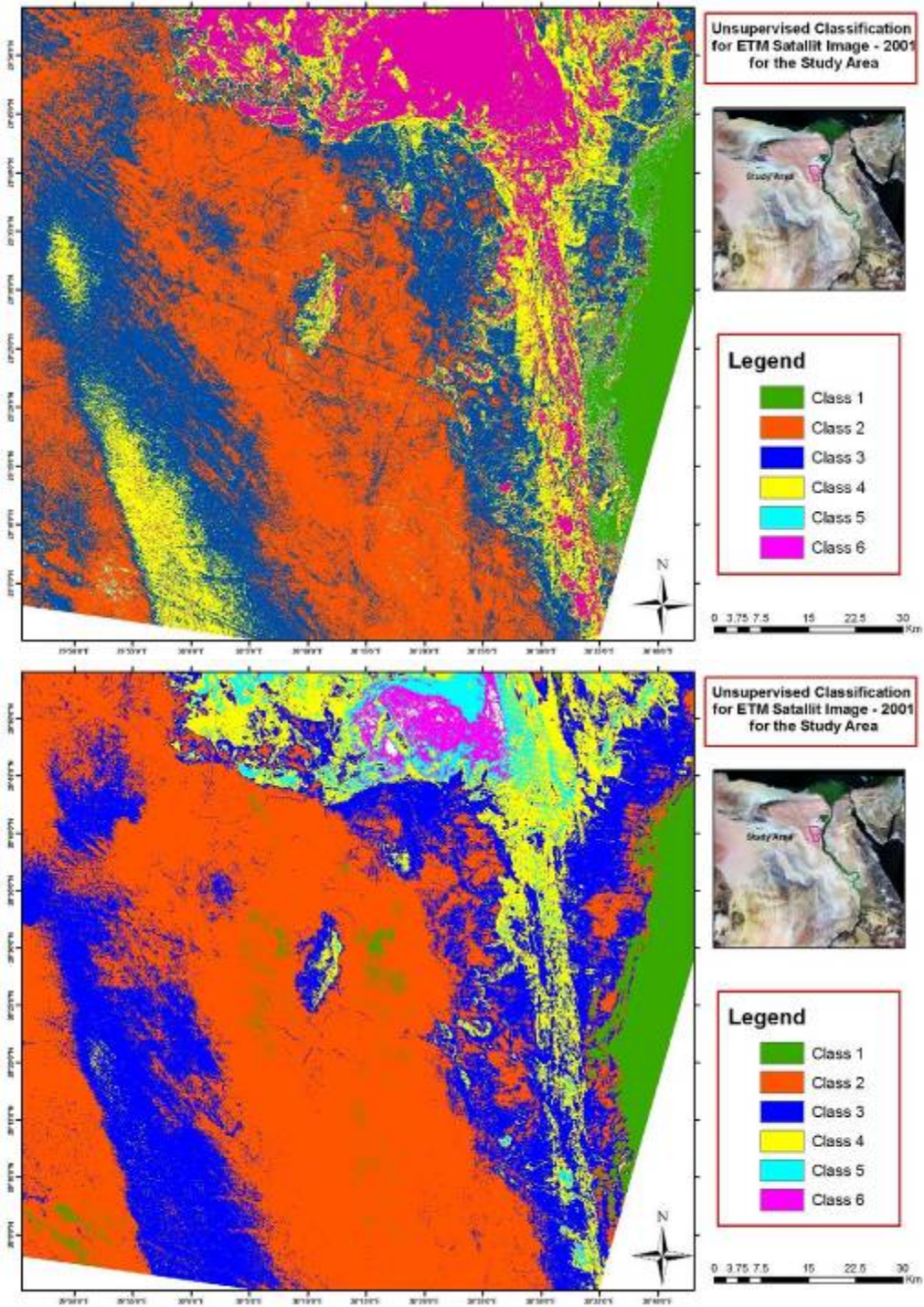


Image Enhancement

The principal objective of enhancement techniques is to process a given image so that the results are more suitable than the original for a specific application, more effective for display for subsequent visual interpretation, and for more information to be extracted. That means modification of a subjective feature of the image to emphasize certain information and to improve the detectability of the target of interest by amplifying the slight differences to make them readily observable. In this study, Landsat TM image covering the study area is enhanced by using high pass filter technique to enhance the geomorphologic features and also, Landuse activities. Geo-referencing has been applied to the image for overlaying the structural features extracted from the satellite image and topographic maps. UTM projection has been used for consistency purposes with other extracted line feature data.

7.1.4 Geographic Information System (GIS)

Using GIS in this study gives the ability to link spatial data with descriptive information about a particular feature on a map. It incorporates a database management, so it is a powerful tool to visualize, model, analyze and query the database. It is a structured framework for organizing and displaying large quantities of remote sensing data and other data in map form.

Digitizing

Digitizing is the encoding of geographic data into a computer as vector data with every point has which X and Y coordinate. There are two types of digitizing, digitizing using an electromagnetic or electrostatic device called a digitizer or digitizing from screen "heads-off digitizing" from a background image like remotely sensed images or scanned topographic maps. The second type was used in the present study. ArcMap 9.3 was used to digitize some features from both topographic maps and satellite images through the screen.

Tablet Digitizing

The main reason for using ArcMap to digitize the topographic maps of scale 1:50,000 is its ease of use and speed that accelerated the digitizing procedures. Also it provides some facilities that make the analyses of output easier. It also allows digitizing of every feature in a separate layer. It produces a variety of file formats that can be converted to many other GIS software formats and also that can be interpolated to thematic maps that illustrates the spatial distribution of a given phenomena.

Using this procedure, the land cover features of the major areas were digitized. Each feature was digitized in a separate layer that facilitated the quantitative determination of changes.

Screen Digitizing

This is the method that was used to digitize on the screen from the satellite images. The ArcMap package has the capabilities to digitize from the screen. The general land cover features along the study area from the satellite images (1984, 2001 and topographic maps) were digitized in ArcMap 9.3 software. The digitized layers were saved in the form of personal geodatabase feature class. In editing stage the over and under shoot were corrected.

Data Conversion

In this step all hard copy maps were scanned and saved as nongeoreferenced digital form. By screen digitizing different layers were extracted from these maps after geometric correction for these maps.

Geo-referencing

Geo-referencing is an essential step of the spatial data management. Geo-referencing aims at the conversion of the coordinates from the digitizing screen coordinates into a real world coordinate. Each GIS layer is geo-referenced using the following parameters:

Projection : Geographic (Lat/Long)
Unit : Degree
Spheroid : WGS 84
Datum : WGS 84

Editing

Various editing operations have been conducted over GIS layers to make them ready for display and analysis. These operations include the following:

- Creating Geo database using Arc catalog interface
- In this database three datasets were created for different features digitized from the two satellite images (2001 and 1984) and the features from the topographic maps.
- Each dataset contains different layers for the different features such as agriculture, roads, urban and so on
- GIS Layers: GIS layers have been overlain on the geo-referenced scanned map to check that all layers in the maps have been extracted.
- Features: Check the occurrence or the absence of various features in each GIS layer. Verify that each polygon is closed (No overshoots or undershoots). Verify that each line is smooth and connected with other line if necessary.
- Attributes: adding all the -required fields of the feature class files from raster files, Display the features in each GIS layer using label field to assure the accuracy of data entry by comparing them with the source.

Edge Matching

Having two GIS layers edge matched, they should be geo-referenced to the same projection parameters, they should be the same feature class, and the corresponding features should have the same attribute. Using these fundamentals, all the contiguous GIS layers in the study area have been edge matched.

7.1.5 Scanning the Topographic Maps

To facilitate the digitizing process, all topographic maps were scanned using the A0 scanner of 300.00 dpi resolution. These scanned topographic maps were inserted into the Arc GIS 0.9 for digitizing various feature classes (see Figure 7-6).

Three topographic sheets scale 1:100.000 of the new system, issued by the Military Survey Department. Topographic maps are scanned with resolution of 250 DPI as a preparation phase of the digitizing process. Digitizing process has been carried out to extract geomorphic features in general, and specifically, shoreline, contour lines, spot heights, drainage, sabkha, urban, agricultural areas, roads and canals.

Accumulations of sand dunes are considered one of the most important Topographic properties in the study area, the height of some sand dunes may reach in some places 50 meters above sea level.

7.2 FIELD SURVEY

As previously mentioned, the main field work outputs included the following:

- The ground truth of the prepared network maps of different basins, contour maps.
- Checking up and photographing of the different features.
- Recording the current development activities along the western coastal plain.
- Photographing and recording the current and the constructed mitigative measures of natural hazards i.e. flash flood, coastal erosion etc.
- Ground truth for the evaluated hazards near or crossing the main wadis outlets.

Figure 7-7 depicts the route line of the field study team movement during the field work. Figures 7-7(Contd.) present some selected photos for the study area during the route movement of the field trip.

7.3 TERRESTRIAL ECOLOGY

The survey has included the sites based on vegetation pattern. Each site has been Georeferenced using GPS device (Magellan GPS 315).

7.4 ENVIRONMENTAL CONSTRAINTS: OUTPUT THEMATIC MAPS

Various editing operations have been conducted over GIS layers to make them ready for display and analysis. These operations include the output thematic maps with their GIS output layers listed in Table 7-1 (Figure 7-4 through Figure 7-24).

Sources of data used in producing the Geographic Information System maps are as follows:

- Field Survey.
- CAPMAS (Central Agency for Public Mobilization and Statistics).
- El-Minya Governorate Environmental Profile.
- Beni-Suef Governorate Environmental Profile.
- Institute for Environmental Studies and Research, Ain Shams University.
- National Authority for Remote Sensing and Space Sciences (NARSS).
- Research Institute of Ground Water (RIGWA), Water Research Center, Ministry of Water Resources and Irrigation.
- Geological Survey and Mining Authority.
- Faculty of Sciences, Cairo University.
- Faculty of Sciences, Assiut University.
- Faculty of Sciences, El-Minya University.
- Text Books Related to the Survey Subjects.

Table 7-1
List of Thematic Maps Produced by the Study

Layer No.	Layer Figure Caption	Raster Data	Shp' Files Data	Jpg' File Data	Figure No. in the Text
1	Population density of El-Minya and Beni-Suef governorates with Marakez boundary		✓	✓	7-8
2	Supervised classification map 1984	✓		✓	7-4
3	Supervised classification map 2001	✓		✓	7-5
4	Land use / land cover map		✓	✓	7-9
5	Mining and agriculture map		✓	✓	7-10
6	Ecologic visiting sites in the study area		✓	✓	7-11
7	Spatial distribution of Fauna species		✓	✓	7-12
8	Spatial distribution of Flora species		✓	✓	7-13
9	Geological map of the study area	✓	✓	✓	7-14
10	Geological observations detected in the field works	✓		✓	7-15
11	Geomorphologic map of the study area	✓	✓	✓	7-16
12	Geomorphologic observations detected in the field works	✓		✓	7-17
13	Raw Data Mosaic map	✓		✓	7-6
14	2D elevation map		✓	✓	7-18
15	Hydrogeology map of the study area	✓	✓	✓	7-19
16	Seismicity of the study area	✓	✓	✓	7-20
17	Electrical Transmission Lines		✓	✓	7-21
18	Road Network		✓	✓	7-27
19	Historical and Cultural Heritage		✓	✓	7-23
20	Distribution of sand dunes over the study area		✓	✓	7-24
21	Route line used during the field trip		✓	✓	7-7
22	Constraint Map		✓	✓	

Appendix-M gives an elaboration on the thematic maps produced for the survey study.

Figure 7-4

Supervised Classification for TM Satellite Image (1984) for the Study Area

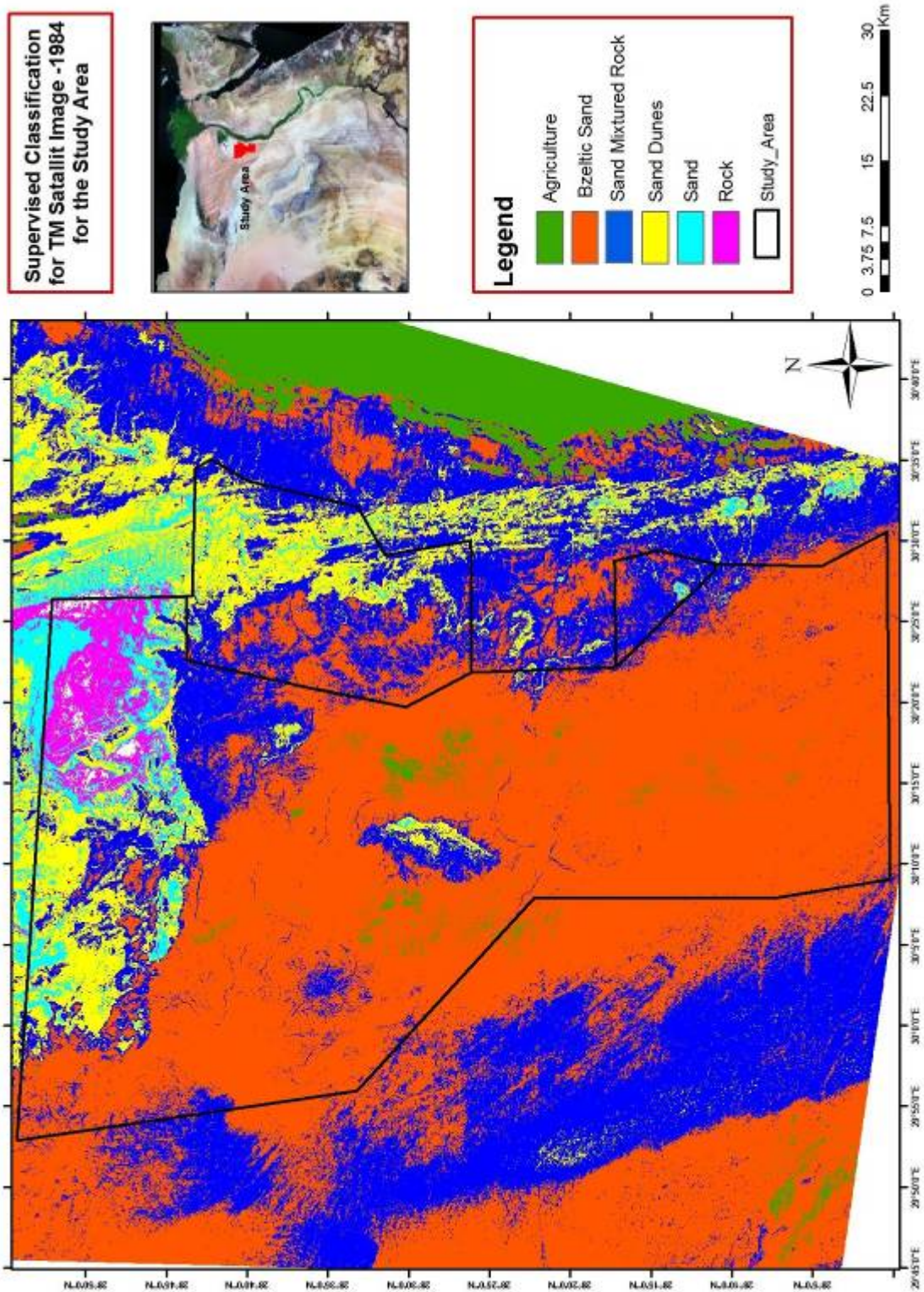


Figure 7-5

Supervised Classification for TM Satellit Image (2001) for the Study Area

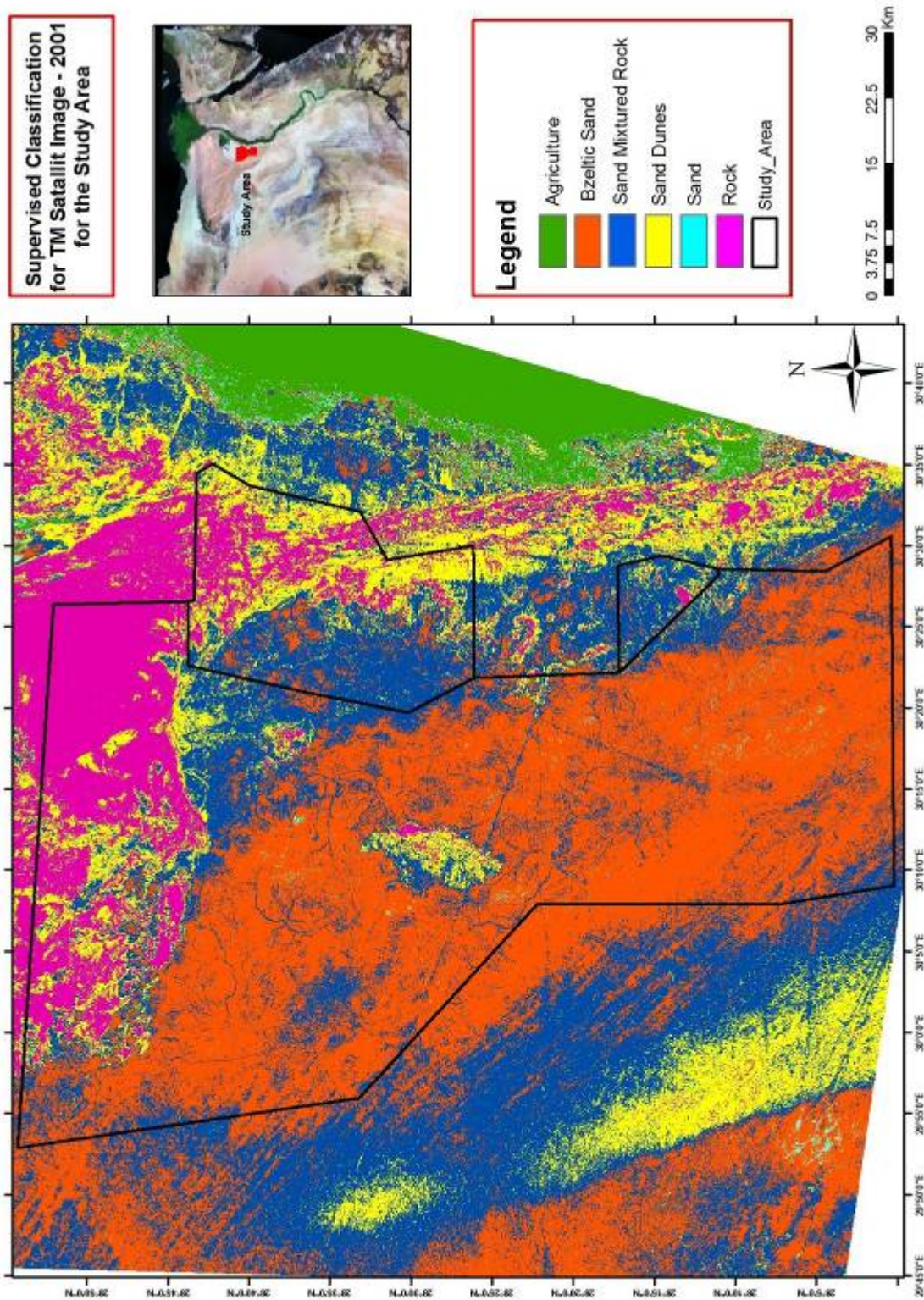


Figure 7-6

Mosaic of Topographic Maps Available for the Study Area

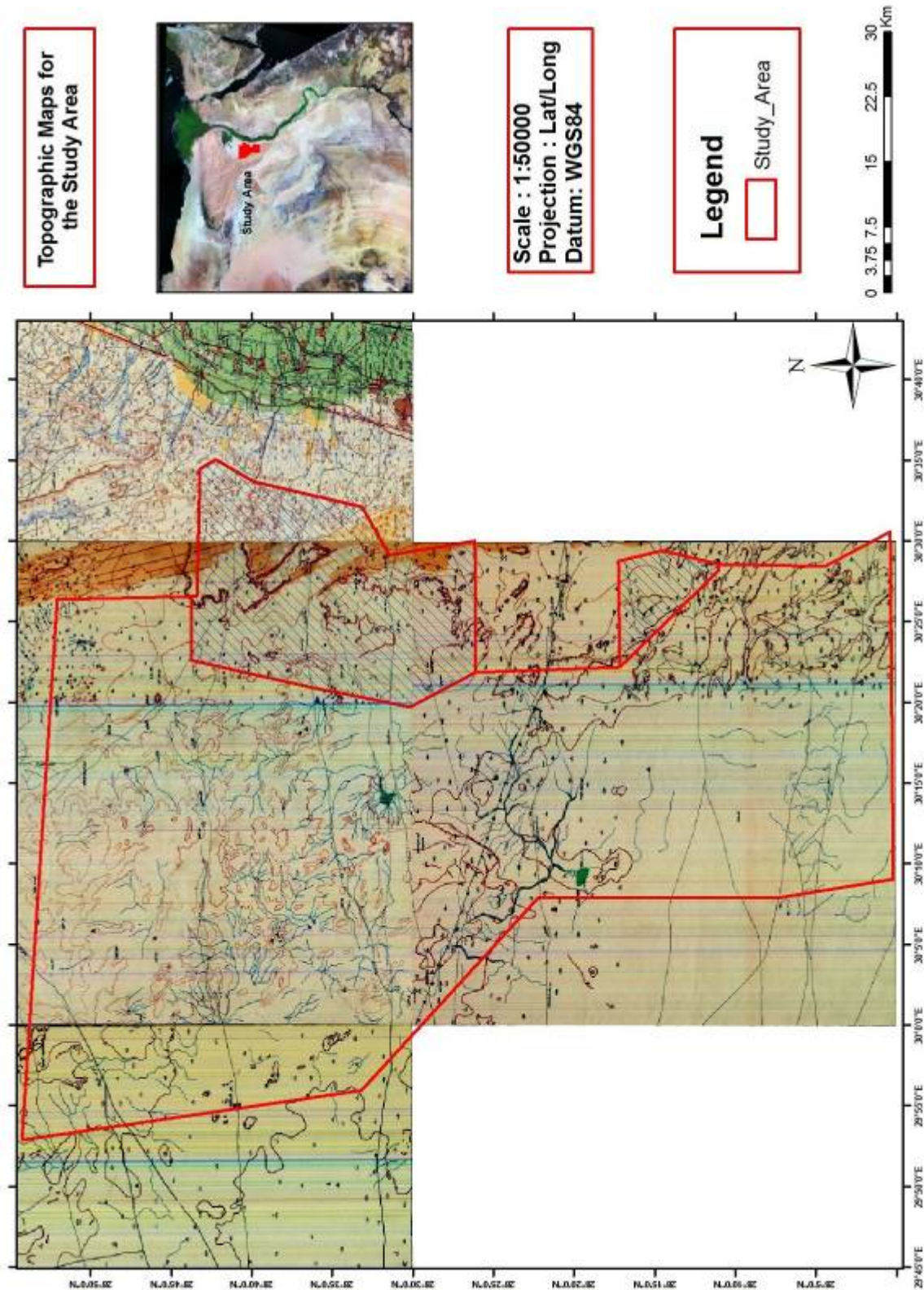


Figure 7-7

Route Line of the Field Study Team Movement during the Field Work

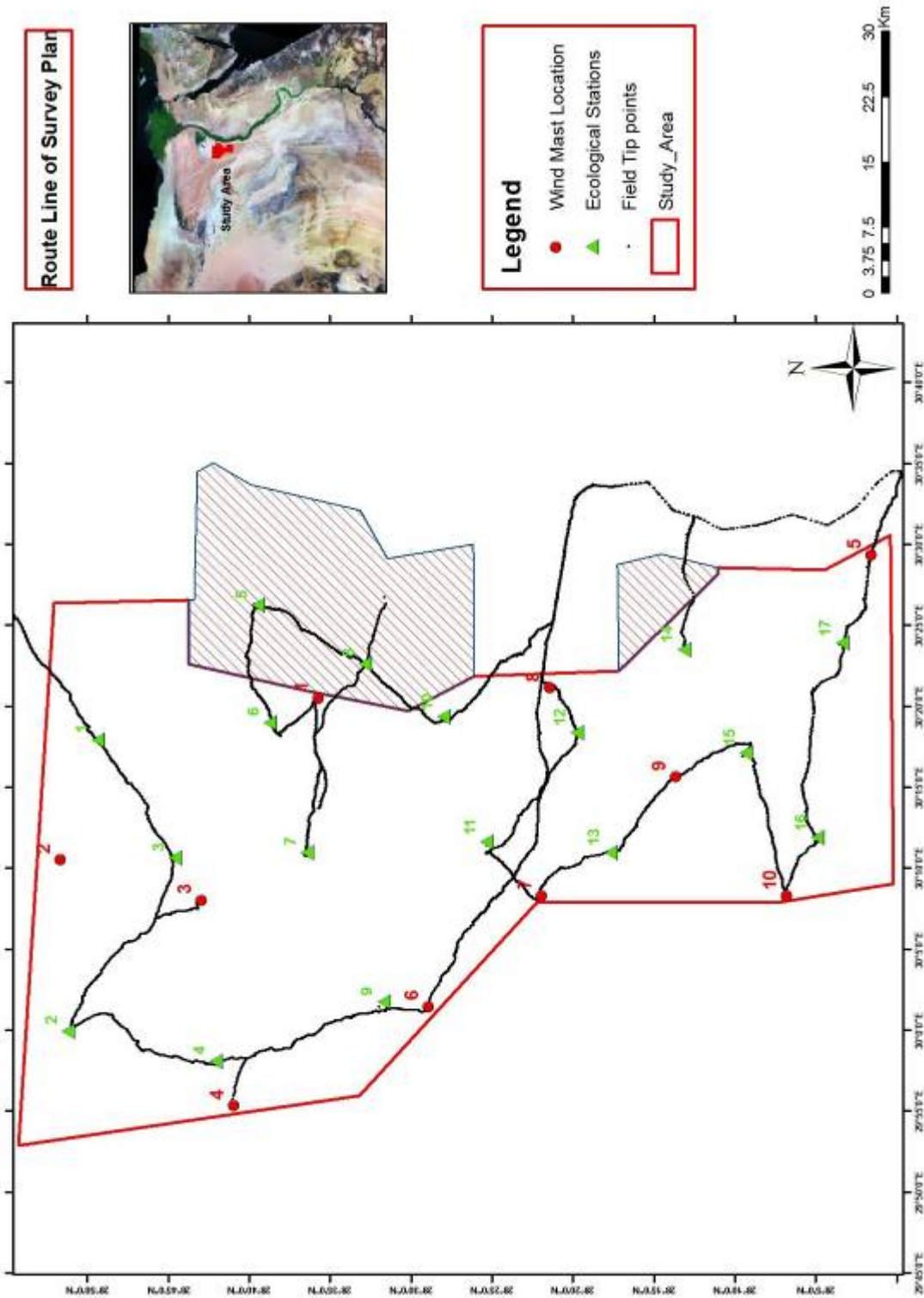


Figure 7-7 (Contd.)

Selected Photos for the Study Area during the Route Movement of the Field Trip

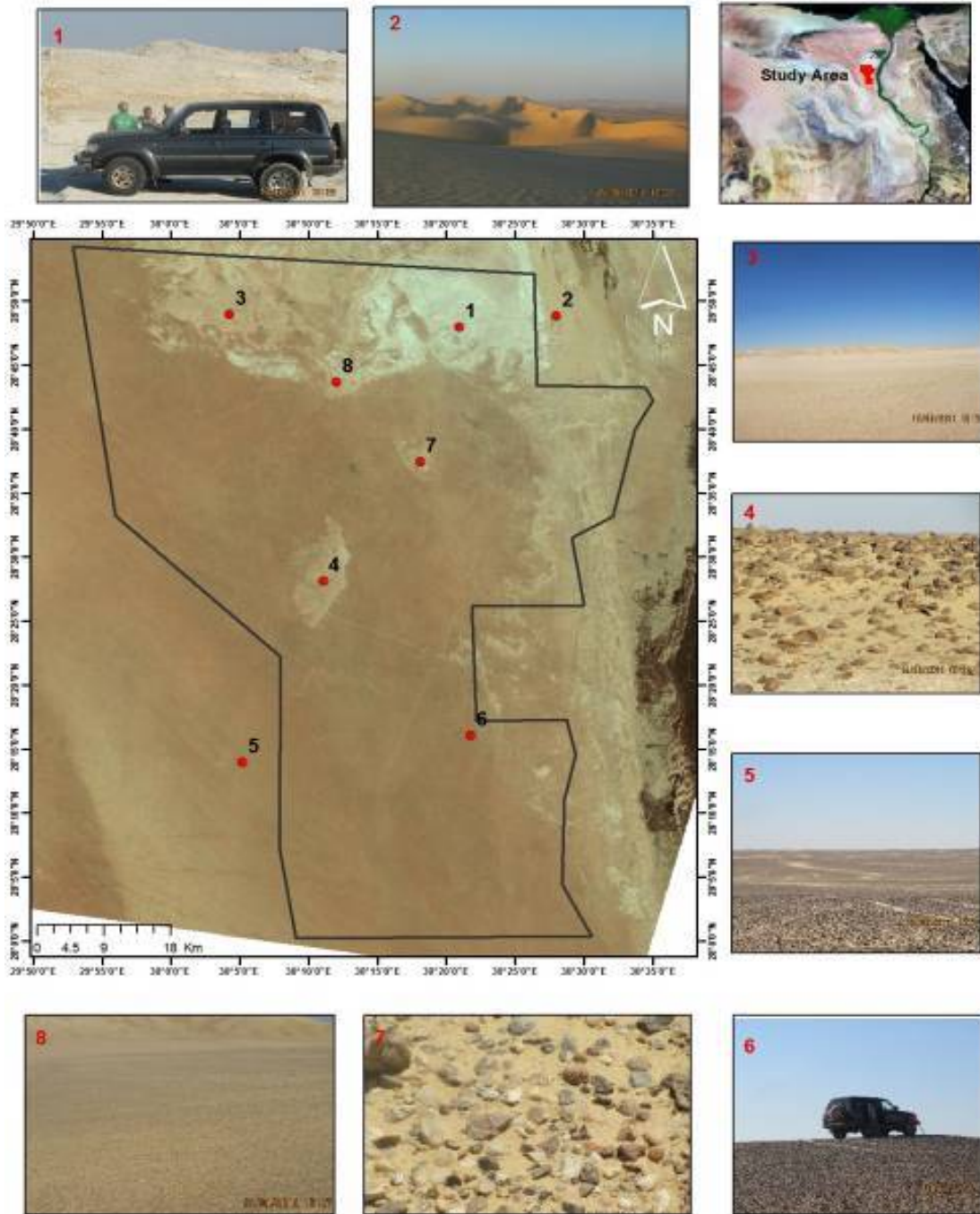


Figure 7-7 (Contd.)

Additional Selected Photos for the Study Area during the Route Movement of the Field Trip

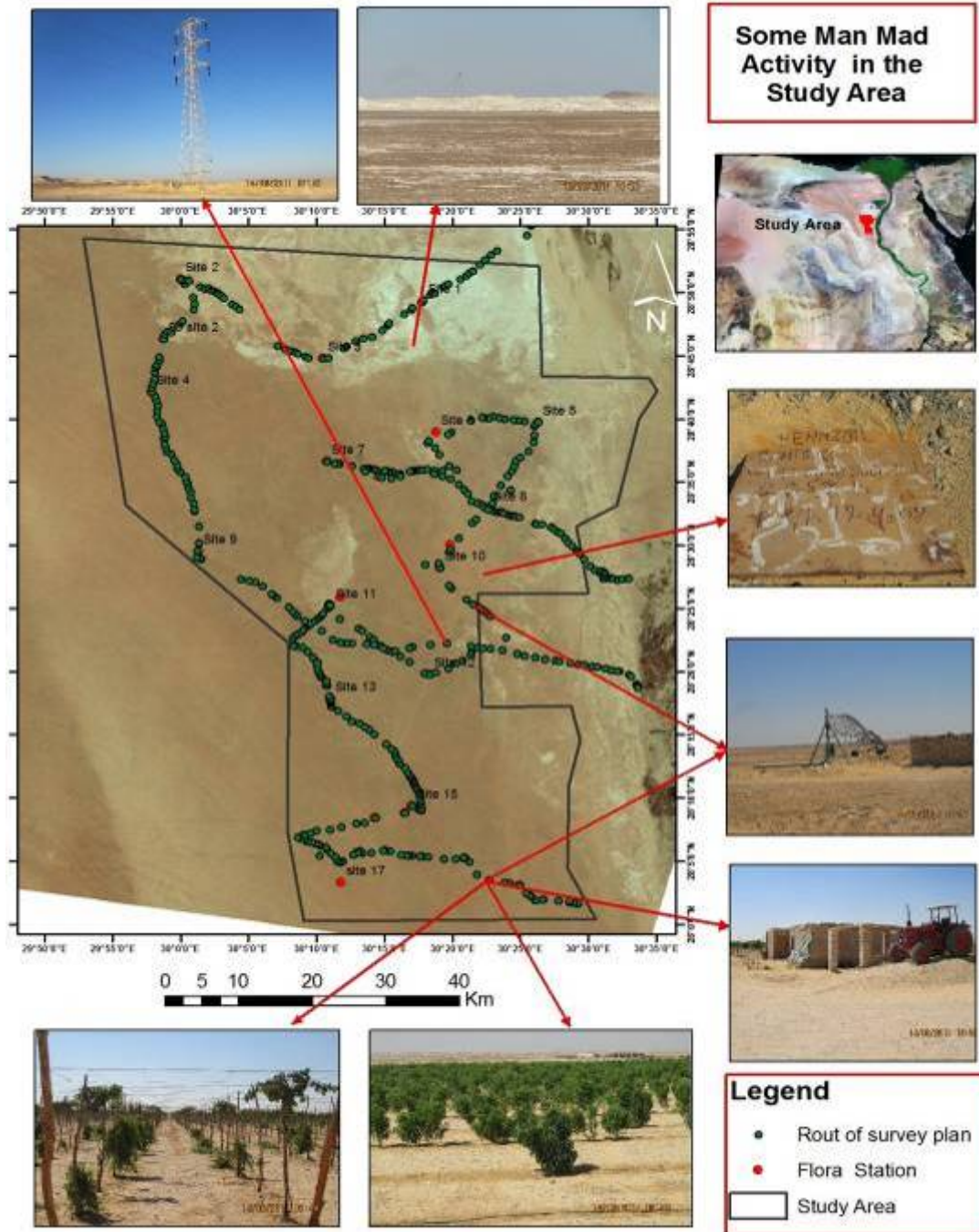


Figure 7-8

Population Distribution in the El-Minya and Beni-Suef Governorates

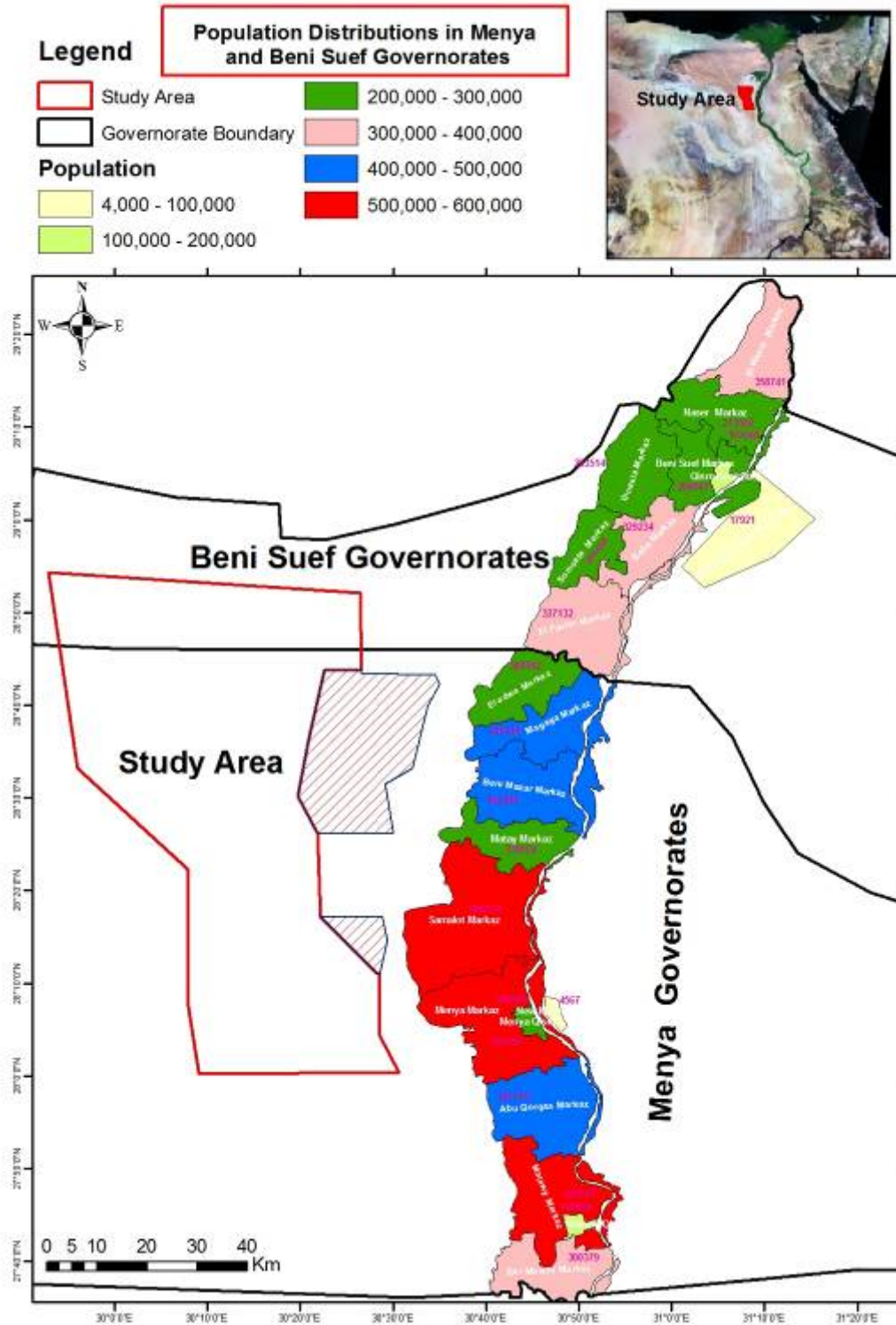


Figure 7-9

Land-use Map showing Main Classes of the Study Area in the Year 2011

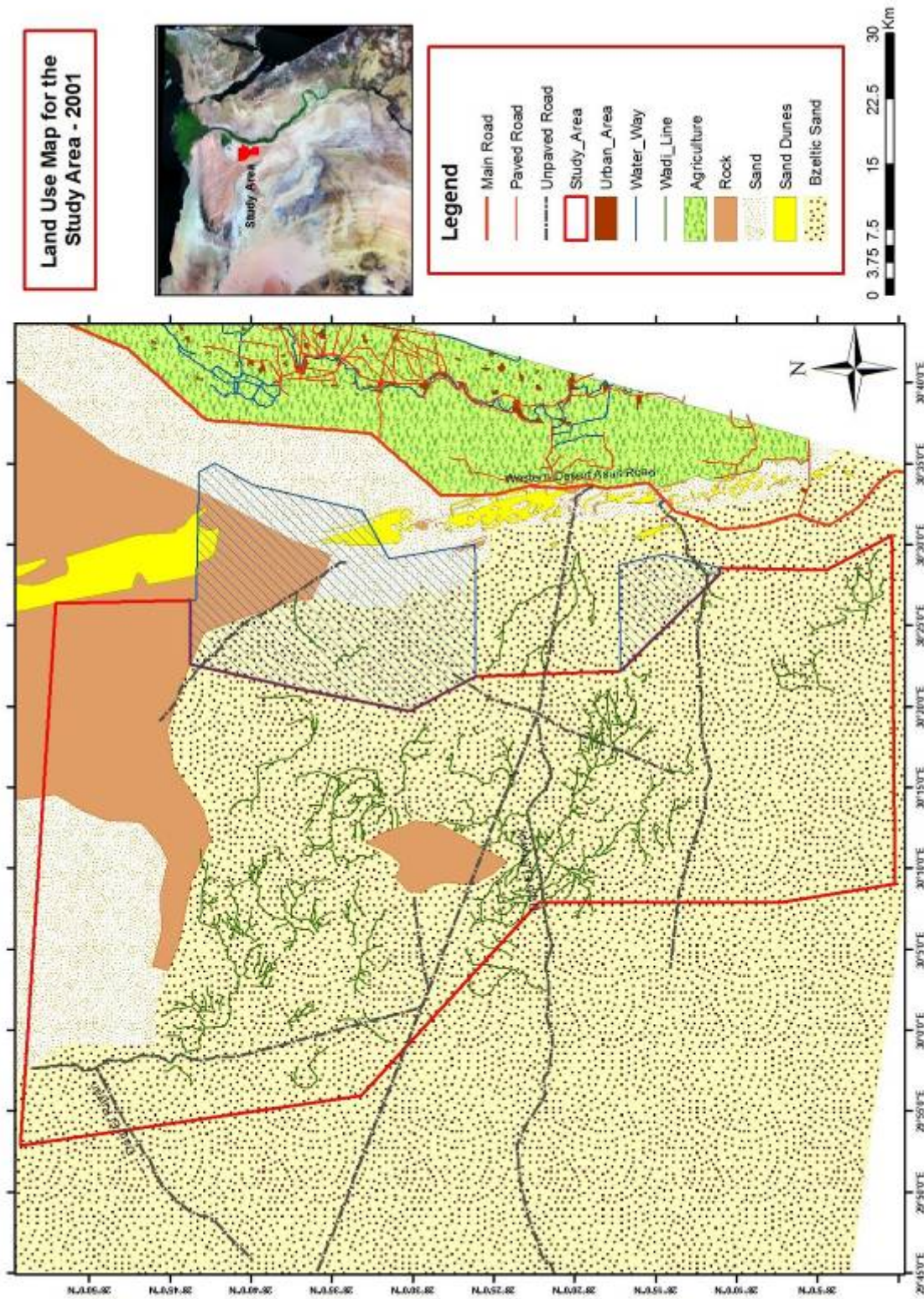


Figure 7-10

Mining and Agriculture Activities in the Study Area

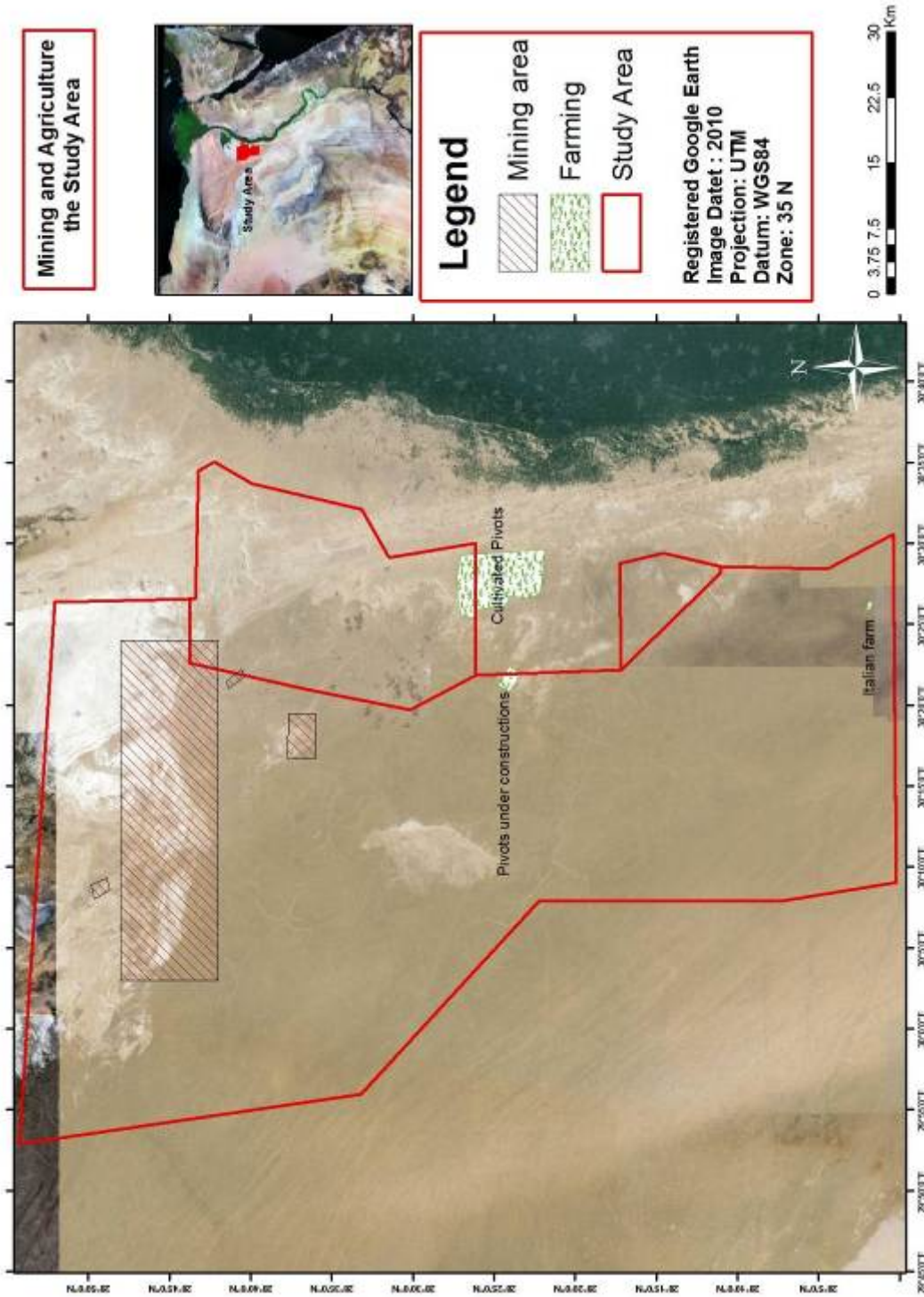


Figure 7-11

Selected Ecological Sites for the ISP

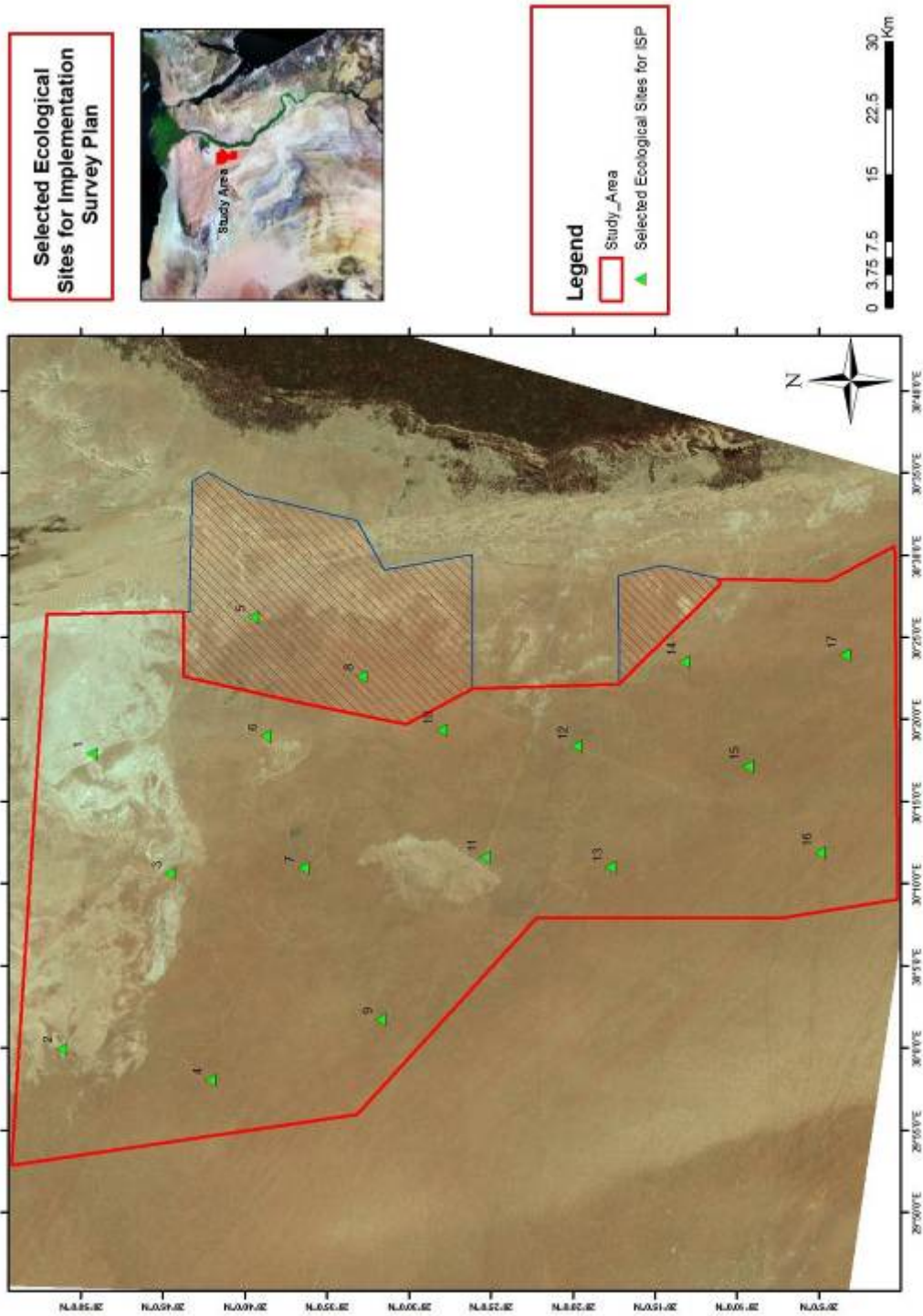


Figure 7-12

Distribution of Fauna Species in the Study Area

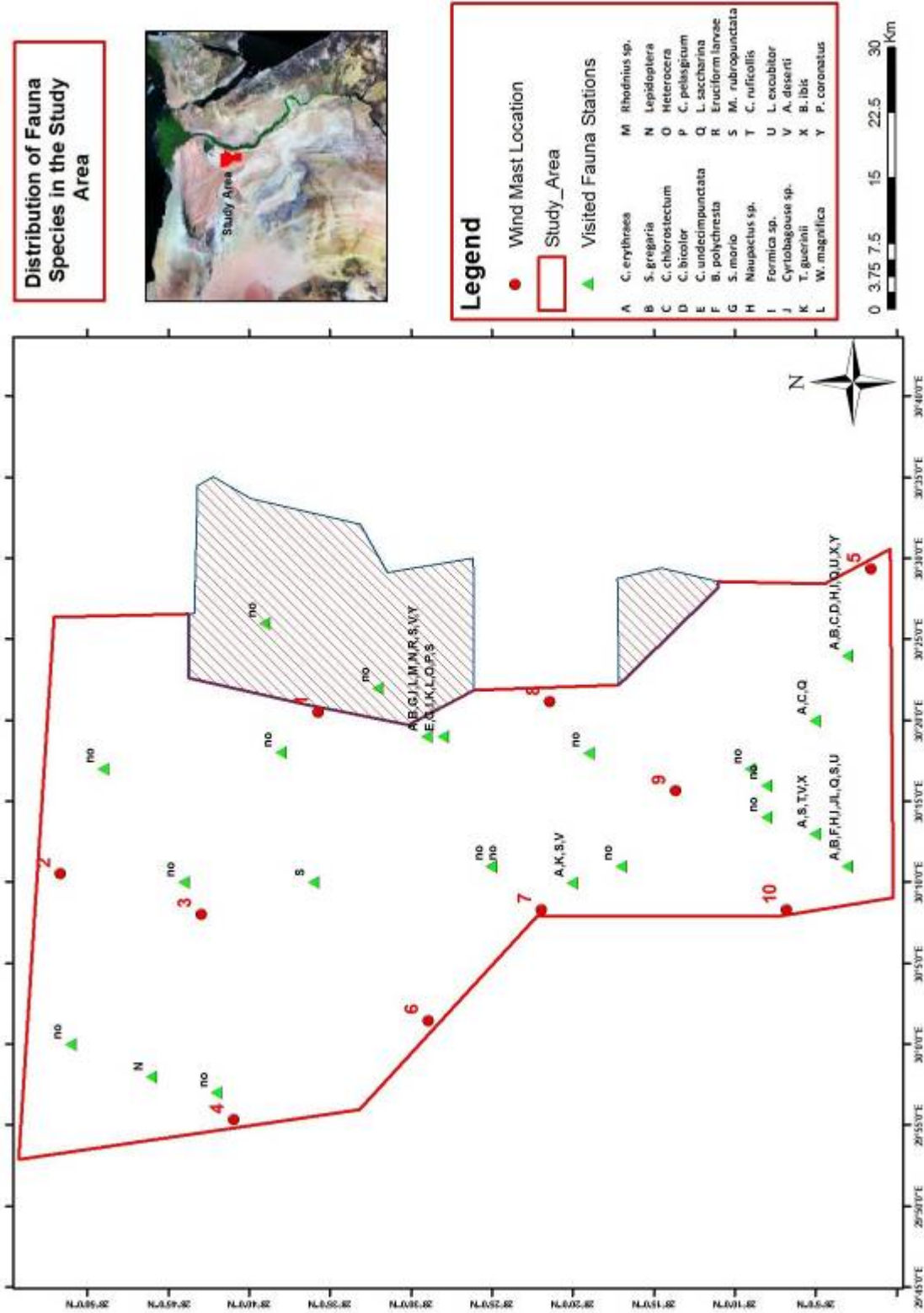


Figure 7-13

Distribution of Flora Species in the Study Area

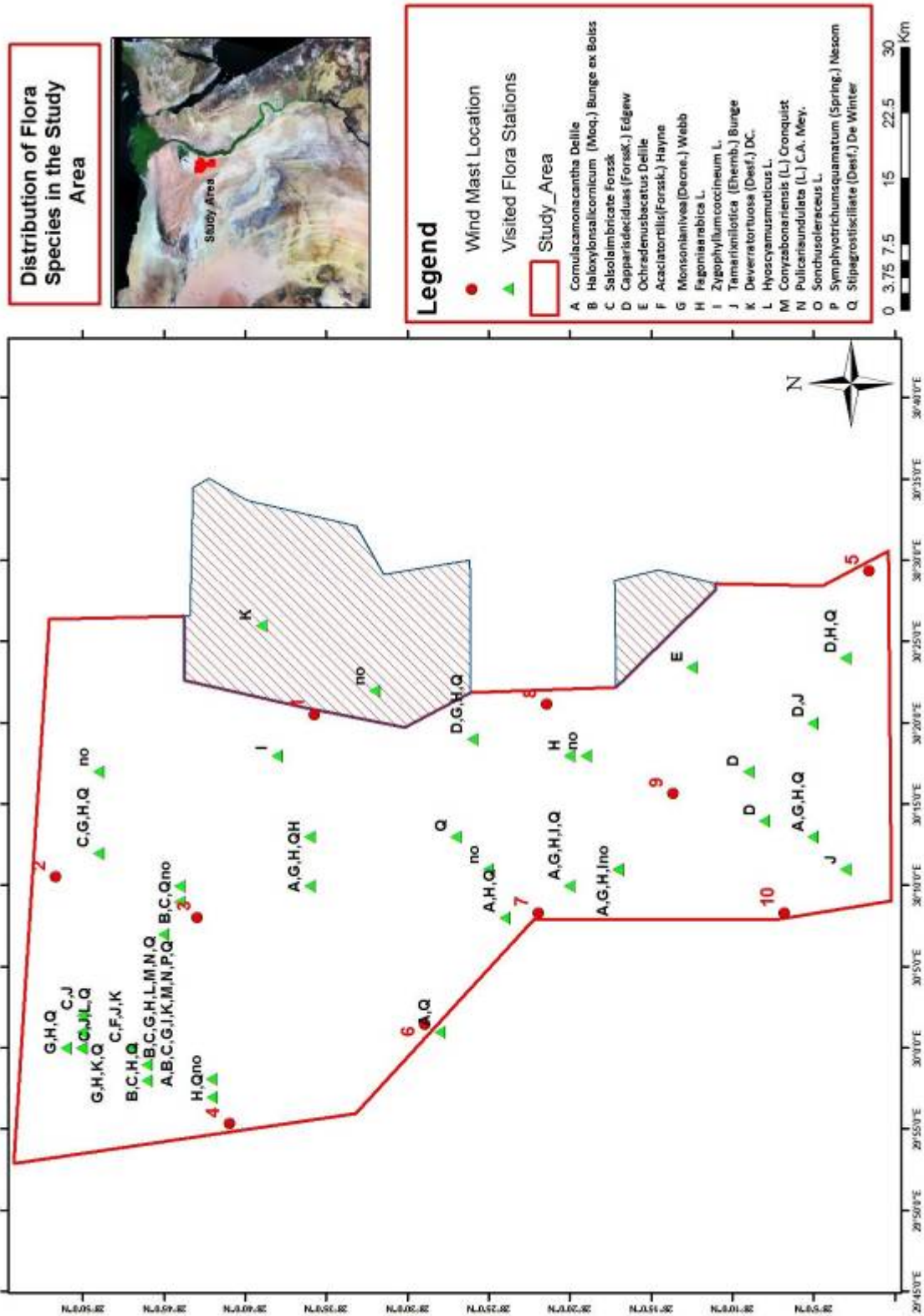


Figure 7-14

Geological Map of the Study Area

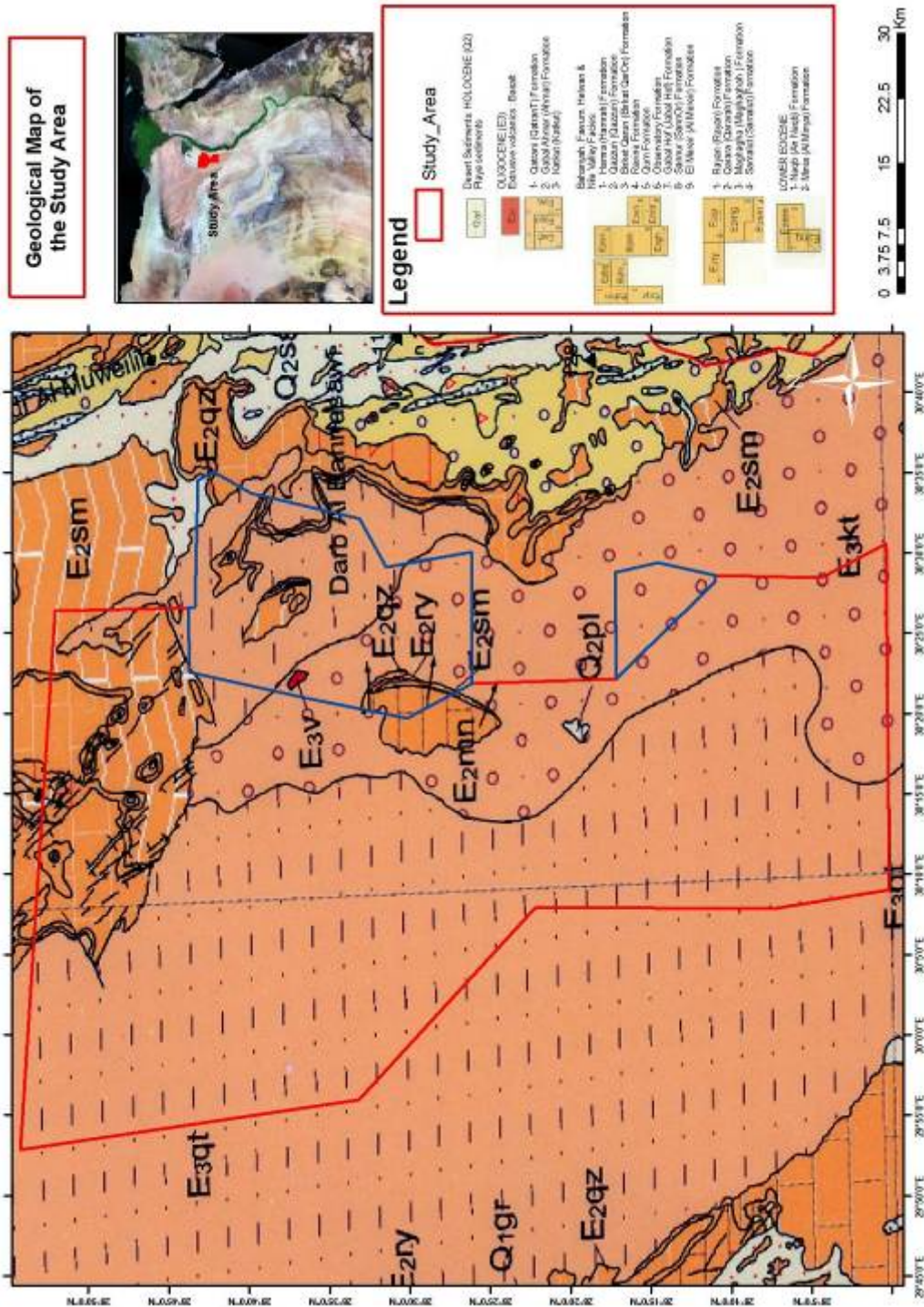


Figure 7-15

Some Photos for Geological Observations over the Study Area

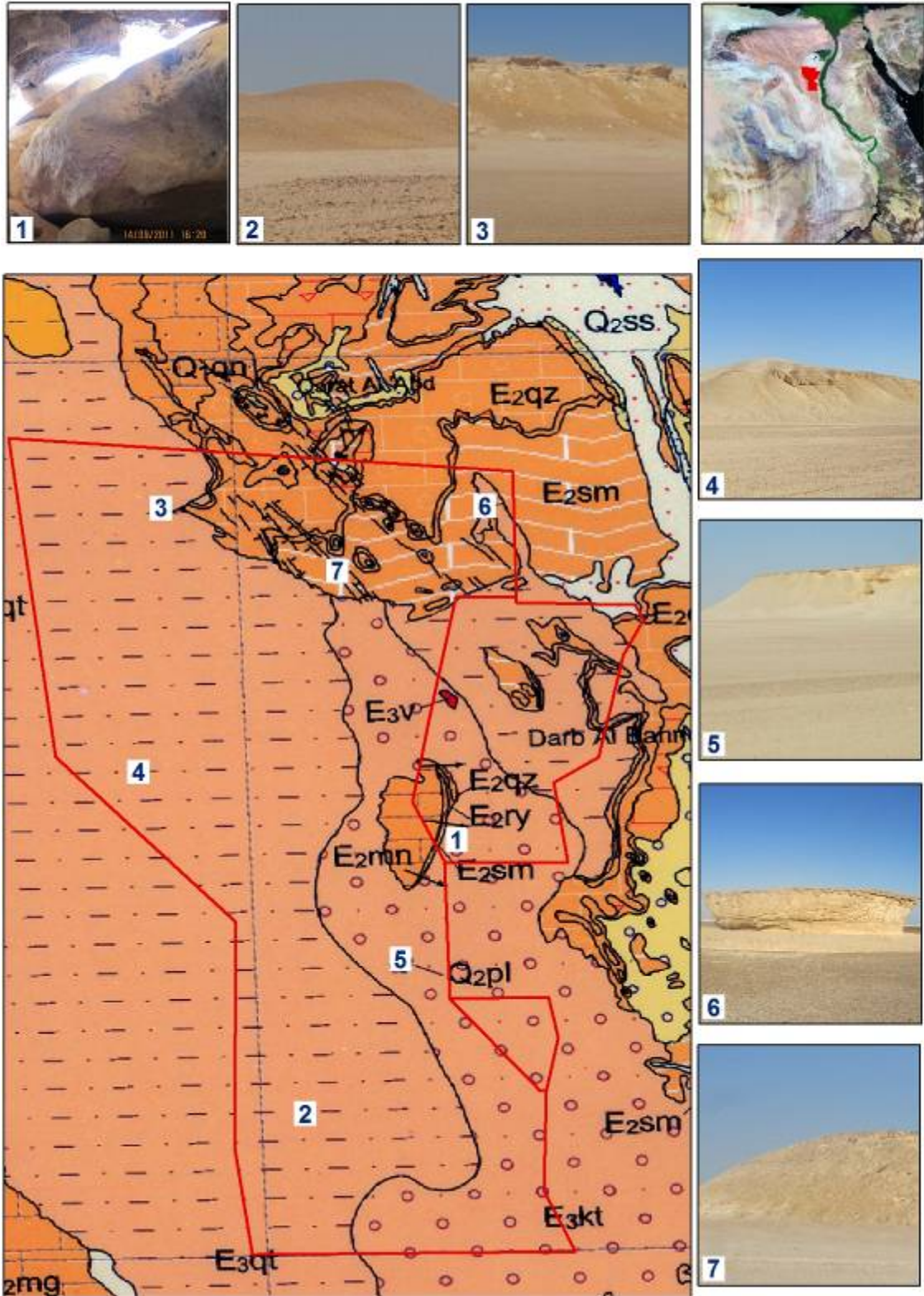


Figure 7-16

Geomorphological Map of the Study Area

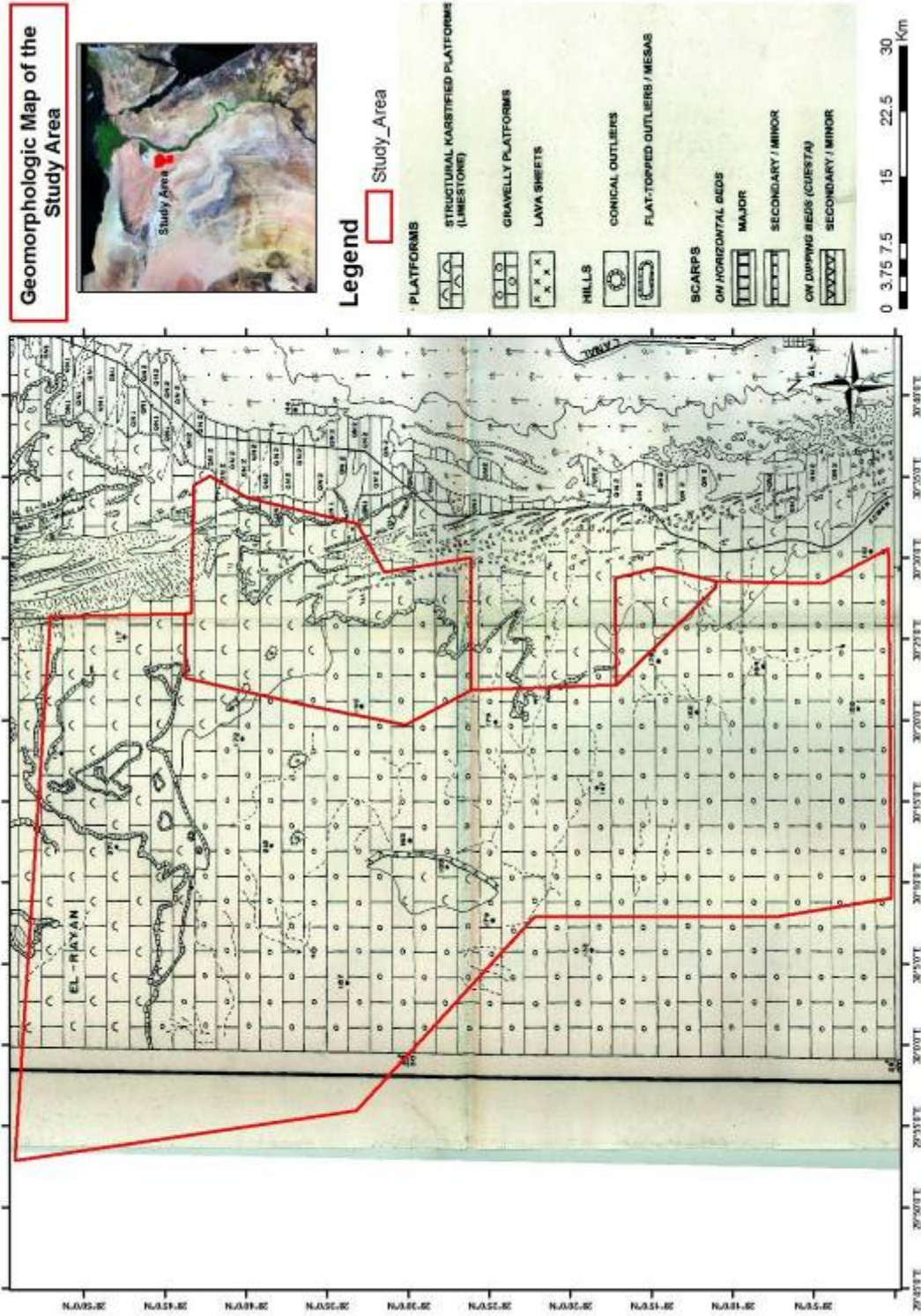


Figure 7-17

Some Photos for Geomorphological Observations over the Study Area

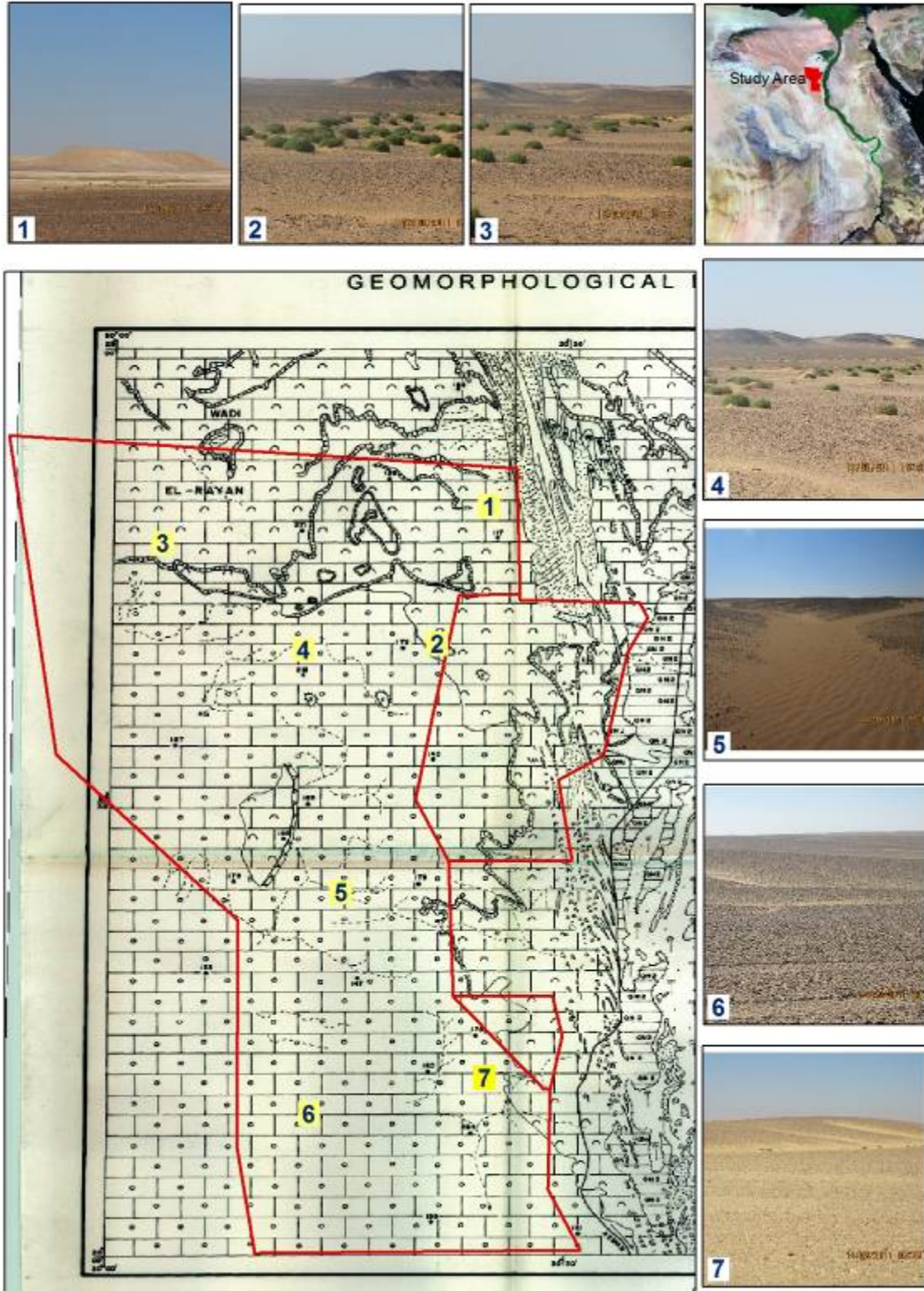


Figure 7-18

Topographic Map for the Study Area

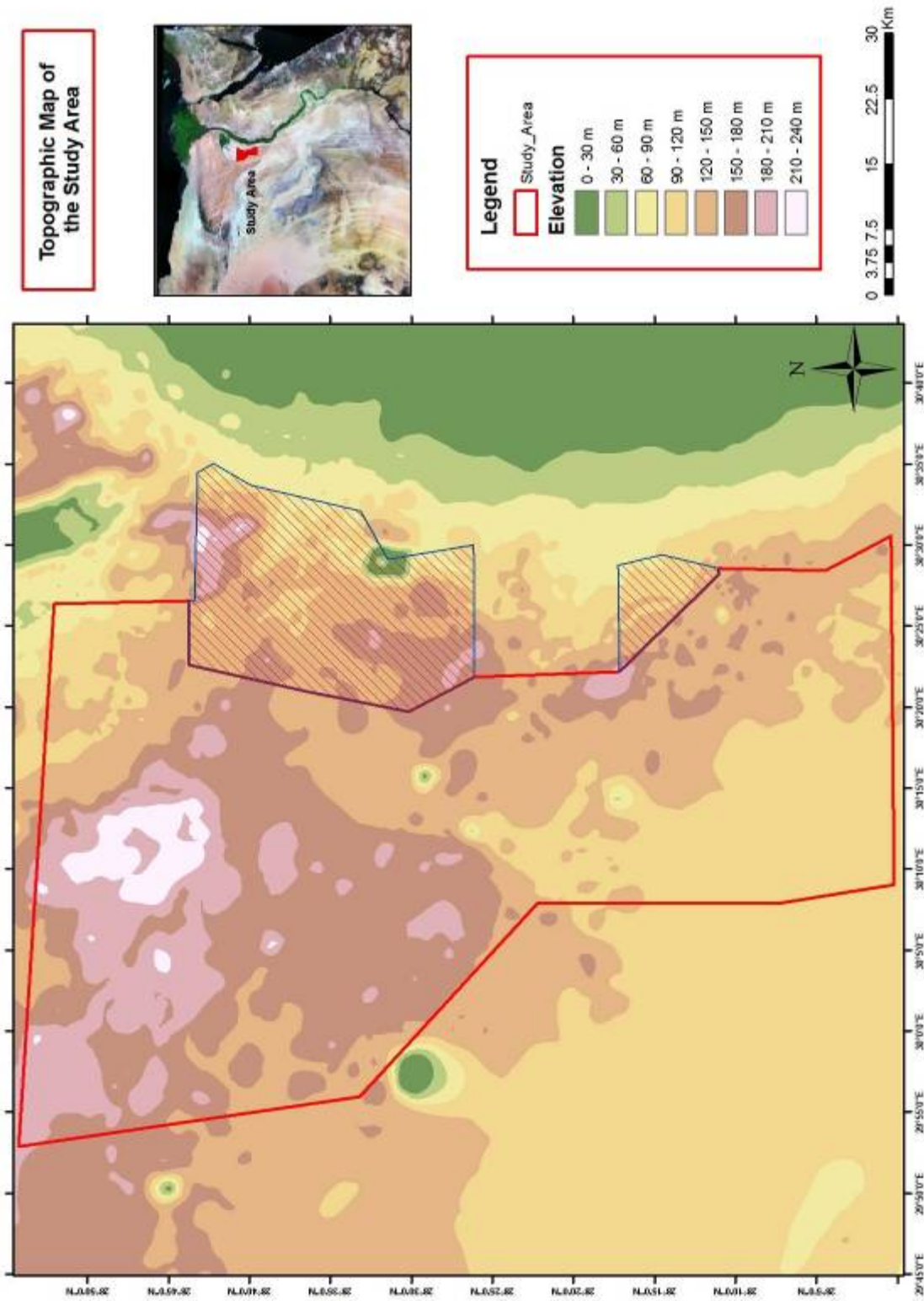


Figure 7-19

Hydrogeological Map for the Study Area

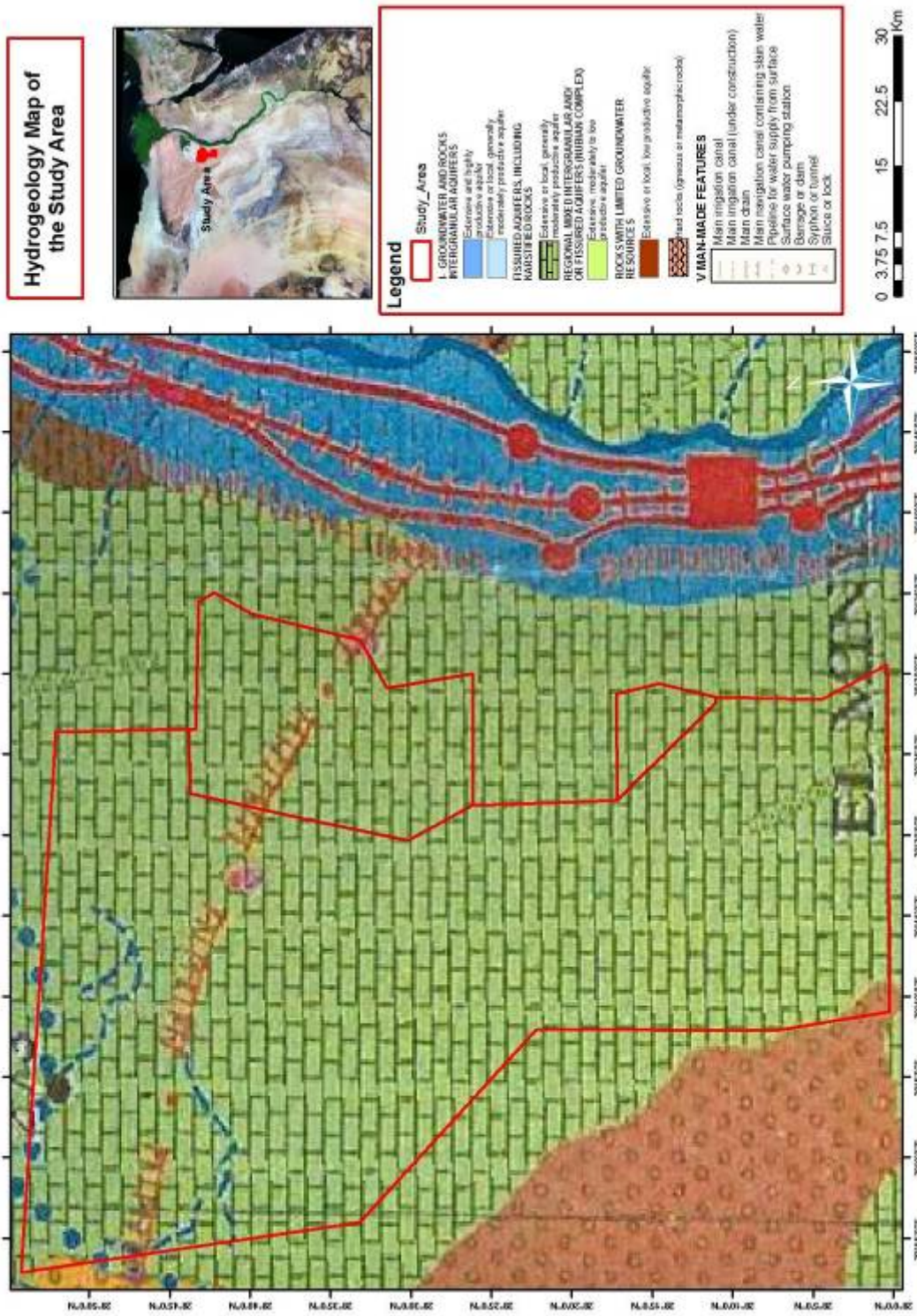


Figure 7-20

Seismicity Map of the Study Area

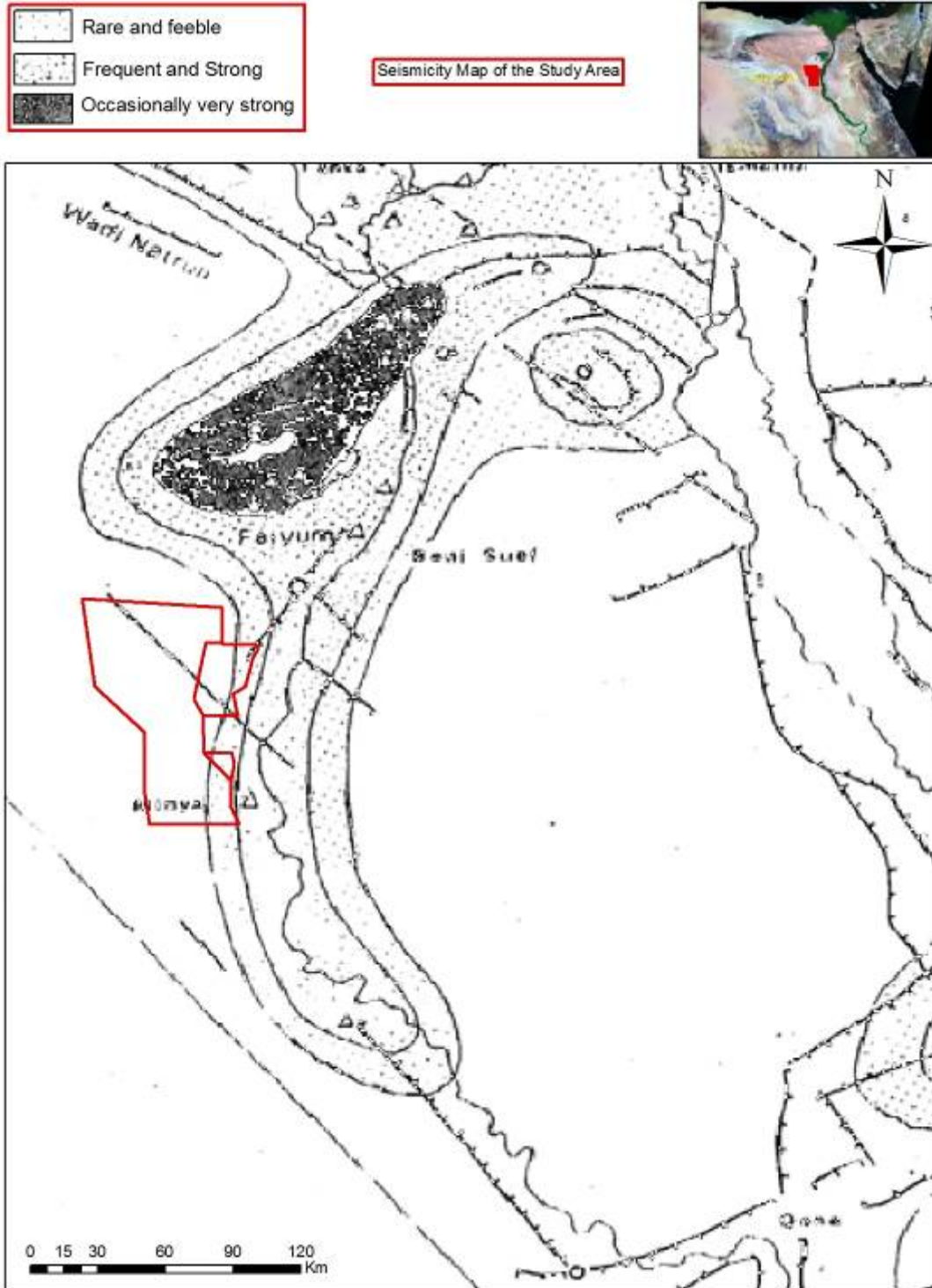


Figure 7-21

Electrical Transmission Lines Crossing the Study Area

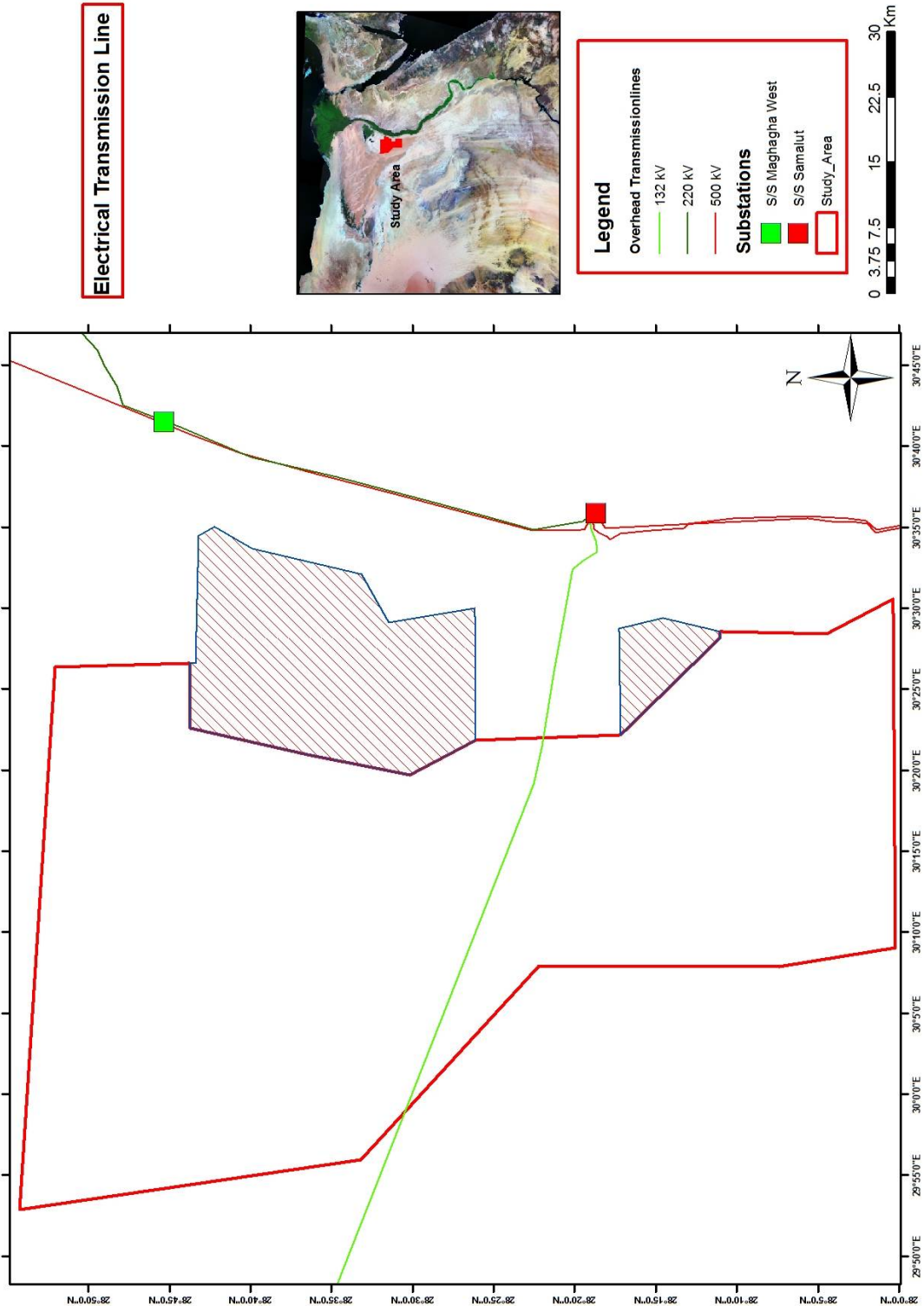


Figure 7-22

Road Network

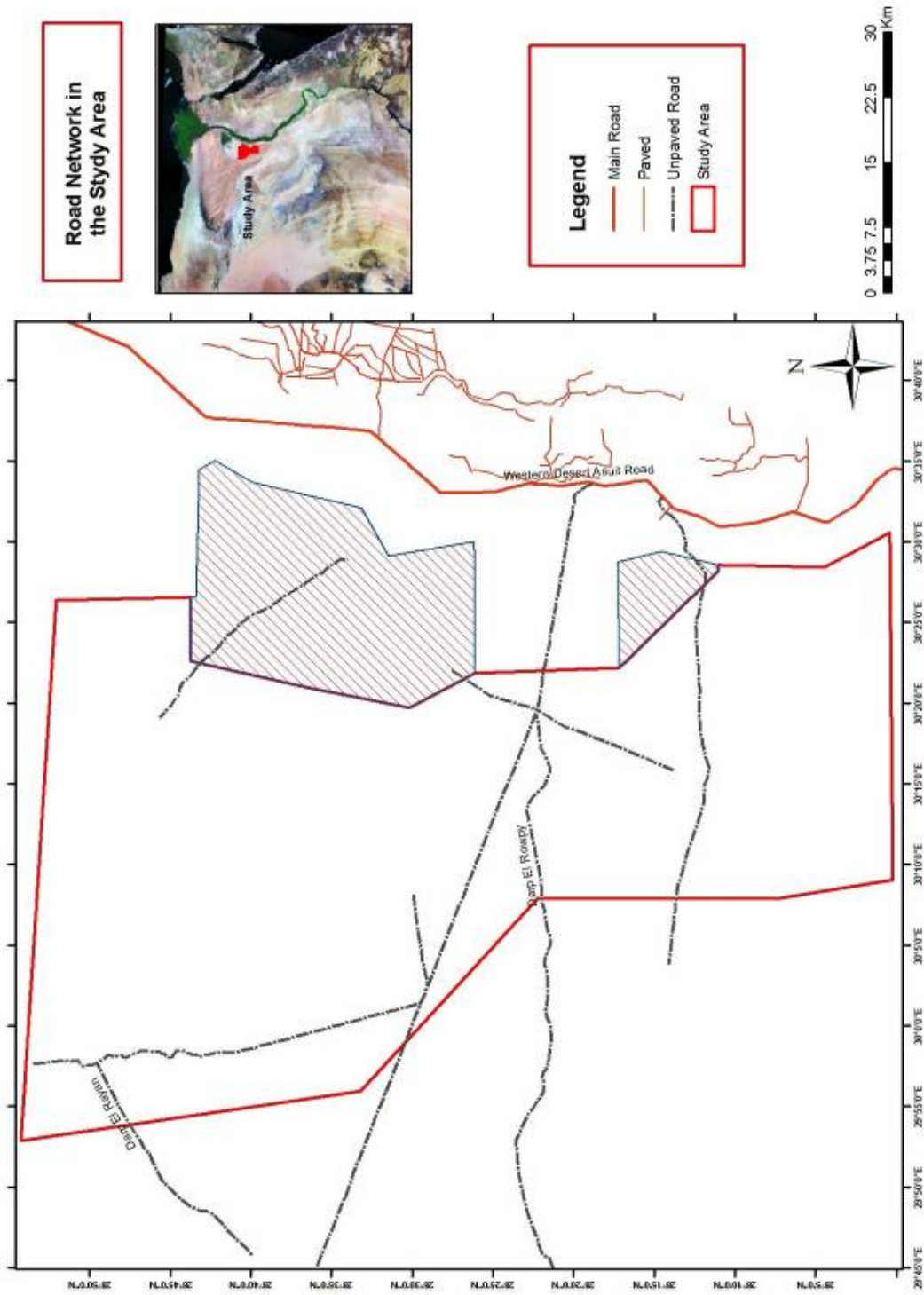


Figure 7-23

Historical and Cultural Heritage in the El-Minya Governorate

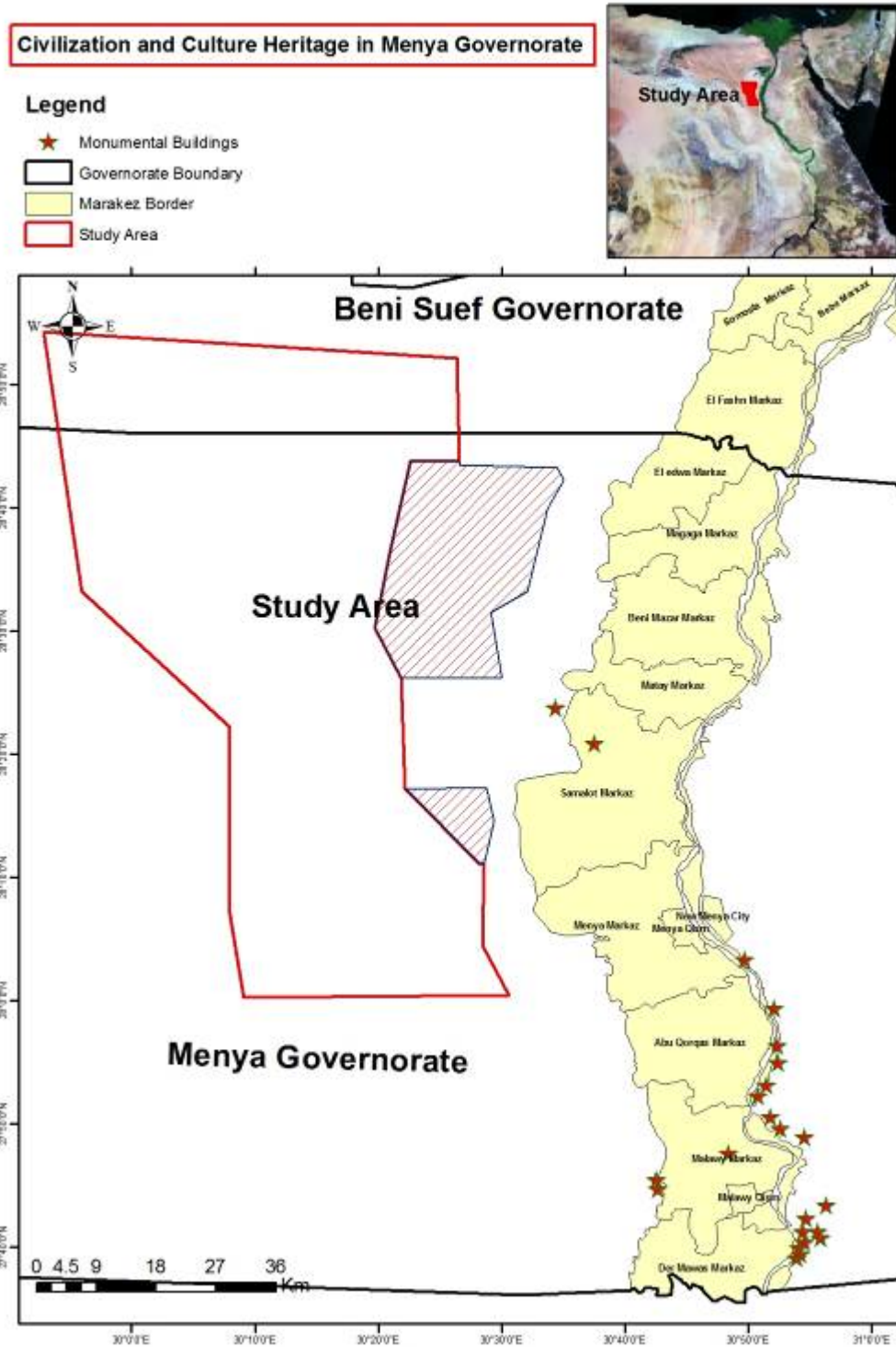
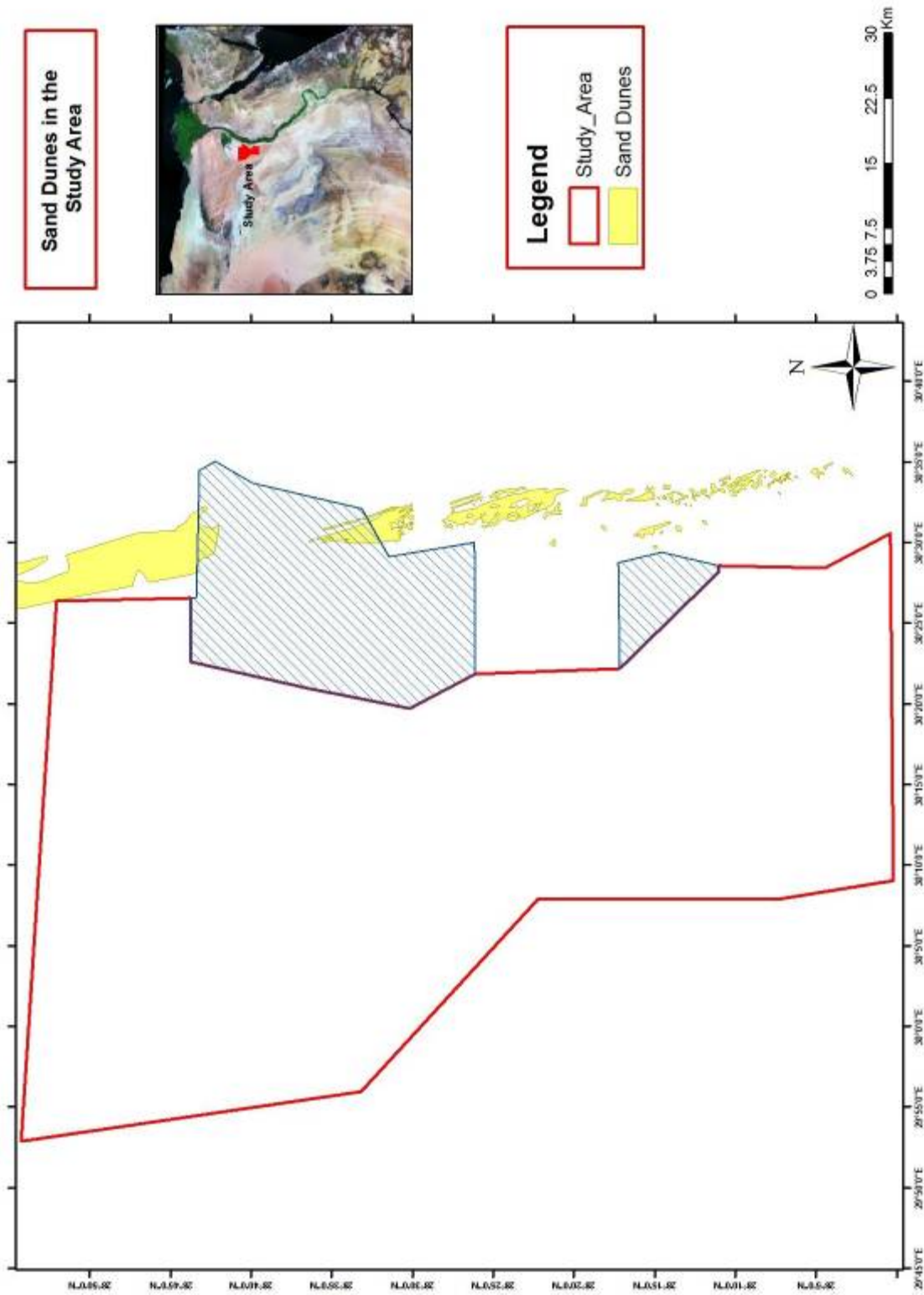


Figure 7-24

Sand Dunes in/around the Study Area



CHAPTER – 8.: CONCLUSION AND RECOMMENDATIONS

8. CONCLUSION AND RECOMMENDATIONS

8.1 MAIN FINDINGS

8.1.1 Policy, Legal and Administrative Framework

Over the last twenty years, Egypt has developed set of environmental and social standards and regulations, which are in conformance with legislative framework and guidelines of many of the world development institutions such as the World Bank.

The environmental policy, legal and administrative framework, which is relevant to the permitting of the Wind Power Plant comprises the following:

- Requirement to conduct an ESIA to accompany the development of the wind power plant.
- Regional development planning, which must be addressed in the development of the wind power plant, in particular:
 - Land use planning and control;
 - siting;
 - protection of land owners and potentially affected communities;
 - protection of environmentally sensitive areas;
 - protection of endangered species; and
 - Integrated Coastal Zone Management.
- Environmental standards which must be considered in the design, layout, construction and operation of the power plant, including:
 - Atmospheric emissions;
 - generation and disposal of liquid effluents;
 - generation and disposal of solid wastes;
 - ambient environmental quality; and
 - health and safety.

Each of these aspects has been reviewed and found reflecting the relevant national requirements.

8.1.2 Physical Environment

Climate and Meteorology

The West El-Minya area is characterized by a sub-tropical desert climate with predominantly very hot summers, mild winters, and generally dry and sunny conditions. Rainfall events are rare and occurrences of gales, thunderstorms, and dust storms are occasional.

A 35-year El-Minya data base (1973-2008) indicates a prevailing northerly wind at the site.

Wind speeds are generally light to moderate with an annual-average speed of approximately 3.34 meters per second and rarely exceed 30 m/sec. Summertime high temperatures average 36.13°C while winter lows reach 6.05°C. The annual-average temperatures is 21.57°C with record high and low temperatures of 48.6 and -0.7°C, respectively.

Rainfall at El-Minya averages 3.922 millimeters per year occurring mostly during the winter months (December-March). **This explains that there has been almost no precipitation in the area.**

Relative humidity remains fairly low throughout the year, maximizing at 65 percent for December and reaching a low of 37 percent in May

Geology, Topography and Hydrology

- The main geomorphic features can be abstracted:

Platforms: Structural Karstified Platform; Gravelly Platform; and Lava Sheets.

Scarps: Major Scarps; Secondary Scarps; and Flat-topped Outliers (Mesas).

Forms of Fluvial Origin (Drainage Line).

Forms of Aeolian Origin (Wadi El-Rayan Dune Field).

- The survey site is mostly founded by sand. Parts of northern area are comprised of rock foundation.
- Northern area is hilly, while southern area is almost flat. Elevation is sloped from south to north.
- There is less possibility of earthquake.
- Sand storms are occasional.
- The proposed site for the project is safe and away from the threat of the flash flood.
- Generally, the study area is characterized by the occurrences of shallow, micro, small, moderate earthquakes.
- With regards to the neo-tectonics, the proposed site for the project is considered to be stable.
- The study area dunes lie between Latitudes 28°15'N and 28°21'N and Longitudes 29°30'E and 30°35'E.
- The slope of the terrain is from west to east towards the Nile Valley and thus the sand moves preferably down slope. Dunes move at rates that have been variously estimated from 10 to 100 m/year.

Sand-dunes

The north-eastern part of the surveyed area is the most area vulnerable to the sand dune encroachments (Ground controlled points from 1 to 8 and from 11 – 15 on the location map), while the western and southern part are safe from the sand dune encroachments.

Natural Resources

- The natural resources on the region can be summarizing in the following:
 - The fertile agricultural soil.
 - Limestone; Dolomite, Basalt, Gravels and clay which quarried and used as a building stone materials, commercial marble, road pavement and Cement Factories .
 - The Groundwater Resources: On the eastern part of the study area, the shallow groundwater aquifer system (20–40m.), the groundwater level ranges from 3-5 m. from the ground surface. Whereas in the central part, the depth of the well is about 120-140m. and the water level ranges from 45-47m. from the ground surface.

Sources of Pollution in the Area

It should be emphasized that pollution sources are far from the survey area.

8.1.3 Biological Environment

Biological condition in the study area is of very low density at the site and there are no endangered species.

- There are small vegetation areas existing, most of the survey area is desert. Animals, insect live in these small bushes only.
- All fauna and flora observed is common species, there are no endangered and rare species.

The vast majority of the study area is very poor in the flora and fauna. The very few recorded plant and animal species are common in the Egyptian desert. Moreover, these species are of low economic value. No species are endemic or threatened.

So the places chosen for the project are suitable and will not affect the flora and fauna of the region.

8.1.4 Socio-economic Environment

- The survey site is located in the El-Minya and Beni-Suef governorates.
- Most residential zones are located along the Nile River. There is no community area in the survey site. Also there is less commercial and

- industrial activities, only small mining and farm land are operated.
- There are no Bedouins in the site.

Characteristics in/around the Project Area (El-Minya and Beni-Suef)

Based on different site visits to the project areas and reports developed by consultants, the following characteristics describe the current status of the project areas:

- The majority of the project sites are completely empty desert lands. However, few plots are reclaimed lands owned by different people from the surrounding residence.
- Due to the nature of the project areas “desert lands” there is no means of transportations other than the pickups and small trucks, while the surroundings of the area are served by minibuses, motorcycle carts and tuctucs (small 3-cycled carts).
- Regarding the nature of people in the surrounding areas they are mainly farmers upper Egyptians, employees, merchants and vendors.
- Norms and traditions are respected in these areas (including the community sessions held to settle disputes). Moreover, they care for the community leaders, respect them and obedient to them.
- Some of the surrounding areas have association for land reclamation. Those associations provide the needed support during the long process of land reclamation
- Few poultry farms are located within the areas where the project might be constructed in.
- About the ownership of the lands in the areas, the majority of lands are estate property (*Amlak Dawla*).
- The majority of residents are farmers and Bedouins who earn their living through raising sheep
- Quarries are located in the northern area.
- People alleged that the majority of lands surrounding the area are legitimately owned. That is sound not true as the governmental group reported that the majority of lands are illegally owned. Screening for the lands should be done prior to implementation in order to avoid any potential problems during land acquisition process.

Land-use/Land-cover

The study area is almost free of any activity except very few ones such as the agricultural spot in the middle of the study area. The south-eastern part has the Italian Farmland. The eastern side of the project area is characterized by the extension of new reclaimed areas outside the study area, but may become so close in the future. The land cover has, also, some sand dunes ridges (acting as barrier) in the eastern-north of the study area. The western part has a sandy basaltic nature, the middle is rocky sand, the north-western part has a fine sand mixed with deposits, the northern part is formed of white marble rocks.

Quarry Sites

The mining activity in the study area concentrates in the upper north part. The study area has four mining areas two of them are marble quarry (Khour El-Ghada and Al-Saqal Al-Abyad and Al-Door Al-Abyad) and the others are basalt quarry (El-Azyar and El-Koleib).

Italian Farmland

To the very southeast of the survey area located is the Italian Farmland. It is about 1000 x 1500 m² area and irrigated via underground water by sprinkler system. It is privately owned and cultivated (by an Italian investor), where its product (mainly fruits) is totally exported to the European market.

8.2 GENERAL CONCLUSION

8.2.1 Key Positive Impacts

- Provision of temporarily and permanent jobs during and after construction.
- Reduction of using the non-renewable energy.
- Using clean source of energy.
- Reducing noise resulted from traffic to move the liquid fuel.
- Enhancement of health, especially diseases related to inhalable air pollutants.
- Saving hard currency used in importing oil and oil products.
- Enhancement of air quality due to reduction of emissions, which creates better tourist environment needed in Egypt.

8.2.2 Key Negative Impacts

- Air pollution and dust during the construction phase might affect limited number of individuals with allergies (temporary impact).
- Noise, provably caused by material mobilization, may disturb the limited part of community (temporary impact).
- Accidents along the mobilization route might occur during the construction of the wind farm.

8.3 RECOMMENDATIONS

8.3.1 Environmental Characterization for the Survey Area

Based on the output maps derived from the baseline studies and field survey of the El-Minya Governorate and the southern part of Beni-Suef Governorate, the study area was scanned using satellite images, ancillary data and field cruises. The processing of these data and maps has resulted in producing about 20 environmental GIS Layers of the same geographic position and scale.

Some of these layers were used and compared to each other. The interaction between these layers has helped in identifying the study area criteria that have been applied to determine the "environmental constraint map" for the whole area.

Three distinctive sub-areas (or sections) of the whole study area have been determined as follows:

1. Area "A", which indicates the "no-environmental constraint" or the "lowest-environmental constraint" area in terms for the construction and operation of a wind farm, regarding environmental characteristics of both natural and anthropogenic activities.
2. Area "B", which indicates small sections of the whole area characterized by sand dunes terraces and some other constraints compared with Area "A" related to topographic conditions, accessibility, etc.
3. Area "C"; which indicates small sections of the whole area with steep topographic condition, existence of quarries, farmlands, far distance from access road and/or electric line, etc., due to which project implementation may face considerable constraints compared with Area "A" and "B".

These constraints are specified from the viewpoint of environmental conditions only, regardless wind condition, construction process/technique, project cost, etc.

This classification may guide to a main conclusion on the environmental eligibility for construction and operation of a wind farm, which emphasizes that the Area "A" as well as the Area "B" could accommodate wind farm development.

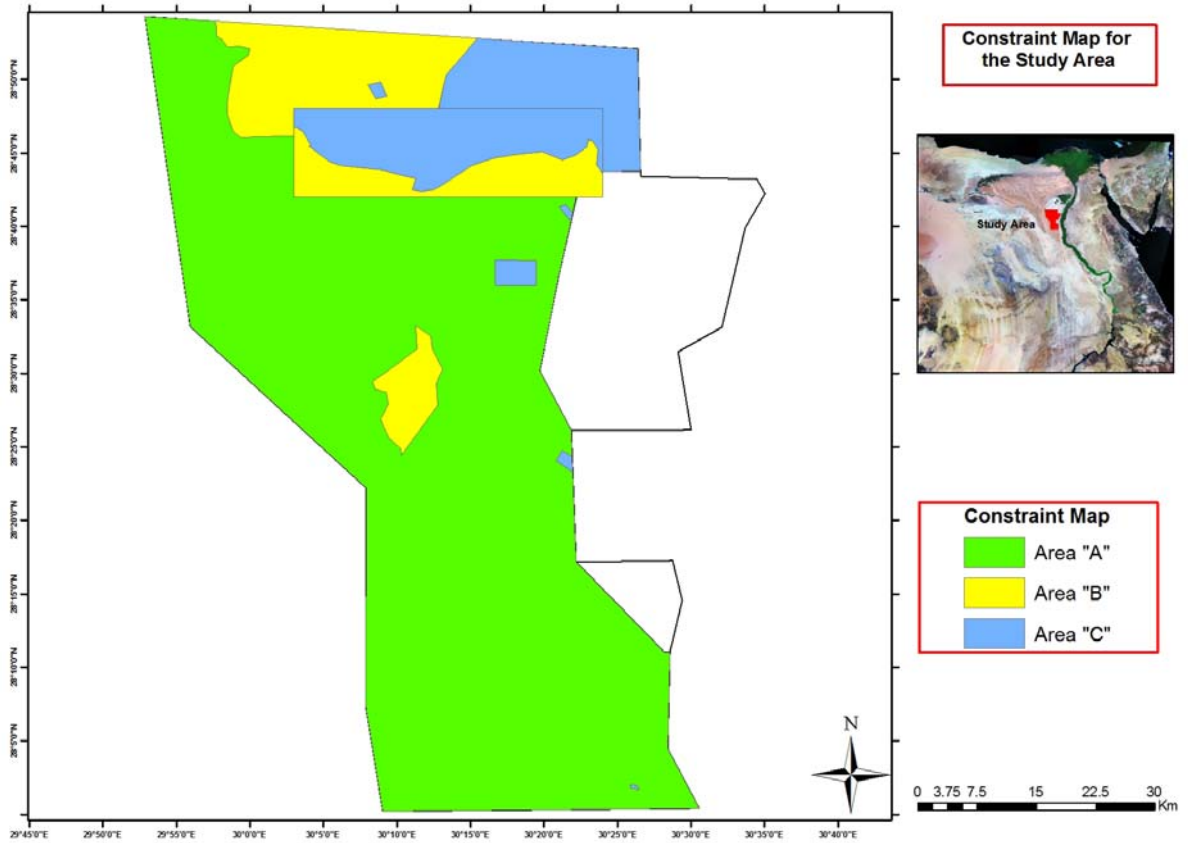
Figure 8-1 depicts the three categories of land environmental eligibility for wind farms development.

8.3.2 Recommendations for the Implementation Process

- Prior to construction, the project should be designed in such a way as to avoid affecting the surrounding areas and the environment.
- During construction, all safety measures and regulations should be strictly complied with.
- In addition, the expropriation, if considered legitimate, should be avoided or kept to a minimum, in order to avoid negative impacts on the community.

Figure 8-1

Environmental Constraint Map for the Survey Area



APPENDICES

APPENDICES

- Appendix – A : Map of Flora and Fauna Reconnaissance Trips
- Appendix –B : Site Reconnaissance and Site Survey Trips: Selected Photos
- Appendix – C : Socio-economic Survey Questionnaires
- Appendix – D : Law 4/1994 (Law on the Environment) and the Prime Minister's Decree No. 338 of 1995, Promulgating Executive Regulation of the Law (Updates up to 2010)
1. English Version
 2. Arabic Version
- Appendix – E : Overview of the Water Usage and Liquids-related Laws & Decrees
- Appendix – F : Guidelines for the "Egyptian Environmental Impact Assessment"- Update of January 2009 (English and Arabic)
- Appendix – G : Climate Information Available for the EI-Minya Area
- Appendix – H : Mean Concentrations of Gaseous Air Pollutants at Two Locations in the EI-Minya Governorate
- Appendix – I : Some of the Recorded Flora and Fauna Species
- Appendix –J : More Details on the Socio-economic Characteristics of the EI-Minya and Beni-Suef Governorates
- Appendix – K : Nomadic Groups and Living Style of the Bedouins
- Appendix – L : Characteristics of Households and Poverty Indicators
- Appendix – M : Elaboration on the Thematic Maps Produced for the Survey Study

Appendix – A: Map of Flora and Fauna Reconnaissance Trips

Appendix-A

Map of Flora and Fauna Reconnaissance Trips

Appendix-A

Map of Flora and Fauna Reconnaissance Trips

Figure-A

First and Second Field Reconnaissance Covering the Whole Study Area

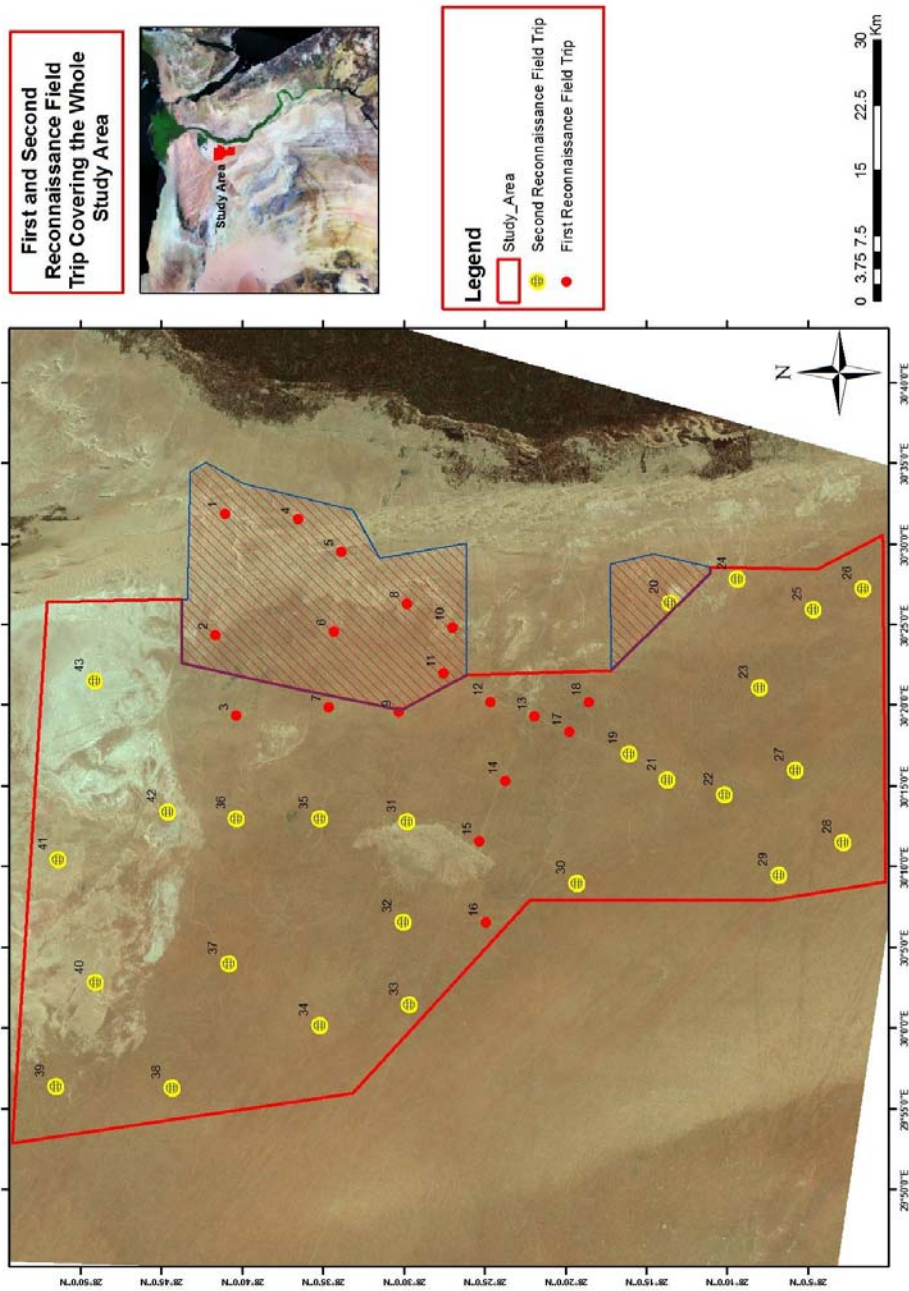


Figure-A (Contd.)

The Coordinates of the Whole Flora/Fauna Reconnaissance Trips Covering the Study Area (as shown in the previous geographic map)

St_No	Longitude	Latitude
1	30° 31' 55"	28° 41' 02"
2	30° 24' 25"	28° 41' 38"
3	30° 19' 26"	28° 40' 22"
4	30° 31' 33"	28° 36' 32"
5	30° 29' 34"	28° 33' 50"
6	30° 24' 39"	28° 34' 19"
7	30° 19' 55"	28° 34' 40"
8	30° 26' 20"	28° 29' 49"
9	30° 19' 37"	28° 30' 21"
10	30° 24' 54"	28° 27' 00"
11	30° 22' 04"	28° 27' 32"
12	30° 20' 16"	28° 24' 39"
13	30° 19' 22"	28° 21' 54"
14	30° 15' 21"	28° 23' 42"
15	30° 11' 38"	28° 25' 19"
16	30° 06' 36"	28° 24' 54"
17	30° 18' 25"	28° 19' 44"
18	30° 20' 13"	28° 18' 32"
19	30° 17' 02"	28° 16' 04"

St_No	Longitude	Latitude
20	30° 26' 24"	28° 13' 30"
21	30° 15' 25"	28° 13' 40"
22	30° 14' 31"	28° 10' 08"
23	30° 21' 10"	28° 07' 58"
24	30° 27' 50"	28° 09' 21"
25	30° 25' 58"	28° 04' 40"
26	30° 27' 18"	28° 01' 33"
27	30° 16' 01"	28° 05' 49"
28	30° 11' 31"	28° 02' 49"
29	30° 09' 32"	28° 06' 46"
30	30° 09' 00"	28° 19' 19"

St_No	Longitude	Latitude
31	30° 12' 50"	28° 29' 49"
32	30° 06' 36"	28° 30' 03"
33	30° 01' 30"	28° 29' 38"
34	30° 00' 10"	28° 35' 13"
35	30° 13' 01"	28° 35' 13"
36	30° 13' 01"	28° 40' 22"
37	30° 04' 01"	28° 40' 48"
38	29° 56' 20"	28° 44' 20"
39	29° 56' 24"	28° 51' 32"
40	30° 02' 49"	28° 49' 04"
41	30° 10' 30"	28° 51' 21"
42	30° 13' 26"	28° 44' 38"
43	30° 21' 32"	28° 49' 04"

Appendix –B : Site Reconnaissance and Site Survey Trips:
Selected Photos

Appendix-B

Site Reconnaissance and Site Survey Trips: Selected Photos

Appendix-B-I

SITE RECONNAISSANCE PHOTOS (First Reconnaissance Trip)

Station No. 1

Latitudes :- N 28 50274 N Longitudes :- E 30 .57 539



Al-Bahnasa Basalt dyke across the Middle Eocene (Oligocene age)

Station No :- 2

Latitudes :- N 28 . 402.07 - Longitudes E 30 55 314



Sand dune encroaching the main road

Station No. 3
Latitudes :- N 28.30 704 - Longitudes E 30 55897



Sammalut – Bahariya Oasis High Transmission line

Station No. 4

Latitudes :- N 28 32 965 - Longitudes :- E 30 54 96.7



Middle Eocene Limestone (Al-Menia Formation) Quarry

Station No. 5
Latitudes :- N 29 41 056 - Longitudes :- E 30 33 768



Irrigation System (Pivot) under construction , area under reclamation



Groundwater drilling Machine (Rig)

Station No. 6

Latitudes :- N 28 46 110 - Longitudes E 30 36 974



Quaternary Salt Crust (Salty Playa)

Station No. 7 :-

Latitudes :- N 28 094 42 - Longitudes :- E 30 55 475



West Menia (Wadi Al-Rayan) Dune field encroaching the cultivated lands

Station No. 8

Latitudes :- N 28 05 8.5 - Longitudes :- E 30 32 10



Idfu Formation (Prenile sediments), Quarry for gravels

Station No. 9

Latitudes :- N. 28 144 33 - Longitudes :- E 30 515 53



Basin for the groundwater storage to be used for irrigation

Station No. 10

Latitudes :- N 28 13 740 - Longitudes :- E 30 40 744



Undulated gravelly plain with desert varnish

Station No. 11

Latitudes :- N . 28 13 200 - Longitudes :- E 30 37 98.7



Faint Drainage system with green natural vegetation

Station No. 12

Latitudes :- N. 28 55045 - Longitudes :- E. 30 53960



Alluvial cover made up of chert and limestone gravels with secondary gypsum
(Darb Al-Bahnasawi)

Station No. 13

Latitudes :- N. 28 35611 - Longitudes :- E. 30 33226



Water well (Al-Hag Alaa Farm)

Station No. 14

Latitudes :- N . 28 59347 - Longitudes :- E .30 51207



West Menia (Wadi Al-Rayan) dune field

Appendix-B-II

SITE RECONNAISSANCE PHOTOS (Residual Reconnaissance Trip)

[For Site No., Refer to Exhibit-III]



Mixed community of *Fagoniaarabica* , the common gravel-desert species and *Stipagrostisciliata* , the common sand dune species; grow in sand depression sheet.



Limestone structure demonstrating the wind erosion mark illuminating the loose sand sheet; as the common feature in the western desert.



Dog, the common domestic house and farm animal neighbors farms



Solidified limestone masse appeared when the wind erase the sand sheet.



Solidified limestone masse appeared completelynacked from the sand after its erosion by wind.



Solidified limestone mass appeared when the wind erase the sand sheet.



Active sand move, affecting the plant life



The surface soil water collected by digging a surface well to collect the drainage water collected undersoil surface for new cultivation; due to lack of sufficient fresh water both of Nile and rainfall.



Open sandy gravelplain with harsh environment and necked flora



Capparis decidua (Capparaceae); a relict woody shrub, the only shrub traced



Limestone rock, part of the subsoil rocks in the study area.



South, site 27

Arachnids invertebrates in the site; *Galeodes* Sp. (family: *Buthidae*); trapped close to *Stipagrostisciliata*, on sand dune



West Site 37

Solidified limestone bedrock mass showing dissolved salt areas appeared as pore-forms.



Sand dunes movement over the land plain topography



Stipagrostisvulnerans (Graminaeae) growing on sandy depression in the solidified limestone rock.



Flourished bush of *Stipagrostisvulnerans* (*Graminaeae*) growing on sandy sheet close to the cultivated land.



Sparse shrublets of *Fagonia arabica* the common gravel-desert species; grow in the sand patches of the solidified rock.



Common insects common house fly (*Muscadomestica*) traced in the study site



Appendix-B-III
SURVEY TRIP PHOTOS



Track way to the Norther part 28 30 49.1 N 30 13 3.5



Hilly area on the way to the Marble area
28 25 12.1 N 30 17 29.1



Plantation on the way to the Marble area
28 46 48.1 N 30 14 50.1



Different shape in the soil deformation
28 16 17.1 N 30 17 31.4



Entrance of marble area
28 29 47.1 N 30 15 11.4



Entrance of marble area
28 29 47.1 N 30 15 11.4



Entrance of marble area
28 29 47.1 N 30 15 11.4



Crusher and marble area
28 29 57.1 N 30 15 8.4



Equipments at Crusher and marble area
28 29 57.1 N 30 15 8.4



Activities at Crusher and marble area in North side of the area
28 29 57.1 N 30 15 8.4



Activities at Crusher and marble area in North side of the area
28 29 57.1 N 30 15 8.4



Activities at Crusher and marble area in North side of the area
28 29 57.1 N 30 15 8.4



Activities at Crusher and marble area in North side of the area
28 29 57.1 N 30 15 8.4



Activities at Crusher and marble area in North side of the area
28 29 57.1 N 30 15 8.4 E



Activities at Crusher and marble area in North side of the area
28 29 57.1 N 30 15 8.4



Labor +Activities at Crusher and marble area in North side of the area
28 29 57.1 N 30 15 8.4



Activities at Crusher and marble area in North side of the area
28 29 57.1 N 30 15 8.4



House and social life at Crusher and marble area in North side of the area
28 29 57.1 N 30 15 8.4



Accommodation for labor at Crusher and marble area in North side of the area
28 29 57.1 N 30 15 8.4



Activities at Crusher and marble area in North side of the area
28 29 57.1 N 30 15 8.4



Plantation at the area
28 34 59.1 N 30 12 32.8 E



Plantation at the area
28 34 11.1 N 30 12 46.6 E



Small Oasis and Plantation at the area
28 32 46.1 N 30 13 14.4 E



Dry trees and Plantation at the area
28 10 11.6 N 30 11 40.78 E



Dry trees and Plantation at the area
28 10 11.6 N 30 11 40.78 E



Plantation at the area
28 11 21.4 N 30 11 52.18 E



Hilly mountain in Over head transmission line track at the area
28 19 25.7 N 30 27 36.78 E



Hilly mountain in Over head transmission line track at the area
28 19 25.7 N 30 27 36.78 E



Hilly mountain in Over head transmission line track at the area
28 19 45.7 N 30 26 36.58 E



Hilly mountain in Over head transmission line track at the area
28 22 13.7 N 30 20 40.88 E



Intersection paved road in Over head transmission line track at the area
28 22 43.7 N 30 19 29.78 E



Petrol base on paved road at the area
28 12 54.47 N 30 17 18.18 E



Petrol base on paved road at the area
28 12 54.47 N 30 17 18.18 E



plantation at the area
28 13 39.57 N 30 15 43.57 E



Snake cave and plantation at the area
28 13 39.57 N 30 15 43.57 E



Plantation at the area
28 13 32.88 N 30 15 45.22 E



plantation at the area
28 13 32.88 N 30 15 45.22 E



Farmer houses near the farms at the south of the area
28 03 14.23 N 30 26 21.92 E



Guard houses near the farms at the south of the area
28 03 14.23 N 30 26 21.92 E



Irrigation system at Italian farm at the south of the Area (Farm boundary)
28 02 49.86 N 30 26 26.79 E



Roads around Italian farm at the south of the Area (Farm boundary)
28 02 49.86 N 30 26 26.79 E



Plantation at Italian farm at the south of the Area (Farm boundary)
28 02 49.86 N 30 26 26.79 E



Crusher area at the south of the Area
28 02 49.13 N 30 33 30.70 E



Crusher area at the south of the Area
28 02 49.13 N 30 33 30.70 E

Appendix – C : Socio-economic Survey Questionnaires

Appendix-C

Socio-economic Survey Questionnaires

Appendix-C (I)

**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
ARAB REPUBLIC OF EGYPT**

**Socioeconomic Survey
In
Beni Sueif and Minya Governorate
Governmental Guideline**

August-November 2011

1. ID	<input type="text"/>
2. Governorate	<input type="text"/>
3. District	<input type="text"/>
4. Date	___/___/2011
5. Time	___:___
6. Interviewee's name	----- - <input type="text"/>
7. Respondent's name	----- - <input type="text"/>
8. Respondent's education	----- - <input type="text"/>
9. Respondent's occupation	----- - <input type="text"/>
10. Respondent's age	<input type="text"/> <input type="text"/>
11. Total number of years of experience	<input type="text"/> <input type="text"/>
12. Number of years of experience	<input type="text"/> <input type="text"/>

Basic info about the area

1. How long do you live in Menya/Beni Suef?
2. What is your origin /ethnic group?
3. What are the facilities (Water, sanitation, electricity, congestion, schools, hospitals, transportation)?
4. What are the prices of lands legitimate and illegitimate land owned?

Perception towards the energy project

5. Have you heard about energy project
For the interviewer: describe the project
6. What do you think about that project? Why?
7. What are the benefits and drawbacks of the energy projects?
8. Will the project result any economical benefits

Resettlement action

9. Have you ever faced a resettlement action?
10. How did the government expropriate lands here?
11. What are the benefits or drawbacks of the expropriation?
12. How can we avoid any negative result from resettlement?
13. Can you address on that map the most inappropriate areas for resettlement activities? Why do you think so?
14. Can you suggest an appropriate compensation for lands expropriated

Forms of Contribution

15. How can your institute support the energy project?
16. In case of resettlements can you participate with the project authority? Why?
17. How can your institute contribute with us in resettlement?
18. Which organizations/ stakeholders in the area might contribute in the implementation of the project?
19. How can they contribute?
20. Would any one of you like to participate with the project authority?
21. What type of participation can you provide the project?
22. Can you support us by providing info for community people? How?

Thank the Respondent

Appendix-C (II)

**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
ARAB REPUBLIC OF EGYPT**

**Socioeconomic Survey
In
Beni Suef and Menya Governorate**

Governmental Guideline

August-November 2011

13. ID	<input type="text"/>
14. Governorate	<input type="text"/>
15. District	<input type="text"/>
16. Date	___/___/2011
17. Time	___:___
18. Interviewee's name	-----
19. Respondent's name	-----
20. Respondent's education	-----
21. Respondent's occupation	-----
22. Respondent's age	<input type="text"/> <input type="text"/>
23. Total number of years of experience	<input type="text"/> <input type="text"/>
24. Number of years of experience	<input type="text"/> <input type="text"/>

Basic info about the wind farm project

23. Can you tell me all about the projects of wind farm in Egypt?
24. Can you tell me about the current project?
25. How did you get lands needed for the projects?

Problems and expropriation

26. Have you ever faced an expropriation action?
27. What are the obstacles that might face any wind farm project?
28. How could you overcome such problems?
- 29.

Project impacts

30. What are the potential positive and negative impacts for such projects?
31. What are the potential positive impacts for the project?

Project alternative

32. What are the potential alternative for the project?
33. Discussion for alternatives?

Other

34. Do you have a certain department responsible for awareness raising for community?
35. What is the exact role of such department?

Thank the Respondent

Appendix-C (III)

**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
ARAB REPUBLIC OF EGYPT**

**Socioeconomic Survey
In
Beni Suef and Menya Governorate
NGO Guideline**

August-November 2011

25. ID	<input type="text"/>
26. Governorate	<input type="text"/>
27. District	<input type="text"/>
28. Date	___/___/2011
29. Time	___:___
30. Interviewee's name	----- - <input type="text"/>
31. Respondent's name	----- - <input type="text"/>
32. Respondent's education	----- - <input type="text"/>
33. Respondent's occupation	----- - <input type="text"/>
34. Respondent's age	<input type="text"/> <input type="text"/>
35. Total number of years of experience	<input type="text"/> <input type="text"/>
36. Number of years of experience	<input type="text"/> <input type="text"/>

Basic info about the NGO

- For how long does the institute work in this district?
- Institute Activities
- Has your institute participated in any developmental projects?
- Which projects has it participated in? (**Probe**)
- Type of contribution

Basic info about the area

36. How long do you live in Menya/Beni Suef?
37. What is your origin /ethnic group?
38. What are the facilities (Water, sanitation, electricity, congestion, schools, hospitals, transportation)?
39. What are the prices of lands legitimate and illegitimate land owned?

Perception towards the project

40. Have you heard about wind farm project
For the interviewer: describe the project
41. What do you think about that project? Why?
42. What are the benefits and drawbacks of the energy projects?
43. Will the project result any economical benefits? Address.

Resettlement action

44. Have you ever faced a resettlement action?
45. How did the government expropriate lands here?
46. What are the benefits or drawbacks of the expropriation?
47. How can we avoid any negative result from resettlement?
48. Can you address on that map the most inappropriate areas for resettlement activities? Why do you think so?
49. Can you suggest an appropriate compensation for lands expropriated

Forms of Contribution

50. How can your institute support the wind farm project?
51. In case of resettlements can you participate with the project authority? Why?

52. How can your institute contribute with us in resettlement?
53. Which organizations/ stakeholders in the area might contribute in the implementation of the project?
54. How can they contribute?
55. Would any one of you like to participate with the project authority?
56. What type of participation can you provide the project?
57. Can you support us by providing info for community people? How?

Thank the Respondent

Appendix-C (IV)

**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
ARAB REPUBLIC OF EGYPT**

**Socioeconomic Survey
In
Beni Suef and Menya Governorate
Residents questionnaire**

August-November 2011

Data collected is confidential and will be used only for scientific purpose

Identification		
Governorate	<input type="text"/>
District	<input type="text"/>
Area	<input type="text"/>
Name of household	
Address in detail	
Respondent name	
Respondent relation to HHH		<input type="text"/>
Respondent sex	Male.....1 Female2	<input type="text"/>
Respondent age	<input type="text"/>
Respondent marital status	<input type="text"/>
Respondent Education	<input type="text"/>
Respondent Occupation	<input type="text"/>
Mobile number	
Telephone number	

Visit and Interviewer

Date	-----/-----/2007		
Interviewer	_____		<input type="text"/>
Supervisor	_____		<input type="text"/>
Field editor	_____		<input type="text"/>
Result	Completed 1 Completed partially..... 2 Postponed 3 Refused..... 4 Other(Specify _____) 5		<input type="text"/>
Time	Start time: Hour Minutes ----- : -----	End time: Hour Minutes ----- : -----	
Checking	Yes..... 1 No..... 2		<input type="text"/>

Checked

Date	-----/-----/2007		
Interviewer	_____		<input type="text"/>
Supervisor	_____		<input type="text"/>



Result	Completed	1	
	Completed partially.....	2	
	Postponed	3	
	Refused.....	4	
	Other(Specify_____)	5	

	Office editor	Coder	Data Entry	Verification
Name	-----	-----	-----	-----
Date	D---/ M ---/ Y---	D---/ M ---/ Y---	D--/ M --/ Y---	D---/ M ---/ Y---

N	Question	Answers and codes	Skip to
Household Basic Information			
101.	How many persons live and eat together in your family?	Number of family members <input type="text"/> <input type="text"/>	
102.	Who is the head of the household?	Father/husband..... 1 2 Mother/wife..... 3 Sons..... 4 Daughters..... 5 Other relatives..... 6 Not relatives.....	
103.	How old is the head of the household	Age in full years <input type="text"/> <input type="text"/>	
104.	How many persons of the family members work?	Number of working family members <input type="text"/> <input type="text"/>	
105.	Who is the main breadwinner?	Father/husband..... 1 2 Mother/wife..... 3 Sons..... 4 Daughters..... 5 . 6 Other relatives..... Not relatives.....	
106.	What is the occupation of the breadwinner?	_____ _____ <div style="border: 1px solid black; width: 200px; height: 30px; margin: 10px auto;"></div>	
107.	What is the type of wage or salary?	No wage/salary..... 1 Constant salary..... 2 Unstable salary..... 3 8 Does not know.....	
108.	How many rooms does your household use for living? (Excluding the bathrooms, kitchen and stairway areas)	Rooms <input type="text"/> <input type="text"/>	

109.	Is there a kitchen?	No kitchen..... 1 Separate kitchen..... 2 Not separate kitchen..... 3 Other (specify.....) 4	
110.	What kind of toilet facility does most members of your household use?	Modern flush toilet..... 1 Traditional with tank flush..... 2 Traditional with bucket flush..... 3	
111.	How many households use this toilet?	No one 95 No of households..... —	
112.	Into where does facility drain?	Public sewer..... 1 Vault (Bayara)..... 2 Emptied (No connection)..... 3 Other (specify.....) 4	
113.	Do you have access to electricity?	Legal governmental access..... 1 Illegal governmental access..... 2 No access..... 3 Other (specify.....) 4	
114.	What is the main source of water?	Piped water into resident..... 1 Piped into yard /plot..... 2 Tube well..... 3 No access to water..... 4 Other (specify.....) 5	
115.	Is your dwelling owned by your household or rented ?	New housing law renting.... 1 Old housing law renting..... 2 Furnished house..... 3 Allowed to stay in..... 4 } Governmental..... 5 } Owned..... 6 } Owned partially..... 7 } 201	

116.	How much money do you spend per month?	Less than 500	1
		500 :1000 L.E.....	2
		1001:1500 L.E.....	3
		1501:2000 L.E.....	4
		2001:2500L.E.....	5
		2501:3000 L.E.....	6
		3000+ L.E.....	7
		DK.....	8

Economic Indicator				
201.				
		Appliance	Yes	No
Does your household have these appliances: If No move to the following item	1.	Small stove (1/2 Flames)	1	0
	2.	Stove (4 flames)	1	0
	3.	Small Refrigerator (8)	1	0
	4.	Big Refrigerator (10+)	1	0
	5.	Black and white TV	1	0
	6.	Colored TV	1	0
	7.	Washing machine	1	0
	8.	Automatic washing machine	1	0
	9.	Iron	1	0
	10.	Telephone	1	0
	11.	Camera	1	0
	12.	Sewing machine	1	0
	13.	Video or DVD	1	0
	14.	Dish	1	0
	15.	Mobile	1	0
	16.	Electric water heater	1	0
	17.	Motorcycle	1	0
	18.	Computer/labtop	1	0
	19.	Air condition	1	0
	20.	Microwave	1	0
	21.	Dish washer	1	0
	22.	Digital camera	1	0
	23.	Car	1	0

		24. Shop/ workshop	1	0
		25. A house	1	0

202.	Does your income changes during the past year?	Increased.....	1	
		Decreased.....	2	
		No change.....	3	
203.	Does anyone provide economical support to your household?	No economical support.....	1	
	Multiple	Money.....	2	
		Food.....	3	
		Clothes.....	4	
		Other (specify.....)	5	
Project area and land prices				
301.	What are the available services in the area	-----		<input type="checkbox"/>
		-----		<input type="checkbox"/>
		-----		<input type="checkbox"/>
		-----		<input type="checkbox"/>
		-----		<input type="checkbox"/>
		-----		<input type="checkbox"/>
		-----		<input type="checkbox"/>
		-----		<input type="checkbox"/>
302.	What do you get accustomed to use as mean of transportation to come to the area?	Bicycle.....	1	
	Multiple	.	2	
		Motorcycle.....	3	
		.		
		Private car.....	4	
		Public means of transportation (buses-metro/minibus).....	5	
		Microbus.....	6	
		Taxi.....	7	
		Work or university's bus.....	8	
		Other (specify.....)		
303.	What are the needed facilities in the area?	-----		<input type="checkbox"/>
		-----		<input type="checkbox"/>
		-----		<input type="checkbox"/>
		-----		<input type="checkbox"/>
		-----		<input type="checkbox"/>
		-----		<input type="checkbox"/>
		-----		<input type="checkbox"/>
		-----		<input type="checkbox"/>

304.	Who can provide such facilities? Multiple	Government..... 1 NGOs..... 2 Other (Specify----- 3 -)	
305.	What are the ethnic groups in the area?	----- ----- ----- ----- ----- ----- ----- ----- ----- -----	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
306.	What are the main characteristics of those ethnic groups	----- ----- ----- ----- ----- ----- ----- -----	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
307.	How can they be negotiated/ compromised with?	----- ----- ----- ----- ----- ----- ----- -----	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
308.	The majority of the lands in the areas are cultivated or desert lands	Cultivated..... 1 Desert..... 2 Other (Specify-----) 3	
309.	What is the main type of ownership of land?	Illigitemate owned(Wadaa Yad 1 2 Ligitemate)..... 3 Other (Specify-----)	

Appendix – D: Law 4/1994 (Law on the Environment) and the Prime Minister's
Decree No. 338 of 1995, Promulgating Executive Regulation of the Law (Updates
up to 2010)
1. English Version
2. Arabic Version

Appendix-D

Overview of Water Quality Related Laws and Decrees

Level of Legislation	No/Year	Topics
Law	93 1962	Liquid waste discharge into public sewers
Presidential Decree	421 1962	Ratifying Marpol convention
Ministerial Decree, MHUNC	649 1962	Implementation of law 93/1962
Presidential Decree, MWRI	2703 1966	High committee for water (Ministry of Health)
Law	38 1967	Bathing and Washing in Streams
Law	72 1968	Prevention of oil pollution of sea water
Ministerial Decree, MWRI	331 1970	Executive committee of water
Law	74 1971	Clearance of Weeds and Dead Animal Disposals in Streams
Presidential Decree	961 1972	Permanent committee for control of sea water pollution by oil
Law	27 1978	Control of potable water sources
Law	57 1978	Treatment of ponds, marshes and swamps
Ministerial Decree, MoHP	7/1 1979	Specifications of potable water
Law	27 1982	Public water resources for drinking water and domestic use
Law	48 1982	Protection of the River Nile from pollution
Ministerial Decree, MWRI	170 1982	Establishing High committee of the Nile
Ministerial Decree, MOI	380 1982	Technology & pollution
Presidential Decree	631 1982	Establishing an Environmental Affairs Authority under the presidency of the Cabinet (Council of Ministers)
Ministerial Decree, MWRI	8 1983	Implementing Law 48/1982
Law	12 1984	Irrigation and drainage and License of Groundwater Wells
Ministerial Decree, MWRI	43 1985	Regulation of drainage & waterways

Level of Legislation	No/Year	Topics
Prime Minister Decree	1976 1985	Executive committee for Industrial drainage to the River Nile
Ministerial Decree, MWRI	9 1988	Amendment of provisions of decree 8/1983
Ministerial Decree, MHUNC	9 1989	Drainage of wastewater (related to 93/1962)
Law	4 1994	Environmental Protection, including tasks of the EAAA
Law	213 1994	(follow up of law 12/ 1984) on Water Users' Organizations;
Law	256 1994	Wastewater Quality Guidelines for Irrigation

Appendix-D

Law 4/1994 (Law on the Environment) and the Prime Minister's Decree No. 338 of 1995, Promulgating Executive Regulation of the Law (Updates up to 2010)

- 1. English Version**
- 2. Arabic Version**

*Law No. 4 Of The Year
1994*

English Translation

Environment Law
With Its Executive Regulations

قانون البيئة
ولائحته التنفيذية

January 2010

This Translation Includes
Updates of the Law 9/2009
and its Executive
Regulations of 2005

Annex – 6:	Permissible limits of air pollutants in emissions from different sources.....	122
Table – 1:	Maximum limits of emitted total solid particles from the chimneys of industrial establishments.....	123
Table – 2:	Maximum limits of gas and vapor emission from the chimneys of industrial establishments.....	124
Table – 3:	Maximum limits of emissions (exhaust) from vehicle engines.....	126
Table – 4:	Maximum limits of emissions from chimneys of hospital incinerators.....	127
Table – 5:	Maximum limits of emissions resulting from burning the fuel.....	128
Table – 6:	Maximum limits of emissions from chimneys of clay and fire-brickyards.....	129
Annex – 7:	Permissible limits of intensity of sound and duration of safe exposure thereto.....	130
Table – 1:	Intensity of sound inside places of work and indoor places.....	130
Table – 2:	Maximum period permissible for exposure to noise in places of work (factories and workshops).....	131
Table – 3:	Maximum limit permissible for exposure to intermittent noise resulting from heavy hammers.....	132
Table – 4:	Maximum limit of noise intensity in the different areas.....	133
Annex – 8:	Maximum limits of air pollutants inside places of work, according to the kind of each industry.....	134
Table – 1:	Maximum limits for permissible pollution inside work places and closed locations due to the type of each industry.....	135
Table – 2:	The limits of carcinogenic or suspected to be carcinogenic substances.....	153
Table – 3:	Carcinogenic or suspected to be carcinogenic substances but not having recognized limits, and the workers are not allowed to touch them, or to be exposed thereto in any way.....	154

	Table - 4: The quantities of external air necessary for ventilating the public and close places.....	157
Annex - 9:	Maximum and minimum limits of the temperature and humidity degrees, and the period of exposure thereto, as well as the means of protection therefrom.....	158
	Table - 1: The limit of exposure to temperature permissible at the work environment in accordance with the type of work and the air speed.....	158
	Table - 2: Limits of heat exposure permissible at the work environment according to work system.....	161
Annex - 10:	Non-decomposable pollutant substances which are prohibited to be drained and disposed of in marine environment by industrial establishments.....	162
Annex -11:	Conditions and specifications concerning municipal solid wastes treatment plants, sites of wastes sanitary burying and means of garbage collection and transport.....	164

Law No. 4 Of The Year 1994
Promulgating A Law Concerning
Environment
Amended As Per Law No. 9/2009

In The Name of The People;
The President of the Republic;
The People's Assembly has passed the present Law and it is hereby promulgated

Article: 1

Subject to the rules and provisions prescribed in special laws, the provisions of the law concerning Environment, as attached hereto shall come into force.

Establishments as existing at the time the present law is promulgated shall harmonize their situations in accordance with its provisions, within three years effective the date of publishing its executive regulations without derogation to applying the provisions of law No. 48 for the year 1982 concerning the Protection of the River Nile and the water courses from pollution.

The Cabinet upon the proposal of the Minister Concerned with Environmental Affairs - may extend this period for another period not exceeding two years at the most if so necessitated and if the Cabinet realizes the seriousness of procedures as taken toward implementing the provisions of the attached law.

Article: 2

The Prime Minister - upon the proposal of the Minister Concerned With Environmental Affairs, and after consulting the view of the Board of the Environmental Affairs Agency - shall issue the Executive Regulations of the law attached hereto, within a period not exceeding Six months from the date the law comes into force.

The Ministers, each in so far as he is concerned, shall issue the rates and percentages necessary for implementing the provisions of Part - 2 of the law attached hereto, subject to the provisions of Article (5), within the period referred to in the previous clause.

Article: 3

Law No. 72 of the year 1968 concerning the prevention of sea water pollution with oil shall be superseded. All provision contrary to the provisions of the attached Law shall also be superseded.

Article: 4

The present law shall be published in the Official Journal and shall come into force effective the day next to the date of its publication.

The present law shall receive the Seal of the State, and shall come into force as one of its laws.

Promulgated at the Presidency of the Republic on 15 Shaaban, 1414 (Islamic Calendar), corresponding to 27 January, 1994 (Gregorian Calendar).

Hosni Mubarak

Law Concerning Environment

Preliminary Part

Chapter: 1 **General Provisions**

Article: 1

In applying the provisions of the present law, the following terms and expressions shall denote the meanings indicated next to each of them:

1. Environment:

It is meant to denote the vital surrounding which comprises the living creatures and its contents of materials, as well as, the air, water, and earth within its compass, and the establishments set up by man.

2. Air:

It means the mixture of gases constituting it with its natural characteristics and established percentages and proportions. In the provisions of this law, it represents the outside air, the air within work places, and the air within public closed and semi-closed places.

3. Convention:

It means the International Convention On Prevention of Marine Pollution By Vessels for the Year 1973/1978, as well as the international conventions which are joined by the Arab Republic of Egypt in the scope of protecting marine environment from pollution, and the compensations for pollution incidents.

4. Public Place:

It is the place provided for receiving all people or a certain category of the people for any purpose.

5. Closed Public Place:

It is a public place having the form of an integral building where air does not enter in it except through windows provided for the purpose.

Public transport means shall practically be considered as good as a closed public place.

6. Semi-Closed Public Place:

It is meant to indicate a place having the form of a non-integral building in direct contact with outside air preventing the complete closure of such place.

7¹. Environmental pollution:

Any change in the characteristics of the environment that leads— directly or indirectly - to harming man's health and life as well as the wildlife, living organisms and biodiversity.

8. Deterioration Of Environment:

Denoting an impact on Environment which reduces its worth and value, disfigures its environmental nature, drains its resources, or impairs the living creatures or monuments.

9. Protection Of Environment:

It denotes preserving the components of Environment and upgrading it, and preventing its deterioration, pollution, or reducing pollution acuteness. These components comprise air, seas, inland water including the Nile, lakes, subterranean waters, lands, natural protectorates, and other natural resources.

10². Air pollution:

Any change in air properties that threaten the health of both man and environment due to natural or man-made factors, including noise and bad odor.

11. Fast Transport Vehicles:

It is meant to denote the Cars, Tractors, Motorcycles, and other engines provided for running on public roads.

12. Water Pollution:

Inserting any materials or energy in water environment, voluntarily or non-voluntarily, directly or indirectly, which results in causing harm to living or non living resources, in threatening man's health, obstructing water activities which includes fishing and tourist activities, vitiating sea water worthiness for use, reducing the ability of enjoying it or changing its characteristics.

¹ Substituted as per Law No. 9/2009.

² Substituted as per Law No. 9/2009.

13. Polluting materials And Factors:

They denote any solid, liquid, or gaseous materials, noise, radiations, temperature, or vibrations resulting from man's doing and leading directly or indirectly to polluting or deteriorating the Environment.

14. Materials Polluting Water Environment:

Any materials the drainage of which in water environment, voluntarily or non voluntarily, will result in changing its characteristics, or in contributing to such change, directly or indirectly, in a way harming man, natural resources, or sea waters, impairing tourist areas, or interfering with other legitimate uses of the sea. Under these materials, the following are included:

- a) Oil or oil mixture.
- b) Harmful and dangerous wastes as prescribed in international conventions which are joined by the Arab Republic of Egypt.
- c) Any other materials (Solid - Liquid - Gaseous), as shall be determined by the Executive Regulations of this law.
- d) Non-treated wastes and liquids resulting from industrial installations.
- e) Poisonous military / war fillings.
- f) Other materials as prescribed in the convention and its annexes.

15. Oil:

It denotes all forms of crude oil and its products. These include any type of liquid hydrocarbonates, lubricating oils, fuel oils, refined oils, furnace oil, tar (liquid pitch), and other materials extracted from crude oil or its wastes.

16. Oil Mixture:

It means all Mixture comprising a quantity of oil exceeding 15 parts in the million.

17. Unclean Balancing Water:

(Unclean Ballast Water): It means water inside a tank on the vessel if the contents thereof comprises oil exceeding 15 parts in the million.

18. Hazardous Materials:

Materials with hazardous characteristics which are harmful to man's health, or have a harmful effect on environment, such as toxic, explosive or inflammable materials, or materials with ionizing radiations.

19. Dangerous Wastes:

Wastes or ashes of different activities and operations, maintaining the characteristics of dangerous and hazardous materials, and having no

subsequent original or substitute uses, such as clinical wastes of therapeutical activities, and wastes resulting from the manufacture of any pharmaceuticals, drugs, organic solvents, inks, pigments, and paints.

20. Handling The Materials:

All act leading to their movement with the aim of collecting, transporting, storing, treating, or using them.

21. Administration Of Wastes:

Collecting, transporting, recycling, and getting rid of the wastes.

22. Getting Rid Of Wastes:

It means "Operations" which do not conduce to extracting the materials or re-using them, such as burying underground, deep injecting, draining surface waters, biological treatment, physiochemical treatment, permanent storage, or burying in cinders.

23. Recycling The Wastes:

Operations which permit extracting the materials or re-using them, such as using them as fuel, or extracting metals and organic materials, treating the soil, or re-refining the oils.

24. Liquid Materials Harmful To Water Environment:

These are the Materials prescribed in the International Convention for the Year 1973/1978.

25. Receiving Facilities:

Rigging and outfit, equipment and Basins appropriated for the purpose of Receiving Sedimenting and Draining polluting materials or Balancing Waters, and also the outfit provided by Companies operating in the field of shipping and unloading petroleum materials or by other administrative authorities supervising the harbours and water courses.

26³. Discharge:

Any leakage, spill, emission, discharge or disposal of pollutants in the River Nile, waterways, regional water, exclusive economic zone or sea, with prejudice to the levels and specific loads of pollution as specified for some substances as per the executive regulations implementing the present law and Environmental Affairs Agency - in coordination with the appropriate bodies - without breach of the provisions of the present law and executive regulations thereof

³ Substituted as per Law No. 9/2009.

27. Dumping:

- A) All premeditated throwing of polluting materials or wastes, from ships, aircrafts, quays/platforms, or other industrial installations and land sources, into the territorial sea, the exclusive economic zone, or the sea.
- B) All premeditated drowning - into the territorial sea, the exclusive economic zone, or the Sea of ships, industrial installations, or others.

Without prejudice to the provisions of the international conventions to which Egypt is a party, placing substances at sea for purposes other than disposal like cables, pipelines, sensors and scientific research devices, etc...shall not be deemed dumping⁴.

28⁵. Indemnification:

It means indemnification for all damages resulting from pollution accidents that happen due to violating the provisions of laws as well as International conventions to which Egypt is a party or due to pollution by poisonous or harmful substances in addition to accidents of air pollution, stranding or collision of vessels, loading and unloading of vessels or any other accidents. Such indemnification shall cover the correction of conventional and environmental damage plus the cost of recovery or environmental repair.

29. Oil Carrying Means:

All Pipelines used for oil carrying, and all other equipment used for loading, unloading, or transporting the oil, or other pumping equipment and machines as necessary for using these pipelines.

30. Vessel / Ship:

Any floating marine unit of any type, or marine unit sailing on pneumatic pillows (air cushions), or submerged installations. It also means all fixed or mobile installation to be set up on the coasts, or on water surface with the aim of exercising a commercial, industrial, tourist, or scientific activity.

31. Warship:

It means all Ship belonging to the Armed Forces of a certain country and carrying external distinctive marks thereof, which is placed under the command of an officer appointed officially by the Government of that country, and occupied by a crew governed by military disciplinary controls thereof.

⁴ Added as per Law No. 9/2009.

⁵ Substituted as per Law No. 9/2009.

32. Governmental Ship:

Meaning a Ship owned by the State and operated or used by it for governmental and non-commercial purposes.

33. Harmful Materials Carrier:

A Ship originally built or whose design has been modified to carry shipments of bulk dangerous materials. This term comprises as well the Oil Carriers when fully or partially shipped with bulk dangerous materials, according to the provisions of Chapter - 1, Part - 3 of the present law.

34. Installation:

Meaning the following installations:

- Industrial Installations, as subject to the provisions of laws Nos. 21 of the Year 1958 and 55 of the year 1977.
- Tourist Installations as subject to the provisions of laws Nos. 1 of the Year 1973, and 1 of the year 1992.
- Installation for power generation and production, as subject to the provisions of Laws Nos. 145 of the Year 1948 and 63 of the Year 1974 - 12, 13, 27 of the Year 1976, and 103 of the Year 1986.
- Mines and Quarries Installations, and Installations operating in the field of oil exploration, extraction, transport, carrying and usage, as subject to the provisions of laws Nos. 66 of the year 1953, 86 of the year 1956, 61 of the year 1958, and 4 of the year 1988.
- All Infrastructure Projects.
- Any other installation, activity or project that would be liable to have a marked impact on environment, for which a Decree is issued by the Environmental Affairs Agency in agreement with the competent Administrative Authority.

35. Environmental Survey Networks:

Meaning the Departments and Authorities which - in the field of their specialization assume, through their respective stations and work units, the survey of Environment components and pollutants, and provide their data to the competent Authorities, periodically.

36. Evaluation Of Environmental Impact:

Meaning the study and analysis of environmental feasibility of proposed projects the installation of which or the exercise of their activities might affect the safety of Environment, with the aim of securing their protection.

37. Environmental Disaster:

Meaning an incident resulting from factors of Nature or a man's doing, and resulting in a severe damage to Environment, which requires potentials surpassing the local capabilities to confront it.

38. Administrative Authority Concerned With Protecting Water Environment:

It means one of the following Authorities/Entities each in so far as it is concerned:

- a) Environmental Affairs Agency.
- b)⁶ Egyptian Authority for Maritime Safety.
- c) Suez Canal Authority.
- d) Port Authorities in the Arab Republic of Egypt.
- e) General Egyptian Authority for Protection of Shores.
- f) Egyptian General Petroleum Authority.
- g) General Department for Water Surfaces Police.
- h) General Authority for Tourist Development.
- i) Other Authorities as shall be determined by a Decree of the Prime Minister.

39.⁷ Coastal area:

It is the area extending from the Egyptian shores including the regional sea, exclusive economic zone and continental shelf to stretch from the shores inwards - including the area affected by the marine environment- for maximum 30 km inward at the desert land, insofar as such area is not interrupted by a topographic obstacle and at Delta till contour line "+3m".

Coastal governorates shall identify their coastal areas respectively, in light of the natural circumstances and environmental resources, at no less than "10 km" inwards from the shore line.

40.⁸ Integrated Coastal Zone Management:

A way based on the participation of all bodies concerned to coordinate between each other for preserving the environment at coastal areas.

⁶ The phrase "Egyptian Authority for Maritime Safety" replaced the phrase "Ports and Lighthouses Administration" as per Law No. 9/2009.

⁷ Added as per Law No. 9/2009.

⁸ Added as per Law No. 9/2009.

Chapter: 2
Environmental Affairs Agency

Article: 2

An Agency for protection and development of Environment shall be established with the Cabinet Premiership, to be called "Environmental Affairs Agency". It shall have a Public Juridical Personality and shall be attached to the Minister Concerned With Environment Affairs. It shall also have an independent Budget and its Head Office shall be seated in the city of Cairo. Branches of the Agency shall be established in the Governorates by virtue of a Decree of the Minister Concerned with Environmental Affairs. Precedence shall be accorded to industrial zones.

Article: 3

The Head of the Agency shall be appointed upon nomination by the Minister Concerned with Environmental Affairs, and the proposal of the Prime Minister. This appointment shall be enacted by a Decree of the President of the Republic comprising his financial remunerations.

Article: 4

The Environmental Affairs Agency shall replace the Agency established by virtue of Presidential Decree No. 631 of the year 1982, with its rights and obligations. The workers of this Agency shall be transferred with their grades and seniorities to the Environmental Affairs Agency.

Article: 5

The Environmental Affairs Agency shall draw the general policy and prepare the plans necessary to preserve and develop the Environment, and shall follow up their implementation in coordination with the competent Administrative Authorities. The Agency shall have the power to assume the implementation of certain tentative/experimental projects.

The Agency shall be the national Authority concerned with strengthening and consolidating environmental relations between the Arab Republic of Egypt, and the countries and international and regional organizations.

The Agency recommends taking legal procedures as necessary to join the international and regional conventions concerned with Environment, and prepares the draft laws and decrees necessary for implementing these conventions.

Toward Realizing Its Purposes, The Agency Shall Have The Power To:

- Prepare the draft laws and decrees connected with realizing the purposes of the Agency and express its view concerning legislations related to preserving the Environment.
- Prepare studies on environmental situation, and formulate the national plan for environmental protection and the protection of projects comprised within the Environment, in addition to preparing the estimated budget for each of these projects, and the environmental charts for urban areas and the areas planned for development, and set the criteria to abide by in planning and developing the new areas, as well as the criteria targeted for old areas.
- Set the criteria and conditions which the owners of projects and installations shall comply with before establishing their projects, and during operation.
- Survey the national organizations and institutes as well as the qualifications which contribute to preparing and implementing the plans and programmes for preservation of the environment and for benefiting thereby in preparing and implementing the projects, and in the studies conducted thereby.
- Conduct a field follow-up of implementing the criteria and conditions as shall be implemented by the agencies and installations and take procedures as prescribed in the law against the violators of these criteria and conditions.
- Specifying the rates, percentages and specific loads of pollutants and ensuring adherence thereto⁹.
- Gather, periodically, the national and international information and data on the environmental situation and the variations brought to it, in cooperation with Data Centers of other authorities and entities, and evaluate, publish and use them in administration and in environmental planning.
- Set the bases and procedures of evaluating the environmental effect of projects.

⁹ Substituted as per Law No. 9/2009.

- Set a plan for environmental emergencies as set forth in article (25) of the present law, and coordinate with competent departments and authorities in preparing programmes for facing environmental disasters.
- Set a plan for environmental training and supervise its implementation.
- Participate in preparing and implementing the national programme for environmental survey and benefit by its data.
- Prepare periodical reports on the principal indicators of the environmental situation, and publish them periodically.
- Set environmental educational programmes for citizens and cooperate in their implementation.
- Coordinate with other authorities concerning the reorganization and securing the safety of circulating the dangerous materials.
- Administrate and supervise the natural protectorates.
- Prepare proposed budgets as necessary for the protection and development of Environment.
- Follow up the implementation of international and regional conventions related to Environment.
- Propose economic mechanisms to encourage the different activities to take procedures of preventing pollution.
- Implement experimental projects to preserve natural wealth and protect the Environment from pollution.
- Coordinate with the Ministry Concerned With International Cooperation to ensure that the projects financed by the fund granting organizations and countries agree with Environment Safety considerations.
- Participate in preparing the plan of ensuring the secure protection of the country against the leakage of dangerous materials and wastes representing pollution to Environment.

- Designing a strategy for the Integrated Coastal Zone Management ¹⁰.
- Participate with the Ministry of Education and Instructions in preparing training programmes for the protection of Environment, within the context of the different study curricula in the stage of elementary education.
- Prepare an annual report on the Environmental Situation, to be submitted to the President of the Republic and the Cabinet, with a copy of that report to be deposited with the People's Assembly.

Article 6

The Board of the Environmental Affairs Agency shall be formed under the Minister Concerned With Environmental Affairs, as its Chairman, and the Membership of each of the following:

- The Executive Head of the Environmental Affairs Agency, as Deputy Chairman of the Board.
- A Representative of each of Six Ministries to be selected by the Prime Minister among the ministries concerned with Environmental Affairs, providing the representative of the Ministry shall be at least of those housed in the Higher Grade, and elected by the competent Minister.
- Two experts in the field of environmental affairs to be chosen by the Minister Concerned with Environmental Affairs.
- Three members representing the non-governmental organizations concerned with environmental affairs, to be chosen in agreement with the Minister Concerned With Environmental Affairs.
- An official in the Environmental Affairs Agency to be chosen among the incumbents of Key Positions by the Minister Concerned with Environmental Affairs upon the proposal and recommendation of the Executive Head of the Agency.
- The Head of the Legal Counsel Department Concerned with the State Council.
- Three representatives of the Public Business Sector to be chosen by the Minister Concerned with Environmental Affairs.

¹⁰ Substituted as per Law No. 9/2009.

- Two members to be chosen from the Universities and Scientific Research Centers by the Minister Concerned With Environmental Affairs.

The representatives of competent Ministries shall be invited when discussing subjects connected with the sectors supervised by them. The Board may resort to the assistance of whoever experts it decides to choose, when discussing specific issues, without any of these experts having a counted vote in the deliberations. The Board of Directors may form consultative committees from members of specialized experiences to study specified subjects. The Board may also entrust to one or more of its members to perform a defined assignment.

Article: 7

The Board of Directors shall be the higher authority fully ruling the Agency's affairs, the disposal of its matters, and also laying the general policy to be followed thereby. It may take such decisions as are considered necessary to realize the purposes for which it is established, within the context of the national plan, as shall be determined by the Executive regulations of this law.

Article: 8

The Board of Directors shall meet upon the convocation of its Chairman, at least once every three months, or if half the number of its members so request. The Board's meetings shall be valid with the presence of the majority of its members.

The Board's decisions shall be issued with the majority of votes of attending and voting members. In case of equal voting, the Board's Chairman shall have the casting vote.

Article: 9

In case of the absence of the Agency's Board Chairman, or if there is an impediment preventing him from attending, the Deputy Chairman shall replace him in exercising his powers.

Article: 10

The Board Chairman of the Agency shall represent the Agency in its relations with third parties and before the court.

Article 11

The Executive Head of the Environmental Affairs Agency shall be responsible for implementing the general policy as set for realizing the purposes of the Agency, and implementing the decisions of the Board of Directors. The Executive regulations of this law shall determine the other powers of the Executive Head of the Agency.

Article 12

The Environmental Affairs Agency shall have a General Secretary to be delegated among the workers of the Agency within the incumbents of key positions, by virtue of a Decree of the Minister Concerned with Environmental Affairs, after consulting the view of the Executive Head. The General Secretary shall assist the Head of the Agency and work under his supervision.

Article 13

The Executive Head of the Environmental Affairs Agency shall have the power of the Minister as prescribed in the laws and legislations with regard to the Agency's workers.

The General Secretary of the Agency shall have the powers of the Head of Sector with regard to these workers.

Article 13 Bis¹¹

- a) A Registration and Approval Supreme Commission shall be formed under the presidency of the Minister of Environment to examine list registration applications of operators in the field of environment based on their specialties and to examine approval applications of environmental experts and expertise houses based on both qualification and experience.

The executive regulation implementing the present law shall define the specialties and conditions necessary for the registration and approval in addition to the procedures of registration at the lists and issuance of approval certificates.

- b) The aforementioned Commission shall be constituted by virtue of a decree to be issued by the Prime Minister, and it shall include 6 members from experts in the field of environment.

¹¹ Added as per Law No. 9/2009.

The Commission shall be at least quarterly convened, with its resolution being issued by the majority of its members. Its secretarial work shall be handed by a technical secretariat to be appointed from between the Environmental Affairs Agency personnel, where the Minister of Environment shall define its competences.

- c) The resolutions of the Commission shall be final and shall be implemented by the Environmental Affairs Agency, after the payment of 100 pound license fees against exercising environmental activities and 1000 pounds against the approval certificate granted to experts and expertise homes.
- d) Unlicensed persons or those who have no approval certificates for exercising the environmental activities- as identified by the executive regulations implementing the present law - may not operate in the environmental field.

Chapter: 3
Environment Protection Fund

Article: 14

A special Fund to be called "Environment Protection Fund" shall be established with the Environmental Affairs Agency to which shall devolve the following:

- A) The amounts to be appropriated by the State in its Budget, to consolidate the Fund.
- B) Aid and donations extended by national and foreign organizations for purposes of protecting and developing the Environment, as shall be accepted by the Board of the Agency.
- C) Fines and Compensations as ruled by the Court, or as shall be agreed upon, for the damages and harms affecting the Environment.
- D) Resources of the Protectorates Fund, as prescribed in Law No. 102 of the year 1983.

Amounts which are collected on a temporary basis, for account of the fines and Compensations for damages affecting the Environment shall be deposited in the Fund as a trust.

The Fund shall have a special Budget. The Financial Year of the Fund shall begin with the beginning of the Financial Year of the State and end with it. The Surplus of the Fund shall be carried forward from one year to another.

The Fund's Properties shall be considered as Public Properties and Funds.

Article 15¹²

The Fund shall have a corporate personality and shall follow the Minister of Environment. Resources of the fund shall be allocated for realizing its purposes. The Prime Minister shall issue a decree for setting up the Fund board under the presidency of Minister of Environment and membership of the following:

- 1- The executive head of the Environmental Affairs Agency who shall be the vice-chairman.
- 2- Head of the State Council Fatwa Department.
- 3- A representative of the Ministry of Interior to be designated by the Interior Minister.
- 4- A representative of Ministry of Finance to be designated by the Finance Minister.
- 5- A representative of the Ministry of Economic Development designated by the Economic Development Minister.
- 6- A representative of the Ministry of International Cooperation designated by the International Cooperation Minister.
- 7- A representative of the NGOs concerned with environment designated by the Minister of Environment based on the recommendation of the NGOs General Union Head.
- 8- A top management staff at the Environmental Affairs Agency to be designated by Minister of Environment.
- 9- Fund manager who shall assume the post of secretary of the board.

The board of directors of the Fund shall be convened upon the invitation of its chairman at least every two months or whenever needed. Fund meetings shall be deemed valid by the attendance of the majority of members thereof. Resolutions of the members shall be issued based on the majority of the members. In case of even votes, the side of the chairman shall have the casting vote.

¹² Substituted as per Law No. 9/2009.

Representatives of ministers concerned shall be invited on discussing any topics related to the sectors supervised by such ministers. The board may seek the assistance of experts on discussing certain issues with no voting rights

Article: 16

The Environmental Affairs Agency shall set the internal Statutes of the Fund, in agreement with the Minister of Finance. All works and dealings of the Fund shall be subject to Control by the Central Audit Agency.

Chapter: 4
Incentives

Article: 17

The Environmental Affairs Agency, jointly with the Ministry of Finance shall set a system for Incentives which may be offered by the Agency and the competent Administrative Authorities to the organizations, Installations, individuals, and others who carry out works or projects bound to protect the Environment.

Article: 18

The System of Incentives as prescribed in the previous article shall be submitted to the Board of the Environmental Affairs Agency, and shall be approved by the Prime Minister.

Part - 1

Protection Of Land Environment From Pollution

Chapter: 1

Development And Environment

Article: 19¹³

Each and every natural or corporate person - public or private - shall submit an ecological impact assessment study on the establishment or the project to the appropriate administrative body or the licensing body before the commencement of the project. The study shall be conducted as per the elements, designs, specifications, bases and specific loads issued by the Environmental Affairs Agency in coordination with the appropriate administrative bodies. Such appropriate administrative bodies shall provide maps for the industrial zones to indicate the authorized industries in accordance with the environmental loads.

The executive regulations implementing the present law shall identify the establishments and projects on which the provisions of such article apply.

Article: 20¹⁴

The appropriate administrative bodies or licensing body shall send the ecological impact assessment studies referred to in the previous paragraph-meeting the requirements - to the Environmental Affairs Agency to decide thereon. The Agency may recommend some points to the applicant as regards the facilities and systems necessary to deal with the negative environmental impacts and demand their implementation. The Agency may request from the applicant to satisfy any data, designs or inquiries necessary for deciding on this study. The Environmental Affairs Agency shall decide on the assessment and forward its decision to the appropriate administrative body or licensing body within at most 30 days from the date of receiving the study, satisfying the requirements or implementing the recommendations of the said; otherwise the assessment shall be deemed approved. The project may accordingly commence its activity during its license period, other wise the environmental approval shall be disregarded.

¹³ Substituted as per Law No. 9/2009.

¹⁴ Substituted as per Law No. 9/2009.

Article 21

The competent administrative authority shall notify the owner of the establishment with the result of the evaluation, by virtue of a registered letter with acknowledgment of receipt. He may object to this result, in writing, within thirty days from the date he is notified of such result, before a Committee to be formed by a Decree of the Minister concerned with environmental affairs. The Environmental Affairs Agency, the Owner of the Establishment, and the competent authority or the authority granting the licence shall be represented on this Committee.

The Executive regulations shall determine the powers of this Committee and the procedures of objection, as well as the procedures of its work.

Article 22¹⁵

Person in charge of the establishment shall - as per the provisions of the present law - keep an environmental record that reflects the impact of his activity on the environment, where the form of such record, schedule of keeping the same and data to be written down therein will be provided for in the executive regulations implementing the present law. The Environmental Affairs Agency shall track the data of the record to ensure its conformity with the actual data, take necessary samples and conduct needed tests to identify the impacts of the project activities on the environment and determine the adherence of the project to the set out environmental protection standards or pollutants specific loads. Should the establishment fail to keep the environmental record, regularly write down the correct data or adhere to the referred to standards or loads or in the event that the establishment commits any other violations to the provisions of this article, the Agency shall inform the appropriate administrative body to notify the owner of the establishment to promptly correct such violations. If the owner fails to do so, within 60 days from the date of his notification, the Agency shall - after informing the appropriate administrative body - take the following procedures:

- 1- Give an additional grant period to the establishment to correct its violations, otherwise the Agency will carry out the same at the expense of the violator.
- 2- Put the violating activity on hold till the remedy of the impacts of violation without prejudice to the wages of the personnel.

¹⁵ Substituted as per Law No. 9/2009.

Should there be a major environmental damage, its source shall be stopped at once through all means and necessary procedures.

Article: 23

Expansions or renovations in already existing installations shall be subject to the same provisions as prescribed in articles (19), (20), (21) and (22), of this law.

Article: 24

Environmental Survey Networks shall, with their stations, form work units, according to the provisions of this law. They shall - in the field of their specialization - survey and determine periodically the components and pollutants of the environment, and shall provide these data to the competent authorities. In fulfilling their mission, they may seek the assistance of the competent Research Centers, authorities and organizations. These Centers, authorities and organizations shall provide the Environmental Survey Networks (Work Units) with their requirements of studies and data.

The Environmental Affairs Agency shall supervise the establishment and operation of environmental survey networks.

Article: 25

The Environmental Affairs Agency shall set an emergency plan to cope with and confront environmental disasters. This plan shall be approved by the Cabinet. The Emergency Plan shall specifically depend on the following:

- Collecting and gathering the information available locally and internationally on the method of confronting environmental disasters, and alleviating the damages resulting therefrom.
- Surveying and determining the potentials available at the local, national and international levels, and defining the method of resorting to them in a way securing prompt confrontation of the disaster.

The Emergency Plan Comprises The Following:

- Determining the kinds of environmental disasters, and the agencies responsible for reporting their occurrence or expected occurrence.

- Establishing a Central Operations Room for receiving the reports about environmental disasters and following up the receipt and dispatch of accurate information about them, with the aim of amassing the potentials necessary to confront them.
- Forming a task group to follow up confronting the environmental disaster when occurred, or in case of its expected occurrence. The Head of the foregoing task group shall have all powers as necessary to confront the environmental disaster, in cooperation and coordination with the competent agencies.

Article: 26

All public and private authorities and agencies shall be prompt to offer all assistance and potentials as required to confront the environmental disaster. The Fund referred to in Article (14) of the present law shall refund the actual outlays and costs as sustained by the private agencies and the individuals.

Article: 27

In every district and every village an area of not less than one thousand square meters of the State's lands shall be appropriated for establishing a plant nursery for the production of trees, providing the products of these nurseries shall be made available to individuals and agencies at cost price.

The competent administrative authorities to which these plant nurseries are attached shall prepare the guides and instructions concerning the cultivation and protection of these trees. The Environmental Affairs Agency shall contribute to financing the establishment of these nurseries.

Article: 28¹⁶

The following acts shall be completely prohibited:

First:

Hunting, killing, catching, possessing, transferring, importing, exporting or trading in whole or part of alive or dead birds, wild animals, aquatic living beings or products thereof, ravaging wildlife, changing the characteristics of the said or their wildlife, destructing nests or destroying eggs or hatches of the abovementioned creatures.

¹⁶ Substituted as per Law No. 9/2009.

The executive regulations implementing the present law shall define the kinds of such living organisms and areas on which the provisions of the previous paragraph apply.

Second:

Cutting, damaging, possessing, transferring, importing, exporting or trading in whole or part of the plants or products thereof, ravaging their wildlife, changing the characteristics of the said or their wildlife.

The executive regulations implementing the present law shall identify the kinds of such plants.

Third:

Collecting, possessing, transferring or trading in fossils- animals or plants- changing their shape, damaging their geological structure or distinctive environmental characteristics or affecting the aesthetics at the natural reserve areas.

Fourth:

Trading in all endangered species - animals or plants - breeding or cultivating the same apart from their wildlife, without obtaining the necessary license from Environmental Affairs Agency.

The executive regulations implementing the present law shall identify the types of such living organisms and license prerequisites.

Chapter: 2
Dangerous Substances And Wastes

Article: 19

Circulating and handling the dangerous materials and wastes without licence from the competent administrative authority shall be prohibited. The Executive regulations of this law shall set forth the procedures and conditions for granting the licence, and the authority concerned with issuing it.

The Ministers - each in as far as he is concerned, and in coordination with the Minister of Health and the Environmental Affairs Agency shall issue a table of the dangerous materials and wastes referred to in clause-1 of the present article.

Article: 30

The Dangerous Wastes Department shall be subject to the rules and procedures prescribed in the Executive regulations of the present law.

The aforementioned Executive regulations shall determine the authority concerned with setting tables for dangerous wastes which are subject to its provisions, after consulting the view of the Environmental Affairs Agency.

Article: 31

The establishment of any installations for the purpose of treating the dangerous materials shall be prohibited except by virtue of a licence from the competent administrative authority after consulting the view of the Environmental Affairs Agency. Getting rid of dangerous wastes shall be according to the conditions and criteria to be determined by the Executive regulations of this law.

The Minister of Housing, after consulting the view of the Ministries of Health and Industry and the Environmental Affairs Agency, shall determine the places and conditions of the licence to get rid of dangerous wastes.

Article: 32

The import of dangerous wastes, or permitting their entry or transit in the territories of the Arab Republic of Egypt shall be prohibited.

The transit of ships carrying dangerous wastes, in the territorial Sea or the Exclusive Economic Marine Zone of the Arab Republic of Egypt, without licence from the competent Administrative Authority, shall also be prohibited.

Article: 33

Those who assume the production or circulation and the handling of dangerous materials, whether in their gaseous, liquid, or solid state, shall take all precautions to guarantee the non occurrence of any damages to the Environment.

The owner of an establishment whose activities result in dangerous wastes shall - according to the provisions of the present law - maintain a register of these wastes and the method of getting rid thereof, as well as the entities and authorities with which he is contracting for delivery of these wastes. The Executive regulations shall indicate the data to be recorded in that register, and

the Environmental Affairs Agency shall be concerned with following up the register to ensure the conformity of the data to reality.

Owner or person in charge of the establishment generating hazardous wastes shall purify the establishment, soil and place on which the establishment was erected, in case the said is moved or if its activity stopped. The purification shall be carried out as per the prerequisites and standards identified at the executive regulations implementing the present law¹⁷.

¹⁷ Added as per Law No. 9/2009.

Part - 2

Protecting Air Environment From Pollution

Article: 34

The site on which the project is to be erected shall be proper for the activities of the establishment, in a way to guarantee that the limits permissible for air pollutants are not exceeded. Also, the overall pollution resulting from the entirety of establishments in one area shall be within the permissible limits.

The Executive regulations of this law shall determine the establishments which are subject to its provisions, and the authority concerned with approving the fitness of the site and the limits as permissible for air pollutants and noise in the area where the establishment is to be erected.

Article: 35

Establishments which are subject to the provisions of this law shall - in exercising their activities - avoid and prevent the leakage or emission of air pollutants beyond the maximum limits as permissible under the laws and decrees in force, and as determined by the Executive regulations of the present law.

Article: 36¹⁸

No machinery, motor or vehicle emitting exhausts or sending heavy smoke or noisy voices beyond the limit provided for by the executive regulations implementing the present law may be used.

Without prejudice to the provisions of Traffic Law promulgated by Law No.66 of the year 1973, law investigation officers at Water and Environment Police may stop the running of machinery, motors or vehicles and withdraw their licenses till making good the damage.

Article: 37¹⁹

- a) No open burning of garbage and solid wastes may take place.

¹⁸ Substituted as per Law No. 9/2009.

¹⁹ Substituted as per Law No. 9/2009.

- b) Garbage collectors may not dump, sort or treat garbage and solid wastes except at the designated places for such purposes, away from housing, industrial and agricultural areas as well as waterways. The executive regulation implementing the present law shall determine the specifications and limitations of such places in addition to their distance from the referred to housing, industrial and agricultural areas.
- c) Local administrative units shall - in collaboration with Environmental Affairs Agency - allocate places for dumping, sorting and treating garbage and solid waste, as per the provisions of the presents law and executive regulations thereof. Such units shall further provide bins and places at cities and villages for the collection and transfer of garbage and solid wastes according to defined schedule, otherwise the person in charge will be administratively held responsible.
- d) Garbage and solid wastes may only be dumped at the places or bins specified for such purpose. Garbage collectors and persons transferring garbage and solid wastes shall keep the trucks and bins clean with covers and shall further ensure regular removals with no overfilling.

Article: 38

Spraying or using pesticides or any other chemical compounds for agriculture, public health, or other purposes shall be prohibited, except after observing and abiding by the conditions, controls and guarantees as shall be determined by the Executive regulations of this law, in order to ensure the non-exposure of man, animal, plants, water courses, or the rest of the components of Environment, directly or indirectly, now or in the future, to the harmful effects of these pesticides or chemical compounds.

Article: 39

All agencies and individuals, when carrying out exploration, prospecting, digging, building, or demolishing works, or transporting the wastes or earth resulting therefrom, shall take necessary precautions for their safe storing or transport, to prevent wafting them, as shall be indicated in the Executive regulations.

Article: 40

In burning any kind of fuel or others, whether for purposes of industry, generation of energy, or for installations or any other commercial purpose, the

smoke, gases, and noxious fumes resulting therefrom shall be within the limits permissible therefor. The party in charge of such activity shall take all precautions to reduce the quantity of pollutants in the foregoing combustion results. The Executive regulations of this law shall indicate these precautions and the permissible limits, as well as the specifications of chimneys and other means and methods of controlling the smoke, gases, and fumes emitted from the combustion process.

Article: 41

Authorities and agencies carrying out searching, prospecting, digging, extracting, and production of crude oil, as well as refining and processing it, shall comply with the controls and procedures prescribed in the present law and its Executive regulations, and as shall be derived from the bases and principles of world oil industry, which are provided by the competent administrative authority.

It shall abide by the safe disposal of wastes of oil drilling in pursuance of the provisions of the present law and executive regulations thereof²⁰.

Article: 42²¹

All bodies and personnel in the field of production, service and the like- especially those operating machinery and equipment and those using horns and speakers- may not exceed the authorized sound limit.

Licensing bodies shall guarantee keeping all sounds released from fixed and movable sources at the same area within the authorized limits, by checking the right choice of machinery and equipment to meet such limits by the establishments. The executive regulations implementing the present law shall indicate the authorized sound limits and the exposure period.

Article: 43

The owner of the establishment shall take the necessary precautions and measures to prevent the leakage or emission of air pollutants inside the place of work, except within the permissible limits, as shall be determined by the Executive regulations of this law, whether they result from the nature of the Establishment's exercise of its activity, or a malfunction in the equipment. The owner of the establishment shall also provide the necessary methods of

²⁰ Added as per Law No. 9/2009.

²¹ Substituted as per Law No. 9/2009.

protection to the workers, in implementation of vocational safety and health conditions, including the selection of suitable machines, equipment, materials, and types of fuel, providing that the period of exposure to these pollutants shall be taken into consideration, and that the owner of the establishment shall secure a guaranteed adequate ventilation, and install the chimneys and other methods of air cleaning and purification.

Article: 44

The owner of the Establishment shall take the necessary procedures for maintaining the temperature and humidity degrees inside the place of work, within and not exceeding the permissible maximum and minimum limits. In case it is necessary to work in temperature and humidity degrees outside these limits, he shall secure the provision of adequate means of prevention like special gear and other means of protection.

The Executive regulations of this law shall indicate the maximum and minimum limits of each of the temperature and humidity degrees, the period of exposure to them, and the means of protection therefrom.

Article: 45

Closed and semi-closed public places shall fulfill adequate means of ventilation as commensurate with the volume of the place and its spacious capacity, as well as the type of activity to be exercised in it, in a way to guarantee renewal of the air, its cleanliness and purity, as well as its maintenance of an adequate temperature degree.

Article: 46

The Director in charge of the Establishment shall take adequate procedures to prevent smoking in closed public places, except within the limits permissible as set forth in the licence granted for these places. In this case, a space shall be appropriated for smokers, such that it will not affect the air in the other places. Smoking shall be prohibited in public transport means.

Article: 47

Radioactivity level, or the concentrates of radioactive substances in the air shall not exceed the limits permissible therefor, as shall be determined by the competent authorities according to the Executive regulations of this law.

Article: 47 Bis²²

Illegal trading in substances that deplete ozone layer as well as acquisition, importation or utilization of the same in the industry in a way that violates the laws, regulatory ministerial decrees and international conventions to which Egypt is a party, shall be prohibited.

Article: 47 Bis-1²³

Under the presidency of the Cabinet of Ministers, a higher council for the protection of River Nile and waterways from pollution shall be formed. Such council shall be presided by the Prime Minister with the membership of the following ministers; Water Resources and Irrigation, Environment - Health - Industry - Agriculture and Land Reclamation - Local Development - Housing, Utilities and Urban Communities - Tourism and Nile Transportation.

Such council shall carry out all necessary procedures for the protection of River Nile and waterways from pollution. The Prime Minister shall identify the council competences and the latter shall be at least quarterly convened to follow-up the River Nile conditions.

²² Added as per Law No. 9/2009.

²³ Added as per Law No. 9/2009.

Part - 3

Protection Of Water Environment From Pollution

Chapter: 1 **Pollution From Ships**

Section - 1 **Pollution With Oil**

Article: 48

The protection of water environment from pollution visualizes the realization of the following purposes:

- A) Protecting the shores of the Arab Republic of Egypt and its parts from dangers of pollution of all forms and shapes.
- B) Protecting the territorial sea environment, the exclusive economic zone and its natural live and dead resources, by preventing pollution whatever its source, and reducing and controlling it.
- C) Protecting the natural resources in the economic zone and the Continental Drift.
- D) Compensating for the damages caused to any natural or juridical person as a result of water environment pollution.
- E)²⁴ Applying an integrated coastal zone management to ensure resource management and sustainable development

Minister of Environment shall - in coordination with appropriate bodies - realize the referred to purposes as well as the goals of the Integrated Coastal Zone Management²⁵.

Article: 49

All ships, whatever their nationality, shall be prohibited to throw oil or oil mixture in the territorial sea or the exclusive economic zone of the Arab Republic of Egypt.

²⁴ Added as per Law No. 9/2009.

²⁵ Substituted as per Law No. 9/2009.

Warships, or support naval ships belonging to the Arab Republic of Egypt, or other ships which are owned or operated by the State or the Public Authorities, and which are used in a non-commercial governmental service and are not subject to the provisions of the Convention, shall take adequate precautions to prevent polluting the territorial sea, or the exclusive economic zone of the Arab Republic of Egypt.

Article 50

Ships which are registered with the Arab Republic of Egypt shall be prohibited to discharge or throw oil or oil mixture into the sea, according to the Convention and international treaties which have been joined by the Arab Republic of Egypt.

Article 51

Foreign oil Tankers frequenting the Egyptian ports shall implement all requirements of rule No. (13) of Annex No. (I) to the Convention and its amendments.

Oil Tankers which are used for limited journeys shall be excepted from these requirements, according to Rule No. (13 - C) of the Convention and its amendments. Oil Tankers crossing and transiting the Suez Canal, which are not obliged to throw any polluted ballast waters shall also be excepted from these requirements.

Article 52

National and foreign companies and organizations which are authorized to prospect for, exploit or extract offshore oil fields and other natural marine resources, including oil carrying means, shall be prohibited to discharge any polluting substance resulting from drilling and prospecting operations, testing of wells, or production in the territorial sea or the exclusive economic zone of the Arab Republic of Egypt. They shall use safe methods which do not result in causing harms to water environment, and shall treat all discharged wastes and polluting substances and materials according to the latest available technical systems, in accordance with the conditions prescribed in international conventions.

Article 53

Subject to the provisions of law No.79 of the year 1961 concerning sea disasters and maritime wreckage, the representatives of the competent administrative authority or the investigation officers shall have the power to order the Captain of the Ship or the officer in charge of it to take adequate procedures for protection from pollution effects in case an incident happens to an oil tanker which results in polluting or is feared it will pollute the territorial sea or the exclusive economic zone of the Arab Republic of Egypt.

Article 54

Penalties as prescribed in this law shall not apply to pollution cases resulting from:

- (A) Securing the safety of the ship or the souls embarked on it.
- (B) Unloading operations resulting from a damage in the ship or its apparatuses, providing such damage has not been made by the Captain or the officer in charge of it with the aim of causing a failure and breakdown or damage to the ship, or the damage has been caused through neglect. It is conditional in all cases that the Captain of the Ship or the Officer in charge of it shall have taken all precautions before and after the occurrence of the damage, as adequate to prevent or reduce the effects of pollution, and shall have immediately notified the competent administrative authority thereof.
- (C) A sudden breakage in a pipeline carrying oil or oil mixture during operating processes or during drilling, prospecting, or testing the wells, without neglecting control over the pipelines, or their maintenance, providing adequate precautions shall be taken to watch over and control the operation of pipelines and overcome pollution and its sources upon its occurrence.

The foregoing shall not prejudice the right of the competent authority to have recourse against the party causing the damage for the costs of removing the effects resulting from pollution, and for compensation for the losses and damage resulting therefrom.

Article 55

The owner of the Ship, its Captain, or any person in charge of it and the parties in charge of oil transport means lying within the ports, the territorial sea, or the exclusive economic zone in the Arab Republic of Egypt, and also the

firms operating in oil extraction activities, shall immediately report promptly to the competent administrative authorities all oil leakage incident upon its occurrence, along with indicating the conditions of the incident, the kind of leaking substance, and the procedures taken to stop or limit the leakage in addition to all other information and data as prescribed in the convention and the Executive regulations of the present law.

In all cases, the competent administrative authorities shall report to the Environmental Affairs Agency all information about the foregoing incident, upon its occurrence.

Article: 56

All ports of shipment and the ports prepared to receive the oil tankers, as well as the ship repair docks shall be provided with the necessary adequate equipment to receive the unclean balancing waters, and the water resulting from the process of washing the tanks of oil tankers and of other ships.

Ports shall be equipped with adequate lighters and vessels as necessary to receive the wastes, residues leavings, oil dregs and sediments, and oil mixture, from ships berthing in the harbour.

No ship or tanker shall be licensed to carry out shipping and unloading operations except after referring to the competent administrative authority, in order to be received and directed thereby to the places appropriated for ridding themselves of wastes and unclean balancing waters.

Article: 57

The competent Minister shall determine the type of equipment and apparatuses as required for reducing the pollution, and as the ships registered with the Arab Republic of Egypt or the offshore platforms set up in water environment shall fit and equip themselves with.

Foreign ships using the Egyptian ports, or sailing across the maritime area of these ports shall be fitted and provided with pollution reduction equipment, according to the provisions of the convention and its annexes.

Article: 58

All owner or captain of a ship registered with the Arab Republic of Egypt, and the ships of countries joining the convention shall maintain an oil register in

the Ship, in which the officer in charge of it shall record all operations connected with oil, in the way set forth in the convention and particularly the following operations:

- (A) Carrying out loading or delivery operations, or other transport operations of oil loads, along with indicating the type of oil.
- (B) Discharging the oil or oil mixture in order to secure the safety of the ship or its cargo, and rescue the souls, along with indicating the type of oil.
- (C) Leakage of oil or oil mixture as a result of a collision or an incident, along with indicating the percentage of oil and the volume of leakage.
- (D) Discharging unclean ballasting waters or tanks washing waters.
- (E) Getting rid of polluting wastes.
- (F) Throwing the waters containing oil gathered in the engines room, outside the ship, during its presence in the harbour.

The Executive regulations shall determine the method of recording the processes of discharging oil or oil mixture, with regard to offshore platforms which are set up in water environment.

Article 59

Subject to the provisions of the international convention on Civil Liability for damages resulting from oil pollution incidents, as signed in Brussels in 1969, and its amendments, oil tankers whose total tonnage reaches 2000 tonnes and more, and which are registered in the Arab Republic of Egypt, and also the other oil transport equipment and lighters whose total tonnage amounts to 150 tonnes and more, as operating in the territorial sea or the exclusive economic zone of the Arab Republic of Egypt, shall submit to the competent administrative authority, a financial guarantee certificate in the form of an insurance, or compensation bond, or any other guarantee, according to the controls to be issued by virtue of a decree of the Minister of Maritime Transport in agreement with the Minister of Oil and the Minister for Environmental Affairs.

The Certificate of Guarantee shall be submitted upon the tanker's entry in the territorial sea, and it shall be valid and covering all damages and compensations to be estimated by means of the competent administrative authority.

With regard to ships registered in a country joining the International Convention On Civil Liability For Oil Pollution Incidents, the foregoing certificate shall be issued from the competent authority in the country where the ship is registered.

Section - 2
Pollution with Harmful Materials

Article: 60

Carriers of harmful liquid materials and substances shall be prohibited to throw or discharge any harmful materials and substances, wastes, or leavings, voluntarily or involuntarily, directly or indirectly, which result in damages to the water environment, public health, or other legitimate usages of the sea.

Ships carrying movable harmful substances and materials in packages, ship containers, carrying tanks, or land or railway tank carriages, for the purpose of getting rid thereof, shall be prohibited to throw them in the territorial sea or the exclusive economic area of the Arab Republic of Egypt.

It shall also be prohibited to throw dead animals in the territorial sea or the exclusive economic area of the Arab Republic of Egypt.

Article: 61

All shipping and unloading ports which are equipped and provided to receive the tankers prescribed in clause-1 of the previous article, and also the ship repair docks, shall be provided with appropriate and suitable facilities to receive liquid harmful materials and their wastes and residues.

Article: 62

Tankers carrying liquid harmful materials shall be provided with a register of the shipment, according to the Convention, in which the Captain or the Office in charge of the Ship shall record all operations in the manner prescribed in the Convention:

Article: 63

The representatives of the competent administrative authority or the investigation officers shall have the authority to order the Captain of the Ship or the Officer in charge of it, to take procedures as necessary to reduce the effects

of pollution in case of an incident occurring to one of the ships carrying harmful materials and which is feared to cause pollution to the territorial sea or the exclusive economic area of the Arab Republic of Egypt, in any form. It shall also be prohibited for ships carrying harmful materials to drown the wastes and polluting materials in the continental drift and the exclusive economic area of the Arab Republic of Egypt.

Article: 64

The provisions of Article (54) of this law shall apply to pollution cases resulting from ensuring the safety of souls on the ship and the damage attaining it.

Article: 65

The Captain or the Officer in charge of the Ship shall implement all conditions and requirements prescribed in Rule (8) of annex (2) to the Convention.

Section - 3
Pollution With Wastes Of Sanitary Drainage
And Garbage

Article: 66

Ships and offshore platforms shall be prohibited to discharge polluted sanitary drainage waters into the territorial sea and the exclusive economic area of the Arab Republic of Egypt. They shall be got rid of according to the criteria and procedures to be determined by the Executive regulations of the present law.

Article: 67

All ships and offshore platforms performing works of exploration and exploitation of natural and mining resources in water environment of the Arab Republic of Egypt, and also ships using Egyptian Ports shall be prohibited to throw garbage or wastes in the territorial sea or the exclusive economic area of the Arab Republic of Egypt. Ships shall deliver their garbage in the facilities provided for receiving the wastes, or in the places to be determined by the competent administrative authorities against specified fees to be issued by a decree of the competent Minister.

Article: 68

All shipping and unloading ports, and ports equipped and provided to receive ships, as well as ship repair dockyards, whether permanent or floating, shall be equipped with the necessary and adequate fittings and facilities to receive polluted drainage waters and garbage wastes of the ships.

Chapter: 2
Pollution From Land Sources

Article: 69

All installations including public stores, and commercial, industrial, tourist, and service establishments shall be prohibited to discharge or throw any materials wastes, or untreated liquids which are liable to cause pollution to Egyptian shores or the waters adjacent thereto, whether voluntarily or involuntarily, directly or indirectly, and each day the prohibited discharge of wastes continues shall be considered a separate violation.

Article: 70

Licensing the establishment of any installations or stores on or close to the sea shore, which would result in discharging polluting materials and substances in contravention to the provisions of the present law and the decrees to be issued in implementation thereof, shall be conditional upon carrying studies on environmental effects by the licenced applicant who shall also provide treatment units for wastes and shall begin operating them upon operating these installations.

Article: 71

The Executive regulations of this law shall determine the specifications and criteria to be complied with by the industrial installations which are authorized to discharge analyzable polluting substances and materials, after treating such materials. The competent administrative authority as determined in the foregoing Statutes shall carry out periodical analysis, in its laboratories, of samples of treated liquid wastes, and shall notify the competent administrative authorities with the result of their analysis. In case of violation, the concerned party shall be granted a period of One Month delay for treatment of the wastes to become conforming to the determined specifications and criteria. If such treatment does not take place within the foregoing delay, or if the analysis during that period proves that the continuance of drainage is bound to causing

gross and serious harms and damages to water environment, discharging such wastes shall be stopped through administrative channels and the licence issued for the establishment shall also be withdrawn, without prejudice to the penalties prescribed in this law.

The executive regulations shall determine the unfatal polluting materials which are unanalyzable, and which the industrial installations shall be prohibited to discharge them in water Environment.

Article: 72²⁶

With consideration of the provisions of Article (96) of the present law, persons in charge of establishments prescribed in Article (69) of the present law disposing in water shall be responsible for violating acts - carried out by their personnel - of the provisions of the previous article, in case of their knowledge of the same and negligence of their duty. In such case, the penalties provided for in Article (84-Bis) of the present law shall apply thereon.

Article: 73

The erection of any establishments on the sea shores of the Arab Republic of Egypt shall be prohibited to a distance of two hundred meters inwards from the shoreline, except after getting the approval of the competent administrative authority "and the approval of the Environmental Affairs Agency"²⁷. The Executive regulations of the present law shall organize the procedures and conditions to be followed in this respect.

Article: 74

The execution of any work liable to affect the natural stretch line of the shore, or modify it by protruding into the sea, or retracting from it, shall be prohibited except after getting the approval of the competent administrative authority "and the approval of the Environmental Affairs Agency"²⁸. The Executive regulations of the present law shall organize the procedures and conditions to be followed in this respect.

²⁶ Substituted as per Law No. 9/2009.

²⁷ The phrase "and the approval of the Environmental Affairs Agency" replaced the phrase "in coordination with the Environmental Affairs Agency" as per Law No. 9/2009.

²⁸ The phrase "and the approval of the Environmental Affairs Agency" replaced the phrase "in coordination with the Environmental Affairs Agency" as per Law No. 9/2009.

Article: 75²⁹

The representatives of the competent administrative authorities, each in so far as he is concerned, may have access to and enter the prohibited area mentioned in articles (73) and (74) of the present Law to view the works being carried out in it and if it transpires for them that the works were carried out or have been started on, in violation of the foregoing provisions, the violator shall be tasked to restore things to their original status, otherwise the work shall be stopped administratively and things shall be restored to their original condition at the expense of the causer and the beneficiary, jointly, and the value shall be collected then through administrative attachment

Chapter: 3
International Certificates

Article: 76

Ships carrying the nationality of the Arab Republic of Egypt shall obtain from the Ports and Lights Department, the international Certificate of Preventing pollution with oil, or the International Certificate for preventing pollution resulting carrying harmful bulk liquid materials. These two certificates shall be issued according to the provisions and conditions prescribed in the Convention. The Validity of the Certificate shall not exceed Five Years from the date of issuing it.

Article: 77

Ships carrying oil regularly from or to one of the Egyptian ports, or from one of the oil carrying methods inside the territorial sea, or the exclusive economic area of the Arab Republic of Egypt, which fly the flag of a country joining the Convention, shall be holding the International Certificate For Prevention of Pollution with Oil, which certificate shall be valid according to the Convention. For ships to which applies the provisions of Clause - 1 of this article, and which fly the flag of a country not joining the Convention, the Minister of Maritime Transport shall determine the Certificate For Prevention of Pollution With Oil, as granted from the Ports and Lights Department, before the ship is licensed to carry oil regularly from one of the Egyptian ports or one of the means of transport of oil inside the exclusive economic area.

²⁹ Amended as per Law No. 9/2009 by deleting the phrase "in coordination with the Environmental Affairs Agency"

Chapter: 4
Administrative And Judiciary Procedures

Article: 78

Representatives of the competent administrative authorities and the consular representatives abroad shall be considered as investigation officers concerning the application of provisions of Part - 3 of the present law.

The Minister of Justice, in agreement with the competent ministers shall have the power to grant the quality of investigation officers to other operatives as shall be necessary for implementing this law and in agreement with the provisions of International Law.

Article: 79

Investigation Officers as prescribed in the previous article, in case of an occurring violation - if the Ship's Captain or Officer in charge thereof wishes to depart the Port urgently, shall have the authority to collect immediate amounts, temporarily, for account of executing the fine and compensation penalty to be imposed by a ruling, within the limits prescribed in Part - 4 of the present law, providing the amount thus collected shall not be less than the minimum limit prescribed for the violation plus all costs and compensations to be determined by the competent administrative authority, for removing the effects of the violation.

A financial guarantee may be offered for the sum of these amounts, to be accepted by the competent administrative authority, subject to the provisions of the International Convention Concerning the Civil Liability Resulting From Oil Pollution Damages, as signed in Brussels in the year 1969.

Article: 80

Subject to the provisions of the Criminal Procedure Law, Investigation Officers as referred to in Article (78), each in so far as he is concerned, may go on board the ships, and offshore Platforms, and enter the establishments erected on the sea shore, as well as inspect the transport means for oil and marine environment polluting materials to ensure they are complying with the application of the provisions of the present law and the decrees issued for its implementation, and that they are providing the methods and equipment necessary for treating these wastes.

The competent administrative authority shall issue its decision concerning the necessary procedures and steps considered by it to be mandatory for protecting the marine environment in the light of the results of such procedures. The concerned party may object to this decision before the Complaints Committee prescribed in article (81) of the present law, within Fifteen Days from the date he is notified thereof. The objection raised by the concerned party shall not result in suspending the implementation of this decision unless this Committee issues a decision suspending its implementation pending issue of a judgment in the dispute.

Article: 81

The competent Minister to be determined by the Executive regulations of the present law shall issue a decree forming the Complaints Committee whose office shall be located within the Ports' sphere of work, or with one of the administrative authorities close to it, as follows:

- A member from the State Council, with the grade of Counsellor. Chairman
- A representative of the Environmental Affairs Agency.
- A representative of the Ports and Lights Department.
- A representative of the Ministry of Defence.
- A representative of the Ministry of Petroleum And Mineral Wealth. } Member
- A representative of the competent administrative authority where the dispute occurs within the sphere of its activity.

The Committee may seek the assistance of one or more experts in marine environment affairs. This Committee shall be concerned with issuing a final decision in the administrative disputes resulting from applying the provisions of Part-3 of this law. The Committee shall issue its decisions after hearing the statements of the two parties, with the majority of votes of attending members. In case of equal voting the Chairman of the Committee shall have the casting vote.

The concerned parties may object to the decision of the Committee before the Administrative Court at the State Council.

Article: 82

All captain or exploiter of a ship using the Egyptian ports or licensed to operate in the territorial sea or the exclusive economic area of the Arab Republic of Egypt shall submit to the delegates of the competent administrative

authorities or the investigation officers assigned the implementation of the provisions of this law and the decrees issued for its implementation, all facilities as necessary to perform their mission.

Article: 83

The competent administrative authorities may request the assistance of each of the Ministries of Defence, Interior, and Petroleum, the Suez Canal Authority, or any other competent Authority, in implementing the provisions of part-3 of the present law, in accordance with the conditions to be issued by virtue of a decree of the competent Minister.

Article: 83 Bis³⁰

Lawsuits filed for violating the provisions of the present law shall be promptly heard.

³⁰ Added as per Law No. 9/2009.

Part - 4

Penalties

Article 84³¹

Without prejudice to any severer punishment stipulated in any other law, any person in breach of the provisions of Article (28) of the present law shall be imprisoned and / or shall pay a fine not less than 5000 pounds and not more than 50,000 pounds.

In all cases, seized birds, animals, living organisms, plants, fossils as well as the machinery, weapons, tools and means of transportation used in committing the crime shall be confiscated.

Article 84 Bis³²

Any person in violation of the provisions of Articles 22 and 37 (item 1) and Article (69) of the present law shall be punished by imprisonment for no more than one year and/ or a fine not less than 5,000 pounds and not more than 100,000 pounds.

Any person in violation of the provisions of articles 19 & 23 of the present law shall be punished by a fine not less than 50,000 pounds and not more than one million pounds.

In case of recurrence, both limits of the fine shall be doubled while the maximum limit of the imprisonment shall be doubled.

In addition to the previous penalties, the establishment may be closed, its license may be revoked and violating activity may be stopped.

Article 84 Bis-1³³

Any person in violation of item (d) of Article (13-Bis) of the present law shall be punished by a fine not less than 10,000 pounds and not exceeding 100,000 pounds.

³¹ Substituted as per Law No. 9/2009.

³² Added as per Law No. 9/2009.

³³ Added as per Law No. 9/2009.

In addition to the referred to penalty, the expertise home exercising its work without obtaining the approval certificate referred to in Article (13-Bis) of the present law shall be closed.

Article: 85

All violator of the provisions of articles (30), (31), and (33) shall be liable to punishment with imprisonment for a period of not less than one year and a fine of not less than Ten Thousand pounds and not exceeding Twenty Thousand pounds, or either penalty.

Article: 86

All violator of the provision of article (36) of the present law shall be liable to punishment with a fine of not less than Two Hundred pounds and not exceeding Three Hundred Pounds. Also, all violator of the provision of article (39) of the present law shall be liable to punishment with a fine of not less than Five Hundred pounds and not exceeding One Thousand pounds.

The Court may order suspending the Licence for a period of not less than One Week and not exceeding Six Months, and in case of recurrence the Court may issue a ruling for cancelling the licence.

Article: 87³⁴

Any person violates the provisions of the first paragraph of Article (42) of the present law shall pay a fine not less than five hundred pounds and not more than two thousand pounds alongside with confiscating the devices and equipment used in committing the crime.

Any person in breach of the provisions of articles 35, 37 (items b and d), 38, 40, 41, 43, 44, 45, 46 (first paragraph) and 47-Bis of the present law shall be punished by a penalty not less than 1,000 pounds and not more than 20,000 pounds.

In case of recurrence, the fines set forth in the previous 2 paragraphs shall be doubled.

Should any person violate the provisions of second paragraph of Article (46) of the present law, shall be punished by a fine not less than 50 pounds and not more than 100 pounds.

³⁴ Substituted as per Law No. 9/2009.

Article: 88

All violator of the provisions of articles (29), (32), and (47) of the present law shall be liable to imprisonment for a period of not less than Five Years and a fine of not less than Twenty Thousand pounds and not exceeding Forty Thousand pounds. Also all violator of the provisions of article (32) shall be forced to re-export the dangerous wastes subject of the crime, at his own expense.

Article: 89

All violator of the provisions of articles (2), (3), ultimate clause (4), (5) and (7) of law No.48 of the year 1982 Concerning the Protection of the River Nile and the Water Courses From Pollution, and the Decrees issued for its implementation shall be liable to punishment with a fine of not less than Two Hundred pounds and not exceeding Twenty Thousand pounds.

In case of recurrence the Penalty shall be both Imprisonment and Fine as prescribed in the previous clause.

In all cases, the violator shall remove or correct the works subject of the violation, within the date to be determined therefor by the Ministry of Public Works and Water Resources. If he fails to remove or correct the violating works within the date determined therefor, the Ministry of Public Works and Water Resources shall have the right to take procedures of removing or correcting the violation through administrative channels, at the expense of the violator, without prejudice to the right of the Ministry to Cancel the Licence.

Article: 90³⁵

Any person who commits any of the following acts shall be punished by a fine not less than 300,000 pounds and not more than 1,000,000 pounds:

- 1- Disposing or dumping oil, oil mixture or harmful substances in the regional sea or the exclusive economic zone, in breach of the provisions of articles 49 and 60 of the present law.
- 2- Non-abidance by the treatment of disposed wastes and pollutants and non-utilization of safe means for preserving water environment, in violation of the provisions of Article (52) of the present law.

³⁵ Substituted as per Law No. 9/2009.

- 3- Intentional dumping - in the regional sea or the exclusive economic zone - of the vessels or parts thereof as well as the industrial structures, pollutants and wastes, whatever the source.

In the event of recurrence, the penalty shall be the imprisonment and fine set forth in the previous paragraph of such article.

In all cases, violating person shall make good the damage on the date that the appropriate administrative body species, otherwise such body shall correct that damage on his expense.

Article: 91³⁶

The penalty shall be imprisonment and/ or a fine not less than 300,000 pounds and not more than 1,000,000 pounds plus bearing the costs of removing the violation impacts as per the instructions of bodies ordering such removal for any person acts in violation of the provisions of Article (54-b) of the present law, if the unloading resulting from negligence or damage of the ship or its devices aims at breaking down or damaging the ship.

In case of recurrence, the fine shall be doubled. The executive regulations implementing the present law shall define the limitations of evaluating the costs of removing the violation based on the amount of pollution and environmental impact resulting from the violation of the provisions of such article.

Article: 92

Whoever commits one of the following violating acts shall be liable to a Fine of not less than Seven Thousand pounds and not exceeding Three Hundred Thousand pounds:

1. Failure to provide and equip the foreign ships using Egyptian Ports, or sailing across the exclusive Maritime area with equipment for reduction of pollution, in violation of the provisions of Article (57) of the present law.
2. Failure to take all adequate precautions to prevent or reduce the effects of pollution before and after the occurrence of the damage in the ship or in one of its equipment, or the failure to notify the competent administrative authority, immediately, of the unloading operation resulting from a damage

³⁶ Substituted as per Law No. 9/2009.

to the ship or to one of its equipment, in violation of the provisions of article (54-B) of this law.

3. Failure to notify the competent administrative authority, immediately, of all oil leakage incident, and to indicate the circumstances of the incident, the type and percentage of the leaking material and substance, and the procedures taken in violation of the provisions of article (55) of this law.

In case of recurrence to violating the provisions of item (1), the Fine shall be doubled. And in case of recurrence to violating the provisions of items (2) and (3), the penalty shall be Imprisonment and a fine of not less than Three Hundred Thousand Pounds and not exceeding Five Hundred Thousand pounds or either penalty.

In all cases, the Violator shall remove the effects of the violation within the date to be determined by the competent administrative authority. If he fails to remove them, this Authority shall proceed with removing these effects at his own expense.

Article 93

Whoever commits one of the following violating acts shall be liable to a fine of not less than Forty Thousand pounds and not exceeding Two Hundred Thousand pounds:

1. In case the ship or the tanker carries out shipping and unloading operations without getting a permit from the competent administrative authority, in violation of the provisions of article (56) of this law.
2. Failure of the ship or the tanker to keep the certificates and registers prescribed in articles (58), (62), (76) and (77) of this law.
3. Discharging the polluting sanitary drainage waters, or throwing garbage from the ship, in violation of the provisions of articles (66) and (67) of the present law.
- 4.³⁷ The fine not less than 100,000 pounds and not exceeding 500,000 pounds for any person in violation of the provisions of Article (50) of the present law shall apply, if any vessel registered in Egypt disposes or releases oil or oil mixture at sea.

³⁷ Substituted as per Law No. 9/2009.

Article: 94

Whoever commits one of the following violating acts shall be liable to a fine of not less than Forty Thousand pounds and not exceeding One Hundred and Fifty Thousand pounds:

1. Failure to provide and furnish the ships registered with the Arab Republic of Egypt with the equipment and apparatuses necessary for reducing pollution, in violation of the provisions of article (57) of this law.
2. Contravening the orders of the Competent Administrative Authority's Inspectors and of the Investigation Officers, in case of an accident occurring to one of the ships carrying oil or harmful materials, according to the provisions of articles (53) and (63) of this law.

Article: 94 Bis³⁸

Any person dumping hazardous wastes at the regional water, exclusive economic zone or continental shelf shall be punished by imprisonment and a fine not less than million pounds and not more than 5 million pounds in addition to paying the costs of removing the violation impacts and environmental damages by the violator.

Article: 95

Whoever commits an act in violation of the provisions of this law shall be liable to jail confinement for a period of Ten Years in case such act results in causing to some person an incurable infirmity. The penalty shall be confinement to jail if the violation results in causing this infirmity to three or more persons.

If this act results in the decease of a certain person, the penalty shall be Temporary Hard Labour. The Penalty shall be Hard Labour for Life if the act results in the decease of three or more persons.

Article: 96

The Ship's Captain or the officer in charge of it, and the parties to contracts for exploration, extraction, and exploitation of offshore oil fields and other natural resources, including means of oil transport, and the owners of stores and establishments prescribed in article (69), each in so far as he is concerned, shall be jointly responsible for all damages caused to any natural or

³⁸ Added as per Law No. 9/2009.

juridical person as a result of violating the provisions of this law. They shall also be responsible for settling the fines to be inflicted in implementation of the law, and also for paying the costs of removing the effects of this violation.

Article: 97

The penalties prescribed in the previous articles shall be inflicted with regard to all ships of all nationalities and kinds, including the ships belonging to a state not joining the Convention, in case they throw oil or oil mixture, and proceed with the prohibited throwing or drowning in the territorial sea or in the exclusive economic area of the Arab Republic of Egypt

Article: 98

Any person in breach of the provisions of articles 73 and 74 of the present law shall be punished by imprisonment for no more than 6 months and/or a fine not less than 5,000 pounds and not more than 50,000 pounds ³⁹.

No Court ruling shall be passed staying the execution of the Fine Penalty. In all cases, and without waiting for the Court ruling in the Case, the violating works shall be discontinued and removed administratively at the expense of the violator, and the equipment, articles and materials used in these works shall be seized. In case of conviction ruling, these articles, materials, and equipment shall be confiscated by virtue of the Court ruling.

Article: 99

The Court within the jurisdiction of which the crime is committed shall be concerned with judging the crimes referred to in this law, in case these crimes are committed by the ships referred to in article (97) inside the territorial sea of the Arab Republic of Egypt, or in the exclusive economic area. The Court shall issue its final ruling in the Case, summarily.

The Court within the jurisdiction of which lies the Port in which the ship flying the Egyptian flag is registered shall be concerned with judging the crimes which are committed outside the two areas referred to in this article.

Article: 100

Subject to the provisions of article (79) of this law, the competent administrative authority shall take legal procedures of retaining any ship

³⁹ Substituted as per Law No. 9/2009.

refraining from paying the immediate Fines and Compensations prescribed in case of being caught in the act, or in case of the Urgency prescribed in the foregoing article of this law.

The Custody shall be lifted in case of settling the amounts claimed or submitting an unconditional financial guarantee to be accepted by the competent administrative authority.

Article: 101

Inflicting the penalties prescribed in this Part shall not derogate the infliction of any stricter penalty which is prescribed in another law.

Conclusive Provisions

Article: 102

Subject to the provisions of article (78) of this law, the officials of the Environmental Affairs Agency and its branches in the Governorates, as shall be determined by decree of the Minister of Justice, in agreement with the Minister concerned with Environmental Affairs, shall have the powers of investigation officers in establishing the crimes occurring in violation of the provisions of this law and the decrees issued for its implementation.

Article: 103

All citizen or society concerned with environmental protection shall have the right to report about any violation of the provisions of this law.

Article: 104

Inspectors of competent administrative authorities, as well as the inspectors of the Environmental Affairs Agency, who are vested with the powers of Investigation Officers concerning the fields of Environment, each in so far as he is concerned, shall notify any violation of the provisions of this law to the Authorities to which they belong. The competent authorities shall then take legal procedures as necessary in respect thereof.

Decree of The Prime Minister No. 338/1995
Promulgating
The Executive Regulations
Of The Law On
Environment
Promulgated By Law No. 4 Of The Year 1994
(As Amended By Decree No. 1741 Of The Year 2005)

The Prime Minister,

On thoroughly reviewing Law No. 4 of the year 1994, promulgating the Law on Environment;

The proposal of the Minister Concerned With Environmental Affairs, after consulting the view of the Board of the Environmental Affairs Agency; And

Upon the recommended view of the State Council,

DECREES THE FOLLOWING :

Article : 1

The provisions of the Executive Regulations of the Law On Environment as promulgated by Law No. 4 of the year 1994, and as hereto attached, shall come into force.

Article : 2

Subject to the provisions of Article-1 of Law No. 4 for the year 1994, referred to hereinbefore, the establishments willing to get an extension of the period determined for adapting their states of affairs shall submit their application to the Environmental Affairs Agency, six months before the end of the three years' period prescribed in the foregoing article, providing the request

shall comprise the justifications for the required extension and the procedures taken toward applying the provisions of the attached regulations.

The Environmental Affairs Agency shall ascertain the validity of the data submitted thereto and the extent of the Establishment's seriousness in applying the provisions of these regulations, then submit a detailed report supported with documents, to the Minister Concerned with Environmental Affairs to raise it to the Cabinet.

The Environmental Affairs Agency may, in preparing the report concerning the requested extension, have recourse to experts to be delegated thereby for the purpose. In this case, the applicant requesting the extension shall bear the costs and expenses to be determined by the Agency for these experts.

Article : 3

The present Decree shall be published in Al-Wakaye Al-Mesreya / Government Bulletin and shall come into force effective from the day following the date of its publication.

Issued at the Cabinet Premiership on 18th of Ramadan, 1415 (Islamic Calendar), corresponding to 18th of February, 1995 (Gregorian Calendar).

Prime Minister
Dr. Atef Sidky

The Executive Regulations Of The Law On Environment

Preliminary Part

Chapter : 1 **General Provisions**

Article : 1

In applying the provisions of these regulations, the following terms and expressions shall denote the meanings indicated next to each of them :

1) Pollutants To Water Environment :

Any materials the disposal of which in water environment, voluntarily or unvoluntarily, will result in changing its characteristics or in contributing, directly or indirectly, in a manner harmful to man, natural resources or sea waters, or prejudicial to touristic areas, or interfering with other legitimate uses of the sea.

Under these materials the following are included :

- (A) Oil or Oil Mixture.
- (B) Harmful and dangerous wastes as prescribed in international agreements whereby the Arab Republic of Egypt is a member.
- (C) Any other materials (solid - liquid - gaseous) for which a decree will be issued by the Minister Concerned With Environmental Affairs.
- (D) Untreated residual wastes or liquids of industrial installations.
- (E) Lethal military packages.
- (F) All that is specified in the Agreement and its annexes.

2)¹ Disposition Of Pollutants :

All leaking, pouring, emitting or disposing of pollutants in territorial sea waters, the pure economic area, the sea, the River Nile, and water courses, subject to the levels and specific limits determined for certain materials, according to the limits indicated in annex (1) attached to these regulations, and subject to the guidelines determining the limits of pollution defined by the Environmental Affairs Agency in coordination with the relevant bodies without prejudice to the provisions of the law and the present regulations.

3)² Compensation :

It means compensation for damages and harms resulting from pollution incidents, consequent to applying the provisions prescribed in the Civil Code and substantive provisions prescribed in the International Agreement On Civil Liability to which the Arab Republic of Egypt is a member at present or in future, including the International Agreement On Civil Liability for the Damages Resulting From Oil Pollution Incidents as signed in Brussels in the year 1969, or incidents of pollution with poisonous substances and other noxious substances, pollution incidents resulting from nuclear-powered vessels, or those incidents resulting from pollution by air, as well as the pollution resulting from collision and stranding of the vessel, or during loading and unloading of vessels. In addition to the damages and harms resulting from pollution incidents due to the violation of the provisions of law No. 4 of the year 1994 and the present regulations.

4) Shore line :

It is the maximum limit as reached by sea water on land during the highest tide occurring during a period of not less than eleven years.

5) Territorial Sea :

The areas of the sea next to the shores of the Arab Republic of Egypt and extending seaward to a distance of 12 nautical miles measured from the base line, starting from which the breadth of the territorial sea is measured according to the United Nations Agreement On Sea Law for the year 1982.

¹ Substituted as per D. No. 1741/2005.

² Substituted as per D. No. 1741/2005.

6) Exclusive Sea Region :

It is the sea region extending beyond the territorial sea for a distance of two hundred nautical miles measured with the base lines.

7) Sea :

It is the sea areas lying beyond the exclusive economic region.

8) Special Sea Region :

It includes the two regions of the Mediterranean Sea and the Red Sea, according to the geographical and natural borders specified in Rule No. (10) of Annex No. (1) to the Marpol Agreement for the year 1973-1978.

9)³ Garbage and solid wastes:

Solid wastes of the town and all solid wastes resulting from the individuals and residential and non-residential buildings like the governmental buildings, the institutions, organizations, companies, factories, hotel and tourist establishments, stores of all kinds, camps and encampments, folds, slaughterhouses, markets and public places, entertainment centers, etc., and means of transport, the agricultural solid wastes disposed of or burned by their owners in other than their appropriated places, the sludge of sanitary drainage, water courses purging residuum, the solid wastes of farm and domestic animals, the perished fowls and animals, cigarette stubs, and all that by being left in other than its appropriated place results in health damages, outbreak of fire, or disturbance of the aesthetical appearance or cleanliness of the town or village.

10)⁴ Water environment :

The water environment extending on the coasts of the Arab Republic of Egypt in the Mediterranean, the Red Sea, the Suez Canal, the territorial sea, and the pure economic area lying next to its shores in the Mediterranean and the Red Sea.

³ Added as per D. No. 1741/2005.

⁴ Added as per D. No. 1741/2005.

Chapter : 2
Environmental Affairs Agency

Article : 2

The above-mentioned Environmental Affairs Agency as established under Law No. 4 of the year 1994 shall replace the Agency which was established by virtue of Presidential Decree No. 631 of the year 1982, with all its rights and obligations. The personnel of that Agency shall be transferred with their grades and seniorities to the Environmental Affairs Agency, and shall be housed according to their status in the organizational sectors of which the Agency is formed, by virtue of a Decree of the Agency's Executive Head.

Article : 3

The Board of the Environmental Affairs Agency shall be formed by a decree of the Prime Minister, under the Minister Concerned with Environmental Affairs, with the membership of each of :

1. The Executive Head of the Environmental Affairs Agency, as Deputy Board Chairman.
- 2.⁵ Representatives from six ministries in charge of environmental affairs to be nominated by the Prime Minister.

Each one of the aforementioned representatives shall be of a high grade, and shall be elected by the minister concerned.

3. Two Experts in the field of Environmental Affairs, to be elected by the Minister Concerned With Environmental Affairs upon the proposal of the Executive Head of the Agency.
4. Three non-governmental organizations that are concerned with environmental affairs to be elected among the nominees of these organizations in order to represent them on the Board, in agreement with the Minister Concerned With Environmental Affairs.
5. One of the personnel of the Environmental Affairs Agency, among the incumbents of key positions, to be elected by the Minister Concerned With

⁵ Substituted as per D. No. 1741/2005.

Environmental Affairs upon the proposal of the Executive Head of the Agency.

6. The Competent Head of Legal Opinion Department at the State Council.
7. Three of the Public Business Sector Representatives to be elected by the Minister Concerned With Environmental Affairs, upon their nomination by the Executive Head of the Environmental Affairs Agency, among the nominees of these entities.
8. Two members from the Universities and Scientific Research Centers to be elected by the Minister Concerned With Environmental Affairs among the nominees of these entities.

The representatives of the Competent Ministries shall be invited when discussing subjects related to the sectors supervised by them. The Board may also have recourse to whoever it chooses among people of experience when discussing specific issues without these having any counted vote in the deliberations. The Board of Directors may form consultative committees from specialized people of experience to study specific subjects. The Board may also assign to one or more of its members the fulfillment of a determined mission.

The Secretariat of the Board shall be assigned to the Secretary General of the Agency who shall have no counted vote in the deliberations unless he has been elected as member of the Board. The formation of the Board shall be renewed every three years.

Article : 4

The Board of the Agency is the Higher Entity dominating the Agency's Affairs and the disposal of its matters as well as laying the general policy on which it proceeds. It shall have the power to take such decisions as it deems necessary for realizing the purposes the Agency is established for and within the context of the National Plan. It shall in particular have the power to :

1. Approve the national plans on protection of environment.
2. Approve the Environmental Emergencies Plan Against Disasters.
3. Prepare the draft laws related to environment.
4. Approve the experimental projects undertaken by the Agency.

5. Approve the Environmental Training policy and plans.
- 6.⁶ Approve the guideline rates, percentages and standards set for the specific limits of pollutants, that are prescribed with a view to preventing the environmental pollution.
7. Approve the bases and procedures of evaluating environmental effect of projects.
8. Supervise the Environmental Protection and Development Fund.
9. Approve the organizational structure of the Agency and its branches in the Governorates.
10. Approve the internal regulations of the Agency and its workers regulations.
11. Approve the draft annual budget of the Agency.
12. Look into all matters lying within the Agency's jurisdiction as considered necessary by the Board Chairman to be submitted to the Board of the Agency.
13. Determine such resolutions of the Board as necessary to submit to the Cabinet to take a decision in respect thereof. In all cases, the Board include in its decisions, particularly those which the Board considers necessary to submit to the Cabinet, a study of the costs of implementation and the results expected to be realized.

Article : 5

The Executive Head of the Environmental Affairs Agency shall be responsible for implementing the general policy set toward realizing the purposes of the Agency and the decisions of the Board of Directors. He shall in particular be concerned with the following :

- Exercising the powers of the Minister as prescribed in laws and regulations concerning the workers of the Agency.
- Exercising the powers of the Minister as prescribed in the rest of laws and regulations related to managing the Agency's affairs, disposing of its technical, financial and administrative affairs, and realizing its purposes.

⁶ Substituted as per D. No. 1741/2005.

- Exercising the powers of the Minister within the context of applying the provisions of Law No. 9 of the year 1983 concerning the promulgation of the Law on Adjudications and Biddings, and its executive regulations.
- Developing the system of work in the Agency, supporting and strengthening its means and organs, and issuing the decisions necessary therefor.
- Obtaining information and data as related to the purposes of the Agency from the different competent entities and departments, whether governmental or non-governmental, internally or from abroad.
- Working for the implementation and application of the provisions of the Law on Environment, as referred to hereinbefore and the provisions of these regulations, in agreement, coordination, and cooperation with other entities which are legally concerned therewith.

Article : 6

The Agency shall have a structure of functions to be issued by virtue of a decision from the Executive Head of the Agency after getting the Board's approval, and in agreement with the Central Planning and Management Agency and the Ministry of Finance.

Chapter : 3 **Environmental Protection Fund**

Article : 7⁷

A special Fund shall be established with the Environmental Affairs Agency, to be named "Environmental Protection Fund" and to which shall devolve the following :

- (A) The amounts to be appropriated by the State in its Budget, to support the Fund.
- (B) Donations and allowances as granted by national and foreign bodies for purposes of environment protection and development, and as accepted by the Board of the Agency.

⁷ Second clause cancelled as per D. No. 1741/2005.

- (C)⁸ Fines and compensations to be ruled, or by paying them a compound is reached, or to be agreed upon for the damages caused to the environment. The amounts to be collected for account of these fines and compensations shall be temporarily deposited in the Fund as a trust.
- (D) Resources of the Protectorates Fund, as prescribed in Law No. 102 for the year 1983.
- (E) The share of the Environmental Affairs Agency from the 25% of the proceeds of dues imposed on travel tickets issued in Egypt, in Egyptian currency according to article-1 of Law No. (5) of the year 1986, and Prime Minister's Decree No. 697 for the year 1986, with a minimum of 12.5 % of the total proceeds of dues referred to hereabove.
- (F) The yield of experimental projects undertaken by the Agency.
- (G)⁹ Charge for the paid services performed by the Agency to third parties. A decree of the minister concerned with environmental affairs shall be issued to determine the charge for services following approval of the Agency's board of directors.
- (H) Cancelled ¹⁰.

The Fund shall have a special budget, and the Fund's financial year shall begin with the beginning of the fiscal year of the state and end with it. The surplus of the Fund shall be carried forward from one year to another. The moneys of the Fund shall be considered public funds.

Article : 8

The resources of the Fund shall be appropriated for disbursing toward the Fund's purposes, and in particular the following :

1. Facing environmental disasters.
2. Experimental and pilot projects in the field of protecting natural wealths and environment from pollution.

⁸ Substituted as per D. No. 1741/2005.

⁹ Substituted as per D. No. 1741/2005.

¹⁰ Cancelled as per D. No. 1741/2005.

3. Acquiring low-cost technologies which proved to be applicable successfully.
4. Financing the manufacture of models of equipment apparatuses and stations treating environment pollutants.
5. Establishing and operating Environmental Survey Networks.
6. Establishing and managing natural protectorates with the aim of preserving natural wealth and resources.
7. Facing pollution from unknown sources.
- 8.¹¹ Financing the studies necessary for preparing environmental programmes, evaluating environmental effect, and setting the guideline rates and standards of the specific limits of pollutants, that shall be complied within order to protect the environment.
9. Participating in financing environmental protection projects as undertaken by the local government agencies and the non-governmental organizations, to which a portion of finance is provided through popular participation.
10. Projects for combating pollution.
11. Issuing bonuses for outstanding accomplishments, regarding the efforts exerted in the field of environmental protection.
12. Consolidating the basic structure of the Agency and developing its activities.
13. Other purposes aimed at environmental protection or development, as approved by the Board of the Agency.

Chapter : 4
I n c e n t i v e s

Article : 9

The Environmental Affairs Agency, jointly with the Ministry of Finance shall set within six months from enforcing these regulations an Incentives

¹¹ Substituted as per D. No. 1741/2005.

System the Agency and Competent Administrative Entities and Departments could offer to Organizations, establishments, individuals, and others who carry out projects and works that are likely to secure protection for environment, providing that in setting this system, the privileges and conditions shall be observed as prescribed in the laws and decrees in force, particularly those related to investment, customs, industry, cooperatives, and others.

Part - 1

Protecting Land Environment From Pollution

Chapter : 1 **Development And Environment**

Article : 10¹²

The concerned administrative entity, or the entity granting the license shall assess the environmental effect of the establishment requested to be licensed or intended to be established, based on the study submitted by the establishment or the entity establishing it, according to the elements, designs, specifications, bases, and guide standards of pollution specific limits, as issued by the Environmental Affairs Agency, in agreement with the concerned administrative entity. The assessment shall comprise a statement of all elements of the establishment's self-monitoring system, and the pollution limits requested to be licensed. The Environmental Affairs Agency shall verify the foregoing whenever necessary.

Article : 11

The provisions of article (10) of these regulations shall apply to installations and establishments as indicated in annex no.(2) to these regulations.

Article : 12¹³

The license applicant shall attach to his request an adequate statement on the establishment comprising the data included in the form to be provided by the Environmental Affairs Agency with the concerned administrative entity, the limits of the pollutants requested to be licensed, and all elements of the establishment's self-monitoring system. The Environmental Affairs Agency shall provide a register comprising copies of these forms, the results of assessment and the pollution limit set for the establishment, and the Agency's demands from the owner of the establishment.

¹² Substituted as per D. No. 1741/2005.

¹³ Substituted as per D. No. 1741/2005.

Article : 13

The Environmental Affairs Agency may resort to the assistance of any of the specialized people whose names shall be issued in a statement to be set by the Agency according to the criteria to be set by the Board of the Agency, in order to express their view in assessing the environmental effect of the establishment intended to be established and also for which the licence is requested.

Article : 14

The competent Administrative entity shall notify the owner of the Establishment of the assessment result, by virtue of a registered letter with acknowledgment of receipt. He may object to this result, in writing, within thirty days from the date of the notification, before the Permanent Verification Committee whose formation shall be constituted by virtue of a decree of the Minister Concerned With Environmental Affairs, with a Counsellor of the State Council as its Chairman, and the membership of each of the following :

- A delegate from the Environmental Affairs Agency to be nominated by the Executive Head of the Agency.
- The owner of the Establishment, or his delegate by virtue of an official power of attorney.
- A representative of the Competent Entity or the Entity granting the Licence if it is not the Competent Entity.
- Three experts to be selected for the membership of the Committee upon their nomination by the Executive Head of the Agency, for a period of three years.

The Committee may form among its members and others, sub-committees, to be assigned the study of objections as referred thereto and raise their reports to the Committee. In Exercising their tasks, these Sub-Committees may resort to whoever is considered to be expedient for the purpose , and the Committee shall issue its decision within Sixty Days from the date of receipt of the objection papers duly fulfilled.

Article : 15

The Permanent Verification Committee prescribed in Article (14) of these regulations shall be concerned with looking into the objections referred to it,

concerning the assessment result, or the proposals required to be implemented as considered necessary by the Environmental Affairs Agency, and shall announce its view with regard to these objections, concerning the controls prescribed in article (10) of these regulations. The objection shall be submitted to the Environmental Affairs Agency, in writing, fulfilling the reasons for the objection, and the legal and scientific grounds on which the owner of the project is based. He shall also attach to his objection such documents as regarded by him to be in support of the aspects of his objection.

Article : 16

The Committee shall meet upon the invitation of the Executive Head of the Environmental Affairs Agency, within fifteen days from the date the Agency receives the objection in writing. A representative of the Agency to be delegated by the Executive Head shall draw up the minutes of the meeting. He shall not have any counted vote concerning the discussions taking place. The decision of the Committee shall be issued with the majority of votes. The Minutes of the Meeting shall be signed by all attending members.

Article : 17 ¹⁴

The owner of the establishment shall - according to the provisions of these regulations - maintain a register indicating the impact of the establishment's activity on environment, and in which the following data shall be recorded :

- Emissions emanating therefrom or drained thereby and the limits thereof.
- Specifications of the elements resulting from the treatment process, and the efficiency of the treatment units used for the purpose.
- Follow-up as well as environmental safety and self-monitoring procedures applied in the Establishment.
- Periodical tests and measurements, and the number of samples, together with the time and place of taking them as well as taking measurements and making analyses results thereof.
- The officer in charge of follow-up.

The Register shall be provided according to the form indicated in annex no. (3) attached to these regulations.

¹⁴ Substituted as per D. No. 1741/2005.

The owner of the Establishment or his delegate shall notify the Environmental Affairs Agency forthwith by a registered letter with acknowledgment of receipt, of any deviation in the standards, specifications and limits of emitted or drained pollutants, and the procedures taken to correct same.

Article : 18

The Environmental Affairs Agency shall be concerned with following up the data of the register to ensure their conformity to actual reality, and the compliance of the establishment with the self-monitoring plan, and the extent to which the equipment thereof are sound and the persons in charge of monitoring are efficient. The Agency shall take necessary samples and conduct suitable tests to show the impact of the Establishment's activity on environment in addition to determining the extent to which such samples are in conformity to the guideline standards set for protection of the environment ¹⁵.

Such follow-up shall take place periodically at least once a year, or whenever necessary, and a report on each follow-up shall be raised and deposited with the competent sector within the Agency, and be duly signed by the officer in charge of surveying and testing, as well as the date of survey and test. If it transpires that the establishment does not maintain the environmental register, or that it does not record its data regularly, or if any other violations are detected, the Agency shall notify the competent administrative entity to task the owner of the establishment by registered letter with acknowledgment of receipt, to correct these violations promptly, as dictated by the norms of industry. If he fails to comply with the foregoing within sixty days, the Executive Head, in coordination with the competent Administrative Entity shall apply the following procedures ¹⁶:

- 1- Granting the establishment an additional period to rectify the violations along with incurring the compensations to be agreed upon therewith for the damages resulting from such violations.
- 2- Closing down the Establishment.
- 3- Suspending the violating activity, pending the violations are rectified.
- 4- Suing in court for suitable compensations to remedy the harms resulting from the violations.

¹⁵ Substituted as per D. No. 1741/2005.

¹⁶ Substituted as per D. No. 1741/2005.

These establishments shall maintain the register duly fulfilled according to the form prescribed in article (17) of these regulations, in a permanent manner. On renewing its data, the Establishment shall maintain the register for a period of ten years, to be reckoned from the date the delegate of the Environmental Affairs Agency signs the register to confirm having carried out the survey.

Article : 19

The expansion of renewals carried out in an existing establishment shall be subject to the same provisions prescribed in articles Nos. (19), (20), (21) and (22) of the foregoing Law On Environment.

Changing the operating machines pattern of production, increasing the number of workers in a way exceeding the capacity of the place of work, or any essential modifications in the building of the Establishment, and in particular those connected with the system of ventilation, changing the site of work, or other like modifications which might result in the increase of the limits of pollutants, or a harmful impact on environment or on the workers of the Establishment, shall be considered same as expansions or renewals¹⁷.

The concerned administrative entity, or the entity granting the license may, spontaneously or upon the request of the environment affairs agency, invalidate the licenses issued to the establishment non-complying with the provisions of articles Nos. 19 and 20 of law no. 4 of the year 1994, and articles Nos. 10 and 12 of the present regulations, or suspend the validity of the license pending completion of the procedures of assessing the environmental effect of the establishment according to the provisions prescribed in the said articles¹⁸.

Article : 20

The existing environmental survey networks, including the stations related thereto, shall be considered as work units attached to their competent entities administratively. They shall - within the scope of their jurisdictions - record the components and pollutants of environment periodically, and provide the relevant data to the competent Entities. In their performance of these assignments they may resort to the Research Centers, and the competent bodies and entities. These Centers, Bodies, and Entities shall provide them with such studies and data as are required thereby.

¹⁷ Substituted as per D. No. 1741/2005.

¹⁸ Added as per D. No. 1741/2005.

The Environmental Affairs Agency shall supervise the establishment and operation of Environmental Survey networks preliminary to setting a national programme for Environmental observations.

Article : 21

The Environmental Affairs Agency, in cooperation with the Ministries, Governorates, Public Entities, and other competent entities and entities shall lay down an Emergency Plan to face environmental disasters. The plan shall be approved by the Cabinet, and the Emergency Plan shall depend basically on the elements indicated in the following stages :

A) Stage Prior To The Occurrence of The Disaster :

- Determining the types of environmental disasters, and the areas which are the most affected thereby, and identifying the expected impact of each of them.
- Collecting and gathering the information locally and internationally available on the method of facing the environmental disasters, and means of mitigating the harms and damages ensuing therefrom.
- Determining the potentials available at local, national and international levels, and defining the method of resorting thereto in a way ensuring prompt confrontation of the disaster.
- Determining the entities and entities in charge of notifying about the disaster, or expecting its occurrence.
- Setting the procedures appropriate for each type of these disasters.
- Establishing a Central Operations Chamber to receive notifications about environmental disasters, and following up the receipt and despatch of accurate information thereon with the aim of mobilizing the necessary potentials to conform such disasters.
- Supervising, training, and following up to confront the disasters, at all levels.
- Facilitating the system and methods of exchanging information between the different entities and entities concerning the disasters, along with ensuring the accuracy of the system efficiency.

- Determining the method of exchanging and requesting assistance between the different entities and entities, in case of managing the crisis, along with establishing suitable databases.

B) Stage Of A Spread Disaster :

- Forming a task group to follow up steps of confronting the environmental disaster on its occurrence.
- Implementing the set plans for coordination and cooperation at local, regional, and central levels, to ensure sustained and continued influx of equipment, supplies, and fittings to the site of the disaster.
- Realizing optimal utilization of actual potentials which are available with the different entities and entities, in dealing with the disaster.
- Determining the demands of each entity from the other entities in the light of the developments of the disaster.
- Determining the method of informing the citizens about the disaster, its developments, and methods of dealing with its impacts.

C) Stage Of Removing Disaster Aftermath :

- Determining the method of other entities participation in removing the aftermath of the disaster.
- Developing the plans with the aim of improving the performance. Raising the level of public consciousness with the method of dealing with disasters.

D) Stage of Recording The Results Of The Disaster, And The Lessons Learned Therefrom :

- Recording the economic and social effects consequent upon the occurrence of the disaster.
- Recording the lessons learned from dealing with each disaster. Proposals to avoid aspects of shortage and inadequacy as emerged during confrontation of the disaster.

Article : 22

The Operation Chamber referred to in article (21) of these regulations shall form a task group to confront the environmental disaster when occurred or expected to occur. This group shall comprise within its membership the representatives of the competent entities and bodies. Head of the Task Group shall have all powers necessary to confront the environmental disaster, in cooperation with the competent agencies.

Article : 23

It shall be prohibited by all means hunting, killing, or catching wild birds and animals as prescribed in annex (4) attached to these regulations. It shall also be prohibited to possess these birds and animals, and transport or wander about with them, sell them, or offer them for sale, live or dead.

It shall likewise be prohibited to destroy the nests of the foregoing birds, or destroy their eggs.

The provision of this article shall apply to areas of natural protectorates, as well as the areas where the animals and birds that are threatened with extinction exist, and in respect of which a decree shall be issued from the Minister of Agriculture or the Governors in coordination with the Environmental Affairs Agency.

Article : 24

No licence shall be issued for catching and trapping the wild birds and animals prescribed in annex (4) to these regulations except for scientific research purposes, or stamping out epidemic, and for other purposes to be approved by the Environmental Affairs Agency. An application for issuing the Licence shall be submitted in writing to the Ministry of Interior indicating the type of wild birds and animals required to be hunted and caught, the number required to be hunted thereof, the purpose of catching them, the period of hunting, the individual or individuals for which the licence is needed to be issued, and the method and tools of hunting. The Ministry of Interior shall refer this request to the Environmental Affairs Agency to ascertain the seriousness and importance of such application.

Chapter : 2
Dangerous substances And Wastes

Article : 25

The circulation of dangerous substances and wastes shall be prohibited without a licence to be issued by the competent entity indicated next to each type of these materials and wastes, and uses thereof, as follows :

1. Dangerous agricultural materials and wastes, including pesticides, and fertilizers. Ministry of Agriculture
2. Dangerous industrial materials and wastes. Ministry of Industry
- 3.¹⁹ Dangerous substances and wastes of hospitals, clinics, medical establishments, and pharmaceutical and laboratory establishments, as well as household insecticides. Ministry of Health
4. Dangerous petroleum materials and wastes. Ministry of Petroleum
5. Dangerous substances and wastes from which are emitted ionized radiations. Ministry of Electricity and Atomic Energy Authority
6. Dangerous explosive and inflammable materials and wastes. Ministry of Interior
7. For other dangerous substances and wastes, the entity concerned with issuing the licence for their circulation shall be determined by a Decree of the Minister Concerned With Environmental Affairs, upon the proposal of the Executive Head of Environmental Affairs Agency.

Each Minister shall issue to the ministries indicated in this article, each within the context of its jurisdictions, in coordination with the Minister of Health and Environmental Affairs Agency, a schedule of the dangerous substances and wastes in which the following shall be determined :

¹⁹ Substituted as per D. No. 1741/2005.

- A) Type of dangerous substances and wastes lying within the context of his ministry's jurisdictions, and the degree of danger in each of them.
- B) Controls to be observed in circulating each of them.
- C) Method of getting rid of empty packages of these materials after their circulation.
- D) Any other controls or conditions the Ministry considers necessary to add.

Article : 26²⁰

The applicant requesting a license for circulating dangerous substances and wastes shall submit his application in writing to the competent entity prescribed in Article (25) of these regulations. The application shall fulfill the data to be determined by the entity, according to the form to be provided thereby for such purpose.

The Licence for circulation of dangerous substances and wastes shall be issued for a period of at most five years, unless something happens to dictate invalidating the licence. The Competent Administrative Entity, according to the provisions of article (40) of these regulations, may grant temporary licences for shorter periods according to demand exigencies.

Conditions For Granting The Licence :

- 1) Existence of trained leader staff who are in charge of the circulation of dangerous substances and wastes.
- 2) Existence of the means, methods, potentials, and systems necessary for safe circulation of these substances.
- 3) Existence of requirements necessary to confront the dangers which might occur from incidents during the circulation of dangerous substances.
- 4) The activity for which a licence is required to be granted shall not result in effects harmful to environment and public health.

²⁰ Substituted as per D. No. 1741/2005.

Article : 27

The licence for circulation of dangerous substances and wastes shall be issued against cash charges to be determined by a decree of the competent Minister. The Licence shall be valid for a maximum period of five renewable years.

The entity granting the Licence may cancel it or suspend the activity by a substantiated decision, in the following cases :

- 1) In case the Licence has been issued as a result of submitting incorrect information.
- 2) In case the Licencee contravenes the Licence conditions.
- 3) In case the exercise of the activity results in dangerous environmental effects which were unforeseen when the Licence was granted and issued.
- 4) If developed and sophisticated technology appears and is applicable with simple modifications, and its application will conduce to big improvement in the condition of environment and the health of workers.
- 5) If the Environmental Affairs Agency ends up in deciding that handling and the circulation of any of these materials and wastes shall not be safe.

The entity granting the Licence shall have the faculty of requiring the licence applicant to fulfill such other conditions as it decides to be necessary to ensure and secure circulation, in coordination with the Environmental Affairs Agency and the Ministry of Health. In all cases, the licence applicant may not handle and circulate the dangerous substances and wastes before obtaining the licence issued on the form provided for the purpose and which should be maintained with the entity assuming the circulation of the materials and wastes, in order to produce it when so required.

Article : 28 ²¹

Managing the dangerous wastes shall be subject to the following rules and procedures :

General Rules And Procedures Of Managing Dangerous Wastes :

First – The Stage of Generation Of Dangerous Wastes :

The Entity where dangerous wastes are generated shall be committed to the following :

- 1) It shall work on reducing the rate of generating these wastes, quantitatively and qualitatively, by developing the technology being used, following clean technology, and choosing substitutes to the product or primary materials which are less harmful to environment and public health.
- 2) Setting a description of the generated wastes, quantitatively and qualitatively, and registering them.
- 3) Establishing and operating Wastes Treatment Units, at source, providing the Environmental Affairs Agency shall approve the method of wastes treatment, the technical specifications of these units, and the programmes of operating them.

In case it is difficult to treat or dispose of these dangerous wastes at the source of their generation, the entity where these wastes are generated shall be committed to collect and transport them to the places provided for such purpose, as determined by the local authorities and the competent administrative entities as well as the environmental affairs agency. All conditions and provisions prescribed in these regulations on circulation of wastes shall apply to circulating these wastes.

Second - The Stage Of Collecting And Storing The Dangerous Wastes :

- 1) Determining specified places for storing the dangerous wastes, in which clear warning signs are located and safety conditions are provided to prevent the occurrence of any general and public harms or harms to people who are exposed thereto.

²¹ Substituted as per D. No. 1741/2005.

- 2) Storing the dangerous wastes in special containers made of solid material free of any holes, and from which liquids shall not leak out. These containers shall also be provided with a hermetic cover, and their capacity shall be adequate to accommodate the quantity of dangerous wastes, or according to the rules governing the storing of these wastes, according to their types.
- 3) Clear marks shall be placed on containers of storing the dangerous wastes, to indicate the contents of these containers, and warn about the dangers that might result from dealing therewith in an unsound way.
- 4) Setting a schedule for collecting the dangerous wastes so they shall not be left for a long period in storing containers.
- 5) The entities where dangerous wastes are generated shall provide the foregoing containers and shall observe washing them following each use thereof and shall not place them in public places.

Third – The Stage Of Transporting The Dangerous Wastes :

- 1) The dangerous wastes shall not be transported by other than the means of transport belonging to the entities which are licensed in this regard. These means of transport shall fulfil the following conditions :
 - a. The vehicles shall be fitted with all safety devices and shall be suitable and in good condition for work.
 - b. The capacity of vehicles and the number of their shifts shall be suitable for the quantities of dangerous wastes.
 - c. These vehicles shall be driven by trained drivers who are capable of acting safely in case of an emergency.
 - d. Clear marks shall be placed on the vehicles indicating the degree of danger of their cargo, and the optimal method to be applied in case of emergency.
- 2) Determining the routes of dangerous wastes transport vehicles, and notifying the Civil Defence Authorities immediately of any change occurring to such routes, to allow for a quick and sound disposition in case of emergency.

- 3) Driving the dangerous wastes transport vehicles shall be prohibited inside residential and urban areas, and in downtown during day time.
- 4) The entities concerned shall be notified of the address of the garage where dangerous wastes transport vehicles park, and of the licence number and date.
- 5) Continuously washing and purging the dangerous wastes transport vehicles after each use, according to the instructions set by the Ministry of Health in coordination with the competent Administrative Entity prescribed in article (40) of these regulations. The water regulating from washing such vehicles shall be considered a dangerous waste.
- 6) For authorizing the transit of dangerous waste carrier vessels, ships, the following requirements shall be observed :
 - a. Prior notification shall be made, pursuant to the provisions of Bazeli Agreement, and the competent Administrative Entity may not authorize such transit in case any pollution to environment is likely to occur.
 - b. In case an authorization for transit is granted, necessary precautions shall be taken as prescribed in the international agreements, providing the Guarantee Certificate prescribed in Law No. 4 of the year 1994 shall be available.

Fourth - Stage Of Treating And Disposing Of Dangerous Wastes :

- 1) Locations of dangerous wastes treatment and disposition utilities shall be selected in an area lying at a distance of not less than three kilometers away from residential and urban communities. The following conditions, equipment and installations shall be provided in these locations :
 - a. The Location area shall be proportional to the quantity of dangerous wastes, so as to prevent storing them for long periods.
 - b. The Location shall be surrounded by a brick wall with a height of not less than 2.5 metres.
 - c. The Location shall be provided with more than one gate of an adequate width allowing for easy entry of the dangerous wastes transport vehicles.

- d. The Location shall be provided with a suitable source of water and bathrooms.
- e. The Location shall be provided with all protection and safety requirements as prescribed in Labour and Vocational Health Laws, and with a telephone line.
- f. The Location shall be provided with all mechanical equipment that would facilitate the movement of work therein.
- g. The Location shall be provided with stores duly equipped for storing the dangerous wastes in them pending their treatment and disposition thereof. These fittings shall vary according to the difference in type of dangerous wastes to be received by the utility.
- h. The Utility shall be provided with an incinerator to cremate certain types of dangerous wastes.
- i. The Utility shall be provided with the necessary equipment and installations for sorting and classifying certain dangerous wastes for the purpose of re-using and recycling them.
- j. The Location shall be provided with a pitch for sanitary filling-up, to be of adequate capacity for burying wastes of incineration.

When necessary, the location of the utility may exist in an area away from the residential and urban communities by a distance of less than three kilometers, and the surrounding wall may be less than 2.5 meters high, when so decided by the entity granting the license after consulting the view of the entities referred to in article-29 of the present regulations, providing this shall be subject to the safety conditions preventing the occurrence of any public harms, or to the people exposed to them, in a way ensuring environmental safety.

- 2) The process of treating the dangerous wastes which are re-usable and recyclable shall be carried out within the following context:
 - a. Re-using certain dangerous wastes as fuel for power generation.
 - b. Recovering the organic solvents and re-using them in extraction processes.
 - c. Recycling and re-using certain organic materials from the dangerous wastes.

- d. Re-using ferrous and non-ferrous metals and their compounds.
 - e. Recycling and re-using certain inorganic materials from the dangerous wastes.
 - f. Recycling and recovering the acids or alkalis.
 - g. Recovering the materials used for reduction of pollution.
 - h. Recovering certain components of catalysts.
 - i. Recovering used oils and re-using them after refining them, taking into consideration the relation between the environmental return and the economic return.
- 3) Processes of treating dangerous wastes which are not re-usable or recyclable shall be carried out within the following context:
- a. Injecting the dangerous pumpable wastes inside saline wells and cupolas and natural depositories in areas lying away from residential and urban communities, at a distance to be determined within the study of evaluating the environmental effect of such utilities. The foregoing study shall also determine the period of prohibiting the use of such utilities.
 - b. Burying the dangerous wastes in special burying pits duly fitted and isolated from the rest of the environmental system components, providing these fittings shall comprise the following :
 - 1- System of gathering and watching the filtration liquids and gases liable to be produced.
 - 2- Compressing and covering the wastes.
 - 3- Lining with a proper substance according to the needs of the location.
 - c. Treating the dangerous wastes biologically by using certain types of micro organisms for their decomposition.

- d. Treating the dangerous wastes physically or chemically by evaporation, dilution, calcination, equalization and sedimentation, and so forth.
- e. Cremation in special incinerators fitted so as not to allow the emission of gases and vapors in the surrounding environment.
- f. Permanent storage (like placing the containers of dangerous wastes inside a mine).
- g. Contagious wastes remaining from medical care in hospitals and health centers, shall be treated at the same place by burning, cremation, and sterilization in incinerators or sterilizers designed for that purpose, in a way absorbing the gathered quantities without piling up or storing close to the treatment unit. In case of necessity, the wastes resulting from the health care activities may, with the approval of the concerned local authorities and the environmental affairs agency, be transported to the nearest hospital equipped with a unit for treatment of wastes or to the nearest central treatment unit, providing it shall absorb the wastes required to be carried to it, and the wastes shall be carried in hermetic containers to prevent the scattering of their contents, and these containers together with their contagious wastes shall be duly treated.
- h. In all cases, it is provided that:
 - (1) The incinerators shall be equipped with adequate technological means to prevent the scattering of ashes or emission of gases except within the limits permitted and prescribed in table No. (3)²² of annex No. (6) to the present regulations, providing these incinerators shall conform to the conditions specified in the handbooks to be issued by the environmental affairs agency.
 - (2) The sterilization equipment shall have been manufactured or used in the country of origin for treatment of dangerous wastes resulting from health care activities, and for carrying out the necessary tests on solid and liquid wastes after the sterilization process to ensure that they are free from living organisms.
 - (3) Availability of complete safety systems for the final disposition of these wastes after their treatment through safe health burying

²² Table (3) is about the Maximum Limits of emissions (exhaust) from vehicle engines.

at a suitable location for burying the wastes after burning, cremation, and sterilization.

- (4) Compliance with any technical specifications for units of treating the dangerous wastes resulting from health care activities, to be issued by the Egyptian Organization for Standard Specifications and Quality Control.
- 4) Adopting all procedures to guarantee limiting and reducing the generation of dangerous wastes, through the following :
- a. Developing clean technology and generalizing its utilization.
 - b. Developing suitable systems for the management of dangerous wastes.
 - c. Expanding the re-use and recycling of dangerous wastes after treating them whenever possible.
- 5) Setting a periodical programme to survey the different components of environmental systems (living and non-living organisms) in locations of dangerous wastes treatment and disposition utilities, as well as the treatment of the surrounding components, along with withdrawing the licence, and halting work in the Utility upon the appearance of any indications of harming the environmental systems surrounding the Utility.
- 6) Entities which are licensed to circulate and manage dangerous substances and wastes shall be held accountable for the harms caused to third parties due to their failure to observe the provisions of these regulations.

The Environmental Affairs Agency shall be concerned with reviewing the dangerous wastes tables, as subject to the provisions of the Law, in cooperation with the competent Ministries, regarding the tables to be issued thereby in this respect.

Article : 29

No installations shall be set up for the purpose of treating dangerous wastes, except by virtue of a licence from the competent Governorate, after consulting the view of the Environmental Affairs Agency, the Ministry of Health, the Ministry of Manpower, and the Ministry concerned with the type of the waste, in accordance with the provisions of article (25) of these regulations,

and in such a way as to ensure that all conditions have been fulfilled by the Establishment to guarantee the safety of the environment and the workers operating there.

Disposing of the dangerous wastes shall be done in accordance with the conditions and criteria prescribed in article (28) of these regulations.

The Minister of Housing, after consulting the view of the competent ministry as well as the Ministry of Health and the Environmental Affairs Agency, shall determine the places and conditions of the Licence for disposing of the dangerous wastes ²³.

Article : 30

The import of dangerous wastes, their entry of their passage and transit on lands of the Arab Republic of Egypt shall be prohibited.

Without a licence from the competent administrative entity at the Ministry of Maritime Transport, or the Suez Canal Authority, each within the limits of its jurisdictions, no transit shall be allowed for ships carrying dangerous wastes in the territorial sea or the absolute economic zone of the Arab Republic of Egypt, providing also that the Environmental Affairs Agency shall be advised accordingly.

Article : 31

Those involved in producing or circulating dangerous substances, whether in their gaseous, liquid, or solid condition, shall take all precautions to guarantee no environmental harms shall occur. They shall in particular observe the following :

- A) Selecting the site where these materials shall be produced or stored, according to the necessary conditions, and the type and quantity of these materials.
- B) The buildings in which these materials are produced or stored shall be designed according to engineering norms which should be observed for each type of these materials, and which shall be determined by a Decree of the Minister of Housing after consulting the view of the Environmental

²³ Substituted as per D. No. 1741/2005.

Affairs Agency. These buildings shall be subject to periodical inspection by the administrative entity granting the licence.

- C) Fulfilling the conditions required for the means of transport or the storing place for these materials, to guarantee the occurrence of no harms to environment, the health of the workers , or the health of citizens.
- D) The technology used for producing these materials, as well as the fittings and equipment shall be of a type that causes no harms to the installations, the environment or the workers.
- E) The buildings shall fulfill the requirements of safety systems and equipment, alarm, warning, protection, combating, and first aid systems and equipment in adequate quantities and numbers as shall be determined by the Minister of Manpower after consulting the view of the Environmental Affairs Agency, the Ministry of Health, and the Civil Defence Administration, in coordination with the competent administrative entity.
- F) An Emergency Plan shall be provided and set to face any accident which is expected to occur during the production, storage, transport, handling or circulation of these materials, providing this plan shall be verified and approved by the Entity granting the Licence after consulting the view of the Environmental Affairs Agency, and the Civil Defence Administration.
- G) Workers of these entities shall be subject to periodical medical examination, and shall be treated from the vocational diseases contracted by them, at the expense of the entity employing them.
- H) Entities producing these dangerous substances shall insure their workers, with the amounts to be determined by a Decree of the Minister of Manpower in coordination with the Ministry of Insurance and Social Affairs, after consulting the view of the Environmental Affairs Agency and the Ministry of Health, providing that in determining the insurance amounts, the degree and extent of danger to which each category of the workers is exposed inside each productive Unit, shall be considered .
- I) Enlightening the workers as to the circulation of these materials, their dangers, and the necessary precautions to be taken when handling them, and ensuring they have become fully acquainted with all this information and have been trained on them satisfactorily.

- J) Enlightening the inhabitants of the regions surrounding the sites of production and handling of dangerous wastes, of likely and possible dangers and hazards of these materials and the method of facing them, along with ensuring they have become aware of the warning and alarm systems whenever an accident occurs, and how to act in case an accident takes place.
- K)²⁴ Entities producing and circulating these dangerous substances shall compensate those injured among the citizens in the locations surrounding the sites of production or storing, for the injuries resulting from accidents of these activities, or the dangerous emissions or leakings therefrom. Those in charge of producing and circulating dangerous substances shall submit to the competent administrative entity an annual report on the extent of their commitment to implementing the necessary precautions.

Article : 32

Entities producing or importing dangerous substances shall, in their production or import of these materials, observe the following requirements :

First : Specifications Of The Package :

- A) Type of the package in which these materials are to be placed, shall be appropriate for the type of the material, and the package shall be required to be well tight and hard to be damaged.
- B) Capacity of the package so it can be easily carried or transported without being exposed to damage or occurrence of harms.
- C) The inside of the package shall be made of a type unaffected by storing for the whole period of effectiveness of the material contained therein.

Second : Package Details And Information :

- A) Content of the package, the effective material, and the degree of its concentration.
- B) Gross weight and net weight.
- C) Name of the producing entity, date of production, and operation number.
- D) Kind of danger and poisoning symptoms.
- E) First aid to be applied in case harm occurrence.
- F) Sound and proper method of opening-up, vacating, and using.

²⁴ Substituted as per D. No. 1741/2005.

- G) Method of sound and proper storing.
- H) Methods of disposing of empty packages.

This data shall be inscribed in Arabic, and in a manner facilitating for Ordinary individuals to read and understand them. Words shall be legible and affixed in a visible place on the package. They shall be difficult to remove, blotch, or change their contents. This data shall be accompanied with pictures indicating the method of opening up, vacating, storing, disposition, and the international symbols for danger and toxicity.

Article : 33

The owner of an establishment whose activity results in dangerous wastes according to the provisions of these regulations shall hold a register for these wastes and the method of getting rid thereof, and the entities with which contracts are signed to receive these wastes, according to the following data :

- 1) Name and address of the establishment.
- 2) Name of the person responsible for filling the data in the register, and his position.
- 3) The period of time covered by the current data.
- 4) The special conditions set by the Environmental Affairs Agency for the Establishment.
- 5) Statement indicating the types and quantities of dangerous wastes resulting from the activity of the Establishment.
- 6) Method of disposing thereof.
- 7) The entity with which a contract is signed to receive these dangerous wastes.
- 8) Date on which the form is filled in.
- 9) Signature of the person in charge.

The Environmental Affairs Agency shall be concerned with following up the data of the register to ensure they conform to reality.

The environmental register of dangerous wastes shall be provided according to the forms indicated in annex (3) attached to the present regulations²⁵.

²⁵ Added as per D. No. 1741/2005.

Part - 2

Protecting Air Environment From Pollution

Article : 34 ²⁶

Subject to the provisions of articles (10) and (11) of the present regulations, it is provided that the site on which the project is established shall be suitable for the activity of the establishment, in terms of its consistency with the nature of division of the area, and according to the land utilization plan as prescribed by the Ministry of New Urban Communities or the other ministries or authorities concerned with regulating the utilization of lands. The pollution resulting from the total establishments in one area shall be within the authorized range as indicated in annex (5) attached to the present regulations, and in the handbooks indicating the specific limits, as issued by the environmental affairs agency in coordination with the relevant entities.

In all cases, in determining the suitability of the site, it is provided that the extent of its remoteness from the inhabited areas shall be taken into consideration, whether in the site of the project or the surrounding regions. The direction of wind and the natural potential of the site for absorbing the pollutants shall also be taken into consideration.

Article : 35

All installations indicated in annex (2) of these regulations for which the evaluation of environmental impact shall be required before licensing them to exercise their activity, shall be subject to the provision of the foregoing article. The Licence affirming the suitability of the site shall be issued from the Entity concerned with evaluating the environmental impact of that activity, after referring the subject to the Environmental Affairs Agency.

Article : 36 ²⁷

Establishments that are subject to the provisions of the Environment Law and the present regulations, in exercising their activities, shall observe the non-emission or leakage of air pollutants beyond the maximum range permitted by the laws and decrees in force, and also the limits of pollutants determined in

²⁶ Substituted as per D. No. 1741/2005.

²⁷ Substituted as per D. No. 1741/2005.

the assessment of their environmental effect, as indicated in annex (6) attached to the present regulations, and also in the handbooks of pollutants limits as issued by the Environment Affairs Agency. Such establishments shall also observe not to make any change in natural air properties and specifications resulting in danger to man's health and environment.

Article : 37

No machines, engines, or vehicles which produce exhausts with contents exceeding the maximum limits set forth in table (4)²⁸ of annex (6) attached to the present regulations, shall be used²⁹.

The provision of this article shall apply in the governorates to be determined by a decree of the Minister of Interior, providing the decree shall comprise a period not exceeding one year for starting the implementation of this article, to enable the owners and possessors of these machines, engines, and vehicles to adapt their states of affairs according to the provisions of this article.

The Environmental Affairs Agency, in coordination with the Ministries of Interior, Industry, Health, and Petroleum may reconsider the maximum limits prescribed in this article after three years from the date of publishing these regulations.

Article : 38³⁰

It shall be absolutely prohibited to openly burn the garbage and non-dangerous solid wastes. Throwing or treating the garbage and solid wastes shall be prohibited except in the places appropriated for the purpose away from the dwelling, industrial, and agricultural areas, and from the water courses, according to the specifications, regulators, and minimum limit of their remoteness from these areas, as indicated in the following:

First :

The local government units shall appropriate places for receiving the garbage and solid wastes and for their treatment, following an integral study of the area's topography and nature, and the quantity required to dispose of every 24 hours, according to the conditions and specifications indicated in annex (11) attached to the present regulations.

²⁸ Table (4) is about the Maximum limits of emissions from chimneys of hospital incinerators.

²⁹ Substituted as per D. No. 1741/2005.

³⁰ Substituted as per D. No. 1741/2005.

Second :

The concerned administrative entity, or the entity granting the license shall assess the environmental effect of the places and establishments for which a license is requested for their appropriation to receive and treat the garbage and solid wastes according to the elements, designs, specifications and bases to be issued by the Environment Affairs Agency in agreement with the concerned administrative entity, and to the environmental conditions and specifications prescribed in annex (11) attached to the present regulations. A copy of the assessment of the said environmental effect shall be sent to the Environmental Affairs Agency to express its view and recommend the proposals required for implementation in the field of the equipments and systems necessary for treating the negative environmental effects. The concerned administrative entity or the entity granting the license shall verify the implementation of these proposals.

Third :

Places of casting the garbage and solid wastes, and of their treatment establishments as well as the places of sanitary burying of wastes shall be located at a distance of 1500 meters away from the nearest dwelling area. The site of establishments for treating the farm and domestic animal wastes and the agricultural wastes shall be located at a distance of 500 meters away from the nearest dwelling area.

The remoteness of these places and establishments from the agricultural and industrial areas and the water courses shall be determined in light of studying the assessment of their environmental effect and the conditions prescribed in annex (11) attached to the present regulations.

These distances may, for necessity exigencies and in rural areas, be modified according to the conditions of the area or governorate, conditional upon the approval of the local entities, the Environmental Affairs Agency, and the concerned administrative entity or the entity granting the license.

Fourth :

The treatment of garbage and solid wastes shall be carried out according to the following systems:

1. Separating and re-using/retrieving/recycling some of their components "Paper – glass –plastic – metals,etc."
2. Biological treatment with the existence of or in isolation from air.
3. Physical treatment (crushing – cutting up – compressing).

4. Thermal treatment with or without retrieval of energy.
5. Chemical treatment according the nature of wastes.

Using the method of cremation in special units observing the conditions prescribed in annex (11) attached to the present regulations may also be applied.

Article : 39

Collectors of garbage and solid wastes shall observe maintaining the garbage boxes and vehicles clean, and their sustained cleanliness shall be one of the conditions set for the safety and soundness of garbage transport means³¹.

Garbage collecting boxes shall be covered in a close manner from which no offensive odors shall emit, and also to avoid becoming a source for generation and growth of flies and other like insects, or a focus attracting stray animals. Their garbage contents shall also be collected and transported at suitable intervals agreeing with the conditions of each area providing the quantity of garbage in any of these boxes shall not exceed at any time its capacity. The department concerned with municipalities shall exercise control on and supervise the implementation of the provisions of this article.

Article : 40

Spraying or using pesticides or any other chemical compounds for purposes of agriculture, public health or other purposes shall be prohibited except after observing the conditions, controls and guarantees as set by the Ministry of Agriculture, the Ministry of Health, and the Environmental Affairs Agency, and the following in particular :

- (A) For spraying pesticides by any means, the Health Units as well as the Veterinary Units shall be notified of the types of sprays and antidotes.
- (B) Necessary first aid requisites shall be provided.
- (C) Protective clothes and materials for workshop workers shall be provided.
- (D) Citizens shall be warned against existence in sprayed areas.
- (E) Spraying shall be carried out by workers trained for that type of work.

³¹ Substituted as per D. No. 1741/2005.

- (F) No spraying by planes shall be observed except in cases of extreme necessity as estimated by the Minister of Agriculture. In such event, the areas required to be sprayed shall be indicated and determined on charts, and shall be highlighted by a special colour along with marking the principal impediments to flying and the regions which are prohibited to be sprayed. The areas in the vicinity of dwelling zones, apiaries, fish farms and poultry farms, as well as animal folds shall be eliminated to guarantee that man, animals, plants, water courses, or the rest of environment components shall not be exposed, directly or indirectly, at present or in the future to the harmful effects of these pesticides or chemical compounds.

Article : 41 ³²

All entities and individuals, in carrying out excavation, digging, building, or demolition work, or in transporting the wastes or earth resulting therefrom, shall take the necessary precautions for storing or transporting these wastes in a safe way to prevent them from scattering. The entity granting the licence for carrying out such work shall indicate these requirements in the licence, as mentioned in the following :

- 1- Stacking the wastes on the site shall take place in a safe manner without impeding traffic and pedestrians movement. Wastes liable to scatter in the air shall be covered to avoid causing pollution to air.
- 2- Wastes and earth resulting from digging, demolishing and building work shall be transported in special containers by using trucks being equipped and licensed for this purpose, and fulfilling the following conditions :
 - a) The trucks shall be fitted with a special box or tight cover to prevent the spread of earth and wastes in the air, or their falling off on the road.
 - b) The truck shall be provided with special equipment for loading and unloading.
 - c) The truck shall be in good condition fulfilling the rules of safety, soundness, and lights, and shall be fitted with all safety equipment.
- 3- The places appropriated for receiving these transported wastes shall be lying at a distance of not less than 1.5 kilometers from the dwelling zones,

³² Substituted as per D. No. 1741/2005.

and at a lower contour line. They shall also be levelled after filling them completely with the wastes.

- 4- The local government units shall determine the places to which the wastes shall be carried. These wastes shall not be transported or disposed of except at the places appropriated for such purpose and licensed by the competent local government units.

The Environmental Affairs Agency may amend the aforementioned conditions or add new conditions thereto, whenever necessary.

Article : 42³³

The competent entities shall observe - according to the nature of their activities - that in burning any kind of fuel or others, whether for purposes of industry, power generating, construction, or for any other commercial purpose, the noxious smoke, gases, and vapors resulting from their activities shall be within the permissible limits. Those in charge of such activities shall take all precautions to minimise the quantity of pollutants in the foregoing burning results, according to the following conditions :

Precautions And Permissible Limits, As Well As Specifications Of Chimneys In Burning Any Kind Of Fuel :

- 1) Precautions to be taken to reduce the quantity of pollutants in burning results to prevent or reduce the emission of pollutants from fuel burning sources. Suitable fuel shall be chosen, the sound design of burners, fire house, and chimneys, and the use of control means with high efficiency, shall be observed according to the following standards :
 - a- Uncovered burning shall be prohibited if it does not fulfill the requirements of sound designs to guarantee full combustion and disposition of exhausts through the chimneys according to proper engineering specifications.
 - b- The burner and fire house shall be designed in a way that renders the air quantity which is necessary for full burning to be entirely mixed, in addition to distributing the temperature and giving sufficient time for the process along with turning over the mixture to guarantee total burning thereby and ensure the minimization of the emissions resulting from incomplete burning. The emitted pollutants shall not

³³ Substituted as per D. No. 1741/2005.

exceed the permissible maximum limits for their emission, according to annex (6) of these regulations.

- c- The use of coal shall be prohibited in urban regions and near the dwelling zones.
 - d- The use of solar oil and other heavy oil products, as well as crude oil and the oil resulting from industrial processes, machines, and workshops shall be prohibited in dwelling zones.
 - e- The sulphur percentage in the fuel used in urban zones and near the dwelling zones shall not exceed 1.5 %.
 - f- Gases containing sulphur dioxide shall emit through chimneys of a sufficient height in order that these gases become lighter before reaching the ground surface. Using fuel that contains high percentages of sulphur in power stations, as well as in industry and other remote regions away from inhabited urban areas, providing that atmospheric factors and adequate distances to prevent these gases from reaching the dwelling and agricultural zones as well as the water courses, shall be observed.
- 2) Elevations of Chimneys :
- a- Chimneys producing a total emission of exhaust reaches 7000 - 15000 kg/hour, their heights shall range between 18 - 36 meters.
 - b- Chimneys producing a total emission reaches more than 15000 kg/hour, the height of the chimney shall be more than at least two and a half times the height of surrounding buildings, including the building served by the chimney.
 - c- Chimneys serving public places such as offices, restaurants, bakeries, hotels and other commercial purposes, the height of the chimney shall not be less than 3 meters high on top of the building, along with the speed of gas emission from the chimney to be accelerated.
- 3)
- a- The maximum limits of emissions resulting from burning the fuel shall be as indicated in table (5) of annex (6) attached to the present regulations.

- b- The maximum limits of emissions produced from chimneys of clay and fire brickyards and from boilers shall be according to what is indicated in table (6) of annex (6) attached to the present regulations.

The concerned administrative entity shall observe the provisions of the present article.

Article : 43

Entities carrying out search, discovery and digging works, crude oil extraction and production, as well as refining and processing of crude oil shall abide by the control and procedures derived from world oil industry principles and bases as provided by the competent administrative entity, as well as those indicated in the following :

1. Entities carrying out search, discovering and digging works, the extraction and production of crude oil for petroleum and petrochemical products, as well as gas, and processing, refining, storing and transporting the oil, shall abide by the controls, procedures, and precautions necessary for protecting the environment, as derived from world oil industry principles approved for application by the Egyptian Petroleum Authority, according to the nature of each project, establishment, or operation.
2. Those carrying out works in petroleum activities shall follow the instructions of the Egyptian Petroleum Authority concerning the world standard specifications authorized therefor, with regard to methods and ways of safe operation in all that is related to clearing and storing petroleum, petrochemicals, and gas, and transporting and disposing of waters and other materials dispensed with, along with avoiding the loss of petroleum or gas. They shall take necessary precautions related to protection from fire, the protection of machines, wells, and dwelling of workers, oil stores and installations, and all other methods the Egyptian Petroleum Authority considers to be necessary for organizing and guaranteeing the good process of work, and the preservation of environment and the neighbouring inhabitants. They shall in particular comprise the following :
 - A) Observing the determination of safe distances whether between discovery or productive wells and the pooling and production stations, and any other industrial installation, the workshops, the main or subsidiary pipelines, the houses, religious and social places, and cemeteries.

- B) Observing the conditions and requirements of dimensions and distances in using explosives whether in seismic survey operations, or pipelines laying operations.
- C) Providing the wells with the necessary materials equipment, and valves to prevent explosions and the leakage of oil or gas.
- D) Installing the separating equipment and the flames necessary for carrying out the processes of producing, transporting, operating, and refining petroleum and petrochemical materials and gas.
- E) Taking necessary precautions to prevent the leakage of oil and gas which is extracted in the tests carried out during the digging operations and the completion of wells, and which is hard to collect, and also any other oil or gas that should be burned either in open pitches or in the flames, providing the optimal choice of the number and size of burning nozzles, and the flames shall be observed, or using the sprinkling process, or additional air, or the possibility of using diesel fuel to complete burning the heavy crude oil.
- F) Installing the necessary chimneys, flames, and vents for the necessary production, operation, refining and storage processes at the Power Stations belonging to the Establishment, whether for the cold or hot emitted gases.
- G) Setting the necessary plans, preparing the machines and equipment, and appointing as well as training the personnel to face any leakage or fire occurring to the heads of wells, the flow lines, the offshore or industrial installations, the storage tanks, the stores, the workshops, the houses, or any other similar installations within the limits of the Establishment's business.
- H) With regard to storage tanks, the following shall be observed :
 - 1- Providing the minimum limit of distances to the edge of the main roads, railways, other tanks, buildings and places which are open to fire.
 - 2- The tanks shall be tight and shall regulate the process of leaking the excess fumes, according to world standard specifications in this respect.
 - 3- Painting in white or any other light colour.

- 4- Surrounding each tank with walls to limit the leakage of oil if any, and the walls shall be provided with outlets to drain rain waters, providing the volume limited shall be equivalent to the volume of the tank, or according to world conditions used in designing petrochemical storage tanks.
- I) Compressed air shall be used in the measuring and operating equipment, instead of compressed dry gas, whenever possible.
- 3- All materials, equipment and machines used in the operations shall be in good conditions, fulfilling all necessary requirements for their proper use, and of adequate capacity for the work they are appropriated for, along with carrying out the maintenance, servicing, and inspections operations necessary therefor.
- 4- Gas accompanying the oil , which cannot be used or exploited in a safe way, and according to world standard specifications in this respect, shall be disposed of.
- 5- Mechanical and chemical techniques shall be used and applied for extracting the largest percentage of wells or tanks wastes, along with providing pitches or tanks to receive the remnants thereof after the process of their treatment, in a suitable place to be safe and away from the wells or petroleum and industrial installations, and dwellings.

In no case at all shall these wastes flow over the land on public roads, or on water courses, seas and their shores.

Article : 44

In exercising productive or service activities or others, especially on operating the machines and equipment and using loud speakers and horns, all entities and individuals shall not exceed the permissible limits for sound loudness inside places of work and indoor public places indicated in table No. (1) of Annex No. (7) to these regulations.

Entities granting the licence shall observe that the total sounds emitted from fixed sources in the same area shall be within the limits permissible therefor, and ensure that the Establishment has chosen proper machines and equipment to guarantee abiding by these limits, as indicated in table No. (2) of

Annex No. (7) to these regulations, in terms of the limits permissible for loudness of the sound and the time period of exposure thereto.

Article : 45

The owner of the Establishment shall take the necessary precautions and arrangements as set by the Ministry of Manpower and Employment, to ensure the leakage or emission of no air pollutants inside the place of work except within the limits indicated in annex No. (8) to these regulations, whether they are resulting from the nature of the Establishment's exercise of its activities or a malfunction of the equipment. He shall provide the necessary means of protecting the workers in implementation of vocational health and safety conditions, including the choice of machines, equipment, materials, and types of fuel, as necessary therefor, and that the period of exposure to these pollutants are also taken into consideration. He shall as well ensure adequate ventilation of the place, and the installation of chimneys and other air clearing methods.

Article : 46

The owner of the establishment shall take the necessary procedures to maintain the temperature and humidity degrees inside the place of work within and not exceeding/below the maximum/ minimum permissible limits. In case of work exigencies, to operate within temperature or humidity degrees outside these limits he shall ensure providing suitable means of protection for the workers, including special clothes and other means of protection, Annex No. (9) to these regulations comprises the maximum and minimum limits of the temperature and humidity degrees, the period of exposure thereto, and means of protection therefrom.

Article : 47

Indoor and semi-indoor public places shall fulfill adequate ventilation methods proper for the size of the place and its capacity, as well as the type of activity exercised therein, to ensure renewal of air, its clearness and maintenance of a suitable temperature.

Table (4) of annex (8) attached to the present regulations shall determine the quantity of air necessary for the ventilation of public places³⁴.

³⁴ Substituted as per D. No. 1741/2005.

Article : 48

The Director in charge of the Establishment shall take necessary procedures to prevent smoking in indoor public places, except within the space appropriated for smokers. Smoking in other than this space shall be considered an administrative contravention in respect of which the violator shall be liable to the disciplinary punishment applicable in the Establishment.

Article : 49

The radioactive activity or concentrations of radioactive materials in the air shall not exceed the permissible limits whereby a decree of the Minister of Electricity and Energy responsible for nuclear safety shall be issued after referring to the Ministry of Health and the Environmental Affairs Agency, within the period prescribed in article (2) of Law No. (4) for the year 1994.

Part - 3

Protection of Water Environment From Pollution

Chapter : 1 Pollution From Ships

Section - 1 Oil Pollution

Article : 50

The shipowner, its Captain, or any person in charge of it, and those responsible for oil transport consignments lying within the ports, the territorial sea, or the exclusive economic zone of the Arab Republic of Egypt, and the Companies operating in oil extraction, shall proceed to notify the competent administrative entities forthwith about every oil leakage incident, upon its occurrence, along with indicating the place and conditions of the incident, the type of leaking materials, its quantity, and the procedures taken to halt such leakage or limit it, providing the notification shall comprise the following data :

- 1- Procedures taken for treating the leakage.
- 2- Quantity and type of dispersants used.
- 3- Likely source of leakage occurrence, and whether or not a fire occurred.
- 4- Direction of the formed oil slick.
- 5- Rate of leakage if continuing.
- 6- Dimensions of the oil slick.
- 7- Velocity and speed of wind, temperature degree, and visibility degree.
- 8- Direction of speed of current, and temperature of water.
- 9- Condition of the Sea.
- 10- Tide and ebb condition : submerging – high – medium - weak.
- 11- Menaced shore places.
- 12- Nature of the region : coral reefs – marine beings.
- 13- Reporting source : name - telephone - address.

In all cases, competent administrative entities shall notify the Environmental Affairs Agency of all information on the accident referred to, upon its occurrence, in order to follow up the procedures taken in this respect, according to the tasks of the Agency as prescribed in article No. (5) of the Law on Environment.

Article : 51

All ports of shipment and ports provided and prepared for receiving oil tankers, and the ship docks shall be provided with the equipment necessary to adequately receive the unclean balancing water, and waste water resulting from washing the tanks of oilers and other ships.

Ports shall be provided with barges, lighters and vessels necessary to adequately receive the wastes, and oil residues as well as the oil mixture from berthing ships in the harbour.

The competent administrative entity shall receive any ship or tanker and direct it to places of disposing of their wastes and unclean balancing waters.

No ship or tanker shall be authorized to carry out the loading and unloading work except after referring to the competent administrative entity, in order to receive it and direct it to places of disposal of wastes and unclean balancing waters.

Article : 52

Every owner or captain of a ship registered with the Arab Republic of Egypt, as well as the ships of countries joining the Convention shall maintain the oil register in the ship, in which the officer in charge of the ship shall record all operations connected with oil, as indicated in the convention, particularly the following operations :

- (A) Loading, delivery, or other oil cargo transport operations along with indicating the type of oil.
- (B) Disposing of the oil or oil mixture, to guarantee the safety of the ship or its cargo, or the rescue of souls, along with indicating the kind of oil.
- (C) Leakage of the oil or oil mixture as a result of a collision, or accident, along with indicating the percentage and volume of oil leakage.
- (D) Disposing of and draining the balancing unclean waters, or the tank washing waters.
- (E) Disposing of the pollutant wastes.

(F) Throwing the engine waters which contain the oils that were collected in the engines space, outside the ship during their existence in the harbour.

Oil or oil mixture disposition and draining operations shall be recorded, concerning the offshore platforms set up in marine environment, in a special register conforming to the oil register prescribed in this article, providing this register shall comprise the following data :

- 1- Name of the platform and its location.
- 2- The licence issued therefor.
- 3- Name of the platform owner.
- 4- Activity exercised by the platform.
- 5- Statement of the systems, equipment, apparatuses, and units of oil and oil mixture treatment before draining it and disposing thereof, and the system of controlling and governing them.
- 6- Quantity and kind of materials and liquids authorized to be drained and disposed of all the year round, and their draining rate.
- 7- Actual quantity of materials and liquids drained and disposed of.
- 8- Statement of malfunctions, with regard to the system, equipment and apparatuses as well as the units of oil and oil mixture treatment, indicating the date of breakdown, the period of its continuance, and the results of analysis following its repair, directly.
- 9- Name and signature of the person in charge of fulfilling the data of the register.
- 10- Date of recording the data.

Article : 53

In applying the provisions of article (59) of the foregoing Law On Environment, the Certificate of Guarantee shall be submitted on entry of the tanker in the territorial sea. The certificate shall be valid and shall cover all damages and compensations to be estimated by the competent administrative entity in agreement with the Environmental Affairs Agency.

Section - 2
Pollution With Sanitary Drainage Wastes And Garbage

Article : 54

Ships and offshore platforms shall be prohibited to drain the pollutant sanitary drainage waters inside the territorial sea and the pure economic zone of the Arab Republic of Egypt. They shall be disposed of according to the criteria and procedures indicated in the following :

Procedures of disposing and draining of pollutant sanitary drainage waters from ships and offshore platforms :

Ships and offshore platforms, whatever their nationality, shall observe the following criteria and controls in draining their sanitary drainage waters :

1. The ship or offshore platform shall be provided with the international certificate of preventing pollution with wastes of sanitary drainage waters, and the certificate shall be valid.
2. The ship shall be provided with a sanitary drainage waters treatment unit.
- 3.³⁵ No ship shall dispose of the treated sanitary drainage waters at a distance of less than four nautical miles from the shore, providing no facilities shall exist for receiving these wastes. Such wastes shall be within the limits of the environmental standards and specifications indicated in annex (1) attached to the present regulations, besides that the movement of waves shall not be towards the shore.
4. Cancelled ³⁶.

In all cases, no ship shall dispose of the sanitary drainage wastes retained in the retention tanks, altogether. Such wastes shall be disposed of at moderate rates, while the ship is sailing at a speed of not less than 4 knots/hour.

No solid bodies being floating and visible in the territorial waters shall result from the drainage operations whatever their kinds, nor shall the drainage of wastes result in changing the colour of these waters.

³⁵ Substituted as per D. No. 1741/2005.

³⁶ Cancelled as per D. No. 1741/2005.

If the waste waters are mixed with remnants of waters which require to be treated, such treatment of waters shall be done before draining them.

The foregoing provisions, stated above, shall not apply in case of draining the wastes for the safety of the ship and the people on board, rescuing souls on the sea, or as a result of a breakdown incurred to the ship or its equipment, providing all reasonable precautions shall have been taken to prevent such drainage or reduce it to the maximum possible limit before and after the occurrence of the breakdown.

Article : 55

The competent entities shall provide the facilities necessary for receiving the wastes and pollutant wastes waters, as well as the wastes of ships, providing these facilities shall be in a usable and well maintained condition, and their cleanliness shall be observed periodically.

These entities shall hold an environmental register in which shall be recorded the quantities of wastes received, the method of disposing thereof, and the name of the ship or sea unit, providing that the method of disposition shall be among the methods approved by the environmental affairs agency³⁷.

Article : 56

The competent entities, in transporting the gathered wastes in the facilities set forth in the previous article, shall observe the non-leakage of these wastes, or the non-emission of any odours therefrom. Disposing of these wastes shall also take place in the places and with the controls prescribed in Public cleanliness Law No. 38 of the year 1967, in coordination between the competent entities and the municipalities.

Chapter : 2
Pollution From Land Sources

Article : 57

In licensing the establishment of any installations or stores on the sea beach or near the beach, which result in draining pollutant materials in violation of the provisions of the Law, these regulations, and the Decrees issued for their implementation, the provisions of chapter-1 of Part-1 of these regulations

³⁷ Added as per D. No. 1741/2005.

concerning development and environment shall be observed. The Licencee shall provide suitable and adequate units for treating the wastes and shall begin operating them upon starting the operation of these installations, in addition to maintaining their safety and servicing them periodically.

Article : 58

Subject to the provisions of article 2 of the Decree enacting these regulations, the industrial establishments which are authorized to dispose of the decomposable pollutants into the water environment and beaches adjacent thereto, shall not dispose of such pollutants except after treating them to conform to the specifications and criteria prescribed in annex No. (1) attached to these regulations.

The laboratories of the Ministry of Health shall carry out a periodical analysis of the treated liquid waste samples and notify the result of analysis to the competent Administrative Entity ³⁸.

In case the result of analysis does not conform to the specifications and criteria prescribed in annex No. (1) attached to these regulations, the Environmental Affairs Agency shall be notified to adopt the administrative procedures jointly with the competent Administrative Entity to consider granting the concerned party who is licensed to exercise his activity according to the provisions of these regulations a period of one month to treat the wastes so that they become conforming to the specifications and criteria prescribed, subject to the periods prescribed in article (2) of the Decree enacting these regulations with regard to the installations existing at the time of issuing the regulations. If the treatment does not take place within the period referred to above, or if it is proved from analysis, during that period, that continuing the disposition of such wastes is likely to cause harm and damage to the water environment, then disposition shall be discontinued administratively, and the licence issued for the establishment shall be withdrawn, subject to the penalties prescribed in Law No. 4 of the year 1994. Industrial establishments shall also be prohibited to dispose of the non-decomposable pollutants mentioned in annex (10) attached to these regulations, in the water environment ³⁹.

Article : 59

It shall be prohibited to licence the building of any establishments on the sea shores of the Arab Republic of Egypt to a distance of two hundred meters

³⁸ Substituted as per D. No. 1741/2005.

³⁹ Substituted as per D. No. 1741/2005.

inwards from the shoreline except after getting the approval of the Egyptian General Entity for Protection of Beaches, in coordination with the Environmental Affairs Agency ⁴⁰.

The following procedures shall be followed in respect of licensing the building of these establishments ⁴¹:

A) The application shall be submitted in writing to the concerned coastal governorate "The Entity Granting The Licence" indicating a determination of the type of the establishment proposed to be set up within the prohibited zone, providing to the application shall be attached an integral study on evaluating the environmental impact of the project or the new work required to be carried out, including their effect on the environmental balance of the coastal area, and on the shoreline, and in particular the following elements :

1. Erosion.
2. Sedimentation.
3. Coastal currents.
4. Pollution resulting from the projects or work.

Along with detailed statement of works and precautions proposed to avoid or treat these effects, if any.

B) The Coastal Governorate shall dispatch a copy of the application to the Egyptian Authority for the Protection of Beaches to express its technical opinion concerning the project, in coordination with the Environmental Affairs Agency. The Coastal Governorate shall also forward the study on evaluating the environmental impact of the project to the Environmental Affairs Agency to review it and express its opinion about it within sixty days from the date of receiving it. The application shall then be referred to a committee comprising a representative from the Environmental Affairs Agency, the Egyptian General Authority for Protection of Beaches, and the Coastal Governorate concerned (the entity granting the license). The committee shall meet at the Governorate headquarters to adjudicate on the license application in light of the technical opinion expressed by the Authority as well as the opinion of the Environmental Affairs Agency, in addition to the survey, and studies made with regard to the project.

⁴⁰ Substituted as per D. No. 1741/2005.

⁴¹ Substituted as per D. No. 1741/2005.

The committee's resolution shall be issued by the majority of the votes of its members.

- C) The Egyptian Authority for the Protection of Beaches and the Environment Affairs Agency shall charge the Applicant the costs of surveys and studies carried out thereby.

The minister concerned with environmental affairs, after consulting the view of the competent administrative entities as well as the competent Governorates, shall issue the conditions of the Licence for setting up the establishment within the prohibited zone, or modifying the shoreline.

Article : 60 ⁴²

It shall be prohibited to authorize the carrying out of any work likely to affect the natural shoreline or modify it whether by entering toward the sea waters or by retreating from it except after getting the approval of the Egyptian Authority for the Protection of Beaches in coordination with the Environmental Affairs Agency. With regard to applications likely to affect the natural shoreline of the beach or modify it, the procedures and conditions prescribed in article (59) shall be followed.

Chapter : 3
Administrative And Judiciary Procedures

Article : 61

Legal officers prescribed in article 78 of the foregoing Law on Environment, in case of occurrence of a violation whose penalty does not exceed paying a fine or compensation, may allow the Captain of the Ship or the officer in charge of it, if he wishes to depart the Port in an urgent way, to pay temporary immediate amounts on account of executing the fine or compensation penalty to be judged within the limits prescribed in Part - 4 of the law on Environment providing the amounts shall not be less than the minimum limit prescribed for the violation plus all costs and compensations to be determined by the competent administrative entity for removing the violation results. These amounts shall be deposited, on the next day at the most from collecting them, in the Environmental Protection Fund according to the provisions of article (7) of these regulations.

⁴² Substituted as per D. No. 1741/2005.

A financial guarantee may be submitted concerning these amounts to be acceptable by the competent administrative entity, subject to the provisions of the International Convention on Civil Liability for damages and harms of pollution with oil as signed in Brussels in the year 1969.

Article : 62

The minister concerned with environmental affairs shall issue a decree establishing a Complaints Committee with headquarters seated with the Circle of Ports Activities, or with one of the administrative entities close to the Ports, as follows :

- Councelor from the State Council to be selected by the Head of the Council. Chairman
- Representative of the Environmental Affairs Agency Member
- Representative of the Ports and Lighthouses Administration Member
- Representative of the Ministry of Defence Member
- Representative of the Ministry of Petroleum Member
- Representative of the competent Administrative Entity within the jurisdiction of which the litigation occurred Member

The Committee may resort to one or more experts in Water Environment Affairs.

This Committee shall be concerned with examining and issuing a final decision in the administrative litigations resulting from applying the provisions of Part - 3 of these regulations. The Committee shall issue its decision after hearing the statements of the two parties, with the majority of votes of attending members. In case of equal voting, the Chairman shall have the casting vote.

Concerned parties may contest to the decisions of the Committee before the Administrative Court of the State Council.

Article : 63

The Competent Administrative Entities may request the assistance of each of the Ministry of Defence, the Ministry of Interior, the Ministry of Petroleum, the Suez Canal Authority, and the Ministry of Maritime Transport or any other competent entity, in implementing the provisions of Part - 3 of these regulations, according to the conditions to be issued by Decree of the minister concerned with environmental affairs.

Part - 4

Final Provisions

Article : 64

The cost amount for removing the effects of the violation referred to in Article 91 of the law on Environment shall be determined according to the following controls :

- (A) The nearness or distance of unloading from the shore, and in particular the areas of economic or touristic significance to the natural protectorates.
- (B) Degree of toxicity of unloaded materials.
- (C) Volume of the pollutants, its type, and its detrimental effect on environment.

Article : 65

All citizen or society concerned with environmental protection may resort to the competent administrative or judiciary agencies, for the purpose of applying the provisions of the Law on Environment and those of these regulations, and the Ministry of Interior, in coordination with the Environmental Affairs Agency, shall establish police force specialized in environmental protection, at the Ministry and Security Directorates in the Governorates, to be concerned with working on the implementation of the provisions of laws and decrees connected with Environmental Protection, and to receive the complaints and notifications as submitted in this respect, as well as take the legal procedures in respect thereof.



ANNEXAS

**To The Executive Regulations
Of Law No. 4 Of The Year 1994
On Environment**

Annex No. (1)
Criteria And Specifications For Certain Liquid Wastes
When Disposed Of In Marine Environment

Subject to the provisions prescribed in Law No. 48 of the year 1982 on Protection of the River Nile, and its Executive Regulations, the levels of disposition wastes indicated herebelow shall not exceed the levels indicated next to each of them.

In all cases, disposition in marine environment shall not be permissible except at a distance of not less than 500 meters from the shoreline. Nor shall disposition be permitted in the zones of fish catching or swimming, or in the natural protectorates in order to preserve the economic or aesthetic value of the zone.

Description	Ceiling Of Criteria And Specifications (Milligramme/ltr - Unless Otherwise Indicated)
Temperature	Does not exceed 10 degrees over the prevailing rate, and maximum 38°C
Hydrogen exponent	6 - 9
Colour	Colourant – free
Absorbed biotic oxygen	60
Chemically consumed oxygen (Dichromate)	100
Total solute solid materials	2000 (more or less than the sea environment in which disposition takes place)
Suspended matters	60
Turbidity	NTU 50
Sulphides	1
Oils and greases	15
Phosphates	5
Nitrates	40
Phenolates	0.015
Flourites	1
Aluminium	3
Amonia (Nitrogen)	5
Mercury	0.005
Lead	0.5
Cadmium	0.05
Arsenic	0.05
Chromium	1
Cooper	1.5
Nickle	0.1
Iron	1.5
Manganese	1
Zinc	5
Silver	0.1
Barium	2
Cobalt	2
Other metals	0.1
Pesticides of all types	0.2
Cyanide	0.1
Detergents	0.5
Eventual count of the colon group in 100 cm ³	4000

Conditions for licensing the disposition of cooling water into the sea environment:

Disposition of the cooling water into the sea environment shall be according to the following conditions:

1. The cooling water shall have been taken from the same source into which it is disposed of.
2. The cooling circuit shall be totally separated from any other disposition process.
3. The rise of temperature shall not exceed ten degrees above the temperature of entering water, with a ceiling of 38°C.
4. The concentration of oils and greases in the water coming out shall not exceed 15 parts per million.

Annex No. (2)
Establishments Subject To The Provisions On Evaluation Of
Environmental Impact

These establishments shall be determined according to the following basic controls :

First :

Type of the Establishment's activity.

Second :

Extent of the Establishment's consumption of natural resources, specially waters, agricultural lands, and mineral wealth.

Third :

Site of the Establishment.

Fourth :

Kind of energy used in operating the Establishment.

First - Type Of The Establishment's Activity :

1. Industrial establishments subject to the provisions of Laws Nos. 21 of the year 1985 concerning Reorganization and Promotion of Industries, and 55 of the year 1977 concerning the Establishment and Operation of Thermal Machines and Steam Boilers.
2. Tourist establishments which are subject to the provisions of :
 - Law No. 1 of the year 1973 concerning Hotel Establishments.
 - Law No. 38 of the year 1977 concerning the Reorganization of Travel and Tourist Companies.
 - Law No. 117 of the year 1983 on Protection of Antiquities.
 - Law No. 1 of the year 1992 concerning Tourist Places.
3. Establishments operating in the field of oil prospection, extraction, refining, storage, and transport, which are subject to the provisions of :
 - Law No. 6 of the year 1974 authorizing the Minister of Petroleum to sign oil prospection contracts.
 - Law No. 4 of the year 1988 concerning Oil Pipelines.

4. Power generating establishments which are subject to the provisions of :
 - Law No. 145 of the year 1948 concerning the Establishment of the Electricity and Gas Department for Cairo city.
 - Law No. 63 of the year 1974 concerning the Establishments of the Electricity Sector.
 - Law No. 12 of the year 1976 concerning the Establishment of the Egyptian Electricity Authority.
 - Law No. 13 of the year 1976 concerning the Establishment of the Nuclear Stations for Power Generation.
 - Law No. 27 of the year 1976 concerning the Establishment of the Rural Electricity Authority.
 - Law No. 102 of the year 1986 concerning the Establishment of the New and Renewable Energy Development and Utilization Authority.
5. Establishments operating in mines and quarries, and in the production of building materials, which are subject to the provisions of :
 - Law No. 66 of the year 1953 concerning Mines and Quarries.
 - Law No. 86 of the year 1956 concerning Mines and Quarries.
6. All infrastructure projects, including stations for sanitary drainage treatment and re-use of their waters, or treatment of agricultural drainage waters, and projects of irrigation, roads, bridges, barrages, tunnels, airports, sea ports, railway stations, and others.
7. Any other establishment, activity, or project which is likely to produce a considerable impact on environment and whereby a Decree shall be issued by the Environmental Affairs Agency after agreement with the competent administrative entity.

Second - Establishments Subject To Evaluation Of Environmental Impact, According To Their Sites :

Including those set up on the banks of the Nile, its Branches, and the main canals, or in tourist and monumental areas, or in the areas where population is in excess, or on the sea and lake shores, or in the Protectorates.

Third - Extent Of The Establishment's Consumption Of Natural Resources :

Including those which cause the scraping of agricultural land, desertification, removing gatherings of trees and palm trees, or polluting water resources especially the River Nile and its branches, as ell as the lakes or the underground water.

Fourth - Kind Of Energy Used In Operating The Establishment :

1. Fixed Establishments operated and run by thermal fuel and from which are produced emissions exceeding the permissible limits.
2. Establishments using nuclear fuel in their operation.

Annex No. (3)
Register of Effect of the Establishment's
Activity on Environment

Table (1)
Form of the Register of The Establishment's
Environmental Condition

1. General Information:

- Name and address of the establishment;
- Name of the person in charge of the register, and his function;
- The period covered by the present data.

2. General Classification of the Establishment:

- Sector to which is affiliated the establishment's activity;
- Kind and quantity of actual production, and maximum productive capacity;
- Invested capital and the annual return;
- Number of workers and year of operation;
- Classification of renewals in the establishment;
- Charts demonstrating the points of emissions, dispositions and storage places;
- Charts demonstrating the surrounding environment and the site of the establishment.

3. Inputs:

- Classification of raw materials and quantities used annually;
- Maximum storage capacity and classification of the storage places;
- Sources and consumption of water annually, and distribution of its usage;
- Sources and consumption of energy and distribution of its usage.

4. Laws and legislations governing the establishment:

- Legislations and laws applicable to the establishment;
- Attaching a copy of the environment-related licenses and resolutions issued with regard to the establishment;
- Copy of the correspondence with the environmental affairs agency and the concerned administrative entities.

5. Productive operations and utilities:

- Operations of each productive unit;
- Classification of the boilers (capacity and fuel used);
- Water treatment stations –quantity of water and steps of treatment.

6. **Gas emissions and their rates:**

- Classification of chimneys and emissions produced from them;
- Rate of gas emissions (m³/year) and calculation of the pollutant limit (ton/year);
- Specific limit (one kilogram of pollutant/ton of product);
- Classification of treatment operations of gas emissions, and their adequacy.

7. **Liquid wastes:**

- Classification of waste waters for each productive unit;
- Quantity of waste water from the productive units (m³/day);
- Pollutant limit (ton/year) and the specific limit (one kilogram of pollutant/ton of product);
- Classification of treatment units, charts, and methods and kind of treatment;
- Capacity of treatment and classification and adequacy of treatment station equipment;
- Sludge disposition methods.

8. **Solid wastes:**

- Kind, quantity, size, and method of disposition of the wastes.

9. **Work environment:**

- The pollutant and its concentration in each productive unit.

10. **Self-control plan**

- The pollutants being monitored;
- Places of taking samples (schedule for taking the samples);
- Standard methods followed for analyses;
- Person in charge of monitoring, or drawing up the reports.

Table (2)
Form Of The Register Of Dangerous Substances
And Wastes Handled In The Establishment

1- Dangerous Substances:

- List of dangerous substances used, their environmental properties, and the manufacturing entity;
- Annual consumption of dangerous substances;
- Description of storage packages;
- Classifications of storage places;
- Methods of handling the dangerous substances;
- Method of disposition of empty packages.

2- Dangerous Wastes:

- Description of the dangerous wastes in each unit, and the total quantities at the level of the establishment;
- Kind and quantity of wastes (ton/year) and their volume;
- Place of storing the dangerous wastes;
- Description of the storage packages;
- Dangerous wastes disposition method, and the entities contracted with.

3- Plan of dealing with emergencies:

- Safety equipment, and procedures of limiting the dangers of handling;
- Fire extinguishing methods, and dealing with spillages;
- Transport and disposition methods;
- Monitoring program.

4- Permits and licenses issued for handling the dangerous wastes and substances

Annex No. (4)
Land Birds And Animals Prohibited To Be
Hunted, Killed, Or Caught

First : Birds And Animals :

- (A) Birds and animals indicated in the list attached to Decree of the Minister of Agriculture No. 28 of the year 1967, as issued in implementation of the provisions of article No. 117 of Law No. 53 for the year 1966, promulgating the Law on Agriculture.
- (B) Any other birds or animals to be determined by International Conventions which are joined by the Arab Republic of Egypt.
- (C) Any other birds or animals whereby a decree shall be issued by the Minister of Agriculture in agreement with the Environmental Affairs Agency.

Second : Areas Where Hunting These Birds And Animals Is Prohibited :

(A) The areas indicated in Decree of the Minister of Agriculture No. 472 of the year 1982 :

Hunting of birds and animals of all kinds shall be prohibited in the following areas, in the Governorates of Sinai :

- The Areas of Zaraniq, Sabkhet Al Bardaweel, and Al Tinah.
- The area of St Katherine and Mount Scrial.
- The area of Tiran Isle.

Hunting birds, and catching as well as sea shells, coral reefs, and oysters, and other marine beings shall be prohibited in the area lying between Taba and Ras Mohamed, on the Gulf of Aqaba, by means of fishing with traw nets, or destruction.

- (B) Natural protectorates determined by decrees of the Prime Minister, in implementation of Law No. 102 for the year 1983.
- (C) Regulating fish catching and hunting in North Sinai, by virtue of resolution of the Governor No. 442 for the year 1980.

- (D) Regulating fish catching and hunting in South Sinai by virtue of the Governor's resolutions Nos. 15 and 16 of the year 1980.
- (E) The areas determined by International Conventions to which the Arab Republic of Egypt is a member.
- (F) Any other areas to be determined by a resolution of the competent entity in coordination with the Environmental Affairs Agency.

Annex No. (5)
Maximum Limits Of Outside Air Pollutants
(Microgramme Per Cubic Meter)

Pollutant	Maximum Limit	Period Of Exposure
Sulphur Dioxide	350 150 60	1 hr 24 hrs 1 year
Carbon Monoxide	30 Milligram/M3 10 Milligram/M3	1 hr 8 hrs
Nitrogen Dioxide	400 150	1 hr 24 hrs
Ozone	200 120	1 hr 8 hrs
Suspending Particles (Measured as black smoke)	150 60	24 hrs 1 year
Total suspending particles	230 90	24 hrs 1 year
Chest Particles (PM 10)	150 70	24 hrs 1 year
Lead	0.5 1.5	An average of 24 hours all over 1 year in the urban areas An average of 24 hours all over 6 months in the industrial zones

Annex No. (6)
Permissible Limits Of Air Pollutants In Emissions
From Different Sources

The air pollutants mentioned under this article are the pollutants in gaseous, solid, liquid or steam condition as emitted from the chimneys of different industrial establishments as well as from the incinerators of hospitals and from vehicles, machines, engines and out of the burning of fuel for certain periods, which may all result in causing harms to public health, animals, plants or to different materials or properties, or intervening with man's exercise of his daily life. Therefore, they are considered as air pollutants, in case the emission of these pollutants result in concentrations thereof in the outside air in excess of the maximum permissible limit.

Table No. (1)
Maximum Limits Of Emitted Total Solid Particles
From The Chimneys Of Industrial Establishments

Kind Of Activity	Maximum Limit Of Emissions (Milligram/M3 of Exhaust)
1. Carbon Industry	50
2. Coke Industry	50
3. Phosphates Industry	50
4. Making lead ingots, and lead extraction industry	20
5. The industry of making zinc and copper ingots and extracting thereof, and other non-ferrous metallurgical industries	100
6. Ferrous Industries :	
▪ Existing establishments	200
▪ New establishments to be built after issuing the amending regulations	100
7. Cement Industry	
▪ Factories established before 1995	300
▪ Factories established from 1995 until the present amendments are issued	200
▪ Factories established after issuing the amendments	100
8. Industrial Timber and Fibres	150
9. Petroleum and Oil Refining Industries	100
10. Other sources	200

Table No. (2)
Maximum Limits Of Gas And Vapor
Emission From The Chimneys Of Industrial Establishments

Pollutant	Maximum Limit Of Emissions (milligram/M3 of Exhaust)
* Aldehydes (measured as formaldehydes)	20
* Antimony	20
* <u>Carbon Monoxide :</u>	
▪ Existing establishments	500
▪ Establishments to be built after the amended executive regulations are issued	250
* <u>Sulphur Dioxide :</u>	
Burning Coke and Petroleum :	
▪ Existing establishments	2500
▪ Establishments to be built after the executive regulations are issued	4000
Non-ferrous Industries	3000
Sulphuric Acid Industry and other sources	1500
* Sulphur trioxide plus sulphuric acid	150
* Nitric Acid resulting from Nitric Acid Industry	2000
* Hydrochloric Acid (Hydrogen Chloride)	100
* Hydrofluoric Acid (Hydrogen Flouride)	15
* Lead	2
* Mercury	3
* Arsenic	20
* Heavy elements (grand total)	25
* Silicon Flouride	10
* Flourine	20
* <u>Tar :</u>	
▪ Graphite Electrodes Industry	50
* Cadmium	10
* Hydrogen Sulphide	10
* Chlorine	20

Pollutant	Maximum Limit Of Emissions (milligram/M3 of Exhaust)
* Carbon :	
Burning of Garbage	50
Electrodes Industry	250
* Organic Compounds :	
Burning of organic liquid	50
	0.04% of crude oil (oil refining)
* Copper	
* Nickle	20
	20
* Nitrogen Oxides :	
- Nitric Acid Industry :	
▪ Existing establishments	3000 “Existing”
▪ Establishments to be built after amended executive regulations are issued	400 “New”
▪ Other Industries	300

Table (3)
Maximum Limits of emissions (exhaust) from vehicle engines

(A) Gasoline and diesel vehicles :

Kind of vehicle fuel	Pollutants	Vehicles manufactured before the year 2003	Vehicles manufactured starting from the year 2003	Gauge methods
Gasoline	HC ppm	900 parts per million	600 parts per million	At the idling speed (600-900 rotations per minute)
	CO %	4.5 % of the volume	2.5 % of the volume	At the idling speed (600-900 rotations per minute)
Diesel	Opacity	30 %		At the maximum acceleration

(B) Motorcycles :

Source	Engine capacity	Double-stroke		Four-stroke	
		HC%V	CO%V	HC%V	CO%V
Motorcycles currently in service	-	1.1%	5.5%	0.45%	5.5%
Motorcycles registered for the first time following issue of the amended regulations	Less than 125 cm ³	0.7%	4%	0.4%	4%
	From 126 cm ³ to 500 cm ³	0.45%	3.6%	0.25%	3.6%
	More than 500 cm ³	0.3%	3%	0.1%	2.5%

Exhaust is gauged at the idling speed.

Table (4)
Maximum limits of emissions
from chimneys of hospital incinerators

Pollutant	Permissible limit Melligram/M3
Total dusts	10
Gaseous substances and vapors in the form of total organic carbon	10
Hydrochloric acid	10
Hydrofluoric acid	2
Sulphur dioxide	50
Nitrogen oxides	200
Carbon monoxide	100 (?)
Dioxine and furan compounds	0.1% nanogram/M3
Heavy Metals :	
Cadmium and its compounds	0.1
Thallium and its compounds	0.1
Mercury and its compounds	0.1
Antimony and its compounds	0.1
Arsenic and its compounds	0.1
Lead and its compounds	0.1
Chromium and its compounds	0.1
Cobalt and its compounds	0.1
Copper and its compounds	0.1
Manganese and its compounds	0.1
Nickel and its compounds	0.1
Vanadium and its compounds	0.1
Tin and its compounds	0.1
Total metals and their compounds	0.5

Table (5)
Maximum limits of emissions resulting from burning the fuel

Source	Kind of fuel	Permissible Limit (milligram/M3)			
		Carbon monoxide	Sulphur dioxide	Total suspending particles	At oxygen percentage of *
Steam boilers	Mazoot	500	3600	150	3%
	Gas oil	250	1600	100	3%
Industrial furnaces *	Mazoot	600	3600	250	3%
	Gas oil	300	1600	125	3%
Other purposes *	Coal or mazoot				In areas far from urban communities or waste-burning places
Existing Establishments		4000	4000	500	
Establishments to be set up after issuing the amended regulations		2500	2500	250	

(*) Subject to the limit of other emissions mentioned in annex (6).

The following equation shall be employed for calculation:

$$\text{Actual concentration of the pollutant} = \text{Gauged concentration} \times \frac{(21 - \text{percentage of referential oxygen})}{(21 - \text{percentage of gauged oxygen})}$$

Table (6)
Maximum limits of emissions from chimneys of
clay and fire-brickyards

Source	Maximum limits of pollutant emissions Milligram/M3			Place of taking the sample
	Carbon monoxide	Sulphur dioxide	Smoke	
Chimneys of clay brickyards	800	300	50	At the culvert
Chimneys of fire brickyards	800	1600	50	At the culvert

Annex No. (7)
Permissible Limits Of Intensity Of Sound
And Duration Of Safe Exposure Thereto

Table No. (1)
Intensity Of Sound Inside Places Of Work And Indoor Places

Permissible limits of the level of noise inside places of productive activities:

Place And Activity	Maximum Limit Permissible For equivalent noise intensity L Aeq in Decibel (A)
1. Places of work with shifts up to 8 hours, with the aim of limiting noise hazards to the hearing sense.	90
2. Places of work which require hearing sound signals, and good hearing of speech.	80
3. Work rooms for computer or typewriters or the like.	70
4. Work rooms to follow up, measure and adjust operation.	65
5. Work rooms for activities which require routine mental concentration, and control rooms.	60

Maximum period permissible for exposure to noise in places of work (factories and workshops).

- The equivalent noise intensity L Aeq shall not exceed 90 Decibels (A), during the daily work shift (8 hours).

Table (2)
Maximum period permissible for exposure
to noise in places of work (factories and workshops)

Equivalent noise intensity L Aeq in Decibel (A)	95	100	105	110	115
Period of Exposure (One Hour)	4	2	1	1/2	1/4

- * The value given is indicated on basis of non-affecting the sense of hearing.
- In case the equivalent noise intensity L Aeq is higher than 90 Decibels (A), the period of exposure shall be reduced according to the previous table.
- The momentary noise intensity during the work period shall not exceed 135 Decibels.
- In case of exposure to different levels of noise intensity over 90 Decibels, for intermittent periods during the work shift, the result of the following equation shall not exceed one whole :

$$\left(\frac{A1}{B1} + \frac{A2}{B2} + \dots \right)$$

Since :

- "A" Is the period of exposure to a specific level of noise (hour).
- "B" Is the permissible period of exposure at the same noise level (hour).

Table (3)
Maximum limit permissible for exposure
to intermittent noise resulting from heavy hammers

Sound Intensity (Decibel)	Number of Knocks Permissible During The Period of Daily Work
135	300
130	1000
125	3000
120	10000
115	30000

- The period of exposure to intermittent noise (number of knocks during the daily shift) depends on the noise intensity, according to the previous table.
- Noise resulting from heavy hammers shall be considered intermittent if the period between each knock and the next one is one second or more. If the period is less than that, the noise shall be considered continuous, in which case the foregoing items shall apply thereto.

Table (4)
Maximum limit of noise intensity in the
different areas

Kind of area	Maximum limit of equivalent noise intensity L Aeq in Decibel		
	All day	Evening	All night
	(7 am – 6 pm)	(6 pm – 10 pm)	(10 pm – 7 am)
Rural residential areas, and hospitals and gardens areas	45	40	35
Residential suburbs, with the existence of little movement	50	45	40
Town residential areas	55	50	45
Residential areas having some workshops or commercial activities, or on the public road	60	55	50
Trading and administrative areas, and downtown	65	60	55
Industrial zones (heavy industries)	70	65	60

The level of equivalent noise emitted from loudspeakers, musical instruments, or others in party halls shall not exceed 95 decibels (A) with a maximum limit of exposure of 4 hours per day, providing the superficies of the place shall not exceed 200 m², and the noise shall not exceed the attendants.

Annex No. (8)
Maximum Limits Of Air Pollutants
Inside Places Of Work, According To The Kind
Of Each Industry

The permissible limits are the concentrations of chemical substances in the air, to which the workers may be exposed day after day without the occurrence of health harms. They are divided into three kinds :

1- Permissible limits – 8 hours :

It is the pollutant average concentration during an ordinary workday (8 hours), to which the worker may be exposed 5 days a week throughout the period of his work without health harms.

2- Permissible limits – 15 minutes :

It is the pollutant concentration to which the workers may be exposed continuously for a short period of 15 minutes, and which may not be exceeded in any case during the period of work. This shall not be repeated more than four times during the same day. The period between each short exposure and the one next thereto shall at least be sixty minutes.

3- The maximum limit :

It is the limit that shall not be exceeded even for a moment. When absorption through the skin is a factor in increasing the exposure, the sign "+ skin" shall be placed in front of the permissible limit. With regard to the total dusts that only cause annoyance without having considerable health effects, the limit shall be 10 milligram/M³ for inhalable particles.

Concerning simple suffocating gases which have no physiological effects of significance, the influencing factor shall be the oxygen concentration in the air which shall not be less than 18%.

Subject to the provisions prescribed in labour law No. 12 of the year 2003, and its amendments, the emissions resulting from different chemical substances in the work environment shall not exceed the limits set forth in table (1).

Table (I)
Maximum limits for permissible Pollution inside work places and closed locations
due to the type of each industry

Ser. No.	Substance	Chemical Formula	CAS NO ISBN	LIMITS						Remarks		
				Average of concentration in 8 hours		Limit of exposure for a short time		Maximum Limit				
				Part/ million	mgm/ m ³	Part/ million	mgm/ m ³	Part/ million	mgm/ m ³			
1	Acetaldehyde	CH ₃ CHO	0-47-75									
2	Acetic acid	CH ₃ COOH	7-19-54	10	25	15	37		25		M2	
3	Acetic anhydride	(CH ₃ CO) ₂ O	7-24-108	5	21							+ Skin
4	Acetone	(CH ₃) ₂ CO	1-64-67	500	1187	750	1780					
5	Acetonitrile	CH ₃ CN	8-05-75	40	67	60	101					+ Skin
6	Acetylene tetrabromide	C ₂ H ₂ CHBr ₂	6-27-79	1	14							
7	Acetylsalicylic acid (Asprin)	CH ₃ COOC ₆ H ₄ COOH	2-78-50		5							
8	Acrolein	CH ₂ =CHCHO	8-02-107						0.1	0.2		+ Skin
9	Acrylamide	CH ₂ =CHCONH ₂	1-06-79		0.03							+ Skin M2
10	Acrylic acid	CH ₂ =CHCOOH	7-10-79	2	5.9							+ Skin
11	Acrylonitrile	CH ₂ =CHCN	1-13-107	2	4.3							+ Skin M2
12	Aldrin	C ₁₂ H ₆ Cl ₆	2-00-309		0.25							+ Skin M2
13	Allyl alcohol	CH ₃ CH ₂ CH ₂ OH	6-18-107	0.5	1.2							+ Skin
14	Allyl chloride	CH ₃ CH ₂ CH ₂ Cl	1-05-107	1	3	2	6					M2

30	Beryllium and compounds, as Be	Be	7-41-7440	0.002	0.01				M1
31	Biphenyl	(C ₆ H ₅) ₂	4-52-92	1.3					
32	Bis (Chloromethyl) ether	(CH ₂ Cl) ₂ O	1-88-542	0.0047					M1
33	Bismuth telluride: - Undoped - Se-doped as Bi ₂ Te ₃	Bi ₂ Te ₃	1-82-1304	10 5					
34	Borates, tetra, sodium salts: - Anhydrous - Decahydrate - Pentahydrate	Na ₂ B ₄ O ₇ Na ₂ B ₄ O ₇ ·10H ₂ O Na ₂ B ₄ O ₇ ·5H ₂ O	4-43-1330 4-96-1303 3-04-12179	1 5 1					
35	Boron oxide	B ₂ O ₃	2-86-1303	10					
36	Boron tribromide	BBr ₃	4-33-10294				1	10	
37	Boron trifluoride	BF ₃	2-07-7637				1	2.8	
38	Bromine	Br ₂	6-95-7726	0.66	0.2	1.3			
39	Bromine pentafluoride	BrF ₅	2-30-7789	0.72					M2
40	Bromoform	CHBr ₃	2-25-75	5.2					+ Skin M3
41	Butadiene, (1, 3)	CH ₂ =CHCH=CH ₂	0-99-106	4.4					
42	Butane	C ₄ H ₁₀	8-97-106	1900					
43	Butanol, (n)	CH ₃ CH ₂ CH ₂ CH ₂ OH	3-36-71				50	152	+ Skin
44	Butanol, (sec)	C ₂ H ₅ CHOHCH ₃	2-92-78	303					
45	Butanol, (tert)	(CH ₃) ₃ COH	0-65-75	303					

46	Butyl (tert) chromate, as CrO ₃	(CH ₃) ₃ CO) ₂ CrO ₂	1-85-1189						0.1	+ Skin
47	Butyl acetate, (n)	CH ₃ COO(CH ₂) CH ₃	4-86-123	150	713	200	950			
48	Butyl acetate, (sec)	CH ₃ COOCH (CH ₃)C ₂ H ₅	4-46-105	200	950					
49	Butyl acrylate, (n)	CH ₂ =CHCOO C ₄ H ₉	2-32-141	2						
50	Butyl amine, (n)	C ₄ H ₉ NH ₂	9-73-109					5	15	+ Skin
51	Butyl lactate, (n)	C ₇ H ₁₄ O ₃	7-22-138	5	30					
52	Butyl mercaptan, (n)	CH ₃ (CH ₂) ₃ SH	5-79-109	0.5	1.8					
53	Butyl acetate, (ter.)	CH ₃ COOC (CH ₃) ₃	5-88-540	200	950					
54	Cadmium and compounds, as Cd		9-43-7440		0.01 0.002					M2
55	Calcium carbonate	CaCO ₃	3-65-1317		10					Total dust, crystallized silica no more than 1% , not containing Asbestos
56	Calcium hydroxide	Ca(OH) ₂	0-62-1305		5					
57	Calcium oxide	CaO	8-78-1305		2					
58	Carbaryl	C ₁₂ H ₁₁ NO ₂	2-25-63		5					
59	Carbofuran	C ₁₂ H ₁₅ NO ₃	2-66-1563		0.1					
60	Carbon black	C	4-86-1333		3.5					Total dust
61	Carbon dioxide	CO ₂	9-38-124	5000	9000	30000	45000			+ Skin
62	Carbon disulphide	CS ₂	0-15-75	10	31					
63	Carbon monoxide	CO	0-08-630	25	29					
64	Carbon tetrabromide	CBr ₄	4-13-558	0.1	1.4	0.3	4.1			
65	Carbon tetrachloride	CCl ₄	5-23-56	5	31	10	63			+ Skin M2

66	Chlordane	$C_{10}H_6Cl_8$ Approx	9-74-57			0.5					+ Skin M3
67	Chlorinated camphene (Toxaphene)	$C_{10}H_{10}Cl_8$	2-35-8001		1	0.5					+ Skin M3
68	Chlorinated diphenyl oxide, (o)	$(C_6H_2Cl_3)_2O$	0-93-31242			0.5					
69	Chlorine	Cl_2	5-50-7782	0.5	1	1.5	2.9				
70	Chlorine dioxide	ClO_2	4-04-10049	0.1	0.3	0.28	0.83				
71	Chloroacetalde-hyde	$ClCH_2CHO$	0-20-107					1	3.2		
72	Chlorobenzene	C_6H_5Cl	7-90-108	10		46					M3
73	Chlorodiphenyl (42% Chlorine)	$C_{12}H_7Cl_3$ (Approx.)	9-21-53469			1					+ Skin
74	Chlorodiphenyl (54% Chlorine)	$C_{12}H_5Cl_5$ (Approx.)	1-69-11097			0.5					+ Skin M3
75	Chloroform	$CHCl_3$	3-66-67	10		49					M3
76	Chloropicrin	CCl_3NO_2	2-06-76	0.1		0.67					
77	Chloropyrifos	$C_9H_{11}Cl_3NO_3PS$	2-88-2921			0.2					+ Skin
78	Chromium, and inorganic compounds as cr: - Metal & Cr (III) Compounds - Water-soluble Cr (VI) comps. - Insoluble Cr (VI) comps.	Cr	3-47-7440			0.5					M1
						0.05					M1
						0.01					M1
79	Cobalt & inorganic comp. as Co	Co	4-48-7440			0.02					M1
80	Copper: - Fume - Dust & mists, as Cu	Cu	8-50-7440			0.2					
						1					

81	Cotton dust, raw							0.2 2.5					
82	Cresol, all isomers	CH ₃ C ₆ H ₄ OH	3-77-1319 7-48-95 4-39-108 5-44-106	5				22					+ Skin
83	Cyanide salts as CN		8-01-592								5		+ Skin
84	Cyanogen	N=C-C=N	5-19-460	10				21					
85	Cyanogen chloride	Cl-C≡N	4-77-506							0.3	0.75		
86	Cyclopentadiene	C ₅ H ₄	7-92-542	75				203					
87	Cyclopentane	C ₅ H ₁₀	7-92-287	600				1720					
88	Cyclohexane	C ₆ H ₁₂	7-82-110	300				1030					
89	Decaborane	B ₁₀ H ₁₄	9-41-17702	0.05			0.15	0.25		0.75			+ Skin
90	Diazinon	C ₁₂ H ₂₁ N ₂ O ₄ PS	5-41-333					0.1					+ Skin
91	Diazomethane	CH ₂ N ₂	3-88-334	0.2				0.34					M2
92	Diborane	B ₂ H ₆	7-45-19287	0.1				0.11					M3
93	Dichloro methane	CH ₂ Cl ₂	2-09-75	50									M2
94	Dichloroacetylene	C ₂ Cl ₂	4-29-7572							0.1	0.39		M2
95	Dichlorobenzene, (o)	C ₆ H ₄ Cl ₂	1-50-95	25			50	150		301			
96	Dichlorobenzene, (p)	C ₆ H ₄ Cl ₂	7-46-106	10				60					M2
97	Dichlorodiphenyl trichloroethane, (DDT)	C ₁₄ H ₉ Cl ₅	3-29-50					1					M3
98	Dichloroethyl ether	(ClCH ₂ CH ₂) ₂ O	4-44-111	5			10	29		58			+ Skin
99	Dichloroethylene, (1, 2) all isomers	ClCH=CHCl	0-59-540 2-59-159 5-50-156	200				793					
100	Dichlorvos	C ₄ H ₇ Cl ₂ O ₄ P	7-73-62	0.1				0.9					+ Skin
101	Dichrotophos	C ₈ H ₁₈ O ₃ PN	2-66-141					0.25					+ Skin
102	Dieldrin	C ₁₂ H ₈ Cl ₆ O	1-57-60					0.25					+ Skin

103	Diethanolamine	$(\text{CH}_2\text{CH}_2\text{OH})_2$ NH	2-42-111	0.46	2				+ Skin
104	Diethylamine	$(\text{C}_2\text{H}_5)_2\text{NH}$	7-89-109	5	15	15	45		+ Skin
105	Dimethylamine (N, N-Dimethylamine)	$\text{C}_6\text{H}_5\text{N}(\text{CH}_3)_2$	7-69-121	5	25	10	50		+ Skin
106	Dinitrobenzene	$\text{C}_6\text{H}_4(\text{NO}_2)_2$	0-29-528 0-65-99 4-25-100	0.15	1				+ Skin
107	Dinitro-o-cresol	$\text{CH}_3\text{C}_6\text{H}_2\text{OH}$ $(\text{NO}_2)_2$	1-52-534		0.2				+ Skin
108	Dinitrotoluene	$\text{CH}_3\text{C}_6\text{H}_3$ $(\text{NO}_2)_2$	6-14-25321		0.2				+ Skin M2
109	Dioxane, (1, 4)	$\text{C}_4\text{H}_8\text{O}_2$	1-91-123	20	72				+ Skin M2
110	Diquat: - Total dust - Respirable dust	$(\text{C}_2\text{H}_4\text{NCH}_2)_2$ Br ₂	9-72-2764		0.5 0.1				+ Skin + Skin
111	Disulfiram	$((\text{C}_2\text{H}_5)_2\text{NCS})_2\text{S}_2$	8-77-97		2				
112	Endosulfan	$\text{C}_9\text{H}_6\text{Cl}_6\text{O}_3\text{S}$	7-29-115		0.1				+ Skin
113	Endrin	$\text{C}_{12}\text{H}_8\text{Cl}_6\text{O}$	8-20-72		0.1				+ Skin
114	Epichlorohydrin	$\text{C}_3\text{H}_5\text{OCl}$	8-89-106	0.5					+ Skin M2
115	Ethanol	$\text{C}_2\text{H}_5\text{OH}$	5-17-64	1000	1880				
116	Ethanolamine	$(\text{C}_2\text{H}_4\text{OH})\text{NH}_2$	5-43-141	3	7.5	6	15		
117	Ethyl acetate	$\text{CH}_3\text{COOC}_2\text{H}_5$	6-78-141	400	1440				
118	Ethyl benzene	$\text{C}_2\text{H}_5\text{C}_6\text{H}_5$	4-40-100	100	434	125	543		
119	Ethyl butyl ketone	$\text{C}_2\text{H}_5\text{COC}_4\text{H}_9$	4-35-106	50	234	75	351		
120	Ethyl chloride	$\text{C}_2\text{H}_5\text{Cl}$	3-00-75	100	264				+ Skin M2
121	Ethyl mercaptan	$\text{C}_2\text{H}_5\text{SH}$	1-08-75	0.5	1.3				
122	Ethylenedichloride	$\text{C}_2\text{H}_4\text{Cl}_2$	2-06-107	10	40				
123	Ethylene glycol	$\text{HOCH}_2\text{CH}_2\text{OH}$	1-21-107					39.4	100
124	Ethylene oxide	$\text{C}_2\text{H}_4\text{O}$	8-21-75	1	1.8				For aerosol only M2

147	Isobutyl alcohol	$(\text{CH}_3)_2\text{CHCH}_2\text{OH}$	1-83-78	50	152				
148	Isopropanole	$\text{CH}_3\text{CHOHCH}_3$	0-63-67	400	983	500	1230		
149	Lead arsenate, as $\text{Pb}_3(\text{AsO}_4)_2$	$\text{Pb}_3(\text{AsO}_4)_2$	8-31-3687		0.15				
150	Lead chromate: - As Pb - As Cr	PbCrO_4	6-97-7758		0.05 0.012				M2 M2
151	Lead, & inorganic comp. as Pb	Pb	1-92-7439		0.05 0.5				M2 + Skin M2
152	Lindane	$\text{C}_6\text{H}_6\text{Cl}_6$	9-89-58		1800				
153	Liquefied petroleum gas, (LPG)	Propane, butane, isobutane, propylene, butenes and mixtures thereof	7-85-68476	1000					
154	Magnesium oxide fume	MgO	4-48-1309		10				
155	Malathione	$\text{C}_{10}\text{H}_{19}\text{O}_6\text{PS}_2$	5-75-121		10				
156	Manganese & inorganic compounds, as Mn	Mn	5-96-7439		0.2				
157	Mercury as Hg: - Alkyl compounds - Aryl compounds - Elemental & inorganic forms	Hg	6-97-7439		0.01 0.1 0.025	0.03			+ Skin + Skin + Skin
158	Methanol	CH_3OH	1-56-67	200	260	250	325		+ Skin
159	Methoxychlor	$\text{C}_{16}\text{H}_{15}\text{Cl}_3\text{O}_2$	5-43-72		10				
160	Methyl bromide	CH_3Br	9-83-74	1	3.8				+ Skin

161	Methyl chloride	CH ₃ Cl	3-87-74	50	103	100	207		+ Skin
162	Methyl chloroform	CH ₃ CCl ₃	6-55-71	350	1910	450	2460		
163	Methyl ethyl ketone (MEK)	CH ₃ COC ₂ H ₅	3-93-78	200	590	300	885		
164	Methyl hydrazine	CH ₃ NH-NH ₂	4-34-60	0.01	0.019				+ Skin M2
165	Methyl isocyanate	CH ₃ NCO	9-83-624	0.02	0.047				+ Skin
166	Methyl mercaptan	CH ₃ SH	1-93-74	0.5	0.98				
167	Methyl n-butyl ketone	CH ₃ COC ₄ H ₉	6-78-591	5	20	10	40		+ Skin
168	Methyl parathion	C ₉ H ₁₀ NO ₆ PS	0-00-298		0.2				+ Skin
169	Methyl tert-butyl ether (MTBE)	CH ₃ OC(CH ₃) ₃	4-04-1634	40	144				M2
170	Methylene bisphenyl isocyanate (MDI)	(C ₆ H ₄ NCO) ₂ CH ₂	8-68-101	0.005	0.051				
171	Mevinphos	C ₇ H ₁₃ C ₆ P	7-34-7786	0.01	0.09	0.03	0.27		+ Skin
172	Mineral oil mist (except irritant oil)				5	10			
173	Monocrotophos	C ₆ H ₁₄ O ₅ NP	4-22-6923		0.25				+ Skin
174	Naphthalene	C ₁₀ H ₈	3-20-91	10	52	15	79		+ Skin
175	Nickel carbonyl as Ni	Ni(CO) ₄	3-39-13463	0.05	0.35				
176	Nickel, as Ni: - Elemental - Soluble compounds (NOS) - Insoluble compounds (NOS)	Ni	0-02-7440		1.5 0.1 0.2				Total dust Total dust Total dust M1
177	Nicotine	C ₁₀ H ₁₄ N ₂	5-11-54		0.5				+ Skin
178	Nitric acid	HNO ₃	2-37-7697	2	5.2	4	10		
179	Nitric oxide	NO	9-43-10102	25	31				
180	Nitroamine, (p)	C ₆ H ₄ NH ₂ -NO ₂	6-01-100		3				+ Skin
181	Nitrobenzene	C ₆ H ₅ NO ₂	3-95-98	1	5				+ Skin M2
182	Nitrochloro-benzene, (p)	ClC ₆ H ₄ NO ₂	5-00-100	0.1					+ Skin M2

183	Nitrogen dioxide	NO ₂	0-44-10102	3	5.6	5	9.4	
184	Nitrogen trifluoride	NF ₃	2-54-7783	10	29			
185	Nitroglycerin (NG)	CH ₂ NO ₂ CHNO ₂ CH ₂ NO ₂	0-63-55	0.05	0.46			+ Skin
186	Nitrotoluene, all isomers	CH ₃ C ₆ H ₄ NO ₂	2-72-88 1-08-99 0-99-99	2	11			+ Skin
187	Octachloro-naphthalene	C ₁₀ Cl ₁₈	1-13-2234		0.1		0.3	+ Skin
188	Osmium tetroxide	OsO ₄	0-12-20816	0.0002	0.003	0.0006	0.006	
189	Oxalic acid	HOOC ⁻ COOH 2H ₂ O	7-62-144		1		2	
190	Oxygen difluoride	OF ₂	7-41-7783				0.05	0.11
191	Ozone : - Heavy work - Moderate work - Light work - Heavy, moderate, light workload (≤ 2 hours)	O ₃	6-15-10028	0.05 0.08 0.1 0.2				
192	Paraffin wax fume	Mixture of solid hydrocarbonates	2-74-8002		2			
193	Paraquat : - Total dust - Respirable dust	ClH ₃ (C ₅ H ₄ N) ₂ CH ₃ 2Cl	7-14-4685		0.5 0.1			
194	Parthion	N ₁₇ H ₁₇ O ₅ NPS	2-38-56		0.1			+ Skin
195	Pentachloro-naphthalene	C ₈ H ₂ Cl ₅	8-64-1321		0.5		2	
196	Pentachloro-phenol	C ₆ Cl ₅ OH	5-86-87		0.5			+ Skin M2
197	Phenol	C ₆ H ₅ OH	2-95-108	5	19			+ Skin

219	Silicon carbide	SiC	2-21-409	10					For total dust, crystallized silica not more than 1 and not containing Asbestos
220	Silver : - Metal - Soluble compounds as Ag	Ag	4-22-7440	0.1 0.01					
221	Sodium azide: - As sodium azide - Ashydrozoic acid vapour	NaN ₃	8-22-26628		0.11			0.29	
222	Sodium bisulfite	NaHSO ₃	5-90-7631	5					
223	Sodium fluoroacetate	CH ₂ FCOONa	8-74-62	0.05					+ Skin
224	Sodium hydroxide	NaOH	2-73-1310					2	
225	Sodium metabisulfite	Na ₂ S ₂ O ₅	4-57-7681	5					
226	Sulfur dioxide	SO ₂	5-09-7446	5.2		13	5		
227	Sulfur hexafluoride	SF ₆	4-62-2551	5970					
228	Sulfur monochloride	S ₂ Cl ₂	9-67-10025					1	
229	Sulfuric acid	H ₂ SO ₄	9-93-7664	1			3		M2
230	Sulfur penta fluoride	S ₂ F ₁₀	7-22-5714					0.01	0.1
231	Synthetic vitreous fibers			5					M2
232	Tetrachloroethane, (1, 1, 2, 2)	C ₂ H ₂ Cl ₄	5-34-79	6.9			1		+ Skin M2
233	Tetraethyl lead, as Pb	Pb(C ₂ H ₅) ₄	2-00-78	0.1					+ Skin
234	Tetraethyl- pyrophosphate	C ₈ H ₂₀ O ₇ P ₂	3-49-107	0.5					

252	Vanadium pentaoxide as V ₂ O ₅ dust or fume	V ₂ O ₅	1-62-1314		0.05				Respirable dusts
253	Vinyl chloride	CHCl=CH ₂	4-01-75	1	2.5				M1
254	Warfarin	C ₁₉ H ₁₆ O ₄	2-81-81		0.1				
255	Welding fumes (NOS)				5				
256	- Hard wood as beech & oak - Soft wood				1				
257	Xylene, (o, m, p isomers)	C ₆ H ₄ (SH ₃) ₂	60-47-95 30-38-108 3-42-106	100	434	150	10 651		
258	Zinc chloride, fume	ZnCl ₂	65-13530 3-9111 90-86 5-23-37300	0.01					M3
259	Zinc oxide: - Fume - Dust	ZnO	2-13-1314		5 10		10		
260	Zirconium, compounds as Zr	Zr	7-67-7440		5		10		

M1: Carcenogenic substances for man.

M2: Suspected carcenogenic substances for man.

M3: Carcenogenic substances for animals.

Permissible Limits
Of Exposure To Mineral Dusts

(1) Silica - Silicon Dioxide :

A) Crystallized :

Quartz : The limits are (One million particles in a cubic foot) =

300

Percentage of quartz concentration in dusts + 10

Limit of respirable dusts (less than 5 microns) (Milligramme/M3) =

10 Milligrammes / M3

Percentage of quartz concentration in dusts + 2

Limit of total dusts (Milligramme / M3) =

30 Milligrammes / M3

Percentage of quartz concentration in dusts + 3

Crystobalite and Tridimite : Half the value calculated for quartz shall be used.

B) Uncrystallized Silica :

Limit : 20 million particles in a cubic foot

(2) Asbestos :

Asbestos dusts the length of the fibres of which is more than 5 microns :

- | | | |
|----------------|-----|--|
| * Amosites | 0.5 | of fibres for each cm ³ of air. |
| * Crossidolite | 0.2 | of fibres for each cm ³ of air. |
| * Other Kinds | 2 | of the fibres for each cm ³ of air. |

(3) Talc :

- | | | |
|--------------------|----|---|
| * Fibrous Type | 2 | fibres for each cm ³ of air. |
| * Non-Fibrous Type | 20 | million particles for each cubic foot of air. |

(4) Mica :

20 million particles for a cubic foot of air.

(5) Natural Graphite :

15 million particles for a cubic foot of air.

(6) Coal:

Respirable dusts : (Providing the percentage of silica is less than 5%) =
20 million particles in a cubic foot of air (Each one million particles in a cubic foot x 35.5 = One million particles in a cubic meter = One particle in a cubic centimeter)

If the percentage of silica is more than 5% =

10 Milligrammes / M3

Percentage of silica in respirable dusts + 2

The Limits For Dusts Causing Mere Nuisance

(Less than 1% quartz) The limits for total dusts
= 30 million particles in a cubic foot
= 10 milligrammes in a cubic meter

Limits of respirable dusts
= 3 milligrammes in a cubic meter

If the percentage of quartz exceeds 1%, the limit for quartz shall be used.

Examples Of dusts causing mere nuisance :

- Alumina
- Calcium carbonate
- Marble
- Limestone
- Calcium Silicate
- Portland Cement
- Synthetic Graphite
- Gypsum - Calcium Sulphate
- Magnesium Sulphate
- Kaoline
- Metallurgical wool fibres
- Zinc Oxide
- Cellulose Fibres
- Sprinkles of vegetable oils - except irritating oils.

Limit of Raw Cotton Fluff :

Limit - Time Average = 0.2 milligrammes / m³

Limit - For Short Exposure = 0.6 milligrammes / m³

Table (2)
The Limits Of Carcinogenic Or Suspected To Be Carcinogenic Substances

Substance	Chemical Formula	CAS NO (ISBN)	Minimum limit line (Average time : 8 hours)	Remarks
Acrylonitril	CH ₂ =CHCN	1-13-107	2 parts in a million	+ Skin
Asbestos		4-21-1332	0.1 Leaf/cm ³	
Benzene	C ₆ H ₆	2-43-71	0.5 parts in a million	
Brillium	Be	7-41-7400	2 microgrammes/m ³	
Carbon Tetrachloride	CCl ₄	5-23-56	0.5 parts in a million	+ Skin
Chloro Methyl Ether	(CH ₂ Cl) ₂ O	1-88-542	0.001 parts in a million	
Chloroform	CHCl ₃	3-66-67	10 parts in a million	
Chromate (Clearing Chromate Ore)	FeCr ₂ O ₄		0.1 mg/m ³ (as Chromium)	
Hexavalent Chromium - non-soluble compounds	Cr	3-47-7440	0.01 mg/m ³ (as Chromium)	
Hydrazene Dimethyl (1.1)	(CH ₃) ₂ NNH ₂	6-73-540	0.5 parts in a million	+ Skin
Dimethyl Sulphate	(CH ₃) ₂ SO ₄	1-78-77	0.1 parts in a million	+ Skin
Ethylene Oxide	C ₂ H ₄ O	8-21-75	1 part in a million	
Formaldehyde	H ₂ CO	0-00-50	0.3 parts in a million	Ceiling
Hexa Chlorobiotadine	C ₄ Cl ₆	3-68-87	0.02 parts in a million	
Hydrazene	H ₂ NNH ₂	2-01-302	0.01 parts in a million	+ Skin
Hydrazene Methyl	CH ₃ NH NH ₂	4-34-60	0.01 parts in a million	+ Skin - Ceiling
Methyl Iodide	CH ₃ I	4-88-74	2 parts in a million	+ Skin
Nickle dusts and fumes (Nickle Sulphide Roasting)	Ni	0-02-7440	0.1 mg/m ³ (as Nickle)	
Nitropropane (2)	CH ₃ CHNO ₂ CH ₃	9-46-79	10 parts in a million	
Hydrazene Vinyl	C ₆ H ₅ NHNH ₂	0-63-100	0.1 parts in a million	+ Skin
Beta Probio Lactone	C ₃ H ₄ O ₂	8-57-57	0.5 parts in a million	
Amine Propylene	C ₆ H ₅ N	8-55-75	2 parts in a million	+ Skin
Orthotolydene	C ₆ H ₄ (CH ₃) (NH ₂)	4-53-95	2 parts in a million	+ Skin
Vinyl Bromide	CH ₂ =CHBr	2-60-593	0.5 parts in a million	
Vinyl Chloride	CHCl=CH ₂	4-01-75	1 part in a million	
Vinyl Dioxide Cyclohexene	CH ₂ CHOC ₆ H ₉ O	6-87-107	0.1 parts in a million	+ Skin
Volatile substances in Coal Tar		2-93-65996	0.2 mg/m ³ (as soluble substances in benzene)	

Table (3)
Carcinogenic Or Suspected To Be Carcinogenic Substances But Not Having
Recognized Limits, And The Workers Are Not Allowed To Touch Them,
Or To Be Exposed Thereto In Any Way

Substance	Chemical Formula	CAS NO (ISBN)
Amitrol (3 - Amino - 1,2,4 triazole)	NHNC(NH ₂) NCH	5-82-61
Antimony trioxide (production)	Sb ₂ O ₃	4-64-1309
Arsenic trioxide (production)	As ₂ O ₃	2-38-7440
Benzedine	H ₂ N(C ₆ H ₄) ₂ NH ₂	5-87-92
Benzo (A) pyrene	C ₂₀ H ₁₂	8-32-50
Cadmium oxide (production)	CdO	9-73-7440
Chloromethyl - methyl ether	CH ₃ OCH ₂ Cl	2-30-107
(3,3) Dichlorobenzedine	(C ₆ H ₃) ₂ (NH ₂ Cl) ₂	1-94-91
Dimethyl carbamile chloride	(CH ₃) ₂ NCOCl	7-44-79
Amino diphenyl	(C ₆ H ₅) ₂ NH ₂	4-39-122
Ethylene dibromide	C ₂ H ₂ Br ₂	4-93-106
Hexamethyl phosphotriamide	[N(CH ₃) ₂] ₃ PO	9-31-680
Betanaphthelamine	C ₁₀ H ₇ NH ₂	8-59-91
Nitro diphenyl	(C ₆ H ₅) ₂ NO ₂	4-93-92
N. amino nitroso dimethyl	(CH ₃) ₂ N ₃ O	9-75-62
N. amino phenyl betanaphthel	C ₁₀ H ₇ NHC ₆ H ₅	6-88-135

Ventilation In Places Of Work

It aims at maintaining the concentration of pollutants below permissible maximum limits. Providing adequate ventilation inside places of work shall be in either of the following ways:

- 1- General Ventilation.
- 2- Local Ventilation.

1. General Ventilation :

It is a suitable method for the treatment of low toxic solvent vapors. It does not fit the high toxic substances, nor the pollutants which are emitted irregularly or in large quantities. In general, it is not suitable for dealing with dusts and fumes. The following shall be observed :

- Calculating the general ventilation system shall be observed after knowing the quantity of the evaporated substance. The quantity of air required to be set in motion shall be calculated in a way adequate to renew the air of the location in a manner sufficient to maintain the concentration of the pollutant substance below the permissible maximum limits.
- Technical engineering aspects shall be observed in establishing the system of ventilation. A specialized Engineer shall supervise executing this system, along with resorting to the recommendations set forth in the following reference book :

(American Conference of Governmental Industrial Hygienists, Committee On Ventilation, Industrial Ventilation. A Manual Of Recommended Practice, 13th ed, ACGIH, Lansing, MI, 1974).

2. Local Ventilation :

It is more effective in controlling the different types of pollutants. It consists of a hood, a set of pipes, and the air-clearing apparatus which cleans the air before disposing thereof outside the location, and a fan to keep setting the air in motion. The following shall be observed :

- The hood shall be designed in such a way so that the speed at the place of the emission of the pollutants shall be sufficient, in order to control them and remove them before their spread in the atmosphere of the work place.

- Technical and engineering aspects shall be observed in designing the system of local ventilation. A specialized engineer shall supervise the implementation of this system, along with resorting to the foregoing reference book and others on general ventilation.
- In using general ventilation and local ventilation systems, a specialized engineer shall supervise their maintenance periodically.
- The measurements of the system efficiency shall be carried out on performing the periodical maintenance.

Table (4)
The quantities of external air necessary
for ventilating the public and close places

Quantity Of External Air (*) Meter 3 / Minute / Person	Type Of Place And Activity
0.14 – 0.28	Place with high ceiling - bank - lectures hall - worship place - large public place - theatre - room without smoking.
0.28 – 0.42	Apartment - hairdresser's - beauty shop - hotel room - room with light smoking.
0.42 – 0.56	Cafeteria - place with small restaurant - general place of work - hospital room - restaurant or room with medium smoking.
0.56 – 0.85	Private place of work – officer or clinic or room with heavy smoking.
0.85 – 1.7	Conference hall - nightclub - crowded room with heavy smoking.

(*) Without using air-conditioners.

- The space appropriated for each person shall not be less than 4.25 M3.
- The area of the floor appropriated for each person shall not be less than 1.4 M2.

Annex No. (9)
Maximum And Minimum Limits Of The Temperature
And Humidity Degrees, And The Period Of Exposure Thereto, As
Well As The Means Of Protection Therefrom

1. During the work hours on the same day in full, the worker shall not be exposed to severe high temperature, as indicated in the table, and as measured with the soaked black thermometer.

Table (1)
The Limit Of Exposure To Temperature Permissible At The Work
Environment In Accordance With The Type Of Work
And The Air Speed

Type Of Work	Low Air Speed	High Air Speed
Light Work	30 Centigrade	32.2 Centigrade
Moderate Work	27.8 Centigrade	30.5 Centigrade
Heavy Work	26.1 Centigrade	28.9 Centigrade

2. No worker shall be employed without protective control when exposed to levels of high temperature.
3. If any worker is exposed to work conditions for a period of one continuous or intermittent hour during the work hours, under heat pressure exceeding 26.1 Centigrade for men, and 24.5 Centigrade for women, one or more of the following methods shall be referred to, to guarantee that the internal temperature of the worker shall not rise above 38 centigrade.
 - a. Acclimatizing the worker to the temperature degree for a period of six days, so that the worker shall be exposed to 50% of the daily exposure period on the first day of work, then the period of exposure shall be increased by 10 per cent daily, to reach 100% on the sixth day.
 - b. The worker who absents himself for a period of nine or more days, after being acclimated to the temperature, or who falls ill, for a period of 4 successive days, shall be re-acclimatized for a period of 4 days, so that the thermal load shall be 50% of the total daily exposure period, then it shall be increased by 20 per cent daily, to reach 100 % of the exposure on the fourth day.

4. Regulating work and break times to reduce the physiological load on the worker and enable him/her to acquire adequate rest between work hours.
5. Distributing the total period of work on equal intervals on the same day.
6. Scheduling the works so that the works done under high thermal load shall be carried out during the periods of the least temperature of the day.
7. Short rest period at least once every hour to get provided with water and salts, so that 2 litres at least of drinking water, in which 0.1% salts are provided for each worker (without giving salt pills). Water shall be near the worker at a distance not exceeding 60 meters.
8. Providing and using suitable protective clothes, gears, and equipment.
9. Taking all engineering precautions and designs, and applying engineering control and implementation which allows for reducing the air temperature.

Medical examination :

- 1- Examining the workers under thermal load to ascertain their ability to endure the temperature, along with observing the blood circulation, respiratory, urinary systems, the liver, endocrine glands, and the skin very accurately, as well as the medical history especially as related to diseases connected with heat.
- 2- Periodical medical examination every two years, for workers below the age of 46 years who are exposed to high temperature degrees, and every year for older workers.
- 3- Existence of a trained person to observe and face the cases and diseases resulting from heat during the work, in addition to the provision of necessary first aid means.

Training :

Workers who are exposed to high temperature degrees shall be informed of the following :

- 1- Importance of being provided with water during the work.
- 2- Importance of being provided with salts.

- 3- Importance of weighing the body daily before starting the work, and upon ending it.
- 4- Knowing the symptoms of the most important diseases connected with exposure to heat, for instance, dehydration, fainting, exhaustion, contractions resulting from heat.
- 5- Knowing the danger of any toxic substances, or another natural load to which the worker is exposed.
- 6- Knowing the importance of acclimatization to heat (along with recording the data concerning each worker in a special file and the worker shall have access thereto).

Surveillance :

1. Placing wet thermometer (ordinary mercury thermometer along with covering the mercury reservoir with a soaked gauze) in hot places of work.
2. Using the black thermometer - Globe Thermometer (mercury thermometer and placing the mercury reservoir in a black metal case) in addition to the wet thermometer.
3. Waiting for half an hour then obtaining the reading of each thermometer.
4. Determining the black wet temperature degree as follows :

A) The internal or external places which are not sunny :

Black Wet Thermometer Temperature Degree =
 $0.7 \times \text{the reading of the wet thermometer} + 0.3 \times \text{the reading of Globe thermometer.}$

B) The sunny external places :

Black Wet Thermometer Temperature Degree =
 $0.7 \times \text{the reading of the wet thermometer} + 0.2 \times \text{the reading of Globe thermometer} + 0.1 \times \text{the reading of the dry thermometer}$

Table (2) shall be used to determine the safe levels of the thermal load at the work environment provided that it shall be applied for each single work hour and the fulfillment of the above-mentioned requirements.

Table (2)
Limits Of Heat Exposure Permissible
At The Work Environment According To Work System

System of Work And Rest Per Hour	Light Work	Moderate Work	Heavy Work
Continuous Work :	30 C	26.7 C	25 C
75% Work, 25% Rest	30.6 C	28 C	25.9 C
50% Work, 50% Rest	31.4 C	29.4 C	27.9 C
25% Work, 75% Rest	32.2 C	31.1 C	30 C

In case of work under conditions of low temperature :

In case it is necessary to work under conditions of low temperature degrees, suitable vocational safety procedures shall be taken, in terms of wearing a respiration equipment which allows for warming the respired air, and using protective insulating clothes which maintain the workers internal temperature degree.

Annex No. (10)

Non-Decomposable Pollutant Substances Which Are Prohibited To Be Drained And Disposed Of In Marine Environment By Industrial Establishments

Non-decomposable substances are those found in the environment for a long period depending basically on the disposed of in the marine environment, since part of them are decomposed after long periods ranging from a number of months to several years, depending on the composition of these substances and the relevant concentration in the environment.

First - Non-Organic Substances :

It is prohibited to dispose of the salts and compounds of the following non-organic substances :

Mercury, Lead, Cadmium, Cobalt, Nickle, Zink, Iron, Manganese, Silver, Barium, Chromium, Arsenic, Copper, Vanadium, Selineum and its Compounds unless they are within the limits of the concentrations indicated in Annex (1).

Second - Organic Substances :

It is impermissible to dispose of the following organic substances :

A) The Phosphoric organic pesticides that very small quantities of which shall be decomposed in months :

Organophosphorus Pesticides :

- Dimethoate.
- Malathion.

B) the halogenic organic pesticides which are not easily decomposed and their remains stay for several years such as :

Organochlorine Pesticides :

- Aldrin.
- Dieldrin.
- DDT.
- Chloridane.
- Endrin.

The non-decomposable substances and which are considered highly toxic in their very small concentrations such as :

Polychlorinated Biphenyls (PCBs) (Aroclor) :

- 2, 3, 5, 6 – Tetrachlorobiphenyl.
- 2, 3, 6 – Trichlorobiphenyl.

C) The polycyclic aromatic compounds that a very small quantity of which is decomposed over several years :

- .. Polynuclear Aromatic Hydrocarbons (PAH).
- Benzo (a) Pyrene.
- Naphthalene.

Third - Solid substances such as :

Plastics - Fishing Nets - Ropes - Containers

It is impermissible to dispose of the other organic pollutants (such as Toxaphene, Mirex, Heptachlor, Hexachlorobenzene) and the toxic substances to be defined by the international agreements to which Egypt is a party.

Annex No. (11)
Conditions and specifications concerning municipal solid wastes
treatment plants, sites of wastes sanitary burying
and means of garbage collection and transport

First – Some conditions and specifications concerning the selection and establishment of garbage recycling and treatment plants:

In light of the laws, legislations and executive regulations in force in Egypt, and the handbooks issued by the Environmental Affairs Agency, the following shall be observed:

1. The site shall be appropriate for the establishment's activity in terms of its congruence with the nature of the area's division, and according to the lands utilization plan endorsed by the ministry of housing and new urban communities.
2. The site shall be far from the agricultural areas and water courses, according to the specifications, controls, and minimum limit of the plants' remoteness from these areas according to the provisions of article (38) of the executive regulations. Expressing the view with regard to determining this distance shall be according to the environmental effect assessment study.
3. The selected site shall be counter the direction of the prevailing wind in the area for the residential or industrial communities, and the availability of necessary public utilities shall be fulfilled in it.
4. The need for an adequate area to exist near the site of the plant, which may be prepared as a site for sanitary burying where to dispose of the wastes, providing this site shall be located in areas preventing subterranean water pollution as determined in the site studies carried out by means of the concerned entities in this respect.
5. The plant shall be surrounded with a wall of bricks or rubble not less than 1.8 meters high, in addition to a fence of trees.
6. Existence of a sound protection and safety system within the plant, and the provision of necessary equipment and systems for the purpose, besides fulfilling an appropriate plan of combating the rodents and harmful insects, and getting rid of offensive smells during the stages of production.

7. The plant shall sort the dangerous wastes reaching it, like empty bottles and packages of cleaning and dissolving substances, insecticides, and batteries, and taking them to the sites of safe disposal of such rejected wastes.
8. The need for preparing an environmental register for the plant according to law no. 4 of the year 1994 on environmental protection, and its executive regulations.

Second - Some conditions and specifications concerning the disposal of wastes by sanitary burying:

In light of the provisions of law no. 38 for the year 1967 on public cleanliness, and its executive regulations, and law No. 4 for the year 1994 on environmental protection, and its executive regulations, the following conditions and specifications shall be fulfilled in the sites of disposal of solid wastes by sanitary burying:

1. The local units shall conduct integral studies on the topography of the area wherein they intend to appropriate a location for receiving the garbage or solid wastes, as well as a study of its nature and the quantity of wastes required to be disposed of according to the nature of activities in the urban and rural zone and the census of its population.
2. The concerned entity shall conduct the environmental effect assessment study and send it to the environmental affairs agency to review it and express its view before proceeding with appropriating the site in agreement with the environmental affairs agency.
3. The site shall be counter the direction of the prevailing wind in the area of the residential and industrial regions, and in a zone preventing subterranean water pollution, besides planting suitable trees in the surrounding area.
4. The following distances shall be observed whenever possible:
 - (A) A distance of not less than 1.5 kilometers from the residential and industrial regions.
 - (B) A distance of not less than 1 (one) kilometer from any of: the rain waters downward drifting gullies – the valleys network – the subterranean water wells – the moors.

- (C) A distance of not less than 2 kilometers from the banks of water courses.
 - (D) A distance of not less than 3 kilometers from the coast line and lake shores.
 - (E) A distance of not less than 5 kilometers from any natural preserves, and the river Nile banks.
5. The roads leading to these sites shall be facilitated and leveled, and the traffic movement on them shall be commensurable with the size and number of vehicles arriving there daily. The said sites shall preferably be located at a distance of some (one) kilometer from the main roads, and some 250 meters from the auxiliary roads.
 6. The depressions or cancelled water courses may be used for sanitary burying of garbage by putting them in layers to be compressed and covered with not less than 15 cm thick earth together with tamping well, and resorting necessarily to the concerned entities for preparing and outfitting the site according to proper technical and environmental bases.

Third - Some conditions and specifications concerning the means of garbage collection and transport:

- 1- Garbage and solid wastes collecting entrepreneurs shall observe the cleanliness of garbage collection boxes and trucks, and their sustained cleanliness shall be one of the conditions prescribed for the safety and durability of garbage means of transport.
- 2- The garbage collection boxes shall be tightly covered, from which no offensive smells are emitted, nor shall they be a source of reproduction of flies and other insects, or a focus attracting stray animals.
- 3- The garbage boxes shall be placed in a way commensurate with the street areas, and the expected quantities of wastes, besides collecting and transporting the garbage boxes at suitable intervals commensurate with the conditions of each region.
- 4- The boxes shall be of an adequate capacity and good condition. The quantity of garbage in these boxes shall not exceed its capacity at any time. The boxes shall have no holes or apertures permitting the leakage of liquids or wastes. They shall be lined from within with galvanized tin or zinc or any similar substance to be approved by the entity assuming the works of

cleanliness. Those means shall not be used for other than the purposes they are appropriated for.

- 5- The means of transport shall be easily loaded and emptied. Emptying shall preferably be mechanical and not manual. They shall be tightly covered in a way non-permitting the leakage of garbage through the cover.
- 6- Centers shall be provided for periodical maintenance of the garbage transport trucks and their equipment, providing the maintenance shall take place regularly according to the sanitary technical rates determined in the annual maintenance chart within each center.

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قانون في شأن البيئة

باب تمهيدى

الفصل الأول

أحكام عامة

(مادة 1)

يقصد في تطبيق أحكام هذا القانون بالألفاظ والعبارات الآتية المعاني المبينة قرين كل منها :

- 1 - البيئة :
المحيط الحيوي الذي يشمل الكائنات الحية و ما يحتويه من مواد و ما يحيط بها من هواء و ماء و تربة و ما يقيمه الانسان من منشآت 0
- 2 - الهواء :
الخليط من الغازات المكونة له بخصائصه الطبيعية و نسبه المعروفة ، و في أحكام هذا القانون هو الهواء الخارجى و هواء الأماكن العامة المغلقة و شبه المغلقة 0
- 3 - الاتفاقية :
الاتفاقية الدولية لمنع التلوث البحرى من السفن لعام 1978 / 73 وكذا الاتفاقيات الدولية التي تنضم إليها جمهورية مصر العربية في مجال حماية البيئة البحرية من التلوث و التعويض عن حوادث التلوث 0
- 4 - المكان العام :
المكان المعد لاستقبال الكافة أو فئة معينة من الناس لأي غرض من الأغراض 0
- 5 - المكان المغلق :
المكان العام الذي له شكل البناء المتكامل الذي لا يدخله الهواء إلا من خلال منافذ معدة لذلك 0 و يعتبر في حكم المكان العام المغلق وسائل النقل العام 0
- 6 - المكان العام شبه المغلق :
المكان الذي له شكل البناء غير المتكامل و المتصل مباشرة بالهواء الخارجى بما يحول دون إغلاقه كلية 0
- 7 - تلوث البيئة :
أي تغيير في خواص البيئة مما قد يؤدي بطريق مباشر أو غير مباشر إلي الإضرار بالكائنات الحية أو المنشآت أو يؤثر علي ممارسة الإنسان لحياته الطبيعية 0
- 8 - تدهور البيئة :
التأثير علي البيئة بما يقلل من قيمتها أو يشوه من طبيعتها البيئية أو يستنزف مواردها أو يضر بالكائنات الحية أو بالآثار 0
- 9 - حماية البيئة :
المحافظة علي مكونات البيئة و الارتقاء بها ، و منع تدهورها أو تلوثها أو الاقلال من حدة التلوث 0 وتشمل هذه المكونات الهواء و البحار و المياه الداخلية متضمنة نهر النيل و البحيرات و المياه الجوفية ، و المحميات الطبيعية و الموارد الطبيعية الأخرى 0
- 10 - تلوث الهواء :
كل تغيير في خصائص ومواصفات الهواء الطبيعي يترتب عليه خطر علي صحة الانسان و البيئة سواء كان هذا التلوث ناتجا عن عوامل طبيعية أو نشاط إنساني ، بما في ذلك الضوضاء 0
- 11 - مركبات النقل السريع :
هي السيارات و الجرارات و الدراجات الآلية و غير ذلك من الآلات المعدة للسير علي الطرق العامة 0
- 12 - التلوث المائي :
إدخال أية مواد أو طاقة في البيئية المائية بطريقة إرادية أو غير إرادية مباشرة أو غير مباشرة ينتج عنه ضرر بالمواد الحية أو غير الحية ، أو يهدد صحة الانسان أو يعوق الأنشطة المائية بما في ذلك الأسماك و الأنشطة السياحية أو يفسد صلاحية مياه البحر للاستعمال أو ينقص من التمتع بها أو يغير من خواصها 0
- 13 - المواد و العوامل الملوثة :

- أى مواد صلبة أو سائلة أو غازية أو ضوضاء أو إشعاعات أو حرارة أو اهتزازات تنتج بفعل الإنسان و تؤدي بطريق غير مباشر إلي تلوث البيئة أوتدهورها 0
- 14 - المواد الملوثة للبيئة المائية :
- أية مواد يترتب علي تصريفها في البيئة المائية بطريقة إرادية أو غير إرادية تغيير في خصائصها أو الاسهام في ذلك بطريقة مباشرة أو غير مباشرة علي نحو يضر بالانسان أو بالموارد الطبيعية أو بالمياه البحرية أو تضر بالمناطق السياحية أو تتداخل مع الاستخدامات الأخرى المشروعة للبحر 0 و يندرج تحت هذه المواد :
- (أ) الزيت أو المزيج الزيتي 0
- (ب) المخلفات الضارة و الخطرة المنصوص عليها في الاتفاقيات الدولية التي ترتبط بها جمهورية مصر العربية 0
- (ج) أية مواد أخرى (صلبة - سائلة - غازية) وفقا لما تحدده اللائحة التنفيذية لهذا القانون
- (د) النفايات و السوائل غير المعالجة المتخلفة من المنشآت الصناعية 0
- (هـ) العبوات الحربية السامة 0
- (و) ما هو منصوص عليه في الاتفاقية و ملاحقها 0
- 15 - الزيت : جميع أشكال البترول الخام و منتجاته 0 و يشمل ذلك اي نوع من أنواع الهيدروكربونات السائلة و زيوت التشحيم و الوقود و الزيوت المكررة و زيت الأفران و القار و غيرها من المواد المستخرجة من البترول أو نفاياته 0
- 16 - المزيج الزيتي :
- كل مزيج يحتوي على كمية من الزيت تزيد على 15 جزءا في المليون .
- 17- مياه الإتران غير النظيفة (مياه الصابورة غير النظيفة) :
- المياه الموجودة داخل صهريج على السفينة إذا كانت محتوياتها من الزيت تزيد على 15 جزءا في المليون .
- 18 - المواد الخطرة :
- المواد ذات الخواص الخطرة التي تضر بصحة الانسان أو تؤثر تأثيرا ضارا علي البيئة مثل المواد المعدية أو السامة أو القابلة للانفجار أو الاشتعال أو ذات الإشعاعات المؤينة 0
- 19 - النفايات الخطرة :
- مخلفات الأنشطة و العمليات المختلفة أو رمادها المحتفظه بخواص المواد الخطرة التي ليس لها استخدامات تالية أصلية أو بديلة مثل النفايات الناتجة عن تصنيع أي من المستحضرات الصيدلانية و الأدوية أو المذيبات العضوية أو الأحبار و الأصباغ و الدهانات 0
- 20 - تداول المواد :
- كل ما يؤدي إلي تحريكها بهدف جمعها أو نقلها أو تخزينها أو معالجتها أو استخدامها 0
- 21 - إدارة النفايات :
- جمع النفايات و نقلها و إعادة تدويرها و التخلص منها 0
- 22 - التخلص من النفايات :
- العمليات التي لا تؤدي إلي استخلاص المواد أو إعادة استخدامها ، مثل الطمر في الأرض أو الحقن العميق أو التصريف للمياه السطحية أو المعالجة البيولوجية أو المعالجة الفيزيائية الكيميائية أو التخزين المدائم أو الترميد 0
- 23 - إعادة تدوير النفايات :
- العمليات التي تسمح باستخلاص المواد أو إعادة استخدامها ، مثل الاستخدام كوقود أو استخلاص المعادن و المواد العضوية أو معالجة التربة أو إعادة تكرير الزيوت 0
- 24 - المواد السائلة الضارة بالبيئة المائية :
- المواد المنصوص عليها في الاتفاقية الدولية لعام 1973 / 1978
- 25 - تسهيلات الاستقبال :

التجهيزات و المعدات و الأحواض المخصصة لأغراض استقبال و ترسيب و معالجة و صرف المواد الملوثة أو مياه الاتزان ، وكذلك التجهيزات التي توفرها الشركة العاملة في مجال شحن و تفريغ المواد البترولية أو غيرها من الجهات الادارية المشرفة علي المواني والممرات المائية 0

26 - التصريف :

كل تسرب أو انصباب أو انبعاث أو تفريغ لأي نوع من المواد الملوثة أو التخلص منها في مياه البحر الإقليمي أو المنطقة الاقتصادية الخالصة أو البحر أو نهر النيل و المجاري المائية ، مع مراعاة المستويات المحددة لبعض المواد في اللائحة التنفيذية 0

27 - الإغراق :

(أ) كل إلقاء متعمد في البحر الإقليمي أو المنطقة الاقتصادية الخالصة أو البحر للمواد الملوثة أو الفضلات من السفن أو الطائرات أو الأرصفة أو غير ذلك من المنشآت الصناعية و المصادر الأرضية 0

(ب) كل إغراق متعمد في البحر الإقليمي أو المنطقة الاقتصادية الخالصة أو البحر للسفن أو التركيبات الصناعية أو غيرها 0

28 - التعويض :

يقصد به التعويض عن الأضرار الناجمة عن حوادث التلوث المترتب علي تطبيق الأحكام الواردة في القانون المدني و الأحكام الموضوعية الواردة في الإتفاقية الدولية للمسئولية المدنية المنضمة إليها جمهورية مصر العربية أو التي تنضم إليها مستقبلا بما في ذلك الإتفاقية الدولية للمسئولية المدنية عن الأضرار الناجمة عن حوادث التلوث بالزيت الموقعة في بر وكسل في عام 1969 أو أي حوادث تلوث أخرى تنص عليها اللائحة التنفيذية لهذا القانون 0

29 - وسائل نقل الزيت :

كل خط أنابيب مستخدم لنقل الزيت وأية أجهزة أخرى تستعمل في تحميل الزيت أو تفريغه أو نقله أو غيرها من أجهزة الضخ و المعدات اللازمة لاستعمال هذه الأنابيب .

30- السفينة :

أي وحدة بحرية عائمة من أي طراز أو تسير فوق الوسائد الهوائية أو المنشآت المغمورة ، وكذلك كل منشأ ثابت أو متحرك يقام على السواحل أو سطح المياه بهدف مزاولة نشاط تجارى أو صناعي أو سياحي أو علمي .

31- السفن الحربية :

هي كل سفينة تابعة للقوات المسلحة لدولة ما وتحمل العلامات الخارجية المميزة لها وتكون تحت قيادة ضابط معين رسميا من قبل حكومة الدولة ويشغلها طاقم خاضع لضوابط الانضباط العسكري بها .

32- السفينة الحكومية :

هي السفينة التي تملكها الدولة وتقوم بتشغيلها أو استخدامها لأغراض حكومية وغير تجارية .

33- ناقلة المواد الضارة :

السفينة التي بنيت أصلا أو التي عدل تصميمها لتحمل شحنات من مواد ضارة سائبة وتشمل كذلك ناقلات البترول عند شحنها كليا أو جزئيا بمواد ضارة غير معبئة وفقا لأحكام الفصل الأول من الباب الثالث من هذا القانون .

34 - المنشأة :

يقصد بها المنشآت التالية :

- المنشآت الصناعية الخاضعة لأحكام القانونين رقمي 21 لسنة 1958 و 55 لسنة 1977
- المنشآت السياحية الخاضعة لأحكام القانونين رقمي 1 لسنة 1973 و 1 لسنة 1992
- منشآت إنتاج و توليد الكهرباء الخاضعة لأحكام القوانين أرقام 145 لسنة 1974 و 63 لسنة 1974 و 12 و 13 و 27 لسنة 1976 و 103 لسنة 1986
- منشآت المناجم و المحاجر و المنشآت العاملة ف[مجال الكشف عن الزيت و استخراج و نقله و استخدامه ، الخاضعة لأحكام القوانين أرقام 66 لسنة 1953 و 86 لسنة 1956 و 61 لسنة 1958 و 4 لسنة 1988

- جميع مشروعات البنية الأساسية 0
- أي منشأة أخرى أو مشروع يتحمل أن يكون لها تأثير ملحوظ علي البيئة 0 و يصدر بها قرار من جهاز شئون البيئة بعد الاتفاق مع الجهة الإدارية المختصة 0
- 35 - شبكات الرصد البيئي :
- الجهات التي تقوم في مجال اختصاصها بما تضم من محطات و وحدات عمل برصد مكونات و ملوثات البيئة و إتاحة البيانات للجهات المعنية بصفة دورية 0
- 36 - تقويم التأثير البيئي :
- دراسة و تحليل الجدوى البيئية للمشروعات المقترحة التي قد تؤثر إقامتها أو ممارستها لنشاطها علي سلامة البيئة و ذلك بهدف حمايتها 0
- 37 - الكارثة البيئية :
- الحادث الناجم عن عوامل الطبيعة أو فعل الإنسان و الذي يترتب عليه ضرر شديد بالبيئة و تحتاج مواجهته إلي إمكانات تفوق القدرات المحلية 0
- 38 - الجهة الإدارية المختصة بحماية البيئة المائية :
- هي إحدى الجهات التالية كل فيما يخصها :
- (أ) جهاز شئون البيئة 0
- (ب) مصلحة المواني و المنائر 0
- (ج) هيئة قناة السويس 0
- (د) هيئات المواني بجمهورية مصر العربية 0
- (هـ) الهيئة المصرية العامة لحماية الشواطئ 0
- (و) الهيئة المصرية العامة للبتترول 0
- (ز) الإدارة العامة لشرطة المسطحات المائية 0
- (ح) الهيئة العامة للتنمية السياحية 0
- (ط) الجهات الأخرى التي يصدر بتحديداتها قرار من رئيس مجلس الوزراء 0

الفصل الثاني

جهاز شئون البيئة

(مادة 2)

ينشأ برئاسة مجلس الوزراء جهاز لحماية و تنمية البيئة يسمى "جهاز شئون" و تكون له الشخصية الاعتبارية العامة ، و يتبع الوزير المختص بشئون البيئة ، و تكون له موازنة مستقلة ، و يكون مركزه مدينة القاهرة ، و ينشأ بقرار من الوزير المختص بشئون البيئة فروع للجهاز بالمحافظات ، و تكون الأولوية للمناطق الصناعية 0

(مادة 3)

يعين رئيس الجهاز بناء علي ترشيح الوزير المختص بشئون البيئة و عرض رئيس مجلس الوزراء ، و يصدر بهذا التعيين قرار من رئيس الجمهورية متضمنا معاملته المالية 0

(مادة 4)

يحل جهاز شئون البيئة محل الجهاز المنشأ بقرار رئيس الجمهورية رقم 631 لسنة 1982 فيما له من حقوق و ما عليه من التزامات ، و ينقل العاملون بهذا الجهاز بدرجاتهم و أقدمياتهم إلي جهاز شئون البيئة.

(مادة 5)

يقوم جهاز شئون البيئة برسم السياسة العامة و إعداد الخطط اللازمة للحفاظ علي البيئة و تنميتها و متابعة تنفيذها بالتنسيق مع الجهات الإدارية المختصة ، وله أن يضطلع بتنفيذ بعض المشروعات التجريبية 0 و يكون الجهاز الجهة القومية المختصة بدعم العلاقات البيئية بين جمهورية مصر العربية و الدول و المنظمات الدولية و الإقليمية 0

- و يوصي الجهاز باتخاذ الإجراءات القانونية اللازمة للانضمام إلى الاتفاقيات الدولية و الإقليمية المتعلقة بالبيئة و يعد مشروعات و القوانين و القرارات اللازمة لتنفيذ هذه الاتفاقيات 0 و للجهاز في سبيل تحقيق أهدافه :
- إعداد مشروعات القوانين و القرارات المتعلقة بتحقيق أهداف الجهاز و إبداء الرأي في التشريعات المقترحة ذات العلاقة علي البيئة 0
 - إعداد الدراسات عن الوضع البيئي و صياغة الخطة القومية لحملها البيئة و المشروعات التي تتضمنها و إعداد الموازنة التقديرية لكل منها و كذلك الخرائط البيئة للمناطق العمرانية و المناطق الجديدة و كذلك المعايير المستهدفة المستهدفة للمناطق القديمة 0
 - وضع المعايير و الاشتراطات الواجب علي أصحاب المشروعات و المنشآت الالتزام بها قبل الانشاء و أثناء التشغيل 0
 - حصر المؤسسات و المعاهد الوطنية و كذلك الكفاءات التي تسهم في إعداد و تنفيذ برامج المحافظة علي البيئة و الاستفادة منها في إعداد و تنفيذ المشروعات و الدراسات التي تقوم بإعدادها 0
 - المتابعة المدنية لتنفيذ المعايير و الاشتراطات التي تلتزم الأجهزة و المنشآت بتنفيذها و إتخاذ الإجراءات التي ينص علي القانون ضد المخالفين لهذه المعايير و الشروط 0
 - وضع المعدلات و النسب اللازمة لضمان عدم تجاوز الحدود المسموح بها للملوثات و التأكد من الالتزام بهذه المعدلات و النسب 0
 - جمع المعلومات القومية و الدولية الخاصة بالوضع البيئي و التغيرات التي تطرأ عليه بصفة دورية بالتعاون مع مراكز المعلومات في الجهات الأخرى و تقويمها و استخدامها في الإدارة و التخطيط البيئي و نشرها وضع أسس و إجراءات تقويم التأثير البيئي للمشروعات 0
 - إعداد خطة للطوارئ البيئية علي النحو المبين في المادة (25) من هذا القانون ، و التنسيق بين الجهات المعنية لإعداد برامج مواجهة الكوارث البيئية 0
 - إعداد خطة للتدريب البيئي و الإشراف علي تنفيذها 0
 - المشاركة في إعداد و تنفيذ البرنامج القومي للرصد البيئي و الاستفادة من بياناته 0
 - إعداد التقارير الدورية عن المؤشرات الرئيسية للوضع البيئي و نشرها بصفة دورية 0
 - وضع برامج التثقيف البيئي للمواطنين و المعاونة في تنفيذها 0
 - التنسيق مع الجهات الأخرى بشأن تنظيم و تأمين تداول المواد الخطرة 0
 - إدارة المحميات الطبيعية و الإشراف عليها 0
 - إعداد مشروعات الموازنة اللازمة لحماية و تنمية البيئة 0
 - متابعة تنفيذ الاتفاقيات الدولية و الإقليمية المتعلقة بالبيئة 0
 - اقتراح آليات اقتصادية لتشجيع الأنشطة المختلفة علي اتخاذ إجراءات منع التلوث 0
 - تنفيذ المشروعات التجريبية للمحافظة علي الثروات الطبيعية و حماية البيئة من التلوث 0
 - 1. التنسيق مع الوزارة المختصة بالتعاون الدولي للتأكد من أن المشروعات الممولة من المنظمات و الدول المانحة تتفق مع اعتبارات سلامة البيئة 0
 - المشاركة في إعداد خطة تأمين البلاد ضد تسرب المواد و النفايات الخطرة و الملوثات للبيئة 0
 - الاشتراك في إعداد الخطة القومية المتكاملة لإدارة المناطق الساحلية بالبحر المتوسط و البحر الأحمر بالتنسيق مع الهيئات و الوزارات المعنية 0
 - الاشتراك مع وزارة التربية و التعليم في إعداد برامج تدريبية لحماية البيئة في نطاق برامج الدراسة المختلفة في مرحلة التعليم الأساسي 0
 - إعداد تقرير سنوي عن الوضع البيئي يقدم إلي رئيس الجمهورية و مجلس الوزراء و تودع نسخة من هذا التقرير مجلس الشعب 0

(مادة 6)

- يشكل مجلس إدارة جهاز شئون البيئة برئاسة الوزير المختص بشئون البيئة و عضوية كل من :
- الرئيس التنفيذي لجهاز شئون البيئة ، و يكون نائبا لرئيس مجلس الإدارة .

- ممثل عن كل من ست وزارات يختارها رئيس مجلس الوزراء من الوزارات المعنية بالبيئة ، على أن يكون ممثل الوزارة من الدرجة العالية على الأقل ويختاره الوزير المختص .
- اثنين من الخبراء فى مجال شئون البيئة يختارهما الوزير المختص بشئون البيئة .
- ثلاثة عن التنظيمات غير الحكومية المعنية بشئون البيئة يختارون بالإتفاق مع الوزير المختص بشئون البيئة 0
- أحد العاملين بجهاز شئون البيئة من شاغلي الوظائف العليا و يختاره الوزير المختص بشئون البيئة بناء علي عرض الرئيس التنفيذي للجهاز 0
- رئيس إدارة الفتوي المختصة بمجلس الدولة 0
- ثلاثة من ممثلي قطاع الأعمال العام يختارهم الوزير المختص بشئون البيئة 0
- اثنين من الجامعات و مراكز البحوث العلمية يختارهما الوزير المختص بشئون البيئة 0
- ويتعين دعوة ممثلي الوزارات المعنية عند مناقشة موضوعات ترتبط بالقطاعات التى يشرفون عليها ، كما يجوز للمجلس أن يستعين بمن يراه من ذوى الخبرة لدى بحث مسائل معينة ، دون أن يكون لأى منهم صوت معدود فى المداولات .
- ويجوز لمجلس الادارة تشكيل لجان استشارية من الخبرات المتخصصة لدراسة موضوعات معينة كما يجوز للمجلس أن يعهد الى واحد من أعضائه أو أكثر بمهمة محددة .

(مادة 7)

مجلس إدارة الجهاز هو السلطة العليا على شئون الجهاز وتصريف أموره ووضع السياسة العامة التي يسير عليها ، وله أن يتخذ من القرارات ما يراه لازماً لتحقيق الأهداف التي أنشئ من أجلها ، وفى إطار الخطة القومية ، وذلك وفقاً لما تحدده اللائحة التنفيذية لهذا القانون .

(مادة 8)

يجتمع مجلس الإدارة بناء على دعوة من رئيسه مرة على الأقل كل ثلاثة أشهر أو إذا طلب نصف أعضاء المجلس ذلك وتكون اجتماعات مجلس الدارة صحيحة بحضور أغلبية أعضائه ، وتصدر القرارات بأغلبية الأعضاء الحاضرين والمصوتين وعند تساوى الأصوات يرجح الجانب الذى منه الرئيس .

(مادة 9)

فى حالة غياب رئيس مجلس إدارة الجهاز أو وجود مانع لديه يحل محله فى مباشرة أختصاصاته نائب رئيس مجلس الادارة .

(مادة 10)

يمثل رئيس مجلس الإدارة الجهاز فى علاقاته بالغير وأمام القضاء .

(مادة 11)

يكون الرئيس التنفيذي لجهاز شئون البيئة مسئولاً عن تنفيذ السياسة العامة الموضوعه لتحقيق أغراض الجهاز ، وتنفيذ قرارات مجلس الادارة ، وتحدد اللائحة التنفيذية لهذا القانون اختصاصاته الاخرى .

(مادة 12)

يكون لجهاز شئون البيئة أمين عام ، يندب من بين العاملين بالجهاز من شاغلي الوظائف العليا بقرار من الوزير المختص بشئون البيئة ، بعد أخذ رأى الرئيس التنفيذي ، ويعاون الأمين العام رئيس الجهاز ويعمل تحت إشرافه .

(مادة 13)

يكون للرئيس التنفيذي لجهاز شئون البيئة سلطة الوزير المنصوص عليه فى القوانين واللوائح بالنسبة للعاملين بالجهاز .

كما يكون لأمين عام الجهاز بالنسبة الى هؤلاء سلطة رئيس القطاع .

الفصل الثالث

صندوق حماية البيئة

(مادة 14)

ينشأ بجهاز شئون البيئة صندوق خاص يسمى (صندوق حماية البيئة) تنول إليه :

(أ) البالغ التي تخصصها الدولة في موازنتها لدعم الصندوق 0

(ب) الإعانات و الهبات المقدمة من الهيئات الوطنية و الأجنبية لأغراض حماية البيئة و تنميتها والتي يقبلها مجلس ادارة الجهاز

(ج) الغرامات التي يحكم بها و التعويضات التي يحكم بها أو يتفق عليها عن الأضرار التي تصيب البيئة 0

(د) موارد صندوق المحميات المنصوص عليها في القانون رقم 102 لسنة 1983 0

وتودع في الصندوق علي سبيل الأمانة المبالغ التي تحصل بصفة مؤقتة تحت حساب الغرامات و التعويضات عن الأضرار التي تصيب البيئة 0

وتكون للصندوق موازنة ، و تبدأ السنة المالية للصندوق ببداية السنة المالية للدولة و تنتهي بانتهائها ، و يرحل فائض الصندوق من سنة إلي أخرى 0

وتعتبر أموال الصندوق أموالا عامة 0

(مادة 15)

تخصص موارد الصندوق للصرف منها في تحقيق أغراضه 0

(مادة 16)

يضع جهاز شئون البيئة بالاتفاق مع وزير المالية اللائحة الداخلية للصندوق ، و تخضع جميع أعمال الصندوق و معاملاته لرقابة الجهاز المركزي للمحاسبات 0

الفصل الرابع
الحوافز

(مادة 17)

يضع جهاز شئون البيئة بالاشتراك مع وزارة المالية نظاما للحوافز التي يمكن أن يقدمها الجهاز و الجهات الادارية المختصة و المنشآت و الأفراد و غيرها الذين يقومون بأعمال أو مشروعات من شأنها حماية البيئة 0

(مادة 18)

يعرض نظام الحوافز المنصوص عليه في المادة السابقة علي مجلس إدارة جهاز شئون البيئة ، و يتم اعتماده من رئيس مجلس الوزراء 0

الباب الأول

حماية البيئة الأرضية من التلوث

الفصل الأول التنمية و البيئة

(مادة 19)

تتولى الجهة الإدارية المختصة أو الجهة المانحة للترخيص ، تقييم التأثير البيئي للمنشأة المطلوب الترخيص لها وفقا للعناصر و التصميمات و المواصفات و الأسس التي يصدرها جهاز شئون البيئة بالاتفاق مع الجهات الإدارية المختصة ، تحدد اللائحة التنفيذية لهذا القانون المنشآت التي تسري عليها أحكام هذه المادة 0

(مادة 20)

تقوم الجهات الإدارية المختصة أو الجهة المانحة للترخيص بإرسال صورة من تقييم التأثير البيئي المشار إليه بالمادة السابقة إلي جهاز شئون البيئة لإبداء الرأي و تقديم المقترحات المطلوب تنفيذها في مجال التجهيزات و الأنظمة اللازمة لمعالجة الآثار البيئية السلبية 0 وتتولي هذه الجهات التأكد من تنفيذ هذه المقترحات 0 ويجب علي جهاز شئون البيئة أن يوافي الجهة الإدارية المختصة أو الجهة المانحة للترخيص برأيه في هذا التقييم خلال مدة أقصاها 60 يوما من تاريخ استلامه له ، و إلا اعتبر عدم الرد موافقة علي التقييم 0

(مادة 21)

تقوم الجهة الإدارية المختصة بإبلاغ صاحب المنشأ بنتيجة التقييم بخطاب مسجل بعلم الوصول ، و يجوز له الاعتراض كتابة علي هذه النتيجة خلال ثلاثين يوما من تاريخ إبلاغه أمام لجنة تشكل بقرار من الوزير المختص أو الجهة المانحة للترخيص 0
و تحدد اللائحة التنفيذية اختصاصات هذه اللجنة و إجراءات الاعتراض و إجراءات عملها 0
(مادة 22)

علي صاحب المنشأة طبقا لأحكام هذا القانون الاحتفاظ بسجل لبيان تأثير نشاط المنشأة علي البيئة 0 وتضع اللائحة التنفيذية نموذجا لهذا السجل و الجدول الزمني لالتزام المنشآت للاحتفاظ به ، والبيانات التي تسجل فيه 0 و يختص جهاز شئون البيئة بمتابعة بيانات السجل للتأكد من مطابقتها للواقع و أخذ العينات اللازمة و إجراءات الاختبارات المناسبة لبيان تأثير نشاط المنشأة علي البيئة و تحديد مدى التزامها بالمعايير الموضوعه لحماية البيئة ، فإذا تبين وجود أية مخلفات يقوم الجهاز بإخطار الجهة الإدارية المختصة لتكليف صاحب المنشأة بتصحيح هذه المخلفات علي وجه السرعة ، فإذا لم يقم بذلك خلال ستين يوما يكون للجهاز بالاتفاق مع الجهة الإدارية المختصة اتخاذ الإجراءات القانونية و القضائية اللازمة لوقف النشاط المخالف و المطالبة بالتعويضات المناسبة لمعالجة الأضرار الناشئة عن هذه المخالفات 0

(مادة 23)

تخضع التوسعات أو التجديدات في المنشآت القائمة لذات الأحكام المنصوص عليها في المواد (22، 19، 20، 21) من هذا القانون 0

(مادة 24)

تكون شبكات الرصد البيئي طبقا لأحكام هذا القانون بما تضمنه من محطات وحدات عمل ، و تقوم في مجال اختصاصها برصد مكونات و ملوثات البيئة دوريا و إتاحة البيانات للجهات المعنية ، ولها في سبيل ذلك الاستعانة بمراكز البحوث و الهيئات و الجهات المختصة ، و علي هذه المراكز و الهيئات تزويدها بما تطلبه من دراسات و بيانات 0
ويشرف جهاز شئون البيئة علي إنشاء و تشغيل شبكات الرصد البيئي 0

(مادة 25)

يضع جهاز شئون البيئة خطة للطوارئ لمواجهة الكوارث البيئية ، و تعتمد الخطة من مجلس الوزراء ، وتستند خطة الطوارئ بوجه خاص إلي ما يلي :
- جمع المعلومات المتوفرة محليا و دوليا عن كيفية مواجهة الكوارث البيئية و التخفيف من الأضرار التي تنتج عنها 0
- حصر الإمكانات المتوفرة علي المستوي المحلي و القومي و الدولي و تحديد كيفية الإستعانة بها بطريقة تكفل سرعة مواجهة الكارثة 0
و تتضمن خطة الطوارئ ما يأتي :
- تحديد أنواع الكوارث البيئية و الجهات المسؤولة عن الإبلاغ عن وقوعها أو توقع حدوثها 0
- إنشاء غرفة عمليات مركزية لتلقي البلاغات عن الكارثة البيئية و متابعة استقبال و إرسال المعلومات الدقيقة عنها بهدف حشد الإمكانات اللازمة لمواجهتها 0
- تكوين مجموعة عمل لمتابعة مواجهة الكارثة البيئية عند وقوعها أو توقع وقوعها و يكون لرئيس مجموعة العمل المشار إليها جميع السلطات اللازمة لمواجهة الكارثة البيئية بالتعاون و التنسيق مع الأجهزة المختصة 0

(مادة 26)

علي جميع الجهات العامة و الخاصة و لأفراد أن تسارع بتقديم المساعدات و الإمكانات المطلوبة لمواجهة الكارثة البيئية و يقوم الصندوق المشار إليه في المادة (14) من هذا القانون برد النفقات الفعلية التي تحملتها الجهات الخاصة و الأفراد 0

(مادة 27)

تخصص في كل حي و في كل مساحة لا تقل عن ألف متر مربع من أراضي الدولة لإقامة مشتل لإنتاج الأشجار علي أن تتاح هذه المشاتل للأفراد و الهيئات بسعر التكلفة 0 و تتولى الجهات الإدارية المختصة التي تتبعها هذه المشاتل إعداد الإرشادات الخاصة بزراعة هذه الأشجار و رعايتها ، و يسهم جهاز شئون البيئة في تمويل إقامة هذه المشاتل 0 (مادة 28)

يحظر بأية طريقة صيد أو قتل أو إمساك الطيور و الحيوانات البرية ، التي تحدد أنواعها اللائحة التنفيذية لهذا القانون ، و يحظر حيازة هذه الطيور و الحيوانات أو نقلها أو التجول بها أو بيعها أو عرضها للبيع حية أو ميتة 0 كما يحظر إتلاف أوكار الطيور المذكورة أو إعدام بيضها 0 وتحدد اللائحة التنفيذية لهذا القانون المناطق التي تنطبق عليها أحكام هذه المادة و بيان شروط الترخيص بالصيد فيها ، و كذلك الجهات الإدارية المختصة بتنفيذ أحكام هذه المادة 0

الفصل الثاني

المواد والنفايات الخطرة

(مادة 29)

يحظر تداول المواد و النفايات الخطرة بغير ترخيص من الإدارة المختصة 0 و تبين اللائحة التنفيذية لهذا القانون إجراءات و شروط منح الترخيص و الجهة المختصة بإصداره 0 و يصدر الوزراء - كل في نطاق اختصاصه - بالتنسيق مع وزير الصحة و جهاز شئون البيئة جدولاً بالمواد و النفايات الخطرة المشار إليها في الفقرة الأولى من هذه المادة 0 (مادة 30)

تخضع إدارة النفايات الخطرة للقواد و الإجراءات الواردة باللائحة التنفيذية لهذا القانون 0 وتحدد اللائحة المذكورة الجهة المختصة بوضع جداول للنفايات الخطرة التي تخضع لأحكامه و ذلك بعد أخذ رأي جهاز شئون البيئة 0

(مادة 31)

يحظر إقامة أي منشآت بغرض معالجة النفايات الخطرة إلا بترخيص من الجهة المختصة بعد أخذ رأي جهاز شئون البيئة و يكون التخلص من النفايات الخطرة طبقاً للشروط و المعايير التي تحددها اللائحة التنفيذية من النفايات الخطرة 0

(مادة 33)

علي القائمين علي إنتاج أو تداول المواد الخطرة سواء كانت في حالتها الغازية أو السائلة أو الصلبة أن يتخذوا جميع الاحتياطات بما يتضمن عدم حدوث أي أضرار بالبيئة 0 و علي صاحب المنشأة التي ينتج عن نشاطها مخلفات خطرة طبقاً لأحكام هذا القانون الاحتفاظ بسجل هذه المخلفات و كيفية التخلص منها و كذلك الجهات المتعاقد معها لتسلم هذه المخلفات 0 و تبين اللائحة التنفيذية البيانات التي تسجل في هذا السجل و يختص جهاز شئون البيئة بمتابعة السجل للتأكد من مطابقة البيانات للواقع 0

الباب الثاني

حماية البيئة الهوائية من التلوث

(مادة 34)

يشترط أن يكون الموقع الذي يقام عليه المشروع مناسباً لنشاط المنشأة بما يتضمن عدم تجاوز الحدود المسموح بها لملوثات الهواء ، و أن تكون جملة التلوث الناتج عن مجموع المنشآت في منطقة واحدة في الحدود المصرح بها 0

و تحدد اللائحة التنفيذية لهذا القانون المنشآت الخاضعة لأحكامه و الجهة المختصة بالموافقة علي ملاءمة الموقع و الحدود المسموح بها لملوثات الهواء و الضوضاء في المنطقة التي تقام بها المنشأة 0

(مادة 35)

تلتزم المنشآت الخاضعة لأحكام هذا القانون في ممارستها لأنشطتها بعدم انبعاث أو تسرب ملوثات للهواء بما يجاوز الحدود القصوى المسموح بها في القوانين و القرارات السارية و ما تحدده اللائحة التنفيذية لهذا القانون 0

(مادة 36)

لا يجوز استخدام الآت أو محركات أو مركبات ينتج عنها عدم تجاوز الحدود التي تقررها اللائحة التنفيذية لهذا القانون 0

(مادة 37)

يحظر إلقاء أو معالجة أو حرق القمامة و المخلفات الصلبة إلا في الأماكن المخصصة لذلك بعيدا عن المناطق السكنية و الصناعية و الزراعية و المجاري المائية و تحدد اللائحة التنفيذية لهذا القانون ، المواصفات و الضوابط و الحد الأدنى لبعد الأماكن المخصصة لهذه الأغراض عن تلك المناطق 0 و تلتزم الوحدات المحلية بالاتفاق مع جهاز شئون البيئة بتخصيص أماكن إلقاء أو معالجة أو حرق القمامة و المخلفات الصلبة طبقا لأحكام هذه المادة 0

(مادة 38)

يحظر رش أو استخدام مبيدات الآفات أو أي مركبات كيميائية أخرى لأغراض الزراعة أو الصحة العامة أو غير ذلك من الأغراض إلا بعد مراعاة الشروط و الضوابط و الضمانات التي تحددها اللائحة التنفيذية لهذا القانون، بما يكفل عدم تعرض الإنسان أو الحيوان أو النبات أو مجاري المياه أو سائر مكونات البيئة بصورة مباشرة في الحال أو المستقبل للآثار الضارة لهذه المبيدات أو المركبات الكيميائية 0

(مادة 39)

تلتزم جميع الجهات و الأفراد عند القيام بأعمال التنقيب أو الحفر أو البناء أو الهدم أو نقل ما ينتج عنها من مخلفات أو أتربة باتخاذ الاحتياطات اللازمة للتخزين أو النقل الآمن لها لمنع تطايرها و ذلك علي النحو الذي تبينه اللائحة التنفيذية 0

(مادة 40)

يجب عند حرق أي نوع من أنواع الوقود أو غيرها سواء كان ف] أغراض الصناعة أو توليد الطاقة أو الإنشاءات أو أي غرض تجاري آخر ، أن يكون الدخان و الغازات و الأبخرة الضارة الناتجة في الحدود المسموح بها ، و علي المسئول عن هذا النشاط اتخاذ جميع الاحتياطات لتقليل كمية الملوثات في نواتج الاحتراق المشار إليها ، و تبين اللائحة التنفيذية لهذا القانون تلك الاحتياطات و الحدود المسموح بها و مواصفات المداخل و غيرها من وسائل التحكم في الدخان و الغازات و الأبخرة المنبعثة من عملية الاحتراق 0

(مادة 41)

يتعين علي الجهات القائمة بأعمال البحث و الاستكشاف و الحفر و استخراج و إنتاج الزيت الخام و تكريره و تصنيعه أن تلتزم بالضوابط و الإجراءات المنصوص عليها في هذا القانون و لائحته التنفيذية و التي يجب أن تستمد من أسس و مبادئ صناعة البترول العالمية التي توفرها الجهة الإدارية المختصة 0

(مادة 42)

تلتزم جميع الجهات و الأفراد عند مباشرة الأنشطة الإنتاجية أو الخدمية أو غيرها و خاصة عند تشغيل الآلات و المعدات و استخدام آلات التنبيه و مكبرات الصوت بعدم تجاوز الحدود المسموح بها لشدة الصوت 0

و علي الجهات مانحة الترخيص مراعاة أن يكون مجموع الأصوات المنبعثة من المصادر الثابتة في منطقة واحدة في نطاق المسموح بها 0 و التأكد من التزام المنشأة باختيار الآلات و المعدات المناسبة لضمان ذلك 0 و تبين اللائحة التنفيذية لهذا القانون الحدود المسموح بها لشدة الصوت و مدة الفترة الزمنية للتعرض له 0

(مادة 43)

يلتزم صاحب المنشأة باتخاذ الاحتياطات والتدابير اللازمة لعدم تسرب أو انبعاث ملوثات الهواء داخل مكان العمل إلا في الحدود المسموح بها ، و التي تحددها اللائحة التنفيذية لهذا القانون سواء كانت ناتجة عن طبيعة ممارسة المنشأة لنشاطها أو عن خلل في الأجهزة ، وأن يوفر سبل الحماية اللازمة للعاملين تنفيذاً لشروط السلامة و الصحة المهنية بما في ذلك اختيار الآلات و المعدات و المواد و أنواع الوقود المناسبة ، علي أن يؤخذ في الاعتبار مدة التعرض لهذه الملوثات و عليه أن يكفل ضمان التهوية الكافية و تركيب المداخن و غيرها من وسائل تنقية الهواء 0

(مادة 44)

يلتزم صاحب المنشأة باتخاذ الإجراءات و التدابير اللازمة للمحافظة علي درجتي الحرارة و الرطوبة داخل العمل بما لا يجاوز الحد الأقصى و الحد الأدنى المسموح بهما 0 و في حالة ضرورة العمل في درجتي حرارة أو رطوبة خارج هذه الحدود ، يتعين عليه أن يكفل وسائل الوقاية المناسبة للعاملين من ملابس خاصة و غير ذلك من وسائل الحماية 0 و تبين اللائحة التنفيذية لهذا القانون الحد الأقصى و الحد الأدنى لكل من درجة الحرارة و الرطوبة و مدة التعرض لهما و وسائل الوقاية منهما 0

(مادة 45)

يشترط في الأماكن العامة المغلقة و شبه المغلقة أن تكون مستوفية لوسائل التهوية الكافية بما يتناسب مع حجم المكان و قدرته الاستيعابية و نوع النشاط الذي يمارس فيه بما يضمن تجدد الهواء و نقائه و احتفاظه بدرجة حرارة مناسبة 0

(مادة 46)

يلتزم المدير المسئول عن المنشأة باتخاذ الإجراءات الكفيلة بمنع التدخين في الأماكن العامة ، و يراعي في هذه الحالة تخصيص حيز للمدخنين بما لا يؤثر علي الهواء في الأماكن الأخرى 0 و يحظر التدخين في وسائل النقل العام 0

(مادة 47)

لا يجوز أن يزيد مستوي النشاط الإشعاعي أو تركيزات المواد المشعة بالهواء عن الحدود المسموح بها و التي تحددها الجهات المختصة طبقاً للائحة التنفيذية لهذا القانون 0

الباب الثالث
حماية البيئة من التلوث
الفصل الأول
التلوث من السفن
الفرع الأول
التلوث من الزيت
(مادة 48)

تهدف حماية البيئة المائية من التلوث إلي تحقيق الأغراض الآتية :
(أ) حماية شواطئ جمهورية مصر العربية و موانئها من مخاطر التلوث بجميع صورته و أشكاله 0
(ب) حماية منطقة البحر الإقليمي و المنطقة الاقتصادية الخالصة و مواردها الطبيعية الحية و غير الحية و ذلك بمنع التلوث أيا كان مصدره و خفضه و السيطرة عليه 0
(ج) حماية الموارد الطبيعية في المنطقة الاقتصادية و الجرف القاري 0
(د) التعويض عن الأضرار التي تلحق بأي شخص طبيعي أو اعتباري من جراء تلوث البيئة المائية 0

و يتولى وزير شئون البيئة بالتنسيق مع وزير النقل البحري و الجهات الإدارية المختصة المشار إليها في البند 38 من المادة (1) من هذا القانون تحقيق الأغراض المشار إليها كل فيما يخصه 0
(مادة 49)

يحظر علي جميع السفن أيا كانت جنسيتها تصريف أو إلقاء الزيت أو المزيج الزيتي في البحر الإقليمي أو المنطقة الاقتصادية الخالصة لجمهورية مصر العربية 0
أما بالنسبة للسفن الحربية أو القطع البحرية المساعدة التابعة لجمهورية مصر العربية أو غيرها من السفن التي تملكها أو تشغلها الدولة أو الهيئات العامة و تكون مستعملة في خدمة حكومية غير تجارية و التي لا تخضع لأحكام الاتفاقية ، فيجب أن تتخذ هذه السفن الاحتياطات الكفيلة بمنع تلوث البحر الإقليمي أو المنطقة الاقتصادية الخالصة لجمهورية مصر العربية 0
(مادة 50)

يحظر علي السفن المسجلة بجمهورية مصر العربية تصريف أو إلقاء الزيت أو المزيج الزيتي في البحر وفقا لما ورد في الاتفاقية و المعاهدات الدولية التي انضمت إليها جمهورية مصر العربية 0

(مادة 51)

تلتزم ناقلات الزيت الأجنبية التي تتراد الموانئ المصرية بتنفيذ كافة متطلبات القاعدة رقم 13 من الملحق رقم (1) من الاتفاقية و تعديلاتها 0
و تستثنى ناقلات الزيت التي تستخدم في رحلات محدودة من هذه المتطلبات طبقا للقاعدة رقم 13 ج من الاتفاقية و تعديلات و كذلك ناقلات الزيت العابرة لقناة السويس و التي لا تضطر إلي إلقاء أي مياه صابورة ملوثة 0

(مادة 52)

يحظر علي الشركات و الهيئات الوطنية و الأجنبية المصرح لها لاستكشاف أو استخراج أو استغلال حقول البترول البحرية و الموارد الطبيعية البحرية الأخرى بما في ذلك وسائل نقل الزيت تصريف أية مادة ملوثة ناتجة عن عمليات الحفر أو الاستكشاف أو اختبار الآبار أو الإنتاج في البحر الإقليمي أو المنطقة الاقتصادية الخالصة لجمهورية مصر العربية 0 و يجب عليها استخدام الوسائل الآمنة التي لا يترتب عليها الإضرار بالبيئة المائية ، و معالجة ما يتم تصريفه من نفايات و مواد ملوثة طبقا لأحدث النظم الفنية المتاحة و بما يتفق مع الشروط المنصوص عليها في الاتفاقيات الدولية 0

(مادة 53)

مع عدم الإخلال بأحكام القانون رقم 79 لسنة 1961 في شأن الكوارث البحرية و الحطام البحري يكون لممثلي الجهة الإدارية المختصة أو لمأموري الضبط القضائي أن يأمرؤا ربان السفينة أو المسئول عنها باتخاذ الإجراءات الكافية للحماية من أثار التلوث في حالة وقوع حادث لإحدى السفن التي تحمل الزيت يترتب عليه أو يخشى منه تلوث البحر الإقليمي أو المنطقة الاقتصادية الخالصة لجمهورية مصر العربية 0

(مادة 54)

لا تسري العقوبات المنصوص عليها في هذا القانون علي حالات التلوث الناجمة عن :

(أ) تأمين سلامة السفينة أو سلامة الأرواح عليها 0
(ب) التفريغ الناتج عن عطب بالسفينة أو أحد أجهزتها بشرط ألا يكون قد تم بمعرفة الربان أو المسئول عنها بهدف تعطيل السفينة أو إتلافها أو عن إهمال 0 و يشترط في جميع الأحوال أن يكون ربان السفينة أو المسئول عنها قد اتخذ قبل و بعد وقوع العطب جميع الاحتياطات الكافية لمنع أو تقليل أثار التلوث و قام علي الفور بإخطار الجهة الإدارية المختصة 0
(ج) كسر مفاجئ في خط أنابيب يحمل الزيت و المزيج الزيتي أثناء عمليات التشغيل أو أثناء الحفر أو استكشاف أو اختبار الآبار ، بدون إهمال في رقابة الخطوط أو صيانتها و علي أن تتخذ الاحتياطات الكافية لرقابة تشغيل الخطوط و السيطرة علي التلوث و مصادره فور حدوثه 0
كل ذلك دون إخلال بحق الجهة المختصة في الرجوع علي المتسبب بتكاليف إزالة الأثار الناجمة عن التلوث و التعويض عن الخسائر و الأضرار الناجمة عنه 0
(مادة 55)

علي مالك السفينة وربانها أو أي شخص مسئول عنها و علي المسئولين عن وسائل نقل الزيت الواقعة داخل الموانئ أو البحر الإقليمي أو المنطقة الاقتصادية الخالصة لجمهورية مصر العربية و كذلك الشركات العاملة في استخراج الزيت أن يبادروا فوراً إلي إبلاغ الجهات الإدارية المختصة عن كل حادث تسرب للزيت فور حدوثه مع بيان ظروف الحادث و نوع المادة المتسربة و الإجراءات التي اتخذت لإيقاف التسرب أو الحد منه ، و غير ذلك من البيانات المنصوص عليها في الاتفاقية و اللائحة التنفيذية لهذا القانون 0

و في جميع الأحوال يجب علي الجهات الإدارية المختصة إبلاغ جهاز شئون البيئة بكافة المعلومات المشار إليه فور حدوثه 0

(مادة 56)

يجب أن تجهز جميع مواني الشحن و المواني المعدة لاستقبال ناقلات الزيت و أحواض إصلاح السفن بالمعدات اللازمة الكافية لاستقبال مياه الاتزان غير النظيفة و المياه المتخلفة عن غسل الخزانات الخاصة بناقلات الزيت أو غيرها من السفن 0
و يجب أن تجهز المواني بالمواعين و الأوعية اللازمة و الكافية لاستقبال المخلفات و النفايات و الرواسب الزيتية و المزيج الزيتي من السفن الراسية بالميناء 0
ولا يجوز الترخيص لأية سفينة أو ناقلة بالقيام بأعمال الشحن و التفريغ إلا بعد الرجوع إلي الجهة الإدارية المختصة لاستقبالها و توجيهها إلي أماكن التخلص من النفايات و مياه الاتزان غير النظيفة 0

(مادة 57)

يحدد الوزير المختص نوع الأجهزة و المعدات الخاصة بخفض التلوث و التي يجب أن تجهز بها السفن المسجلة بجمهورية مصر العربية أو المنصات البحرية التي تقام في البيئة المائية
و يجب أن تكون السفن الأجنبية التي تستعمل المواني المصرية أو تبحر عبر المنطقة البحرية الخاصة بها مجهزة بمعدات خفض التلوث طبقاً لما ورد في الاتفاقية و ملاحقها 0

(مادة 58)

علي كل مالك أو ربان سفينة مسجلة بجمهورية مصر العربية و كذلك سفن الدول التي انضمت للاتفاقية أن يحتفظ بسجل لزيت بالسفينة يدون فيها المسئول عنها جميع العمليات المتعلقة بالزيت علي الوجه المبين بالاتفاقية و علي الأخص العمليات الآتية :

(أ) القيام بعمليات التحميل أو التسليم أو غيرها من عمليات نقل الحمولة الزيتية مع بيان نوع الزيت 0

(ب) تصريف الزيت أو المزيج الزيتي من أجل ضمان سلامة السفينة أو حمولتها أو إنقاذ الأرواح مع بيان نوع الزيت 0

(ج) تسرب الزيت أو المزيج الزيتي نتيجة اصطدام أو حادث مع بيان نسبة الزيت و حجم التسرب 0

(د) تصريف مياه الاتزان غير النظيفة أو غسل الخزانات 0

(هـ) التخلص من النفايات الملوثة 0

(و) إلقاء مياه السنتينة المحتوية علي الزيوت التي تجمعت في حيز الآلات خارج السفينة و ذلك أثناء تواجدها بالميناء 0

و تحدد اللائحة التنفيذية كيفية تسجيل عمليات تصريف الزيت أو المزيج الزيتي بالنسبة للمنصات البحرية التي تقام في البيئة المائية 0

(مادة 59)

مع عدم الإخلال بأحكام الاتفاقية الدولية في شأن المسؤولية المدنية عن الأضرار الناجمة عن حوادث التلوث بالزيت الموقعة في بروكسل عام 1969 و تعديلاتها ، يجب علي ناقلات الزيت التي تبلغ حمولتها الكلية 2000 طن فأكثر المسجلة في جمهورية مصر العربية و كذلك أجهزة و مواعين نقل الزيت الأخرى التي تبلغ حمولتها الكلية 150 طناً فأكثر التي تعمل في البحر الإقليمي أو المنطقة الاقتصادية الخالصة لجمهورية مصر العربية أن تقدم إلي الجهة الإدارية المختصة وفقاً للظوابط التي يصدر بها قرار من وزير النقل البحري بالاتفاق مع وزير البترول و وزير شؤون البيئة ، شهادة ضمان مالي في شكل تأمين أو سند تعويض أو أي ضمان آخر 0

و يجب تقديم شهادة الضمان عند دخول الناقل في البحر الإقليمي و أن يكون ساري المفعول و يغطي جميع الأضرار و التعويضات التي تقدر بمعرفة الجهة الإدارية المختصة 0

و بالنسبة للسفن المسجلة في دولة متضمنة للاتفاقية الدولية للمسؤولية المدنية عن حوادث التلوث بالزيت فتصدر هذه الشهادة من السلطة المختصة للدولة المسجلة فيها السفينة 0

الفرع الثاني

التلوث بالمواد الضارة

(مادة 60)

يحظر علي ناقلات المواد السائلة الضارة إلقاء أو تصريف أية مواد ضارة أو نفايات أو مخلفات بطريقة إرادية أو غير إرادية مباشرة أو غير مباشرة ينتج عنها ضرر بالبيئة المائية أو الصحة العامة أو الاستخدامات الأخرى المشروعة للبحر 0

كما يحظر علي السفن التي تحمل مواد ضارة منقولة في عبوات أو حاويات شحن أو صهاريج نقالة أو عربات صهريجية برية أو حديدية التخلص منها بإلقائها في البحر الإقليمي أو المنطقة الاقتصادية الخالصة لجمهورية مصر العربية 0

(مادة 61)

يجب أن تجهز جميع مواني الشحن و التفريغ المعدة لاستقبال الناقلات المنصوص عليها في الفقرة الأولى من المادة السابقة و كذا أحواض إصلاح السفن بالتسهيلات المناسبة لاستقبال المواد السائلة الضارة و نفاياتها 0

(مادة 62)

يجب أن تزود الناقلات التي تحمل مواد سائلة ضارة بسجل الشحن طبقاً للاتفاقية يدون فيها الربان أو المسئول عن السفينة جميع العمليات علي الوجه المبين بالاتفاقية 0

(مادة 63)

يكون لممثلي الجهة الإدارية المختصة أو لمأموري الضبط القضائي أن يأمرؤا ربان السفينة أو المسئول عنها باتخاذ الإجراءات اللازمة للتقليل من آثار التلوث و ذلك في حالة وقوع حادث لإحدى السفن التي تحمل مواد ضارة يخشي منه تلويث البحر الإقليمي أو المنطقة الخالصة لجمهورية مصر العربية علي أية صورة ، ويحظر علي السفن التي تحمل المواد الضارة إغراق النفايات و المواد الملوثة في الجرف القاري و المنطقة الاقتصادية الخالصة لجمهورية مصر العربية 0

(مادة 64)

تسري أحكام المادة (54) من هذا القانون علي حالات التلوث الناجمة عن تأمين سلامة الأرواح علي السفينة أو ما يصيبها من عطب 0

(مادة 65)

علي ربان السفينة أو المسئول عنها الالتزام بتنفيذ جميع الاشتراطات الواردة بالقاعدة رقم (8) من الملحق (2) من الاتفاقية 0

الفرع الثالث

التلوث بمخلفات الصرف الصحي و القمامة

(مادة 66)

يحظر علي السفن و المنصات البحرية تصريف مياه الصرف الصحي الملوثة داخل البحر الإقليمي و المنطقة الاقتصادية الخالصة لجمهورية مصر العربية و يجب التخلص منها طبقا للمعايير الإجراءات التي تحددها اللائحة التنفيذية لهذا القانون 0

(مادة 67)

يحظر علي جميع السفن و المنصات البحرية التي تقوم بأعمال استكشاف و استغلال الموارد الطبيعية و المعدنية في البيئة المائية لجمهورية مصر العربية وكذلك السفن التي تستخدم المواني المصرية إلقاء القمامة أو الفضلات في البحر الإقليمي أو المنطقة الاقتصادية الخالصة لجمهورية مصر العربية ، و يجب علي السفن تسليم القمامة في تسهيلات استقبال النفايات أو في الأماكن التي تحددها الجهات الإدارية المختصة مقابل رسوم معينة يصدر بها قرار من الوزير 0

(مادة 68)

يجب أن تجهز جميع مواني الشحن و التفريغ و المواني المعدة لاستقبال السفن و أحواض إصلاح السفن الثابتة أو العائمة بالتجهيزات اللازمة و الكافية لاستقبال مياه الصرف الملوثة و فضلات السفن من القمامة 0

الفصل الثاني

التلوث من المصادر البرية

(مادة 69)

يحظر علي جميع المنشآت بما في ذلك المحال العامة و المنشآت التجارية و الصناعية و السياحية و الخدمية تصريف أو إلقاء أية مواد أو نفايات أو سوائل غير معالجة من شأنها إحداث تلوث في الشواطئ المصرية أو المياه المتاخمة لها سواء تم ذلك بطريقة إرادية أو غير إرادية مباشرة أو غير مباشرة و يعتبر كل يوم من استمرار التصريف المحظور ، مخالفة منفصلة 0

(مادة 70)

يشترط للترخيص بإقامة أية منشآت أو محال علي شاطئ البحر أو قريبا منه ينتج عنها تصريف مواد ملوثة بالمخالفة لأحكام هذا القانون و القرارات المنفذة له أن يقوم طالب الترخيص بإجراء دراسات التأثير البيئي و يلتزم بتوفير وحدات لمعالجة المخلفات ، كما يلتزم بأن يبدأ بتشغيلها فور بدء تشغيل تلك المنشآت 0

(مادة 71)

تحدد اللائحة التنفيذية لهذا القانون المواصفات و المعايير التي تلتزم بها المنشآت الصناعية التي يصرح لها بتصريف المواد الملوثة القابلة للتحليل و ذلك بعد معالجتها 0 و علي الجهة الإدارية المختصة المحددة في اللائحة المذكورة إجراء تحليل دوري في معاملها لعينات المخلفات السائلة المعالجة و إخطار الجهات الإدارية المختصة بنتيجة التحليل 0 وفي حالة المخالفة يمنح صاحب الشأن مهلة مدتها شهر واحد لمعالجة المخلفات لتصبح مطابقة للمواصفات و المعايير المحددة 0 فإذا لم تتم المعالجة خلال المهلة المشار إليها أو ثبت من التحليل خلالها إن استمرار الصرف من شأنه إلحاق أضرار جسيمة بالبيئة المائية ، يوقف التصريف بالطريق الإداري و يسحب الترخيص الصادر للمنشأة و ذلك دون الإخلال بالعقوبات الواردة بهذا القانون 0

كما تحدد اللائحة التنفيذية المواد الملوثة غير القابلة للتحلل و التي يحظر علي المنشآت الصناعية تصريفها في البيئة المائية 0

(مادة 72)

مع مراعاة أحكام المادة (96) من هذا القانون يكون ممثل الشخص الاعتباري أو المعهود إليه بإدارة المنشآت المنصوص عليها في المادة (69) التي تصرف في البيئة المائية مسئولاً عما يقع من العاملين بالمخالفة لأحكام المادة المذكورة ، و عن توفير وسائل المعالجة طبقاً للمعايير و المواصفات الواردة باللائحة التنفيذية لهذا القانون 0 و توقع عليه العقوبات المنصوص عليها في المادة (87) من هذا القانون 0

(مادة 73)

يحظر إقامة منشآت علي الشواطئ البحرية للجمهورية لمسافة مائتي متر إلي الداخل إلا بعد موافقة الجهة الإدارية المختصة بالتنسيق مع جهاز شئون البيئة 0 و تنظم اللائحة التنفيذية لهذا القانون الإجراءات و الشروط الواجب إتباعها في هذا الشأن 0

(مادة 74)

يحظر إجراء أي عمل يكون من شأنه المساس بخط المسار الطبيعي للشاطئ أو تعديله دخولا في مياه البحر أو انحسارا عنه إلا بعد موافقة الجهة الإدارية المختصة بالتنسيق مع جهاز شئون البيئة 0 و تنظم اللائحة التنفيذية لهذا القانون الإجراءات و الشروط الواجب إتباعها في هذا الشأن

(مادة 75)

لممثلي الجهات الإدارية المختصة كل فيما يخصه بالتنسيق مع جهاز شئون البيئة دخول منطقة الحظر المذكورة بالمادتين رقمي (73) ، (74) من هذا القانون للاطلاع علي ما يجري بها من أعمال ، فإذا تبين لهم أن أعمالاً أجريت أو شرع في إجرائها مخالفة للأحكام السابقة يكلف المخالف برد الشيء لأصله و إلا تم وقف العمل إدارياً ورد الشيء لأصله علي نفقة المتسبب متضامنين و تحصل القيمة بطريق الحجز الإداري 0

الفصل الثالث

الشهادات الدولية

(مادة 76)

علي السفن التي تحمل جنسية جمهورية مصر العربية أن تحصل من مصلحة الموانئ و المنائر علي الشهادة الدولية لمنع التلوث بالزيت أو الشهادة الدولية لمنع التلوث الناتج عن حمل مواد سائلة سائبة 0 و يكون إصدار هاتين الشهادتين طبقاً للأحكام و الشروط المنصوص عليها في الاتفاقية ولا تزيد مدة صلاحية الشهادة علي خمس سنوات من تاريخ إصدارها 0

(مادة 77)

علي السفن التي تنقل الزيت بصورة منتظمة من أحد الموانئ المصرية أو إليه أو من وسائل نقل الزيت داخل البحر الإقليمي أو المنطقة الاقتصادية الخالصة لجمهورية مصر العربية و التي تحمل علم دولة

منظمة للاتفاقية أن تكون حاصلة علي الشهادة الدولية لمنع التلوث بالزيت و أن تكون هذه الشهادة سارية المفعول طبقا للاتفاقية 0
أما السفن التي ينطبق عليها حكم الفقرة الأولى من هذه المادة و تحمل علم دولة غير منضمة للاتفاقية فيحدد وزير النقل البحري شهادة منع التلوث بالزيت التي تمنح من مصلحة الموانئ و المنائر و ذلك قبل لترخيص لها بنقل الزيت بصورة منتظمة من أحد الموانئ المصرية أو من إحدى وسائل نقل الزيت داخل المنطقة الاقتصادية الخالصة 0

الفصل الرابع الإجراءات الإدارية و القضائية (مادة 78)

يعتبر مندوبو الجهات الإدارية المختصة و الممثلون القنصليون في الخارج من مأموري الضبط القضائي كل فيما يختص بتطبيق أحكام الباب الثالث من هذا القانون 0
و لوزير العدل بالاتفاق مع الوزراء المعنيين منح هذه الصفة لعاملين آخرين وفقا لما يقتضيه تنفيذ هذا القانون الدولي 0

(مادة 79)

يكون لمأموري الضبط القضائي المنصوص عليهم في المادة السابقة عند وقوع المخالفة إذا رغب ربان السفينة أو المسئول عنها مغادرة الميناء علي وجه عاجل تحصيل مبالغ فورية بصفة مؤقتة تحت حساب تنفيذ عقوبة الغرامة و التعويض التي يقضي بها في الحدود المنصوص عليها في الباب الرابع من هذا القانون علي ألا تقل عن الحد الأدنى المقرر للمخالفة مضافا إليها جميع النفقات و التعويضات التي تحددها الجهة الإدارية المختصة لإزالة آثار المخالفة 0
و يمكن تقديم ضمان مالي عن قيمة هذه المبالغ تقبله الجهة الإدارية المختصة ، و ذلك بمراعاة أحكام الاتفاقية الدولية في شأن المسؤولية المدنية المترتبة عن أضرار التلوث بالزيت الموقعة في بروكسل عام 01969

(مادة 80)

مع عدم الإخلال بأحكام قانون الإجراءات الجنائية يكون لمأموري الضبط القضائي المشار إليهم في المادة (78) كل فيما يخصه ، الصعود إلي ظهر السفن و المنصات البحرية و دخول المنشآت المقامة علي شاطئ البحر و تفقد وسائل نقل الزيت و المواد الملوثة للبيئة البحرية للتحقق من التزامها بتطبيق أحكام هذا القانون و القرارات الصادرة تنفيذا له و توفير معدات ووسائل معالجة المخلفات 0
و تصدر الجهة الإدارية المختصة قرارها في شأن ما تراه لازما لحماية البيئة البحرية في ضوء ما يسفر عنه هذا الإجراء ، ولصاحب الشأن أن يعترض علي هذا القرار أمام لجنة التظلمات المنصوص عليها في المادة (81) من هذا القانون خلال خمسة عشر يوما من تاريخ إخطاره 0 ولا يترتب علي اعتراض صاحب الشأن وقف تنفيذ هذا القرار ما لم تصدر هذه اللجنة قرارا بوقف تنفيذه لحين الفصل في المنازعة 0

(مادة 81)

يصدر الوزير المختص الذي تحدده اللائحة التنفيذية لهذا القانون قرارا بتشكيل لجنة تظلمات يكون مقرها دائرة عمل المواني أو إحدى الجهات الإدارية القريبة منها علي الوجه الآتي :

- عضو من مجلس الدولة بدرجة مستشار
- ممثل لجهاز شئون البيئة
- ممثل لمصلحة الموانئ و المنائر
- ممثل لوزارة الدفاع
- ممثل لوزارة البترول و الثروة المعدنية
- ممثل للجهة الإدارية المختصة التي وقعت المنازعة في مجال نشاطها
- رئيسا
- عضوا
- عضوا
- عضوا
- عضوا
- عضوا

و للجنة أن تستعين بخبير أو أكثر في شئون البيئة المائية و تختص هذه اللجنة بالفصل في المنازعات الإدارية الناشئة عن تطبيق أحكام الباب الثالث من هذا القانون 0 وتصدر اللجنة قراراتها بعد سماع أقوال الطرفين بأغلبية أصوات الأعضاء الحاضرين و في حالة التساوي يرجح الجانب الذي منه الرئيس 0 ولذوي الشأن الطعن علي قرارات اللجنة أمام محكمة القضاء الإداري بمجلس الدولة 0 (مادة 82)

علي كل ربان أو مستغل لسفينة تستخدم المواني المصرية أو المرخص لها بالعمل في البحر الإقليمي أو المنطقة الاقتصادية الخالصة لجمهورية مصر العربية أن يقدم لمندوبي الجهة الإدارية المختصة أو لمأموري الضبط القضائي المنوط بهم تنفيذ أحكام هذا القانون و القرارات المنفذة له ، التسهيلات لأداء مهمتهم 0

(مادة 83)

يمكن للجهات الإدارية المختصة طلب معاونة كل من وزارات الدفاع و الداخلية و البترول و الثروة المعدنية و هيئة قناة السويس أو أية جهة معنية أخرى في تنفيذ أحكام الباب الثالث من هذا القانون و ذلك وفقا للشروط التي يصدر بها قرار من الوزير المختص 0

الباب الرابع

العقوبات

(مادة 84)

يعاقب كل من خالف أحكام المادة 28 من هذا القانون بغرامة لا تقل عن مائتي جنيهه و لا تزيد علي خمسة آلاف جنيهه مع مصادرة الطيور و الحيوانات المضبوطة و كذلك الآلات التي استخدمت في المخالفة 0

(مادة 85)

يعاقب بالحبس مدة سنة و بغرامة لا تقل عن عشرة آلاف جنيهه و لا تزيد علي عشرين ألف جنيهه أو بإحدى هاتين العقوبتين كل من خالف أحكام المواد 30 ، 31 ، 33 0

(مادة 86)

يعاقب بغرامة لا تقل عن مائتي جنيهه و لا تزيد علي ثلاثمائة جنيهه كل من خالف حكم المادة (36) من هذا القانون ، كما يعاقب بغرامة لا تقل عن خمسمائة جنيهه و لا تزيد علي ألف جنيهه كل من خالف حكم المادة (39) من هذا القانون 0 وللمحكمة أن تقضي بوقف الترخيص لمدة لا تقل عن أسبوع و لا تزيد علي ستة أشهر ، وفي حالة العود يجوز لها الحكم بإلغاء الترخيص 0

(مادة 87)

يعاقب بغرامة لا تقل عن مائة جنيهه و لا تزيد علي خمسمائة جنيهه مع مصادرة الأجهزة و المعدات المستخدمة كل من خالف أحكام المادة 42 من هذا القانون باستخدام مكبرات الصوت و تجاوز الصوت الحدود المسموح بها لشدة الصوت 0 و يعاقب بغرامة لا تقل عن مائتي جنيهه و لا تزيد علي عشرين ألف جنيهه كل من يخالف أحكام المواد 38 و 41 و 69 و 70 من هذا القانون 0

و تكون العقوبة الغرامة التي لا تقل عن ألف جنيهه و لا تزيد علي عشرين ألف جنيهه لكل من خالف المواد 35 و 37 و 40 و 43 و 44 و 45 من هذا القانون ، وكذلك عدم التزام المدير المسئول عن المنشأة بمنع التدخين في الأماكن العامة المغلقة بالمخالفة لحكم الفقرة الولي من المادة 46 من هذا القانون 0 و يعاقب بغرامة لا تقل عن عشرة جنيهات و لا تزيد عن خمسين جنيهها كل من يدخن في وسائل النقل العام بالمخالفة لحكم الفقرة الثانية من المادة المشار إليها 0

وفي حالة العود تكون القوبة الحبس و الغرامة المنصوص عليها في الفقرات السابقة 0

(مادة 88)

يعاقب بالسجن مدة لا تزيد عن خمس سنوات و غرامة لا تقل عن عشرين ألف جنيهه ولا تزيد علي أربعين ألف جنيهه كل من خالف أحكام المواد (29) ، (32) ، (47) من هذا القانون كما يلزم كل من خالف أحكام المادة (32) بإعادة تصدير النفايات الخطرة محل الجريمة علي نفقته الخاصة 0
(مادة 89)

يعاقب بغرامة لا تقل عن مائتي جنيهه و لا تزيد علي عشرين ألف جنيهه كل من خالف أحكام المواد 2و3 فقرة أخيرة و4 و5 و7 من القانون رقم 48 لسنة 1982 في شأن حماية نهر النيل و المجاري المائية من التلوث والقرارات المنفذة له 0

وفي حالة العود تكون العقوبة الحبس والغرامة المنصوص عليها في الفقرة السابقة 0
وفي جميع الأحوال يلتزم المخالف بإزالة الأعمال المخالفة أو تصحيحها في الموعد الذي تحدده وزارة الأشغال العامة و الموارد المائية فإذا لم يتم بذلك في الموعد المحدد ، يكون لوزارة الأشغال العامة و الموارد المائية اتخاذ إجراءات الإزالة أو التصحيح بالطريق الإداري علي نفقة المخالف و ذلك دون إخلال بحق الوزارة في إلغاء الترخيص 0

(مادة 90)

يعاقب بغرامة لا تقل عن مائة و خمسين ألف جنيهه و لا تزيد علي خمسمائة ألف جنيهه كل من ارتكب أحد الأفعال الآتية :

- 1- تصريف أو إلقاء الزيت أو المزيج الزيتي أو المواد الضارة في البحر الإقليمي أو المنطقة الاقتصادية الخالصة و ذلك بالمخالفة لأحكام المادتين (49) ، (60) من هذا القانون 0
 - 2- عدم الإلتزام بمعالجة ما يتم صرفه من نفايات و مواد ملوثة أو عدم استخدام الوسائل الآمنة التي لا يترتب عليها الإضرار بالبيئة المائية و ذلك بالمخالفة للأحكام المادة 52 من هذا القانون 0
 - 3- إلقاء أية مواد أخرى ملوثة للبيئة 0
- و في حالة العود إلي ارتكاب أي من هذه المخلفات تكون العقوبة الحبس و الغرامة المذكورة في الفقرة السابقة من هذه المادة 0

وفي جميع الأحوال يلتزم المخالف بإزالة آثار المخالفة في الموعد الذي تحدده الجهة الإدارية المختصة ، فإذا لم يتم بذلك قامت هذه الجهة بالإزالة علي نفقته 0

(مادة 91)

تكون العقوبة الحبس و غرامة لا تقل عن مائة و خمسين ألف جنيهه و لا تزيد علي خمسمائة ألف جنيهه أو إحدى هاتين العقوبتين مع التزام المتسبب بنفقات إزالة آثار المخالفة طبقا لما تحدده الجهات المكلفة بالإزالة لكل من خالف أحكام المادة (54 ب) من هذا القانون ، إذا تم التفريغ الناتج عن عطب بالسفينة أو أحد أجهزتها بهدف تعطيل السفينة أو إتلافها أو عن إهمال 0
و تزداد الغرامة بمقدار المثل في حالة العود و تحدد اللائحة التنفيذية لهذا القانون في حالة العود و تحدد اللائحة التنفيذية لهذا القانون ضوابط تحديد قيمة الغرامة وفقا لحجم التلوث و الأثر البيئي الناجم عن مخالفة أحكام هذه المادة 0

(مادة 92)

يعاقب بغرامة لا تقل عن سبعين ألف جنيهه و لا تزيد علي ثلاثمائة ألف جنيهه كل من ارتكب أحد الأفعال التالية :

- 1- عدم تجهيز السفينة الأجنبية التي تستخدم المواني المصرية أو تبحر عبر المنطقة البحرية الخاصة بمعدات خفض التلوث و ذلك بالمخالفة لأحكام المادة (57) من هذا القانون 0
- 2- عدم اتخاذ جميع الاحتياطات الكافية لمنع أو تقليل آثار التلوث قبل وبعد وقوع العطب في السفينة أو أحد أجهزتها أو عدم إخطار الجهة الإدارية المختصة فورا بالتفريغ الناتج عن عطب بالسفينة أو بإحدي أجهزتها و ذلك بالمخالفة لأحكام المادة (54 ب) من هذا القانون 0

3- عدم إبلاغ الجهة الإدارية المختصة فوراً عن كل حادث تسرب للزيت مع بيان ظروف الحادث و نوع المادة المتسربة و نسبتها و الإجراءات التي اتخذت و ذلك بالمخالفة لأحكام المادة (55) من هذا القانون 0
و في حالة العود إلي مخالفة أحكام البند (1) تزداد الغرامة بمقدار المثل 0 وفي حالة العود إلي مخالفة أحكام البندين (2) ، (3) تكون العقوبة الحبس و غرامة لا تقل عن ثلاثمائة ألف جنيه و لا تزيد علي خمسمائة ألف جنيه أو إحدى هاتين العقوبتين 0
و في جميع الأحوال يلتزم المخالف بإزالة آثار المخالفة في الموعد الذي تحدده الجهة الإدارية المختصة ، فإذا لم يتم بذلك قامت هذه الجهة بالإزالة علي نفقته 0
(مادة 93)
يعاقب بغرامة لا تقل عن أربعين ألف جنيه و لا تزيد علي مائتي ألف جنيه كل من ارتكب أحد الأفعال التالية :

- 1- قيام السفينة أو الناقل بأعمال الشحن و التفريغ دون الحصول علي ترخيص من الجهة الإدارية المختصة و ذلك بالمخالفة لأحكام المادة (56) من هذا القانون
- 2- عدم احتفاظ السفينة أو الناقل بالشهادات و السجلات المنصوص عليها في المادة (58) ، (62) ، (76) ، (77) من هذا القانون 0
- 3- تصريف مياه الصرف الصحي الملوثة أو إلقاء القمامة من السفن بالمخالفة لنص المادتين (66) ، (67) من هذا القانون 0
- 4- قيام إحدى السفن المسجلة في جمهورية مصر العربية بتصريف أو إلقاء الزيت أو المزيج الزيتي في البحر بالمخالفة لأحكام المادة 50 من هذا القانون 0
(مادة 94)

يعاقب بغرامة لا تقل عن أربعين ألف جنيه و لا تزيد علي مائة و خمسين ألف جنيه كل من ارتكب أحد الأفعال التالية :

- 1- عدم تجهيز السفن المسجلة بجمهورية مصر العربية بالأجهزة و المعدات الخاصة بتخفيض التلوث و ذلك بالمخالفة لأحكام المادة (57) من هذا القانون 0
- 2- مخالفة أوامر مفتشي الجهة الإدارية المختصة و مأموري الضبط القضائي في حالة وقوع حادث لإحدى السفن التي تحمل الزيت أو المواد الضارة و ذلك طبقاً لأحكام المادتين 53 ، 63 من هذا القانون 0
(مادة 95)

يعاقب بالسجن مدة لا تزيد علي عشر سنوات كل من ارتكب عمداً أحد الأفعال المخالفة لأحكام هذا القانون إذا نشأ عنه إصابة أحد الأشخاص بعاهة مستديمة يستحيل برؤها ، و تكون العقوبة السجن إذا نشأ عنه المخالفة إصابة ثلاثة أشخاص فأكثر بهذه العاهة 0
فإذا ترتب علي هذا الفعل وفاة إنسان تكون العقوبة الأشغال الشاقة المؤقتة 0 و تكون العقوبة الأشغال الشاقة المؤبدة إذا ترتب علي الفعل وفاة ثلاثة أشخاص فأكثر 0
(مادة 96)

يكون ربان السفينة أو المسئول عنها أو أطراف التعاقد في عقود استكشاف و استخراج و استغلال حقول البترول البحرية و الموارد الطبيعية الأخرى بما في ذلك وسائل نقل الزيت و كذلك أصحاب المحال و المنشآت المنصوص عليها في المادة (69) كل فيما يخصه ، مسئولين بالتضامن عن جميع الأضرار التي تصيب أي شخص طبيعي أو اعتباري من جراء مخالفة أحكام هذا القانون ، و سداد الغرامات التي توقع تنفيذاً له و تكاليف إزالة آثار تلك المخالفة 0
(مادة 97)

توقع العقوبات المبينة في المواد السابقة بالنسبة لجميع السفن علي اختلاف جنسياتها و أنواعها بما في ذلك السفن التابعة لدولة غير مرتبطة بالاتفاقية إذا أُلقت بالزيت أو المزيج الزيتي و قامت بالإلقاء أو الإغراق المحظور في البحر الإقليمي أو في المنطقة الاقتصادية الخالصة لجمهورية مصر العربية 0

(مادة 98)

يعاقب بالحبس لمدة لا تزيد عن ستة أشهر و بغرامة لا تقل عن ألف جنيه و لا تجاوز 20 ألف جنيه أو بإحدى هاتين العقوبتين كل من خالف أحكام المادتين (73) ، (74) من هذا القانون 0
و لا يجوز الحكم بوقف تنفيذ عقوبة الغرامة و يجب في جميع الأحوال و دون انتظار الحكم في الدعوي و وقف الأعمال المخالفة و إزالتها بالطريق الإداري علي نفقة المخالف و ضبط الآلات و الأدوات و المهمات المستعملة و في حالة الحكم بالإدانة يحكم بمصادرتها 0

(مادة 99)

تختص بالفصل في الجرائم المشار إليها في هذا القانون المحكمة التي ترتكب في دائرتها الجريمة ، و ذلك إذا وقعت من السفن المشار إليها في المادة (97) داخل البحر الإقليمي لجمهورية مصر العربية أو في المنطقة الاقتصادية الخالصة ، وتفصل المحكمة في الدعوي علي وجه السرعة 0
و تختص بالفصل في الجرائم التي ترتكب خارج المنطقتين المشار إليهما في هذه المادة المحكمة الواقع في دائرتها الميناء المسجلة فيه السفينة التي ترع العلم المصري 0

(مادة 100)

مع عدم الإخلال بأحكام المادة (79) من هذا القانون ، للجهة الإدارية المختصة اتخاذ الإجراءات القانونية لحجز أية سفينة تمتنع عن دفع الغرامات التعويضات الفورية المقررة في حالة التلبس أو في حالة الاستعجال المنصوص عليها في المادة المذكورة من هذا القانون 0
ويرفع الحجز إذا دفعت المبالغ المستحقة أو قدم ضمان مالي غير مشروط تقبله الجهة الإدارية المختصة 0

(مادة 101)

لا يخل تطبيق العقوبات المنصوص عليها في هذا الباب بتوقيع أية عقوبة أشد منصوص عليها في قانون آخر 0

الأحكام الختامية

(مادة 102)

مع عدم الإخلال بأحكام المادة (78) من هذا القانون يكون لموظفي جهاز شئون البيئة وفروعه بالمحافظات ، الذين يصدر بتحديدهم قرار من وزير العدل بالاتفاق مع الوزير المختص بشئون البيئة صفة مأموري الضبط القضائي في إثبات الجرائم التي تقع بالمخالفة لأحكام هذا القانون و القرارات المنفذة له 0

(مادة 103)

لكل مواطن أو جمعية معنية بحماي البيئة الحق في التبليغ عن أية مخالفة لأحكام هذا القانون 0

(مادة 104)

يجب علي مفتشي الجهات الإدارية المختصة و كذلك مفتشي جهاز شئون البيئة ممن لهم صفة الضبطية القضائية فيما يتعلق بمجالات البيئة كل في مجال اختصاصه إخطار جهاتهم بأية مخالفة لأحكام هذا القانون ، و تتولي الجهات المختصة اتخاذ الإجراءات القانونية اللازمة 0

اللائحة التنفيذية لقانون البيئة الصادر بالقانون رقم 4 لسنة 1994

قرار رئيس مجلس الوزراء رقم 338 لسنة 1995 بإصدار اللائحة التنفيذية لقانون البيئة الصادر بالقانون رقم 4 لسنة 1994

رئيس مجلس الوزراء

بعد الإطلاع علي القانون رقم 4 لسنة 1994 بإصدار قانون في شأن البيئة ؛

و علي ما عرضه الوزير المختص بشئون البيئة ،

وبعد أخذ رأي مجلس إدارة جهاز شئون البيئة ؛

و بناء علي ما أرتاه مجلس الدولة ؛

قرر:

(المادة الأولى)

يعمل بأحكام اللائحة التنفيذية لقانون البيئة الصادر بالقانون رقم 4 لسنة 1994 المرفقة

(المادة الثانية)

مع عدم الإخلال بأحكام المادة الأولى من القانون رقم 4 لسنة 1994 المشار إليه، علي المنشآت التي ترغب في مد المهلة المقررة لتوفيق أوضاعها أن تتقدم بطلبها إلي جهاز شئون البيئة قبل ستة أشهر سابقة علي نهاية مدة الثلاث سنوات المنصوص عليها في المادة المذكورة ، علي أن يشتمل الطلب علي مبررات المد و ما اتخذ من إجراءات لتطبيق أحكام اللائحة المرفقة

و علي جهاز شئون البيئة أن يتحقق من صحة البيانات المقدمة ، و مدي جدية المنشأة في تطبيق أحكام هذه اللائحة ، و أن يرفع بذلك تقريراً مفصلاً و مدعماً بالمستندات إلي الوزير المختص بشئون البيئة لعرضه علي مجلس الوزراء.

و يجوز لجهاز شئون البيئة أن يستعين عند إعدادهِ للتقرير الخاص بالمد بخبراء ينتدبهم لهذا الغرض ، و يتحمل طالب المد في هذه الحالة بالتكاليف التي يقدرها الجهاز لهؤلاء الخبراء.

(المادة الثالثة)

ينشر هذا القرار في الوقائع المصرية ، و يعمل به اعتباراً من اليوم التالي لتاريخ نشره.

صدر برئاسة مجلس الوزراء في 18 رمضان سنة 1415 هـ

الموافق 18 فبراير سنة 1995 م

رئيس مجلس الوزراء

دكتور / عاطف صدقي

اللائحة التنفيذية لقانون البيئة

باب تمهيدي

الفصل الأول أحكام عامة

(مادة 1)

في تطبيق أحكام هذه اللائحة يقصد بالألفاظ و العبارات الآتية المعاني المبينة قرين كل منهما:

ا - المواد الملوثة للبيئة المائية:

أية مواد يترتب علي تصريفها في البيئة المائية بطريقة إرادية أو غير إرادية تغيير في خصائصها أو الإسهام في ذلك بطريقة مباشرة أو غير مباشرة علي نحو يضر بالإنسان أو بالموارد الطبيعية أو بالمياه البحرية أو يضر بالمناطق السياحية أو تتداخل مع الإستخدامات الأخرى المشروعة للبحر و يندرج تحت هذه المواد:

(أ) الزيت أو المزيج الزيتي.

(ب) المخلفات الضارة أو الخطرة المنصوص عليها في الإتفاقيات الدولية التي ترتبط بها جمهورية مصر العربية.

(ج) أية مواد أخرى (صلبة - سائلة - غازية) يصدر بها قرار من الوزير المختص بشئون البيئة.

(د) النفايات أو السوائل غير المعالجة المتخلفة من المنشآت الصناعية.

(هـ) العبوات الحربية السامة.

(و) ما هو منصوص عليه في الاتفاقية و ملاحقها.

2- التصريف:

كل تسرب أو انصباب أو انبعاث أو تفريغ لأي نوع من المواد الملوثة أو التخلص منها في مياه البحر الإقليمي أو المنطقة الاقتصادية الخالصة أو البحر أو نهر النيل و المجاري المائية مع مراعاة المستويات المحددة لبعض المواد وفقا لما هو مبين في الملحق رقم (1) لهذه اللائحة.

3- التعويض:

يقصد به التعويض عن الأضرار الناجمة عن حوادث التلوث المترتب علي تطبيق الأحكام الواردة في القانون المدني و الأحكام الموضوعية الواردة في الاتفاقية الدولية للمسئولية المدنية المنضمة إليها جمهورية مصر العربية أو التي تنضم إليها مستقبلا بما في ذلك الاتفاقية الدولية للمسئولية المدنية عن الأضرار الناجمة عن حوادث التلوث بالزيت الموقعة في بر وكسل عام 1969 ، أو حوادث التلوث بالمواد السامة و غيرها من المواد الضارة أو تلك الناجمة عن السفن التي تعمل بالطاقة النووية أو تلك الناتجة عن التلوث من الجو و كذا ما يترتب من تلوث نتيجة التصادم و الجنوح للسفينة أو ما يحدث أثناء الشحن و التفريغ.

4- خط الشاطئ:

هو أقصى حد تصل إليه مياه البحر علي اليابسة أثناء أعلي مد يحدث خلال فترة لا تقل عن أحد عشر عاما.

5- البحر الإقليمي:

هو المساحات من البحر التي تلي شواطئ جمهورية مصر العربية و تمتد في اتجاه البحر لمسافة 12 ميل بحري
مقاسة من خط الأساس الذي يقاس منه عرض البحر الإقليمي طبقاً لأحكام اتفاقية الأمم المتحدة لقانون البحر لعام
1982

– 6 المنطقة الاقتصادية الخالصة:

هي المنطقة البحرية الممتدة فيما وراء البحر الإقليمي بمسافة مائتي ميل بحري مقاسة بخطوط الأساس.

– 7 البحر:

هو المساحات البحرية التي تقع وراء المنطقة الاقتصادية الخالصة.

– 8 المنطق البحرية الخالصة:

و تشمل منطقتي البحرين المتوسط و الأحمر طبقاً للحدود الجغرافية و الطبيعية الواردة في القاعدة رقم (10) من
الملحق رقم (1) من اتفاقية (مار بول) لعام 1973 – 1978.

الفصل الثاني جهاز شئون البيئة

(مادة 2)

يحل جهاز شئون البيئة المنشأ بقرار رئيس الجمهورية رقم 631 لسنة 1982 فيما له من حقوق و ما عليه من
التزامات ، و ينقل العاملون بهذا الجهاز بدرجاتهم و أقدمياتهم إلي جهاز شئون البيئة ، و يتم تسكينهم بحالتهم في
القطاعات التنظيمية المكونة للجهاز و ذلك بقرار من الرئيس التنفيذي للجهاز.

(مادة 3)

يشكل مجلس إدارة جهاز شئون البيئة بقرار من رئيس مجلس الوزراء برئاسة الوزير المختص بشئون البيئة و
عضوية كل من:

- * الرئيس التنفيذي لجهاز شئون البيئة ، و يكون نائباً لرئيس مجلس الإدارة .
- * ممثل من الدرجة العالية علي الأقل يختاره الوزير المختص من كل ست وزارات هي وزارة الزراعة و الثروة
الحيوانية و السمكية و استصلاح الأراضي – وزارة الأشغال العامة و الموارد المائية – وزارة النقل و المواصلات –
وزارة الصناعة – وزارة الداخلية – وزارة الصحة .
- * اثنين من الخبراء في مجال شئون البيئة يختارهما الوزير المختص بشئون البيئة بناء علي عرض من الرئيس
التنفيذي للجهاز .
- * ثلاثة من المنظمات غير الحكومية المعنية بشئون البيئة يختارون من بين مرشحي تلك المنظمات لتمثيلها في
المجلس بالاتفاق مع الوزير المختص بشئون البيئة .
- * أحد العاملين بجهاز شئون البيئة من شاغلي الوظائف العليا و يختاره الوزير المختص بشئون البيئة بناء علي
عرض الرئيس التنفيذي للجهاز .
- * رئيس إدارة الفتوى المختصة بمجلس الدولة .
- * ثلاثة من ممثلي قطاع الأعمال العام يختارهم الوزير المختص بشئون البيئة بناء علي ترشيح من الرئيس
التنفيذي لجهاز شئون البيئة من بين مرشحي تلك الجهات .

* اثنين من الجامعات و مراكز البحوث العلمية يختارهما الوزير المختص بشئون البيئة من بين مرشحي تلك الجهات .

و يتعين دعوة ممثلي الوزارات المعنية عند مناقشة موضوعات ترتبط بالقطاعات التي يشرفون عليها.

كما يجوز للمجلس أن يستعين بمن يراه من ذوي الخبرة لدي بحث مسائل معينة دون أن يكون لأي منهم صوت معدود في المداولات ، و يجوز لمجلس الإدارة تشكيل لجان استشارية من الخبرات المتخصصة لدراسة موضوعات معينة ، كما يجوز للمجلس أن يعهد إلي واحد من أعضائه أو أكثر بمهمة محددة.

و يتولى أمانة المجلس أمين عام الجهاز و لا يكون له صوت معدود في المداولات ما لم يكن قد تم اختياره لعضوية المجلس و يعاد تشكيل المجلس كل ثلاث سنوات.

(مادة 4)

مجلس إدارة الجهاز هو السلطة العليا المهيمنة علي شئون الجهاز و تصريف أموره و وضع السياسة العامة التي يسير عليها ، وله أن يتخذ من القرارات ما يراه لازما لتحقيق الأهداف التي أنشئء من أجلها و في إطار الخطة القومية ، وله علي الأخص ما يأتي:

الموافقة علي الخطط القومية لحماية البيئة.

الموافقة علي خطة الطوارئ البيئية ضد الكوارث.

إعداد مشروعات القوانين المتعلقة بالبيئة.

الموافقة علي المشروعات التجريبية التي يضطلع بها الجهاز.

الموافقة علي سياسة التدريب البيئي و خطته.

الموافقة علي المعدلات و النسب اللازمة لضمان عدم تلوث البيئة.

الموافقة علي أسس و إجراءات تقييم التأثير البيئي للمشروعات.

الإشراف علي صندوق حماية و تنمية البيئة.

الموافقة علي الهيكل التنظيمي للجهاز و فروعهِ بالمحافظات.

الموافقة علي اللوائح الداخلية و لوائح العاملين فيه.

الموافقة علي مشروع الموازنة السنوية الخاصة بالجهاز.

النظر في كل ما يري مجلس الإدارة عرضه من مسائل تدخل في اختصاص الجهاز.

تحديد ما يعرض من قراراته علي مجلس الوزراء لاتخاذ قرار في شأنها و في جميع الأحوال علي المجلس أن يضمن قراراته و بوجه خاص تلك التي يري عرضها علي مجلس الوزراء دراسة عن تكاليف التنفيذ و النتائج المنتظر تحقيقها.

(مادة 5)

يكون الرئيس التنفيذي لجهاز شئون البيئة مسئولاً عن تنفيذ السياسة العامة الموضوعه لتحقيق أغراض الجهاز و قرارات مجلس الإدارة ، و يختص بالآتي:

مباشرة اختصاصات الوزير المنصوص عليها في القوانين و اللوائح بالنسبة للعاملين بالجهاز.

مباشرة اختصاصات الوزير المنصوص عليها في سائر القوانين و اللوائح ذات الصلة بإدارة شئون الجهاز و تصريف أموره الفنية و المالية و الإدارية و تحقيق أغراضه.

مباشرة اختصاصات الوزير في مجال تطبيق أحكام القانون رقم 9 لسنة 1983 بإصدار قانون المناقصات و المزايدات و لائحته التنفيذية.

تطوير نظم العمل بالجهاز و تدعيم أجهزته و إصدار القرارات اللازمة لذلك.

الحصول علي البيانات و المعلومات و التي تتصل بأغراض الجهاز من مختلف الجهات المعنية حكومية و غير حكومية بالداخل أو الخارج 0 العمل علي تطبيق أحكام قانون البيئة المشار إليه و هذه **اللائحة** ، بالاتفاق و التنسيق و التعاون مع الجهات الأخرى المعنية بذلك قانوناً.

(مادة 6)

يكون للجهاز هيكل وظيفي يصدر بقرارات من الرئيس التنفيذي للجهاز بعد موافقة مجلس الإدارة و بالاتفاق مع الجهاز المركزي للتنظيم و الإدارة و وزارة المالية 0

الفصل الثالث صندوق حماية البيئة

(مادة 7)

ينشأ بجهاز البيئة صندوق خاص يسمى (صندوق حماية البيئة) تتول غليه:

(أ) المبالغ التي تخصصها الدولة في موازنتها لدعم الصندوق.

(ب) الإعانات و الهبات المقدمة من الهيئات الوطنية و الأجنبية لأغراض حماية البيئة و تنميتها و التي يقبلها مجلس إدارة الجهاز.

(ج) الغرامات التي يحكم بها و التعويضات التي يحكم بها أو يتفق عليها عن الأضرار التي تصيب البيئة 0 (د) موارد صندوق المحميات المنصوص عليها في القانون رقم 102 لسنة 1983 0 (هـ) ما يخص جهاز شئون البيئة من نسبة الـ 25 % من حصيلة الرسوم المقررة علي تذاكر السفر التي تصدر في مصر بالعملة المصرية طبقاً للمادة الأولى من القانون رقم (5) لسنة 1986 و قرار رئيس مجلس الوزراء رقم 697 لسنة 1986 و بحد أدني 12.5 من إجمالي حصيلة الرسوم المشار إليها 0 (و) عائد المشروعات التجريبية التي يقوم بها الجهاز 0 (ز) مقابل ما يؤديه الجهاز من خدمات للغير بأجر 0 (ح) رسوم التراخيص التي يصدرها الجهاز 0 و تودع في الصندوق علي سبيل الأمانة المبالغ التي تحصل بصفة مؤقتة تحت حساب الغرامات و التعويضات عن الضرر التي تصيب البيئة 0 و تكون للصندوق موازنة خاصة ، و تبدأ السنة المالية للدولة و تنتهي بانتهائها ، و يرسل فائض الصندوق من سنة إلي أخرى ، و تعتبر أموال الصندوق أموالاً عامة 0

(مادة 8)

تخصص موارد الصندوق للصرف منها في تحقيق أغراضه ، و بصفة خاصة:

مواجهة الكوارث البيئية 0 المشروعات التجريبية و الرائدة في مجال حماية الثروات الطبيعية و حماية البيئة من التلوث 0 نقل التقنيات ذات التكلفة المنخفضة و التي ثبت تطبيقها بنجاح 0 تمويل تصنيع نماذج المعدات و الأجهزة و المحطات التي تعالج ملوثات البيئة 0 إنشاء و تشغيل شبكات الرصد البيئي 0 إنشاء و إدارة المحميات الطبيعية بهدف المحافظة علي الثروات و الموارد الطبيعية 0 مواجهة التلوث غير معلوم المصدر 0 تمويل الدراسات اللازمة لإعداد البرامج البيئية و تقييم التأثير البيئي و وضع المعدلات و المعايير المطلوب الالتزام بها للمحافظة علي البيئة 0 المشاركة في تمويل مشروعات حماية البيئة التي تقوم بها أجهزة الإدارة المحلية و الجمعيات الأهلية و يتوافر لها جزء من التمويل من خلال المشاركة الشعبية 0 مشروعات مكافحة التلوث 0 صرف المكافآت عن الإنجازات المتميزة

عن الجهود التي تبذل في مجال حماية البيئة 0 دعم البنية الأساسية للجهاز و تطوير أنشطته 0 الأغراض الأخرى التي تهدف إلي حماية أو تنمية البيئة و التي يوافق عليها مجلس إدارة الجهاز 0

الفصل الرابع الحوافز (مادة 9)

يضع جهاز شئون البيئة بالاشتراك مع وزارة المالية خلال ستة أشهر من تاريخ العمل بهذه اللائحة نظاما للحوافز التي يمكن أن يقدمها الجهاز و الجهات الإدارية المختصة للهيئات و المنشآت و الأفراد و غيرها الذين يقومون بأعمال أو مشروعات من أنها حماية البيئة علي أن يراعي عند وضع هذا النظام المزايا و الأوضاع المنصوص عليها في القوانين و القرارات السارية ، و علي الأخص تلك المتعلقة بالاستثمار و الجمارك و الصناعة و التعاونيات و غيرها 0

الباب الأول حماية البيئة الأرضية من التلوث الفصل الأول التنمية و البيئة (مادة 10)

تتولى الجهة الإدارية المختصة أو الجهة المانحة للترخيص تقييم التأثير البيئي للمنشأة المطلوب الترخيص لها وفقا للعناصر و التصميمات و المواصفات و الأسس التي يصدرها جهاز شئون البيئة بالاتفاق مع الجهة الإدارية المختصة ، و علي جهاز شئون البيئة مراجعة ذلك كلما لزم الأمر 0

(مادة 11)

تسري أحكام المادة (10) من هذه اللائحة علي المنشآت المبينة في الملحق رقم (2) لهذه اللائحة 0

(مادة 12)

يلتزم طالب الترخيص بأن يرفق بطلبه بيانا مستوفيا عن المنشأة شاملا البيانات التي يتضمنها النموذج الذي يعده جهاز شئون البيئة بالاتفاق مع الجهة الإدارية المختصة ، و يعد جهاز شئون سجلا يتضمن صور هذه النماذج و نتائج التقييم و طلبات الجهاز من صاحب المنشأة 0

(مادة 13)

لجهاز شئون البيئة أن يستعين بأي من المتخصصين الذين تصدر بهم قائمة من الجهاز طبقا للمعايير التي يضعها مجلس إدارة الجهاز ، وذلك لإبداء الرأي في تقييم التأثير البيئي للمنشأة المزمع إقامتها و كذلك المطلوب الترخيص لها 0

(مادة 14)

تقوم الجهة الإدارية المختصة بإبلاغ صاحب المنشأة بنتيجة التقييم بخطاب مسجل بعلم الوصول ، و يجوز له الاعتراض كتابة علي هذه النتيجة خلال ثلاثين يوما من تاريخ إبلاغه أمام اللجنة الدائمة للمراجعة و التي يصدر بتشكيلها قرار من الوزير المختص بشئون البيئة برئاسة مستشار من مجلس الدولة و عضوية :

مندوب عن جهاز شئون البيئة يرشحه الرئيس التنفيذي للجهاز 0 صاحب المنشأة أو من ينوب عنه بتوكيل رسمي 0 ممثل عن الجهة المختصة أو الجهة المانحة للترخيص إن لم تكن هي الجهة المختصة 0 ثلاثة من الخبراء يتم اختيارهم لعضوية اللجنة بناء علي ترشيح الرئيس التنفيذي للجهاز لمدة ثلاث سنوات 0

و للجنة أن تشكل من بين أعضائها و من غيره لجانا فرعية لدراسة ما يحال إليها من اعتراضات و رفع تقريرها للجنة ، كما لها أن تستعين بمن تراه عند مباشرتها لمهامها و علي اللجنة أن تصدر قرارها خلال ستين يوما من تاريخ وصول أوراق الاعتراض مستوفاة إليها 0

(مادة 15)

تختص اللجنة الدائمة للمراجعة و المنصوص عليها في المادة (14) من هذه اللائحة بنظر ما يقدم أو يحال إليها من اعتراضات علي نتيجة التقييم أو علي ما يطلب تنفيذه من اقتراحات يراها جهاز شئون البيئة و تقرير رأيها في

هذه الاعتراضات بالنسبة للضوابط المنصوص عليها في المادة (10) من هذه اللائحة ، و يقدم الاعتراض لجهاز شئون البيئة كتابة مستوفيا أسباب الاعتراض و ما يستند إليه مالك المشروع من أسانيد قانونية و علمية ، و أن يرفق باعتراضه ما يراه من مستندات تؤيد أوجه اعتراضه 0

(مادة 16)

تجتمع اللجنة بدعوة من الرئيس التنفيذي لجهاز شئون البيئة خلال خمسة عشر يوما من تاريخ ورود الاعتراض كتابة للجهاز ، و يتولى مندوب من الجهاز ينتدبه الرئيس التنفيذي تحرير محاضر الاجتماع ، و لا يكون له رأي معدود فيما يثار من مناقشات ، و يصدر قرار اللجنة بأغلبية الأصوات ، و يوقع المحضر من جميع الأعضاء الحاضرين 0

(مادة 17)

علي صاحب المنشأة طبقا لأحكام هذه اللائحة الاحتفاظ بسجل لبيان تأثير نشاط المنشأة علي البيئة تدون فيه البيانات التالية :

الانبعاثات الصادرة عنها أو التي تصرف منها 0 مواصفات المخرجات بعد عملية المعالجة و كفاءة وحدات المعالجة المستخدمة 0 إجراءات المتابعة و الأمان البيئي المطبقة في المنشأة 0 الاختبارات و القياسات الدورية و نتائجها 0 المسنول المكلف بالمتابعة 0

و يعد السجل وفق النموذج المبين في الملحق رقم (3) لهذه اللائحة 0 و يلتزم صاحب المنشأة أو مندوبه بأن يخطر بصورة فورية جهاز شئون البيئة بخطاب مسجل بعلم الوصول بأي حيود في معايير و مواصفات الملوثات أو المنصرفة و الإجراءات التي اتخذت للتصويب 0

(مادة 18)

يختص جهاز شئون البيئة بمتابعة بيانات السجل للتأكد من مطابقتها للواقع و اخذ العينات اللازمة و إجراء الاختبارات المناسبة لبيان تأثير نشاط المنشأة علي البيئة و تحديد مدي التزامها بالمعايير الموضوعه لحماية البيئة 0 و تتم تلك المتابعة دوريا كل سنة ، و يرفع عن كل منهما تقرير يودع بالقطاع المختص بالجهاز موقعا عليه من المسنول عن المعاينة و الاختبار و تاريخ المعاينة و الاختبار 0 فإذا ما تبين وجود أية مخالفات يقوم الجهاز بإخطار الجهة الإدارية المختصة لتكليف صاحب المنشأة بخطاب مسجل بعلم الوصول بتصحيح تلك المخالفات علي وجه السرعة بحسب ما تقتضيه أصول الصناعة ، فإذا لم يقم بذلك خلال ستين يوما يكون للرئيس التنفيذي بالتنسيق مع الجهة الإدارية المختصة اتخاذ الإجراءات التالية:

غلق المنشأة 0

وقف النشاط المخالف

المطالبة القضائية بالتعويضات المناسبة لمعالجة الأضرار الناشئة عن المخالفة 0

و تلتزم تلك المنشآت بالاحتفاظ بالسجلات مستوفاة وفق النموذج المنصوص عليه في المادة (17) من هذه اللائحة بصفة دائمة ، و عند تجديد بياناته تلتزم المنشأة بالاحتفاظ به لمدة عشر سنوات تحسب من تاريخ توقيع مندوب جهاز شئون البيئة علي السجل بالمعاينة 0 (مادة 19)

تخضع التوسعات أو التجديدات في المنشأة القائمة لذات الحكام المنصوص عليها في المواد (19) و (20) و (21) و (22) من قانون البيئة المشار إليه 0

يعتبر من قبيل التوسعات أو التجديدات تغيير النمط الإنتاجي لآلات التشغيل أو زيادة أعداد العاملين بصورة تفوق القدرة الاستيعابية لمكان العمل أو أية تعديلات جوهريه في مبني المنشأة و بوجه خاص تلك المتصلة بنظام التهوية أو تغيير موقع العمل أو غير ذلك مما قد يترتب عليه تأثير ضار علي البيئة أو علي العاملين في المنشأة 0

(مادة 20)

تكون شبكات الرصد البيئي الموجودة حالياً بما تضمه من محطات وحدات عمل تابعة لجهاتها المختصة من الناحية الإدارية ، و تقوم في مجال اختصاصها برصد مكونات و ملوثات البيئة دورياً وإتاحة البيانات للجهات المعنية ، و لها في سبيل ذلك الاستعانة بمراكز البحوث و الهيئات و الجهات المختصة ، و علي هذه المراكز و الهيئات و الجهات تزويدها بما تطلبه من دراسات و بيانات 0

و يشرف جهاز شئون البيئة علي إنشاء و تشغيل شبكات الرصد البيئي تمهيدا لإقامة برنامج قومي للأرصاد البيئية 0

(مادة 21)

يضع جهاز شئون البيئة بالتعاون مع الوزارات و المحافظات و الهيئات العامة و غيرها من الجهات المعنية خطة للطوارئ لمواجهة الكوارث البيئية ، و تعتمد الخطة من مجلس الوزراء ، و تستند خطة الطوارئ بوجه خاص إلي العناصر المبينة في المراحل التالية:

(1) مرحلة ما قبل وقوع الكارثة :

تحديد أنواع الكوارث البيئية و المناطق الأكثر تأثراً و معرفة التأثير المتوقع لكل نوع منها 0 جمع المعلومات المتوفرة محلياً و دولياً عن كيفية مواجهة الكوارث البيئية و سبل التخفيف من الأضرار التي تنتج عنها 0 حصر الإمكانيات المتوفرة علي المستوي المحلي و القومي و الدولي و تحديد كيفية الاستعانة بها بطريقة تكفل سرعة مواجهة الكارثة 0 تحديد الجهات المسنولة عن الإبلاغ عن الكارثة أو توقع حدوثها 0 وضع الإجراءات المناسبة لكل نوع من أنواع الكوارث 0 إنشاء غرفة عمليات مركزية لتلقي البلاغات عن الكارثة البيئية و متابعة استقبال و إرسال المعلومات الدقيقة عنها بهدف حشد الإمكانيات اللازمة لمواجهتها 0 الإشراف و التدريب و المتابعة لمواجهة الكوارث علي كافة المستويات 0 تيسير نظام و أساليب تبادل المعلومات بين الجهات المختلفة فيما يخص الكوارث مع ضمان التحقق من كفاءته 0 تحديد أسلوب تبادل و طلب المعاونة بين مختلف الجهات عند إدارة الأزمة مع إنشاء قواعد البيانات المناسبة 0

(ب) مرحلة اجتياح الكارثة:

تكوين مجموعة عمل لمتابعة مواجهة الكارثة البيئية عند وقوعها 0 تنفيذ الخطط الموضوعه للتنسيق و التعاون علي المستوي المحلي و الإقليمي و المركزي لضمان استمرارية تدفق الإمداد بالمعدات أو التجهيزات لموقع الكارثة 0 تحقيق الاستخدام المثل للإمكانيات الفعلية المتوافرة في مختلف الجهات في التعامل مع الكارثة 0 تحديد مطالب كل جهة من الجهات الأخرى علي ضوء تطورات الكارثة 0 تحديد أسلوب إعلام المواطنين عن الكارثة و تطوراتها و سبل التعامل مع آثارها 0 (ج) مرحلة إزالة آثار الكارثة : تحديد أسلوب مشاركة مختلف الجهات في إزالة آثار الكارثة 0 تطوير الخطط بهدف تحسين الأداء 0 رفع مستوي الوعي العام بأسلوب التعامل مع الكوارث 0 (د) مرحلة التسجيل لنتائج الكارثة و الدروس المستفادة : تسجيل الآثار الاقتصادية و الاجتماعية التي ترتبت علي حدوث الكارثة 0 تسجيل الدروس المستفادة من التعامل مع كل كارثة 0 المقترحات لتفادي اوجه النقص و القصور التي ظهرت أثناء المواجهة 0 (مادة 22)

تتولى غرفة العمليات المشار إليها في المادة (21) من هذه **اللائحة** تشكيل مجموعة عمل لمواجهة الكارثة البيئية عند وقوعها أو توقع حدوثها تضم في عضويتها ممثلي الجهات المعنية ، و يكون لرئيس مجموعة العمل جميع السلطات اللازمة لمواجهة الكارثة البيئية بالتعاون مع الأجهزة المختصة 0

(مادة 23)

يحظر بأية طريقة صيد أو قتل أو إمساك الطيور و الحيوانات البرية المنصوص عليها في الملحق (4) لهذه **اللائحة** ، و يحظر حيازة هذه الطيور و الحيوانات و نقلها أو التجول بها أو بيعها أو عرضها للبيع حياً أو ميتة 0 كما يحظر إتلاف أوكار الطيور المذكورة أو إعدام بيضها 0 و يسري حكم هذه المادة علي مناطق المحميات الطبيعية و كذلك مناطق تواجد الحيوانات و الطيور المهدهة بالانقراض و التي يصدر بها قرار من وزير الزراعة أو المحافظين بالتنسيق مع جهاز شئون البيئة 0

(مادة 24)

لا يجوز الترخيص بصيد الطيور و الحيوانات البرية المنصوص عليها في الملحق (4) لهذه اللائحة إلا لأغراض البحث العلمي أو القضاء علي و بقاء منتشر و غيرها من الأغراض التي يوافق عليها جهاز شئون البيئة ، و يقدم طلب الترخيص كتابة لوزارة الداخلية مبينا فيه نوع الطيور و الحيوانات البرية المطلوب صيدها و الأعداد المطلوب صيدها و الغرض منه و فترة الصيد و الفرد أو الأفراد المطلوب الترخيص لهم و طريقة الصيد و أدواته ، و علي وزارة الداخلية أن تحيل هذا الطلب لجهاز شئون البيئة للتحقق من جدية و أهمية هذا الطلب 0

الفصل الثاني المواد و النفايات الخطرة (مادة 25)

يحظر تداول المواد و النفايات الخطرة بغير ترخيص يصدر من الجهة المختصة بالمبينة قرين كل نوعية من تلك المواد و النفايات و استخدامها و ذلك علي الوجه التالي:

المواد و النفايات الخطرة الزراعية و منها مبيدات الآفات و المخصبات – وزارة الزراعة 0

المواد و النفايات الخطرة الصناعية – وزارة الصناعة 0

المواد و النفايات الخطرة للمستشفيات و الدوائية و المعملية و المبيدات الحشرية المنزلية و وزارة الصحة 0

المواد و النفايات الخطرة البترولية - وزارة البترول 0

المواد و النفايات الخطرة التي يصدر عنها إشعاعات مؤينة - وزارة الكهرباء ء - هيئة الطاقة الذرية 0

المواد و النفايات الخطرة القابلة للانفجار و الاشتعال - وزارة الداخلية 0

المواد و النفايات الخطرة الأخرى يصدر بتحديد الجهة المختصة بإصدار الترخيص بتداولها قرار من الوزير المختص بشئون البيئة بناء علي عرض الرئيس التنفيذي لجهاز شئون البيئة 0

و يصدر كل وزير للوزارات المبينة في هذه المادة كل في نطاق اختصاصه بالتنسيق مع وزير الصحة و جهاز شئون البيئة جدولاً بالمواد و النفايات الخطرة يحدد فيه:

(أ) نوعية المواد و النفايات الخطرة التي تدخل في نطاق اختصاص وزارته و درجة خطورة كل منها 0

(ب) الضوابط الواجب مراعاتها عند تداول كل منها 0

(ج) أسلوب التخلص من العبوات الفارغة لتلك المواد بعد تداولها 0

(د) أية ضوابط أو شروط أخرى تري الوزارة أهمية إضافتها 0

(مادة 26)

علي طالب الترخيص التقدم بطلبه كتابة إلي الجهة المختصة المنصوص عليها في المادة (25) من هذه اللائحة و ذلك وفقا للإجراءات و الشروط الآتية:

إجراءات منح الترخيص:

يصدر الترخيص بتداول المواد و النفايات الخطرة لمدة خمس سنوات كحد أقصى ، ما لم يحدث ما يستدعي مراجعة الترخيص ، و يجوز للجهة الإدارية المختصة وفقا لما هو منصوص عليه في المادة (40) من هذه اللائحة منح

تراخيص مؤقتة لفترات قصيرة حسب مقتضيات الحاجة 0

تتقدم الجهة أو الفرد الراغب في الحصول علي ترخيص بتداول المواد و النفايات الخطرة بطلب مستوف للبيانات الآتية :

القائم بتداول المواد و النفايات الخطرة 0

اسم المنشأة 0

العنوان و رقم التليفون 0

موقع المنشأة و مساحتها 0

الخرائط الكنتورية لموقع المنشأة 0

مستوي الماء الأرضي 0

معدات الأمان المتوفرة لدي المنشأة 0

معلومات مختصة بالتأمين 0

برنامج رصد البيئة بالمناطق المحيطة بالمنشأة 0

– 2 الجهة المنتجة للمواد و النفايات الخطرة :

(الاسم بالكامل و العنوان و رقم الهاتف و الفاكس) 0

3- توصيف كامل للمواد و النفايات الخطرة المزمع التعامل فيها و طبيعة و تركيز العناصر الخطرة بها 40 - تحديد كمية المواد و النفايات الخطرة المزمع تداولها سنويا و وصف أسلوب تعيبتها (براميل - - صهاريج - سايب) 50 - توصيف الوسائل المزمع استخدامها لتخزين المواد و النفايات الخطرة و فترة التخزين لكل منهما مع تعهد بكتابة بيان واضح علي العبوة للإعلام عن محتواها ومدى خطورته و كيفية التصرف في حالة الطوارئ 0

6- توضيح وسائل النقل المتوخاة (بري - سكك حديدية - بحري - جو - مياه داخلية) و تحديد خطوط سيرها و مواقيتها 0

7- بيان شامل عن الأسلوب المزمع اتباعه في معالجة و تصريف المواد و النفايات الخطرة المطلوب الترخيص بتداولها 80 - تعهد بعدم خلط المواد و النفايات الخطرة مع غيرها من كافة أنواع النفايات الأخرى التي تتولد عن الأنشطة الاجتماعية و الإنتاجية . 9- تعهد بالاحتفاظ بسجلات تتضمن بيانا و افيا بكميات المواد و النفايات الخطرة و نوعياتها و مصادر و معدلات و فترات تجميعها و تخزينها و طريقة نقلها و أسلوب معالجتها ، مع تيسير هذه البيانات عند كل طلب ، و عد إهدار هذه السجلات قبل مرور خمسة أعوام من تاريخ بدء استخدامها . 10- تعهد باتخاذ كافة الإجراءات التي تكفل حسن تعبئة المواد و النفايات الخطرة أثناء مراحل التجميع و النقل و التخزين . 11- وصف تفصيلي لخطة الطوارئ لمجابهة كافة الظروف غير المتوقعة بما يضمن حماية البيئة و الناس . 12- شهادة بسابق الخبرة في مجال تداول المواد و النفايات الخطرة . 13- إقرار بصحة البيانات الواردة في هذه الوثيقة . شروط منح الترخيص : استيفاء كافة البيانات المطلوبة . توافر الكوادر المدربة عن تداول المواد و النفايات الخطرة .

توافر الوسائل و الإمكانات و النظم اللازمة للتداول الآمن لهذه المواد .
توافر متطلبات مواجهة الأخطار التي قد تنتج عن حوادث أثناء التداول .
أن لا ينتج عن النشاط المراد الترخيص له آثار ضارة بالبيئة و بالصحة العامة .

(مادة 27)

يصدر الترخيص بتداول المواد و النفايات الخطرة بمقابل نقدي يصدر بتحديد قرار من الوزير المختص ، ويسرى الترخيص لمدة أقصاها خمس سنوات قابلة للتجديد .

و يجوز للجهة المانحة للترخيص إلغاؤه أو إيقاف النشاط بقرار مسبب في الحالات الآتية : إذا كان الترخيص قد صدر نتيجة لتقديم بيانات غير صحيحة .

إذا خالف المرخص له شروط الترخيص .

إذا نتج عن مزاوله النشاط آثار بيئية لم تكن متوقعة عند إصدار الترخيص .

إذا ظهرت تكنولوجيا متطورة يمكن تطبيقها بتعديلات يسيرة و يودى إلى استخدامها تحسن كبير في حالة البيئة و صحة العاملين .

إذا انتهى رأى جهاز شئون البيئة إلى عدم سلامة تداول أى من تلك المواد و النفايات .

وللجهة المانحة للترخيص أن تطلب من طالب الترخيص استيفاء ما تراه من شروط أخرى تراها ضرورية لتأمين التداول و ذلك بالتنسيق مع جهاز شئون البيئة و وزارة الصحة ، و في جميع الأحوال لا يجوز لطالب تداول المواد و النفايات الخطرة قبل الحصول على الترخيص محررا على النموذج المعد لذلك و الواجب الاحتفاظ به مع القائم بالتداول لتقديمه عند الطلب . (مادة 28)

تخضع إدارة النفايات الخطرة للقواعد و الإجراءات الآتية:

القواعد و الإجراءات العامة لإدارة النفايات الخطرة:

تولد النفايات الخطرة:

تلتزم الجهة التي يتولد بها نفايات خطرة بالآتي :

- (أ) العمل على خفض معدل تولد هذه النفايات كما و نوعا و ذلك بتطوير التكنولوجيا المستخدمة و اتباع التكنولوجيا النظيفة و اختيار بدائل للمنتج أو المواد الأولية أقل ضررا على البيئة و الصحة العامة .
- (ب) توصيف النفايات المتولدة كما و نوعا و تسجيلها .

(ج) إنشاء وتشغيل وحدات لمعالجة النفايات عند المصدر بشرط موافقة جهاز شنون البيئة على أسلوب المعالجة وعلى المواصفات الفنية لهذه الوحدات وبرامج تشغيلها.

وعند تعذر المعالجة أو التخلص من النفايات الخطرة عند مصدر تولدها ، تلتزم الجهة التي يتولد بها هذه النفايات بجمعها ونقلها إلى أماكن التخلص المعالجة لذلك والتي تحددها السلطات المحلية والجهات الإدارية والبيئية والمختصة ، ويسرى على تداول هذه النفايات كافة الشروط والأحكام الخاصة بذلك والواردة في هذه اللائحة.

- 2مرحلة تجميع وتخزين النفايات الخطرة :

- (أ) تحديد أماكن معينة لتخزين النفايات الخطرة ، تتوفر بها شروط الأمان التي تحول دون حدوث أية أضرار عامة أو لمن يتعرض لها من الناس.
- (ب) تخزين النفايات الخطرة في حاويات خاصة مصنوعة من مادة صماء وخالية من الثقوب التي لا تتسرب منه السوائل ومزودة بغطاء محكم وتناسب سعتها كمية النفايات الخطرة تعلم عما تحويه.
- (ج) توضع علامة واضحة على حاويات تخزين النفايات الخطرة تعلم عما تحويه هذه الحاويات تعرف بالأخطار التي قد تنجم عن التعامل معها بطريقة غير سوية .
- (د) يوضع برنامج زمني لتجميع النفايات الخطرة بحيث لا تترك فترة طويلة في حاويات التخزين.
- (هـ) يلزم مولد النفايات الخطرة بتوفير الحاويات السابقة ومراعاة غسلها بعد كل استعمال وعدم وضعها في الأماكن العامة.

-مرحلة نقل النفايات الخطرة:

- (أ) يحظر نقل النفايات الخطرة بغير وسائل النقل التابعة للجهات المرخص لها بإدارة النفايات الخطرة و يجب أن تتوافر في هذه الوسائل الاشتراطات الآتية:
- أن تكون مركبات النقل مجهزة بكافة وسائل الأمان و في حالة جيدة صالحة للعمل 0
- أن تكون سعة مركبات النقل و عدد دوراتها مناسبة لكميات النفايات الخطرة 0
- أن يتولي قيادة هذه المركبات نوعية مدربة من السائقين قادرة علي حسن التصرف خاصة في حالة الطوارئ 0
- أن توضح علي المركبات علامات واضحة تحدد مدي خطورة حمولتها و الأسلوب الأمثل للتصرف في حالة الطوارئ 0

- (ب) تحديد خطوط سير مركبات نقل النفايات الخطرة ، و إخطار سلطات الدفاع المدني فوراً بأي تغيير يطرأ عليها ، بما يسمح لها بالتصرف السريع و السليم في حالة الطوارئ 0
- (ج) حظر مرور مركبات نقل النفايات الخطرة داخل التجمعات السكنية و العمرانية و في منطقة وسط المدينة خلال ساعات النهار 0
- (د) يجب إخطار الجهة المسنولة بعنوان الجراج الذي تأوي إليه مركبات نقل النفايات الخطرة و رقم و تاريخ الترخيص 0
- (هـ) يجب مداومة غسل و تطهير مركبات نقل النفايات الخطرة بعد كل استخدام طبقاً للتعليمات التي تضعها وزارة الصحة بالتنسيق مع الجهة الإدارية المختصة المنصوص عليها في المادة (40) من هذه اللائحة 0

-للتصريح بعبور السفن الناقلة للنفايات الخطرة يلزم مراعاة الآتي:

- (أ) ضرورة الإخطار المسبق و للجهة الإدارية المختصة عدم التصريح في حالة احتمال حدوث أي تلوث للبيئة 0
- (ب) في حالة السماح يجب اتخاذ الاحتياطات اللازمة و المنصوص عليها في الإتفاقية الدولية علي أن يراعي وجود شهادة الضمان المنصوص عليها في القانون رقم 4 لسنة 1994 0

-مرحلة معالجة و تصريف النفايات الخطرة:

- (أ) تختار مواقع مرافق معالجة و تصريف النفايات الخطرة في منطقة تبعد عن التجمعات السكنية و العمرانية بمسافة لا تقل عن ثلاثة كيلو مترات ، و يجب أن تتوفر بها الاشتراطات و المعدات و المنشآت التالية:
- 1 - تناسب مساحة الموقع و كمية النفايات الخطرة بما يحول دون تخزينها لفترات ممتدة 0

- 2 يحاط بسور من الطوب بارتفاع لا يقل عن 2,5 متر 0
- 3 يزود الموقع بأكثر من باب ذي سعة مناسبة تسمح بدخول مركبات نقل النفايات الخطرة بسهولة 0
- 4 يزود الموقع بمصدر مائي مناسب و دورات مياه 0
- 5 يزود الموقع بكافة مستلزمات الوقاية و الأمان التي تنص عليها قوانين العمل و الصحة المهنية و بخط تليفون 0

– يزود الموقع بكافة المعدات الميكانيكية التي تيسر حركة العمل به 0 – يزود الموقع بمخازن مجهزة لحفظ النفايات الخطرة بها لحين معالجتها و تصريفها ، و تختلف هذه التجهيزات باختلاف نوعية النفايات الخطرة التي يستقبلها المرفق 0 – يزود المرفق بمحرقة لترديد بعض أنواع النفايات الخطرة 0 – يزود المرفق بالمعدات و المنشآت اللازمة لفرز و تصنيف بعض لنفايات الخطرة بغية إعادة استخدامها و تدويرها 0 – يزود الموقع بحفرة للردم الصحي بسعة مناسبة لدفن مخلفات الحرق (ب) تجري عملية معالجة النفايات الخطرة القابلة لإعادة الاستخدام و التدوير في الإطار التالي:

- 1 – إعادة استخدام بعض النفايات الخطرة كوقود لتوليد الطاقة
- 2 – استرجاع المذيبات العضوية و إعادة استخدامها في عمليات الاستخلاص 0
- 3 – تدوير و إعادة استخدام بعض المواد العضوية من النفايات الخطرة 0
- 4 – إعادة استخدام المعادن الحديدية و غير الحديدية و مركباتها 0
- 5 – تدوير و إعادة استخدام بعض المواد غير العضوية من النفايات الخطرة 0
- 6 – استرجاع و تدوير الأحماض أو القواعد 0
- 7 – استرجاع المواد المستخدمة لخفض التلوث 0
- 8 – استرجاع بعض مكونات العوامل المساعدة 0
- 9 – استرجاع الزيوت المستعملة و إعادة استخدامها بعد تكريرها ، مع الأخذ في الاعتبار العلاقة بين كل من العائد البيئي و العائد الاقتصادي 0

(ج) تجري عمليات معالجة النفايات الخطرة غير القابلة لإعادة الاستخدام و التدوير في الإطار التالي:

- 1 – حقن النفايات الخطرة القابلة للضح داخل الآبار و القباب الملحية و المستودعات الطبيعية في مناطق تبعد عن التجمعات السكنية و العمرانية 0
- 2 – ردم النفايات الخطرة في حفر ردم خاصة مجهزة و معزولة عن باقي مفردات النظام البيئي 0
- 3 – معالجة النفايات الخطرة إحيائيا باستخدام بعض أنواع الكائنات الحية الدقيقة لتحليلها 0
- 4 – معالجة النفايات الخطرة فيزيائيا أو كيميائيا بالتبخير و التخفيف و التكليس و المعادلة و الترسيب و ما إلى ذلك 0
- 5 – الترميد في محارق خاصة مجهزة بما لا يسمح بانبعاث الغازات و الأبخرة في البيئة المحيطة 0
- 6 – التخزين الدائم (مثل وضع حاويات النفايات الخطرة داخل منجم) 0

(د) اتخاذ كافة الإجراءات التي تكفل الحد و الإقلال من تولد النفايات الخطرة من خلال:

- 1 – تطوير التكنولوجيا النظيفة و تعميم استخدامها 0
- 2 – تطوير نظم مناسبة لإدارة النفايات الخطرة 0
- 3 – التوسع في إعادة استخدام و تدوير النفايات الخطرة بعد معالجتها كلما أمكن ذلك 0

(هـ) وضع برنامج دوري لرصد مختلف مفردات النظم البيئية (الكائنات الحية و الموجودات غير الحية) في مواقع مرافق معالجة و تصريف النفايات الخطرة و ما يحيطها مع سحب الترخيص و وقف العمل بالمرفق عند ظهور أية مؤشرات للإضرار بالنظم البيئية المحيطة بالمرفق 0 (و) تكون الجهات المرخص لها بتداول و إدارة المواد و النفايات الخطرة التي تخضع لأحكام القانون ، بالتعاون مع الوزارات المعنية فيما يصدر عنها من جداول في هذا الشأن 0 (مادة 29)

يحظر إقامة أية منشآت بغرض معالجة النفايات الخطرة إلا بترخيص من المحافظة المختصة بعد أخذ رأي جهاز شئون البيئة و وزارة القوى العاملة و الوزارة المختصة بنوع النفاية وفق ما هو منصوص عليه في المادة (25) من هذه اللائحة و بما يضمن استيفاء المنشأة لكافة الشروط التي تضمن سلامة البيئة و العاملين فيها 0 و يكون التخلص من النفايات الخطرة طبقاً للشروط و المعايير المنصوص عليها في المادة رقم (28) من هذه اللائحة 0

و يحدد وزير الإسكان بعد اخذ رأي وزارتي الصحة و الصناعة و جهاز شئون البيئة أماكن و شروط الترخيص للتخلص من النفايات الخطرة 0

(مادة 30)

يحظر استيراد النفايات الخطرة أو السماح بدخولها أو مرورها في أراضي جمهورية مصر العربية 0 و يحظر بغير ترخيص من الجهة الإدارية المختصة بوزارة النقل البحري أو هيئة قناة السويس كل في حدود اختصاصها السماح بمرور السفن التي تحمل النفايات الخطرة في البحر الإقليمي أو المنطقة الاقتصادية الخالصة لجمهورية مصر العربية ، علي أن يخطر جهاز شئون البيئة 0

(مادة 31)

علي القائمين علي إنتاج أو تداول المواد الخطرة سواء كانت في حالتها الغازية أو السائلة أو الصلبة أن يتخذوا جميع الاحتياطات بما يضمن عدم حدوث أية أضرار بيئية ، و عليهم بوجه خاص مراعاة ما يلي:

- (أ) اختيار الموقع الذي يتم فيه إنتاج أو تخزين هذه المواد طبقاً للشروط اللازمة حسب نوعية و كمية هذه المواد 0
- (ب) أن تكون الأبنية التي يتم داخلها إنتاج أو تخزين تلك المواد مصممة وفق الأصول الهندسية الواجب مراعاتها لكل نوع من نوعيات تلك المواد ، و التي يصدر بها قرار من وزير الإسكان بعد أخذ رأي جهاز شئون البيئة ، و تخضع تلك الأبنية للتفتيش الدوري عن طريق الجهة الإدارية المانحة للترخيص 0 (ج) توفر الشروط اللازمة لوسيلة النقل أو مكان التخزين لتلك المواد بما يضمن عدم الإضرار بالبيئة أو بصحة العاملين أو المواطنين 0 (د) أن تكون التكنولوجيا المستخدمة لإنتاج تلك المواد و كذا التجهيزات و الأجهزة لا يترتب عليها إضرار بالمنشآت أو البيئة أو العاملين 0 (هـ) أن يتوافر بالأبنية نظم و أجهزة الأمان و الإنذار و الوقاية و المكافحة و الإسعافات الأولية بالكميات و الأعداد المناسبة و التي يحددها وزير القوى العاملة بعد أخذ رأي جهاز شئون البيئة و و وزارة الصحة و مصلحة الدفاع المدني بالتنسيق مع الجهة الإدارية المختصة 0 (و) أن تتوفر خطة طوارئ لمواجهة أي حادث متوقع أثناء إنتاج أو تخزين أو نقل أو تداول تلك المواد ، علي أن يتم مراجعة هذه الخطة و التصديق عليها من الجهة المانحة للترخيص بعد اخذ رأي جهاز شئون البيئة و مصلحة الدفاع المدني 0 (ز) أن يخضع العاملون في هذه الجهات للكشف الطبي الدوري ، و أن يتم علاجهم مما يصابون به من أمراض مهنية علي نفقة الجهة العاملين فيها 0 (ح) أن تلتزم الجهات المنتجة لهذه المواد الخطرة بالتأمين علي العاملين لديهم بالمبالغ التي يصدر بها قرار من وزير القوى العاملة بالتنسيق مع وزارة التأمينات و الشئون الاجتماعية بعد أخذ رأي جهاز شئون البيئة و وزارة الصحة ، علي أن يراعي في مبالغ التأمين مدي الخطر الذي تتعرض له كل فئة من العاملين داخل كل وحدة إنتاجية 0 (ط) توعية العاملين بتداول تلك المواد و بمخاطرها و الاحتياجات اللازمة عند تداولها و التأكد من إمامهم بكافة هذه المعلومات و تدريبهم عليها 0 (ي) توعية السكان في المناطق المحيطة بمواقع إنتاج أو تداول المواد الخطرة بالمخاطر المحتملة من هذه المواد و كيفية مواجهتها و التأكد من تعرفهم علي وسائل الإنذار عند وقوع حوادث و ما هو التصرف عند ذلك 0 (ك) تلتزم الجهات المنتجة و المتداولة لهذه المواد الخطرة بتعويض المصابين من المواطنين في الأماكن المحيطة بمواقع الإنتاج أو التخزين عن الإصابات الناتجة عن حوادث هذه الأنشطة أو الإنبعاثات أو التسربات الضارة منها ، و علي القائمين علي إنتاج و تداول المواد الخطرة أن يقدموا تقريراً سنوياً بمدي التزامهم بتنفيذ الاحتياطات الواجبة 0 (مادة 32)

تلتزم الجهات المنتجة أو المستوردة للمواد الخطرة أن تراعي عند إنتاج أو استيراد تلك المواد الاشتراطات التالية:

أولاً- مواصفات العبوة:

- (أ) نوع العبوة التي ستوضع فيها تلك المواد بحيث تتناسب مع نوعية المادة و أن تكون محكمة الغلق و لا يسهل تلفها 0

- (ب) سعة العبوة بحيث يسهل حملها أو نقلها دون التعرض للتلف أو إحداث أضرار 0
(ج) أن تكون العبوة من الداخل من نوع لا يتأثر بالتخزين طوال مدة فاعلية المادة التي تحتويها 0

ثانيا - بيانات العبوة:

- (أ) محتوى العبوة و المادة الفعالة و درجة تركيزها 0
(ب) الوزن القانم و الوزن الصافي 0
(ج) اسم الجهة المنتجة و تاريخ الإنتاج و رقم التشغيل 0
(د) نوع الخطورة و أعراض التسمم 0
(هـ) الإسعافات الأولية الواجب اتخاذها في حالة حدوث الضرر 0
(و) الكيفية السليمة للفتح و التفريغ و الاستخدام 0
(ز) أسلوب التخزين السليم 0
(ح) سبل التخلص من العبوة الفارغة 0
و يجب أن تكتب جميع تلك البيانات باللغة العربية و بأسلوب يسهل علي الشخص المعتاد قراءته و فهمه و أن تكون الكلمات مقروعة و مثبتة علي مكان ظاهر في العبوة و لا يسهل طمسها أو إزالتها أو تعديل محتواها ، و أن يصاحب تلك البيانات صور توضيحية لكيفية الفتح و التفريغ و التخزين و التخلص و الرموز الدولية للخطورة و السمية 0

(مادة 33) علي صاحب المنشأة التي ينتج عن نشاطها مخلفات خطرة طبقا لأحكام هذه اللائحة ، الاحتفاظ بسجل لهذه المخلفات و كيفية التخلص منها و كذلك الجهات المتعاقد معها لتسلم هذه المخلفات و ذلك وفق البيانات الآتية:

- 1 - اسم المنشأة و عنوانها 0
 - 2 - اسم المسئول عن تحرير السجل و وظيفته 0
 - 3 - الفترة الزمنية التي تغطيها البيانات الحالية 0
 - 4- الاشتراطات الخاصة الصادرة من جهاز شئون البيئة للمنشأة 0
 - 5- بيان بأنواع و كميات المخلفات الخطرة الناتجة عن نشاط المنشأة 0
 - 6 - كيفية التخلص 0
 - 7- الجهات المتعاقد معها لتسلم تلك المخلفات الخطرة 0
 - 8 - تاريخ تحرير النموذج 0
 - 9 - توقيع المسئول 0
- و يختص جهاز شئون البيئة بمتابعة بيانات السجل للتأكد من مطابقتها للواقع 0

الباب الثاني حماية البيئة الهوائية من التلوث (مادة 34)

مع مراعاة أحكام المادتين (10) و (11) من هذه اللائحة يشترط أن يكون الموقع الذي يقام عليه المشروع مناسباً لنشاط المنشأة من حيث إتفاقه مع طبيعة تقسيم المنطقة ووفق خطة استخدام الأرض التي تقررها وزارة المجتمعات العمرانية الجديدة وأن تكون جملة التلوث الناتج عن مجموع المنشآت في منطقة واحدة في الحدود المصرح بها والمبينة بالملحق رقم (5) لهذه اللائحة.

وفي جميع الأحوال يشترط أن يؤخذ في الإعتبار عند تقرير مناسبة الموقع مدى بعده عن العمران سواء في منطقة المشروع أو المناطق المحيطة وإتجاه الرياح السائدة . (مادة 35) يخضع لحكم المادة السابقة جميع المنشآت المبينة في الملحق رقم (2) لهذه اللائحة التي يلزم قبل الترخيص لها بمزاولة نشاطها تقييم التأثير البيئي ويصدر الترخيص بملاءمة الموقع من الجهة المختصة بتقييم التأثير البيئي لهذا النشاط بعد الرجوع لجهاز شئون البيئة . (مادة 36) تلتزم المنشآت الخاضعة لأحكام هذا القانون في ممارستها لأنشطتها بعدم إنبعاث أو تسرب ملوثات الهواء بما يجاوز الحدود القصوى المسموح بها في القوانين والقرارات السارية وبما هو مبين في الملحق رقم (6) لهذه اللائحة أو أى تغير في خصائص ومواصفات الهواء الطبيعي يترتب عليه خطر على صحة الإنسان والبيئة . (مادة 37) لا يجوز استخدام آلات أو مركبات ينتج عنها عادم تجاوز مكوناته الحدود القصوى التالية : أولا - المركبات الموجودة في الخدمة حاليا : أول أكسيد الكربون : 7% بالحجم عند السرعة الخاملة (600-900 لفة/دقيقة) .

هيدروكربونات غير محترقة : 1000 جزء في المليون عند السرعة الخاملة (600-900 لفة/دقيقة) -
الدخان : 65% درجة عتامة أو ما يعادلها من وحدات أخرى عند أقصى تعجيل . ثانيا - المركبات الحديثة التي يجري
ترخيصها اعتبارا من 1995 : أول أكسيد الكربون : 4.5 % بالحجم عند السرعة الخاملة (600-900 لفة/دقيقة)
هيدروكربونات غير محترقة : 900 جزء في المليون عند السرعة الخاملة (600-900 لفة/دقيقة) . الدخان : 50%
درجة عتامة أن ما يعادلها من وحدات أخرى عند أقصى تعجيل . أن يضمن القرار فترة لا تزيد عن عام لبدء التنفيذ
ليتمكن الملاك والحائزون لتلك الآلات والمحركات والمركبات من توفيق أوضاعها وفقا لحكم هذه المادة . ولجهاز
شئون البيئة بالتنسيق مع وزارات الداخلية والصناعة والصحة والبتترول أن يعيد النظر في الحدود القصوى
المنصوص عليها في هذه المادة بعد ثلاثة أعوام من تاريخ نشر هذه اللائحة) . مادة (38) يحظر إلقاء أو معالجة أو
حرق القمامة والمخلفات الصلبة عدا النفايات المعدية المتخلفة عن الرعاية الطبية في المستشفيات والمراكز الصحية
إلا في الأماكن المخصصة لذلك بعيدا عن المناطق السكنية والصناعية والزراعية والمجاري المائية وذلك وفق
المواصفات والضوابط والحد الأدنى لبعدها عن هذه المناطق والمبينة فيما يلي : 1- يحظر نهائيا حرق المخلفات فيما
عدا النفايات المعدية المشار إليها في الفقرة الأولى من هذه المادة بالمناطق السكنية أو الصناعية ويتم الحرق في
محارق خاصة يراعى فيها ما يلي (أ) أن تكون الرياح السائدة للتجمعات السكنية . (ب) أن تبعد 1500 متر عن
أقرب منطقة سكنية . (ج) أن تكون سعة المحرق أو المحارق المخصصة تكفي لحرق القمامة المنقولة إليها خلال
24 ساعة . (د) أن يكون موقع المحرقة في مكان تتوافر به مساحة كافية لاستقبال القمامة المتوقعة طبقا لطبيعة
النشاطات بالمنطقة الحضرية وتعداد سكانها . 2- في حالات الضرورة القصوى وخلال فترة انتقالية لا تزيد على 3
سنوات إعتبارا من تاريخ نشر هذه اللائحة التنفيذية يسمح بحرق القمامة حرقا مكشوبا وذلك طبقا للشروط الآتية :
(أ) أن يكون هناك تصريح مسبق من جهاز شئون البيئة والدفاع المدني وأن يتم الحرق تحت إشراف أجهزة الإدارة
المحلية والدفاع المدني . (ب) أن يكون مكان حرق القمامة على مسافة لا تقل عن 1.5 كم من التجمعات السكنية
والصناعية وأن تكون تحت الرياح السائدة للمناطق السكنية والصناعية . (ج) تخصص المحليات مكانا لإستقبال
القمامة بعد دراسة متكاملة عن طوبوغرافية المنطقة وطبيعتها وكمية النفايات المراد التخلص منها كل 24 ساعة وأن
يكون المكان : - على مستوى كنتوري منخفض عن المنطقة المحيطة . - أن تكفي المساحة لتشوين القمامة المزمع
نقلها وكذلك العمليات الأخرى التي تجرى بالموقع من فرز ومن عمليات أخرى . - وجود مصدر للمياه لحالات
الطوارئ والإستخدامات الضرورية الأخرى . - توفير المعدات اللازمة للتشوين والتقليب والتخلص من الرماد بدفنه
بحيث لا يتطاير للهواء أو يتسرب للمياه الجوفية . 3- النفايات المعدية المتخلفة عن الرعاية الطبية في المستشفيات
والمراكز الصحية يتم حرقها بنفس المكان بواسطة محارق مصممة لهذا الغرض وبحيث تستوعب الكميات المجمعة
دون تراكم أو تخزين بجوار المحرقة عند الضرورة وبموافقة السلطات المحلية المختصة وجهاز شئون البيئة أن يتم
نقل مخلفات هذه الوحدات إلى أقرب مستشفى مزود بمحرقة أو محارق وذلك بشرط استيعابها للمخلفات المطلوب
نقلها إليها وأن يتم نقل المخلفات في حاويات محكمة لا تسمح بتطاير محتوياتها وعلى أن يتم حرق تلك الحاويات مع
ما بها من مخلفات . 4- في جميع الأحوال يشترط أن تكون المحارق مجهزة بالوسائل التقنية الكافية لمنع تطاير
الرماد أو انبعاث الغازات إلا في الحدود المسموح بها والمنصوص عليها في الملحق رقم (6) لهذه اللائحة - 5 .
تلتزم الوحدات المحلية بالاتفاق مع جهاز شئون البيئة بتخصيص أماكن إلقاء أو معالجة أو حرق القمامة الصلبة طبقا
لأحكام هذه المادة . (39) يلتزم متعهدو جمع القمامة والمخلفات الصلبة بمراعاة نظافة صناديق وسيارات جمع
القمامة وأن يكون شرط نظافتها المستمرة واحدا من الشروط المقررة لأمن ومتانة وسائل نقل القمامة . كما يلزم أن
تكون صناديق جمع القمامة مغطاة بصورة محكمة لا ينبعث عنها روائح كريهة أو أن تكون مصدرا لتكاثر الذباب
وغيره من الحشرات أو بؤرة تجذب الحيوانات الضالة وأن يتم جمع ونقل ما بها من قمامة على فترات مناسبة تتفق
وظروف كل منطقة بشرط ألا تزيد كمية القمامة في أي من تلك الصناديق وفي أي وقت عن سعته . وتقوم الإدارة
المختصة بالمحليات بالرقابة على تنفيذ أحكام هذه المادة . (مادة 40) يحظر رش أو استخدام مبيدات الآفات أو أية
مركبات كيميائية أخرى لأغراض الزراعة أو الصحة العامة أو غير ذلك من الأغراض إلا بعد مراعاة الشروط
والضوابط والضمانات التي تضعها وزارة الصحة ووزارة الصحة وجهاز شئون البيئة وخاصة ما يأتي : (أ) يلزم
عند رش مبيدات الآفات الزراعية بأى وسيلة أن يتم إخطار الوحدات الصحية والوحدات البيطرية بأنواع مواد الرش
ومضادات التسمم . (ب) توفير وسائل الإسعاف اللازمة . (ج) توفير ملابس ومهمات واقية لعمال الرش . (د)
تحذير الأهالي من التواجد بمناطق الرش . (هـ) أن يقوم بالرش عمال مدربون على هذا العمل . (و) مراعاة ألا يتم
الرش بالطائرات إلا في حالات الضرورة القصوى التي يقدرها وزير الزراعة ويلزم في هذه الحالة تحديد المساحات
المطلوب رشها على خرائط وتميز تلك المساحات المجاورة للمناطق السكنية والمناحل والمزارع السمكية ومزارع
الدواجن وحظائر الماشية بما يكفل عدم تعرض الإنسان أو الحيوان أو النبات أو مجارى المياه أو سائر مكونات البيئة

بصورة مباشرة أو غير مباشرة في الحال أو في المستقبل للأثار الضارة لهذه المبيدات أو المركبات الكيماوية .
(مادة 41) تلتزم جميع الجهات والأفراد عند القيام بأعمال التنقيب أو الحفر أو البناء أو الهدم أو نقل ما ينتج عنها من مخلفات أو أثرية باتخاذ الإحتياطات اللازمة للتخزين أو النقل الآمن لها لمنع تطايرها وعلى الجهة المانحة للترخيص بالبناء أو الهدم إثبات ذلك في الترخيص وذلك على النحو المبين فيما يلي : 1- أن يتم التشوين بالموقع بالأسلوب الآمن بعيدا عن إعاقة حركة المرور والمشاة ويراعى تغطية القابل للتطاير منها حتى لا يسبب تلوث الهواء . 2- نقل المخلفات والأترربة الناتجة عن أعمال الحفر والهدم والبناء في حاويات أو أوعية خاصة باستخدام سيارات نقل معدة ومرخصة لهذا الغرض ويشترط فيها:

- * أن تكون السيارة مجهزة بصندوق خاص أو بغطاء محكم يمنع إنتشار الأترربة والمخلفات للهواء أو تساقطها على الطريق.
- * أن تكون السيارة مزودة بمعدات خاصة للتحميل والتفريغ.
- * على أن تكون السيارة في حالة جيدة طبقا لقواعد الأمان والمتانة والأنوار ومجهزة بكافة أجهزة الأمان .

3- أن تخصص الأماكن التي تنقل لها هذه المخلفات بحيث تبعد مسافة لا تقل عن 1.5 كم من المناطق السكنية وأن تكون ذات مستوى كنتوري منخفض وتسويتها بعد ردمها وامتلائها . 4- أن تقوم المحليات بتحديد الأماكن التي تنقل لها المخلفات ولا يصرح بنقل أو التخلص من تلك المخلفات إلا بالأماكن المخصصة لذلك والمرخص بها من قبل المحليات المعنية . (مادة 42) يجب أن تراعى الجهات المختصة حسب طبيعة نشاطها عند حرق أى نوع من أنواع الوقود أو غيرها سواء كان في أغراض الصناعة أو توليد الطاقة أو الإنشاءات أو غرض تجارى أخر أن يكون الدخان والغازات ولأبخرة الضارة الناتجة في الحدود المسموح بها ، وعلى المسنول عن هذا النشاط إتخاذ جميع الإحتياطات لتقليل كمية الملوثات في نواتج الإحتراق المشار إليها وذلك وفق ما هو مبين فيما يلي : الإحتياطات والحدود المسموح بها ومواصفات المداخل عند حرق أى نوع من أنواع الوقود : (أ) الإحتياطات اللازم إتخاذها لتقليل كمية الملوثات في نواتج الإحتراق لمنع أو الإقلال من إنبعاث الملوثات من مصادر حرق الوقود فإنه يجب أن يتم اختيار الوقود المناسب ومراعاة التصميم السليم للمواقف وبيت النار والمداخل واستخدام وسائل التحكم ذات الكفاءة العالية طبقا للمعايير الآتية : 1- يحظر الحرق المكشوف الذى لا يتوافر فيه التصميمات السليمة لضمان الإحتراق الكامل وتصريف العوادم من خلال مداخل طبقا للمواصفات الهندسية المناسبة . 2- أن تيم تصميم الموقد وبيت النار بحيث يحدث مزج كامل لكمية الهواء الكافية للحرق الكامل وتوزيع درجة الحرارة وإعطاء الزمن الكافى والتقليب الذى يضمن الحرق الكامل ضمنا للإقلال من إنبعاث نواتج الحرق غير الكامل وبحيث لا يزيد ما ينبعث من الملوثات عن الحدود القصوى المسموح بها للإنبعاث وفقا لما هو مبين بالملحق رقم (6) لهذه اللائحة - 3 . يحظر استخدام الفحم الحجرى بالمناطق الحضرية وبالقرب من المناطق السكنية . 4- يحظر استخدام المازوت والمنتجات البترولية الثقيلة الأخرى والبتروال الخام بالمناطق السكنية 5- ألا تزيد نسبة الكبريت بالوقود المستعمل بالمناطق الحضرية وبالقرب من المناطق السكنية عن 1.5 % . 6- أن يتم إنبعاث الغازات المحتوية على ثانى أكسيد الكبريت عن طريق مداخل مرتفعة بالقدر الكافى بحيث يتم تخفيفها قبل وصولها إلى سطح الأرض . أو استخدام الوقود المحتوى على نسب مرتفعة من الكبريت بمحطات القوى والصناعة وغيرها بالمناطق البعيدة عن العمران مع مراعاة العوامل الجوية والمسافات الكافية لعدم وصولها للمناطق السكنية والزراعية والمجارية المائية . (ب) إرتفاعات المداخل : 1- المداخل التى يصدر عنها إنبعاث إجمالى للعدم ما بين 15000-7000 كجم بالساعة يتراوح إرتفاعها ما بين 18-36 مترا . 2- المداخل التى يصدر عنها إنبعاث إجمالى أكثر من 15000 كجم/ساعة يجب أن يكون إرتفاع المدخنة أكثر من مرتين ونصف على الأقل من إرتفاع المباني المحيطة بما فيها المبنى الذى تخدمه المدخنة . 3- المداخل التى تخدم الأماكن العامة كالمكاتب والمطاعم والفنادق والأغراض التجارية الأخرى وغيرها يجب ألا يقل إرتفاعها عن 3 متر عن حافة المبنى (أعلى المبنى) مع العمل على إرتفاع سرعة تسريب الغاز من المدخنة . الملوث الحد الأقصى المسموح به الدخان

ثانى أكسيد الكبريت

الداهيدات

أول أكسيد الكربون - 1 (بإستعمال كارت رنجلمان) - 1 رنجلمان - مصادر متواجدة بالمناطق الحضرية أو بالقرب من المناطق السكنية . - 2 رنجلمان - مصادر بعيدة عن العمران - 2 رنجلمان - حرق النفايات قائم 4000 مجم / م 3 جديد 2500 مجم/م3 حرق نفايات 20 مجم/م3

قائم 4000 مجم/م3 جديد 2500 مجم/م3

(1) رنجلمان = 250 مجم / م3 . (2) رنجلمان = 500 مجم / م3 . وعلى الجهة الإدارية المختصة مراعاة الإلتزام بأحكام هذه المادة.

(مادة 43) يتعين على الجهات القائمة بأعمال البحث والإستكشاف والحفر وإستخراج وإنتاج الزيت الخام وتكريره وتصنيعه أن تلتزم بالضوابط والإجراءات المستمدة من أسس ومبادئ صناعة البترول العالمية التي توفرها الجهة الإدارية المختصة وكذلك تلك المبينة فيما يلي : 1- يتعين على الجهات القائمة بأعمال البحث والإستكشاف والحفر وإستخراج وإنتاج الزيت الخام للمنتجات البترولية والبتروكيمياويات والغاز وتصنيعه وتكريره وتخزينه ونقله ، أن تلتزم بالضوابط والإجراءات والإحتياطات اللازمة لحماية البيئة والمستمدة من مبادئ صناعة البترول العالمية والموافق على تطبيقها من الهيئة المصرية العامة للبترول طبقا لطبيعة كل مشروع أو منشأة أو عملية . 2- يجب على القائم بالأعمال في النشاط البترولى أتباع تعليمات الهيئة المصرية العامة للبترول بالمواصفات القياسية العالمية المصرح بها ، في شأن طرق وأساليب التشغيل الآمنة في كل ما يتعلق بتنقية وتخزين البترول والبتروكيمياويات والغاز ونقلها وتصريف المياه والمواد الأخرى المستغنى عنها مع تفادى ضياع البترول أو الغاز ، وكذلك القيام بعمل الإحتياطات اللازمة بما يتعلق بالوقاية من الحريق ووقاية الآلات والآبار ومساكن العالمين ، والمخازن والمنشآت البترولية ، وجميع الوسائل الأخرى التي ترى الهيئة المصرية العامة لزومها لتنظيم وضمان حسن سير العمل والمحافظة على البيئة وعلى السكان المجاورين ، وتتضمن على الأخص ما يأتي : (أ) مراعاة تحديد المسافات الآمنة سواء بين الآبار الإستكشافية أو الإنتاجية وبين محطات التجميع والإنتاج وأية منشأة صناعية أخرى والورش وخطوط الأنابيب الرئيسية أو الفرعية والمساكن والأماكن الدينية والإجتماعية والمقابر . (ب) مراعاة شروط الأبعاد والمسافات عند استخدام المتفجرات سواء في عمليات المسح السيزمي أو عمليات إنشاء خطوط الأنابيب . (ج) تزويد الآبار بالمواد والمعدات والصمامات الضرورية لمنع الانفجارات ومنع تسرب الزيت أو الغاز . (د) تركيب أجهزة الفصل والشعلات اللازمة لإجراءات عمليات إنتاج ونقل وتشغيل وتكرير المواد البترولية والبتروكيمياويات والغاز . (هـ) إتخاذ الإحتياطات اللازمة لمنع تسرب الزيت والغاز الذي يتم إستخراجة في الإختبارات التي تجرى أثناء الحفر وإكمال الآبار والذي لا يمكن جمعه ، وكذلك أى زيت أو غاز أخر ينبغى حرقه إما في حفر مفتوحة أو في الشعلات على أن يراعى الإختيار الأمثل لعدد وحجم فوئيات الحريق والشعلات أو استخدام عملية التذرية أو استخدام الهواء الإضافى أو إمكانية استخدام وقود الديزل لإستكمال حريق الزيت الخام الثقيل . (و) تركيب المداخن والشعلات والهوايات اللازمة لعمليات الإنتاج والتشغيل والتكرير والتخزين اللازمة بمحطات القوى التابعة للمنشأة ، سواء للغازات المنبعثة الباردة أو الساخنة . (ز) وضع الخطط اللازمة وتجهيز المعدات والآلات وتعيين وتدريب الأفراد لمجابهة أى تسرب أو حريق يحدث لرووس الآبار أو خطوط التدفق أو المنشآت البحرية أو المنشآت الصناعية أو صهاريج التخزين أو المخازن أو الورش أو المساكن أو أى منشآت أخرى مماثلة داخل نطاق عمل المنشأة . (ح) بالنسبة لصهاريج التخزين يراعى ما يلي : 1- توفر الحد الأدنى من المسافات إلى حافة الطرق الرئيسية والسكك الحديدية والمستودعات الأخرى والمباني والأماكن المكشوفة للنيران . 2- أن تكون الصهاريج محكمة وتنظم عملية تسرب الأبخرة الزائدة طبقا للمواصفات القياسية العالمية بهذا الشأن . 3- الدهان باللون الأبيض أو أى لون فاتح أخر . 4- إحاطة كل صهريج بأسوار لحصر تسرب الزيت إن وجد ومزودة بمناقذ لتصريف مياه الأمطار ، على أن يكون الحجم المحصور يعادل حجم الصهريج أو طبقا للإشتراطات العالمية المستخدمة في تصميم صهاريج تخزين البتروكيمياويات . (ط) يراعى استخدام الهواء المضغوط في أجهزة القياس والتشغيل بدلا من الغاز الجاف المضغوط كلما أمكن ذلك . 3- أن تكون جميع المهمات والمعدات والآلات المستخدمة في العمليات في حالة جيدة ومستوفية لجميع الشروط اللازمة لحسن إستخدامها وأن تكون بالقدرة الكافية للعمل المخصص من أجله مع إجراء عمليات الصيانة والتفتيش اللازمة لها . 4- يجب التخلص من الغاز المصاحب للزيت الذى لا يمكن إستغلاله أو إستعماله بطريقة مأمونة وطبقا للمواصفات القياسية بهذا الشأن . 5- يجب استعمال وتطبيق الوسائل الميكانيكية والكيميائية لإستخراج أكبر نسبة من فضلات الآبار أو الصهاريج مع إعداد حفر أو خزانات لإستقبال ما يتبقى منها بعد المعالجة في مكان مناسب مأمون بعيدا عن الآبار أو المنشآت البترولية والصناعية المساكن . لا يجوز بأى حال من الأحوال أن تفيض هذه الفضلات على سطح الأرض أو على الطرق العامة أو على المجرى المائية والبحار وشواطئها . (مادة 44) تلتزم جميع الجهات والأفراد عند مباشرة الأنشطة الإنتاجية أو الخدمية أو غيرها وخاصة عند تشغيل الآلات والمعدات وإستخدام آلات التنبيه ومكبرات الصوت بعدم تجاوز الحدود المسموح بها لشدة الصوت داخل أماكن العمل والأماكن العامة المغلقة الموضحة بالجدول رقم (1) من الملحق رقم (7) لهذه اللائحة . وعلى الجهات المانحة للترخيص مراعاة أن يكون مجموع الأصوات المنبعثة من

المصادر الثابتة في منطقة واحدة في نطاق الحدود المسموح بها ، والتأكد من التزام المنشأة باختيار الآلات والمعدات المناسبة لضمان ذلك ، وذلك وفق ما هو مبين بالجدول رقم (2) من الملحق رقم (7) لهذه اللائحة من حيث الحدود المسموح بها لشدة الصوت ومدة الفترة الزمنية للتعرض له) . مادة (45) يلتزم صاحب المنشأة باتخاذ الاحتياطات والتدابير اللازمة التي تضعها وزارة القوى العاملة والتشغيل بما يضمن عدم تسرب أو انبعاث ملوثات الهواء ، داخل مكان العمل إلا في الحدود المبينة في الملحق رقم (8) لهذه اللائحة وذلك سواء كانت ناتجة عن طبيعة ممارسة المنشأة لنشاطها أو عن خلل في الأجهزة ، وأن يوفر سبل الحماية اللازمة للعاملين لتنفيذا لشروط السلامة والصحة المهنية بما في ذلك إختيار الآلات والمعدات والمواد وأنواع الوقود اللازمة على أن يؤخذ في الإعتبار مدة التعرض لهذه الملوثات ، وعليه أن يكفل ضمان التهوية الكافية وتركيب المداخن وغيرها من وسائل تنقية الهواء) . مادة (46) يلتزم صاحب المنشأة باتخاذ الإجراءات اللازمة للمحافظة على درجتى الحرارة والرطوبة داخل مكان العمل بما لا يتجاوز الحد الأقصى والحد الأدنى المسموح بهما ، وفي حالة ضرورة العمل في درجتى حرارة أو رطوبة خارج هذه الحدود يتعين عليه أن يكفل وسائل الوقاية المناسبة للعاملين من ملابس خاصة وغير ذلك من وسائل الحماية ويتضمن الملحق رقم (9) لهذه اللائحة الحد الأقصى والحد الأدنى لكل من درجتى الحرارة والرطوبة ومدة التعرض لهما ووسائل الوقاية منهما.

(مادة 47) يشترط في الأماكن العامة المغلقة وشبه المغلقة أن تكون مستوفية لوسائل التهوية الكافية بما يتناسب مع حجم المكان وقدرته الاستيعابية ونوع النشاط الذى يمارس فيه بما يضمن تجدد الهواء ونقاؤه واحتفاظه بدرجة حرارة مناسبة . ويبين الجدول التالي كميات الهواء اللازمة لتهوية الأماكن العامة : كمية الهواء الخارجى *** نوع المكان والنشاط ديسيمتر مكعب / دقيقة / شخص

140-280 مكان ذو سقف مرتفع ، بنك ، قاعة محاضرات ، مكان عبادة ، محل عام كبير ، مسرح ، غرفة بدون تدخين . 420-280 شقة ، صالون حلاقة ، محل تجميل ، غرفة فندق أو غرفة فيها تدخين قليل . 560-420 كافيتريا ، محل به مطعم صغير ، مكان عمل عام ، غرفة

مستشفى ، مطعم أو غرفة بها تدخين متوسط.

560-850 مكان عمل خاص ، مكتب أو عيادة أو غرفة بها تدخين كثير . 1700-850 قاعة إجتماعات ، ملهى ليلى أو غرفة مكتظة بها تدخين كثير.

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+ - بدون استعمال أجهزة تكييف الهواء .

- لا يقل حجم الفراغ المخصص لكل فرد عن 4.25 متر مكعب . - لا تقل مساحة الأرضية المخصصة لكل فرد عن 1.4 متر مربع . (مادة 48) يلتزم المدير المسنول عن المنشأة باتخاذ الإجراءات الكفيلة بمنع التدخين في الأماكن العامة المغلقة إلا في الحيز المخصص للمدخنين وبعد التدخين وبعد التدخين في غير هذا الحيز مخالفة إدارية تعرض مرتكبها للعقاب التأديبى المعمول به بالمنشأة . (مادة 49) لا يجوز أن يزيد مستوى النشاط الإشعاعى أو تركيزات المواد المشعة بالهواء عن الحدود المسموح بها والتي يصدر بها قرار من زير الكهرباء والطاقة المسنول عن الأمان النووى بعد الرجوع إلى وزارة الصحة وجهاز شئون البيئة وذلك خلال المدة المنصوص عليها في المادة الثانية من القانون رقم 4 لسنة 1994 الباب الثالث حماية البيئة المانية من التلوث الفصل الأول التلوث من السفن الفرع الأول التلوث من الزيت (مادة 50) على مالك السفينة أو ربانها أو أى شخص مسنول عنها وعلى المسنولين عن وسائل نقل الزيت الواقعة داخل الموانى أو البحر الإقليمى أو المنطقة الإقتصادية الخالصة لجمهورية مصر العربية وكذلك الشركات العاملة في استخراج الزيت أن يبادروا إلى إبلاغ الجهات الإدارية المختصة عن كل حادث تسرب للزيت فور حدوثه مع بيان مكان ظروف الحادث ونوع المادة المتسربة وكميتها والإجراءات التي إتخذت لإيقاف التسرب أو الحد منه على أن يتضمن البلاغ البيانات التالية : (1) الإجراءات التي إتخذت لمعالجة التسرب . (2) كمية ونوع المشتتات التي إستعملت . (3) المصدر المحتمل لحدوث التسرب ، وهل حدث حريق أم لا . (4) إتجاه البقعة الزيتية المتكونة . (5) معدل التسرب إذا كان مستمرا . (6) إبعاد البقعة . (7) سرعة وإتجاه الرياح ودرجة حرارة الجو ودرجة الرؤية . إتجاه وسرعة التيار ودرجة حرارة المياه . (9) حالة البحر . (10) حالة المد والجزر غامر - على - متوسط - ضعيف . (11) الأماكن الشاطئية المهدهدة . (12) طبيعة المنطقة ، شعب مرجانية ، كائنات بحرية . (13) المصدر المبلغ - الإسم -

التليفون - العنوان . وفي جميع الأحوال يجب على الجهات الإدارية المختصة إبلاغ جهاز شئون البيئة بكافة المعلومات عن الحادث المشار إليه فور حدوثه لمتابعة الإجراءات التي إتخذت في هذا الشأن وفقاً لمهام الجواز المنصوص عليها في المادة (5) من قانون البيئة . (مادة 51) يجب أن تجهز جميع موانئ الشحن والموانئ المعدة لإستقبال ناقلات الزيت وأحواض إصلاح السفن بالمعدات اللازمة الكافية لإستقبال مياه الإتزان غير النظيفة والمياه المتخلفة عن غسيل الخزانات الخاصة بناقلات الزيت أو غيرها من السفن . ويجب أن تجهز الموانئ بالمواعين والأوعية اللازمة والكافية لإستقبال المخلفات والنفايات والرواسب الزيتية والمزيج الزيتي من السفن الراسية بالميناء . وتتولى الجهة الإدارية المختصة إستقبال أية سفينة أو ناقلة وتوجيهها إلى أماكن التخلص من نفاياتها ومياه الإتزان غير النظيفة . ولا يجوز الترخيص لأية سفينة أو ناقلة بالقيام بأعمال الشحن والتفريغ إلا بعد الرجوع إلى الجهة الإدارية المختصة لإستقبالها وتوجيهها إلى أماكن التخلص من النفايات ومياه الإتزان غير النظيفة . (مادة 52) على كل مالك أو ربان سفينة مسجلة بجمهورية مصر العربية وكذلك سفن الدول التي إنضمت للإتفاقية أن يحتفظ بسجل الزيت بالسفينة يدون فيه المسئول عنها جميع العمليات المتعلقة بالزيت على الوجه المبين بالإتفاقية وعلى الأخص العمليات الآتية : (أ) القيام بعمليات التحميل أو التسليم أو غيرها عن عمليات نقل الحمولة الزيتية مع بيان نوع الزيت . (ب) تصريف الزيت أو المزيج الزيتي من أجل ضمان سلامة السفينة أو حمولتها أو إنقاذ الأرواح مع بيان نوع الزيت . (ج) تسرب الزيت أو المزيج الزيتي نتيجة إصطدام أو حادث مع بيان نسبة الزيت وحجم التسرب . (د) تصريف مياه الإتزان غير النظيفة أو غسيل الخزانات . (هـ) التخلص من النفايات الملوثة . (و) إلقاء مياه السنتينة المحتوية على الزيوت التي تجمعت في حيز الآلات خارج السفينة وذلك أثناء تواجدها بالميناء . ويتم تسجيل عمليات تصريف الزيت أو المزيج الزيتي بالنسبة للمنصات البحرية التي تقام في البيئة المائية في سجل خاص مطابق لسجل الزيت المنصوص عليه في هذه المادة على أن يتضمن هذا السجل البيانات التالية : 1- إسم المنصة وموقعها 2- الترخيص الصادر لها . 3- إسم صاحب المنصة . 4- النشاط الذي تزاوله المنصة . 5- بيان نظم ومعدات وأجهزة ووحدات معالجة الزيت والمزيج الزيتي قبل تصريفها ونظام التحكم فيها ومراقبتها . 6- كمية ونوعية المواد والسوائل المرخص بتصريفها على مدار السنة ومعدلها . 7- الكمية الفعلية للمواد والسوائل التي يتم تصريفها . 8- بيان الأعطال بالنسبة لنظام ومعدات وأجهزة ووحدات معالجة الزيت والمزيج الزيتي موضحاً تاريخ العطل وفترة إستمراره ونتائج التحليل عقب الإصلاح مباشرة . 9- إسم وتوقيع مسئول ملئ بيانات السجل . 10- تاريخ تحرير البيانات . (مادة 53) في تطبيق أحكام المادة 59 من قانون البيئة المشار إليه . يجب تقديم شهادة الضمان عند دخول الناقلة في البحر الإقليمي ، وأن تكون الشهادة سارية المفعول وتغطي جميع الأضرار والتعويضات التي تقدر بمعرفة الجهة الإدارية المختصة بالإتفاق مع جهاز شئون البيئة.

الفرع الثاني التلوث بمخلفات الصرف الصحي والقمامة (مادة 54) يحظر على السفن والمنصات البحرية تصريف مياه الصرف الصحي الملوثة داخل البحر الإقليمي والمنطقة الإقتصادية الخالصة لجمهورية مصر العربية ويجب التخلص منها طبقاً للمعايير والإجراءات الموضحة فيما يلي : إجراءات تصريف مياه الصرف الصحي الملوثة من السفن والمنصات البحرية : تلتزم السفن والمنصات البحرية أيما كانت جنسيتها بمراعاة المعايير والضوابط التالية عند تصريفها لمياه الصرف الصحي : 1- أن تكون السفينة أو المنصة البحرية مزودة بالشهادة الدولية لمنع التلوث بقاذورات مياه الصرف الصحي وأن تكون الشهادة سارية المفعول . 2- أن تكون السفينة مجهزة بوحدة لمعالجة مياه الصرف الصحي 3- لا يجوز لأي سفينة أن تصريف مياه الصرف الصحي المعالجة على مسافة أقل من أربعة أميال بحرية من الشاطئ . 4- في حالة تصريف السفينة لتلك المخلفات قبل معالجتها فلا يجوز لها ذلك قبل مسافة 12 ميل بحري من خط الشاطئ . وفي جميع الأحوال لا يجوز لأي سفينة صرف مخلفات الصرف الصحي المحجوزة في صهاريج الإحتجاز دفعة واحدة ولكن بمعدلات معتدلة وعندما تكون السفينة مبحرة بسرعة لا تقل عن 4 عقدة/ساعة . وينبغي أن لا يتخلف عن عمليات الصرف أيما كانت نوعيتها ظهور أجسام صلبة عائمة مرئية في المياه وإذا كانت مياه الصرف ممزوجة بفضلات مياه يلزم معالجتها فيجب أن تتم هذه المعالجة قبل الصرف ولا تنطبق الأحكام السابق الإشارة إليها في حالة التصريف لسلامة السفينة ومن على متنها أو إنقاذ أرواح في البحار أو نتيجة عطب أصاب السفينة أو معدات بشرط أن تكون جميع الإحتياطات المعقولة قد إتخذت لمنع هذا التصريف أو للتخفيف منه إلى أقصى حد قبل وقوع العطب وبعده.

(مادة 55) على الجهات المختصة توفير التسهيلات الخاصة بإستقبال النفايات ومياه الصرف الملوثة وفضلات السفن مع مراعاة أن تكون تلك التسهيلات في حالة صالحة للإستخدام ومصانة وأن يراعى نظافتها وتطهيرها بصفة دورية . (مادة 56) على الجهات المختصة أن تراعى عند نقل المخلفات المتجمعة في التسهيلات المنصوص عليها في المادة السابقة عدم تسرب هذه المخلفات أو إنبعاث أية روائح عنها وأن يتم التخلص منها في الأماكن وبالضوابط

التي ينص عليها قانون النظافة العامة رقم 38 لسنة 1967 ، وذلك من خلال التنسيق بين الجهات المختصة والمحليات . الفصل الثانى التلوث من المصادر البرية (مادة 57) يشترط للترخيص بإقامة أية منشآت أو محال على شاطئ البحر أو قريبا منه ينتج عنها تصريف مواد ملوثة بالمخالفة لأحكام القانون وهذه **اللائحة** والقرارات المنقذة لها ، مراعاة أحكام مواد الفصل الأول من الباب الأول من هذه **اللائحة** والخاص بالتنمية والبيئة ، ويلتزم المرخص له بتوفير وحدات مناسبة وكافية لمعالجة المخلفات كما يلتزم بأن يلتزم بأن يبدأ بتشغيلها فور بدء تشغيل تلك المنشآت وأن يحافظ على سلامتها وصيانتها بصفة دورية . (مادة 58) مع عدم الإخلال بما تنص عليه المادة الثانية من قرار إصدار هذه **اللائحة** يحظر على المنشآت الصناعية التى يصرح لها بتصريف المواد الملوثة القابلة للتحلل إلى البيئة المائية والشواطئ المتاخمة تصريف تلك المواد إلا بعد معالجتها ومطابقتها للمواصفات والمعايير المنصوص عليها في الملحق رقم (1) لهذه **اللائحة** . وعلى معاميل وزارة الصحة إجراء تحليل دورى في معاميلها لعينات المخلفات السائلة المعالجة وإخطار الجهات الإدارية المختصة بنتيجة التحليل . وفى حالة عدم مطابقة نتيجة التحليل للمواصفات والمعايير المنصوص عليها في الملحق رقم (1) يخطر جهاز شئون البيئة لإتخاذ الإجراءات الإدارية بالإشتراك مع الجهة الإدارية المختصة للنظر في منح صاحب الشأن المرخص له بممارسة نشاطه وفقا لأحكام هذه **اللائحة** مهلة مدتها شهر واحد لمعالجة المخلفات لتصبح مطابقة للمواصفات والمعايير المحددة ، مع مراعاة المدد المنصوص عليها في المادة الثانية من قرار إصدار هذه **اللائحة** بالنسبة للمنشآت القائمة عند صدورها ، فإذا لم تتم المعالجة خلال المدة المشار إليها أو ثبت من التحليل خلالها أن استمرار الصرف من شأنه إلحاق أضرار بالبيئة المائية فيوقف التصريف بالطريق الإدارى ويسحب الترخيص الصادر للمنشأة ، وذلك دون الإخلال بالعقوبات المنصوص عليها في قانون البيئة ، كما يحظر على المنشآت الصناعية تصريف المواد الملوثة غير القابلة للتحلل والمنصوص عليها في الملحق رقم (10) لهذه **اللائحة** في البيئة المائية . (مادة 59) يحظر الترخيص بإقامة أية منشآت على الشواطئ البحرية للجمهورية لمسافة مائتى متر إلى الداخل من خط الشاطئ إلا بعد موافقة الهيئة المصرية العامة لحماية الشواطئ بالتنسيق مع جهاز شئون البيئة . وتتبع في شأن الترخيص بإقامة تلك المنشآت الإجراءات التالية : (أ) يقدم الطب كتابة إلى المحافظة الساحلية المعنية " الجهة المانحة للترخيص " يرفق الطلب دراسة متكاملة عن تقييم التأثير البيئى للمشروع أو الأعمال المستجدة المطلوب تنفيذها بما في ذلك تأثيرها على الإلتزان البيئى للمنطقة الساحلية وعلى خط الشاطئ ، وعلى الأخص العناصر الآتية : 1- النحر . 2- الإرساب . 3- التيارات الساحلية . 4- التلوث الناجم عن المشروع أو الأعمال . مع بيان الأعمال والإحتياجات المقترحة تفصيلا لملاقاة أو معالجة هذه الآثار إن وجدت . (ب) تقوم المحافظة الساحلية بتحويل الطلب إلى الهيئة المصرية العامة لحماية الشواطئ لإبداء رأيها الفنى في المشروع بالتنسيق مع جهاز شئون البيئة كما تقوم المحافظة الساحلية بإرسال دراسة تقييم التأثير البيئى للمشروع إلى جهاز شئون البيئة لمراجعتها وإبداء الرأى فيه خلال ستين يوما من تاريخ إستلامه . (ج) للهيئة المصرية العامة لحماية الشواطئ أن تحمل مقدم الطلب تكاليف المعاينات والدراسات التى تقوم بها . ويصدر الوزير المختص بشئون البيئة بعد أخذ رأى الجهات الإدارية المختصة والمحافظة المعنية شروط الترخيص بإقامة المنشأة داخل منطقة الحظر أو تعديل خط الشاطئ) . (مادة 60) يحظر الترخيص بإجراء أى عمل يكون من شأنه المساس بخط المسار الطبيعى للشاطئ أو تعديل دخولا في مياه البحر أو انحسار عنه إلا بعد موافقة الهيئة المصرية العامة لحماية الشواطئ بالتنسيق مع جهاز شئون البيئة ويتبع بالنسبة للطلبات التى من شأنها المساس بخط المسار الطبيعى للشاطئ أو تعديله الإجراءات والشروط المنصوص عليها في المادة السابقة .

الفصل الثالث الإجراءات الإدارية والقضائية مادة (61) يكون لمأمورى الضبط القضائى المنصوص عليهم في المادة 78 من قانون البيئة المشار إليه ، عند وقوع مخالفة لا تزيد عقوبتها عن الغرامة أو التعويض أن يسمح لربان السفينة أو المسنول عنها إذا رغب أن يغادر الميناء على وجه عاجل ، تحصيل مبالغ فورية بصفة مؤقتة تحت حساب تنفيذ عقوبة الغرامة والتعويض التى يقضى بها في الحدود المنصوص عليها في الباب الرابع من قانون البيئة ، على ألا تقل عن الحد الأدنى المقرر للمخالفة مضافا إليها جميع النفقات والتعويضات التى تحددها الجهة الإدارية المختصة لإزالة آثار المخالفة ، ويتم إيداع تلك المبالغ في اليوم التالى على الأكثر من تحصيلها بصندوق حماية البيئة وفقا لأحكام المادة (7) من هذه **اللائحة** . ويجوز تقديم ضمان مالى عن قيمة هذه المبالغ تقبله الجهة الإدارية المختصة ، وذلك مراعاة لأحكام الإتفاقية الدولية في شأن المسئولية المدنية المترتبة عن أضرار التلوث بالزيت الواقعة في بروكسل عام 1969 . (مادة 62) (يصدر الوزير المختص بشئون البيئة قرار بتشكيل لجنة تظلمات يكون مقرها دائرة عمل الموانى أو إحدى الجهات الإدارية القريبة منها على النحو التالى - : مستشار من مجلس الدولة يختاره رئيس المجلس رئيسا - ممثل لجهاز شئون البيئة عضوا - ممثل لمصلحة الموانى والمناظر عضوا - ممثل لوزارة الدفاع عضوا - ممثل لوزارة البترول عضوا - ممثل للجهة الإدارية المختصة التى وقعت المازعة في مجال نشاطها عضوا

واللجنة أن تستعين بخبير أو أكثر في شئون البيئة المائية.

وتختص هذه اللجنة بالفصل في المنازعات الإدارية الناشئة عن تطبيق أحكام الباب الثالث من هذه اللائحة، وتصدر اللجنة قراراتها بعد سماع أقوال الطرفين بأغلبية أصوات الأعضاء الحاضرين، وفي حالة التساوى يرجح الجانب الذى منه الرئيس. ولذوى الشأن الطعن على قرارات اللجنة أمام محكمة القضاء الإدارى بمجلس الدولة. (مادة 63) للجهات الإدارية المختصة طلب معاونة كل من وزارات الدفاع والداخلية والبتترول والهيئة العامة لقناة السويس ووزارة النقل البحرى أو أية جهة معنية أخرى في تنفيذ أحكام الباب الثالث من هذه اللائحة وذلك وفقا للشروط التى يصدر بها قرار من الوزير المختص بشئون البيئة. الباب الرابع أحكام ختامية مادة (64) تتحدد قيمة نفقات إزالة آثار المخالفة المشار إليها في المادة 91 من قانون البيئة وفقا للضوابط التالية) : أ (قرب التفريغ أو بعده من الشاطئ ويوجه خاص المناطق ذات الأهمية الاقتصادية أو السياحية أو المحميات الطبيعية . ب (درجة سمية المواد المفرغة . ج (حجم الملوث ونوعيته وأثره الإلتافى للبيئة . مادة (65) يجوز لكل مواطن أو جمعية معنية بحماية البيئة اللجوء إلى الأجهزة الإدارية والقضائية والمختصة بغرض تنفيذ أحكام قانون البيئة وما ورد بهذه اللائحة، وعلى وزارة الداخلية بالتنسيق مع جهاز شئون البيئة إنشاء شرطة متخصصة لحماية البيئة بالوزارة ومديريات الأمن بالمحافظات، تختص بالعمل على تنفيذ أحكام القوانين والقرارات المتعلقة بحماية البيئة، وكذا تلقي الشكاوى والبلاغات التى تقدم في هذا الشأن، وإتخاذ الإجراءات القانونية بشأنها.

ملاحق اللائحة التنفيذية للقانون رقم 4 لسنة 1994 فى شأن البيئة رقم الملحق الموضوع 1 -المعايير والمواصفات لبعض المواد عند تصريفها في البيئة البحرية . 2 -المنشآت التى تخضع للتقييم البيئى . 3- نموذج سجل تأثير نشاط المنشأة على البيئة (سجل الحالة البيئية) 4- الطيور والحيوانات البرية المحظور صيدها أو قتلها أو إمساكها . 5- الحدود القصوى لملوثات الهواء الخارجى 6- الحدود المسموح بها لملوثات الهواء في الإنبعاثات 7- الحدود المسموح بها لشدة الصوت ومدة العرض الأمن له . 8- الحدود القصوى لملوثات الهواء داخل أماكن العمل وفقا لنوعية كل صناعة . 9- الحد الأقصى والحد الأدنى لكل من درجتى الحرارة والرطوبة ومدة التعرض لها ووسائل الوقاية منها . 10- المواد الملوثة غير القابلة للتحلل والتي يحظر على المنشآت الصناعية تصريفها في البيئة البحرية . ملحق رقم (1) المعايير والمواصفات لبعض المواد عند تصريفها في البيئة البحرية مع مراعاة الأحكام المنصوص عليها في القانون رقم 48 لسنة 1982 بشأن حماية نهر النيل ولانحته التنفيذية يشترط ألا تتجاوز مستويات الصرف للمواد المبيئة بعد عن المستويات الموضحة قرين كل منها . وفي جميع الأحوال لا يسمح بالصرف في البيئة البحرية إلا على مسافة لا تقل عن 500 مترا من خط الشاطئ، كما لا يسمح بالصرف في مناطق صيد الأسماك أو مناطق الإستحمام أو المحميات الطبيعية بما يحافظ على القيمة الاقتصادية أو الجمالية للمنطقة.

البيان الحد الأقصى للمعايير والمواصفات (ميللجرام/ لتر - ما لم يذكر غير ذلك) درجة الحرارة لا تزيد عن عشر درجات فوق المعدل السائد الأسس الأيدروجيني 6-9 اللون خالية من المواد الملونة الأكسجين الحيوى الممتص 60 الأكسجين المستهلك كيمائيا _ داكرومات (100 مجموع المواد الصلبة الذائبة 2000 رماد المواد الصلبة الذائبة 1800 المواد العالقة 60 العكارة 50 NTU الكبريتيدات 1 الزيوت والشحوم 15 الهيدروكربونات من أصل بترولى 0.5 الفوسفات 5 النيترات 40 الفيتولات 1 الفلوريدات 1 الألومنيوم 3 الأمونيا (نتروجين) 3 الزنق 0.005 الرصاص 0.5 الكاديوم 0.05 الزرنيخ 0.05 الكروم 1 النحاس 1.5 النيكل 0.1 الحديد 1.5 المنجنيز 1 الزنك 5 الفضة 0.1 باريوم 2 كوبالت 2 المبيدات بأنواعها 0.2 السيانيد 0.1

العد الإحتمالى للمجموعة القولونية في 100 سم 3 5000

ملحق رقم (2) المنشآت الخاضعة لأحكام تقييم التأثير البيئى تتحدد تلك المنشآت وفقا للضوابط الأساسية التالية : الأولى : نوعية نشاط المنشأة الثانى : مدى إستنزاف المنشأة للموارد الطبيعية وخاصة المياه والأراضى الزراعية والثروات المعدنية . الثالث : موقع المنشأة الرابع : نوع الطاقة المستخدمة لتشغيل المنشأة أولا : نوعية نشاط المنشأة 1- المنشآت الصناعية الخاضعة لأحكام القانونين رقمى 21 لسنة 1985 بشأن تنظيم الصناعية وتشجيعها رقم 55 لسنة 1977 بشأن إقامة وإدارة الآلات الحرارية والمراجل البخارية . قانون رقم 1 لسنة 1973 فى شأن 2- المنشآت السياحية الخاضعة لأحكام : القانون رقم 38 لسنة 77 فى شأن تنظيم الشركات المنشآت الفندقية . القانون رقم 1 القانون رقم 117 لسنة 1983 فى شأن حماية الآثار السياحية لسنة 1992 فى شأن المحال السياحية 3- المنشآت العاملة في مجال الكشف عن القانون رقم 6 البترول وإستخراجه وتكريره وتخزينه ونقله الخاضعة لأحكام : لسنة 1974 بالترخيص لوزير البترول فى التعاقد للبحث عن البترول . القانون رقم 4

لسنة 1988 في شأن خطوط أنابيب البترول . 4- منشآت إنتاج القانون رقم 145 لسنة 1948 بإنشاء وتوليد الكهرباء الخاضعة لأحكام . القانون رقم 63 لسنة 1974 بأن إدارة الكهرباء والغاز لمدينة القاهرة . القانون رقم 12 لسنة 1976 بشأن إنشاء هيئة كهرباء منشآت قطاع الكهرباء . القانون رقم 13 لسنة 1976 بشأن إنشاء هيئة المحطات النووية لتوليد مصر . القانون رقم 27 لسنة 1976 بشأن إنشاء هيئة كهرباء الريف . الكهرباء . القانون رقم 102 لسنة 1986 بشأن إنشاء هيئة تنمية وإستخدام الطاقة الجديدة والمتجددة 5- المنشآت العاملة في المناجم والمحاجر وإنتاج مواد البناء . القانون رقم 66 لسنة 1953 الخاص بالمناجم والمحاجر . الخاضعة لأحكام : القانون رقم 86 لسنة 1956 الخاص بالمناجم والمحاجر . 6- جميع مشروعات البنية الأساسية ومنها محطات معالجة الصرف الصحي وإعادة استخدام مياهها أو مياه الصرف الزراعي ومشروعات الري والطرق والكبارى والقناطر والإنفاق والمطارات والموانئ البحرية ومحطات السكة الحديدية وغيرها . 7- أية منشأة أخرى أو نشاط أو مشروع يحتمل أن يكون له تأثير ملحوظ على البيئة ويصدر بها قرار من جهاز شئون البيئة بعد الإتفاق مع الجهة الإدارية المختصة . ثانيا : المنشآت الخاضعة لتقييم التأثير البيئي وفقا لموقعها ومنها تلك التى تقام على شواطئ النيل وفرعيه والرياحات أو في المناطق السياحية والأثرية أو حيث تزيد الكثافة السكانية أو عند شواطئ البحار والبحيرات أو في مناطق المحميات. ثالثا : مدى إستنزاف المنشأة للموارد الطبيعية : ومنها تلك التى تسبب تجريف الأرض الزراعية أو التصحر أو إزالة تجمعات الأشجار والنخيل أو تلوث موارد المياه وخاصة نهر النيل وفرعيه والبحيرات أو المياه الجوفية . رابعا : نوع الطاقة المستخدمة لتشغيل المنشأة : وهى : 1- المنشآت الثابتة التى تعمل بالوقود الحرارى ويصدر عنها إنبعاثات تجاوز المعايير المصرح بها -2 . المنشآت التى تستخدم وقود نووى في التشغيل.

ملحق رقم (3) نموذج سجل تأثير نشاط المنشأة على البيئة (سجل الحالة البيئية) 1-إسم المنشأة وعنوانها . 2- إسم المسئول عن تحرير السجل ووظيفته . 3-الفترة الزمنية التى تغطيها البيانات الحالية . 4-نوعية النشاط وطبيعة المواد الخام والإنتاج خلال المدة الزمنية المقابلة . 5-التشريع الخاضع له المنشأة . 6-الإشترطات الخاصة الصادرة من جهاز شئون البيئة للمنشأة . 7-بيان بأنواع الإنبعاثات ومعدلات صرفها (في الساعة / في اليوم / في الشهر / في السنة) وكيفية التصرف فيها . 1/7- غازية . 2/7- سائلة . 7/3- صلبة . 4/7- أخرى . 8-معدلات إجراء الإختبارات على كل نوع من الإنبعاثات الصادرة عن المنشأة.

8/1 عينات مخطوفة (جرابية) تاريخ ووقت ومكان كل عينة . معدل جمع العينات . بيان المؤشرات المطلوب قياسها (يوميا / أسبوعيا / شهريا 8/2) عينات مركب تاريخ ووقت جمع العينة أماكن ونسب خلط العينة المركبة بيان بالمؤشرات المطلوب قياسها (يوميا / أسبوعيا / شهريا) 9-المخرجات بعد عمليات المعالجة 10-مدى كفاءة وسائل المعالجة 11-تاريخ وتوقيع المسئول

ملحق رقم (4) الطيور والحيوانات البرية المحظور صيدها أو قتلها أو إمساكها أولا : (أ) الطيور والحيوانات المبينة بالكشف المرفق بقرار وزير الزراعة رقم 28 لسنة 1967 الصادر تنفيذاً لأحكام المادة 117 من القانون رقم 53 لسنة 1966 بإصدار قانون الزراعة . (ب) أى طيور أو حيوانات أخرى تحددها الإتفاقيات الدولية التى تنضم إليها جمهورية مصر العربية) . (ج) أى طيور أو حيوانات أخرى يصدر بها قرار من وزير الزراعة بالإتفاق مع جهاز شئون البيئة ثانيا : المناطق التى يحظر فيها صيد هذه الطيور والحيوانات : (أ) المناطق المبينة بقرار وزير الزراعة رقم 472 لسنة 1982 : يحظر صيد الطيور والحيوانات بكافة أنواعها في المناطق التالية بمحافظة سيناء : - منطقة الزرانيق وسبخة البردويل والتينة . - منطقة سانت كاترين وجبل سريال . - منطقة جزيرة تيران . يحظر صيد الطيور والأسماك والأصداف والمحارات والشعب المرجانية وغيرها من الكائنات البحرية بالمنطقة الواقعة على خليج العقبة من طابا حتى رأس محمد وذلك بطريق الصيد بشباك الجر أو بالتدمير . (ب) المحميات الطبيعية المحددة بقرارات رئيس مجلس الوزراء تنفيذاً للقانون 102 لسنة 1983 . (ج) تنظيم الصيد في شمال سيناء الصادر بقرار المحافظ رقم 442 لسنة 1980 . (د) تنظيم الصيد في جنوب سيناء الصادر بقرار المحافظ رقم 15 لسنة 1980 ، 16 لسنة 1980 . (هـ) المناطق التى تحددها الإتفاقيات الدولية التى تنضم إليها جمهورية مصر العربية . (و) أى مناطق أخرى يصدر بها قرار من السلطة المختصة بالتنسيق مع جهاز شئون البيئة

ملحق رقم (5) الحدود القصوى لملوثات الهواء الخارجى (ميكروجرام في المتر المكعب)

الحد الأقصى مدة التعرض

ثاني أكسيد الكبريت 350 ساعة 150 24 ساعة 60 سنة أول أكسيد الكربون 30 مليجرام/متر 3 ساعة 10 مليجرام/متر 3 8 ساعات ثاني أكسيد النيتروجين 400 ساعة 150 24 ساعة الاوزون 200 ساعة 120 8 ساعات الجسيمات العالقة مقاسة كدخان أسود 150 60 24 ساعة سنة الجسيمات العالقة الكلية 230 24 90 ساعة سنة الجسيمات الصدرية 70 24 ساعة الرصاص 1 سنة

ملحق رقم (6) الحدود المسموح بها لملوثات الهواء في الانبعاثات

جدول (1) الجسيمات الكلية نوع النشاط الحد الأقصى للانبعاث

مجم / م 3 من العادم

1- صناعة الكربون 50 2- صناعة الكوك 50 3- صناعة الفوسفات 50 4- صناعة سبك و استخلاص رصاص، و ذلك، و نحاس و غيرها من الصناعات المعدنية غير الحديدية 100 5- صناعات حديدية قائمة 200 جديدة 100 6- صناعة أسمنت قائمة 500 جديدة 200 7- أخشاب صناعية و ألياف 150 8- صناعات بترولية و تكرير بترول 100 9- مصادر أخرى 200

جدول (2) الحدود القصوى لانبعاث الغازات والأبخرة من المنشآت الصناعية الملوث الحد الأقصى للانبعاث

مجم / م 3 من العادم

* الدهيدات (تقاس كفور مالدريد) 20
* انثيمون 20
* أول أكسيد الكربون قائم 500

جديد 250

* ثاني أكسيد الكبريت

حريق بترول وفحم جديد 2500 قائم 4000 صناعات غير حديدية 3000 صناعة حامض كبريتيك ومصادر أخرى 1500

* ثالث أكسيد كبريت بالإضافة إلى حامض الكبريتيك 150
* حامض النيتريك

صناعة حامض نيتريك 2000

* حامض هيندروكلوريك (كلوريد هيدروجين) 100
* حامض هيدروفلوريك (فلوريد هيدروجين) 15
* رصاص 20
* زئبق 15
* زرنيخ 20
* عناصر ثقيلة (مجموع كلى) 25
* فلوريد سليكون 10
* فلور 20
* قطران

صناعة أقطاب جرافيت 50

* كادميوم 10
* كبريتيد هيدروجين 10

* كلور 20

* كربون

حرق قمامة صناعة أقطاب 50

* مركبات عضوية

حرق سائل عضوى 50 0.04 % من الخام (تكرير بترول)

* نحاس 20

* نيكل 20

أكاسيد نيتروجين صناعة حامض نيتريك قائم 3000 جديد 400 مصادر أخرى 300

ملحق رقم (7) الحدود المسموح بها لشدة الصوت ومدة التعرض الآمن له جدول (1) • شدة الصوت داخل أماكن العمل وداخل الأماكن المغلقة : الحد المسموح به لمنسوب شدة الضوضاء داخل أماكن الأنشطة الإنتاجية:

تحديد نوع المكان والنشاط الحد الأقصى المسموح به لشدة الضوضاء المكافئة ديسبل (أ) 1- أماكن العمل ذات الوردية حتى 8 ساعات ويهدف الحد من مخاطر الضوضاء على حاسة السمع 90 2- أماكن العمل التي تستدعي سماع إشارات صوتية وحسن سماع الكلام 80 3- حجرات العمل لمتابعة وقياس وضبط التشغيل وبمطلبات عالية 65 4- حجرات العمل لوحدات الحاسب الآلى أو الآلات الكاتبة أو ما شابه ذلك . 70 5- حجرات العمل للأنشطة التي تتطلب تركيز ذهنى روتينى 60

أقصى مدة تعرض للضوضاء مسموح بها بأماكن العمل (مصانع وورش) القيمة المعطاة فيما بعد مبينة على أساس عدم التأثير على حاسة السمع - . يجب ألا تزيد شدة الضوضاء المكافئة عن 90 ديسبل (أ) خلال وردية العمل اليومية 8 ساعات.

فى حالة ارتفاع منسوب شدة الضوضاء الكافئة عن 90 ديسبل (أ) يجب تقليل مدة التعرض طبقاً للجدول الآتى :
منسوب شدة الضوضاء ديسبل (أ) 115 110 105 100 95 (مدة التعرض (ساعة) 1 2 4 1/2 1/4

- يجب ألا يتجاوز منسوب شدة الضوضاء اللحظى خلال فترة العمل 135 ديسبل . - فى حالة التعرض لمستويات مختلفة من شدة الضوضاء أكثر من 90 ديسبل . (ا) لفترات متقطعة خلال وردية العمل ، يجب ألا يزيد الناتج.

أ 1

أ 2

— + — +) عن الواحد الصحيح

ب 1

ب 2

حيث : أ : مدة التعرض لمستوى معين من الضوضاء (ساعة) ب : مدة التعرض المسموح بها عند نفس مستوى الضوضاء (ساعة) (فى حالة التعرض للضوضاء المتقطعة الصادرة من المطارق الثقيلة) . تتوقف على مدة التعرض (عدد الطرقات خلال الوردية اليومية) حسب شدة الضوضاء طبقاً للجدول التالى : شدة الصوت (ديسبل) عدد الطرقات المسموح بها خلال فترة العمل اليومية 135 115 10000 120 3000 125 1000 130 300 30000 تعتبر الضوضاء الصادرة من المطارق الثقيلة متقطعة إذا كانت الفترة بين كل طرقة والتي يليها 1 ثانية أو أكثر . أما إذا كانت الفترة أقل من ذلك فتعتبر ضوضاء مستمرة ويطبق عليها ما جاء فى البنود الأربعة السابقة.

جدول (2) الحد الأقصى المسموح به لشدة الضوضاء فى المناطق المختلفة نوع المنطقة الحد المسموح به لشدة الصوت ديسبل (أ) نهاراً من إلى مساءً من إلى ليلاً من إلى المناطق التجارية والإدارية ووسط المدينة 55 55 65 - 55 45 - 60 45 - 55 - 40 50 المناطق السكنية وبها بعض الورش أو الأعمال التجارية أو على طريق عام 50 - 60 45 - 55 - 40 50 المناطق السكنية فى المدينة 45 - 55 45 - 55 40 - 50 الضواحي السكنية مع وجود حركة ضعيفة 40 - 50

35 - 40 30 45 - المناطق السكنية الريفية مستشفيات وحدائق 35 - 30 45 - 25 40 - 35 المناطق الصناعية (صناعات ثقيلة) 60 - 50 65 - 55 70 - 60

نهارا من 7 صباحا حتى 6 مساء من 6 مساء حتى 10 مساء ليلا من 10 مساء حتى 7 صباحا

الملحق رقم (8) الحدود القصوى لملوثات الهواء داخل أماكن العمل وفقا لنوعية كل صناعة الحدود العتبية هي تركيزات المواد الكيميائية في الهواء التي يمكن أن يتعرض لها العاملون يوما بعد يوم دون حدوث أضرار صحية وتنقسم إلى ثلاث أنواع : 1-الحدود العتبية - المتوسط الزمني وهي المتوسط الزمني ليوم عمل عادي (8 ساعات) والتي يمكن أن يتعرض لها العامل 5 أيام في الأسبوع طوال فترة عمله دون حدوث أضرار صحية . 2-الحدود العتبية -حدود التعرض لفترة قصيرة . وهي الحدود التي يمكن أن يتعرض لها العاملون باستمرار لفترة قصيرة . والحدود العتبية لفترة قصيرة وهي حدود التعرض - متوسط زمن - لمدة 15 دقيقة والتي لا يجوز تجاوزها بأى حال خلال فترة العمل . ولا يجوز أن يتجاوز التعرض 15 دقيقة ولا أن يتكرر ذلك أكثر من 4 مرات في اليوم الواحد ويجب أن تكون الفترة بين كل تعرض قصير والذي يليه 60 دقيقة على الأقل . 3-الحد السقفي ولا يجوز تجاوزه ولو للحظة وعندما يكون الإمتصاص عن طريق الجلد عاملا في زيادة التعرض توضع إشارة + جلد " أمام الحد العتبي ، وبالنسبة للآتربة الكلية التي تسبب المضايقة فقط وليست لها آثار صحية ملموسة فإن الحد العتبي هو 10 مجم/م³ بالنسبة للجسيمات القابلة للإستنشاق.

وبالنسبة للغازات الخائقة البسيطة التي ليست لها آثار فسيولوجية تذكر يكون العامل المؤثر هو تركيز الأوكسجين في الجو والذي لا يجوز أن يقل عن 18% المادة الحدود العتبية المتوسط الجزئي حدود التعرض لمدة قصيرة ملاحظات جزء في المليون مجم / م³ جزء في المليون مجم / م³ استيالاهايد 100 270 150 180 حامض الخليك 10 25 15 37 اندريد الخليك 5 20 + جلد اسيتون 750 2375 1000 1780 اسيتونيتريل 40 70 105 6 + جلد رباعي برومايد الأستلين حامض استيل سالسيك (اسبرين) 1 15 5 1.5 20 اكرولين 0.1 0.25 0.3 0.8 0.3 أمايد 0.3 0.6 + جلد حامض اكريليك 10 30 اكريلونيتريل 2 + جلد الدرلين 0.25 + 0.75 جلد الكحول الأليلى 2 5 4 10 + جلد كلوريد الاليل 1 3 2 6 الألومنيوم المعدنى 10 20 والأكاسيد مساحيق البيرو 5 أدخنة اللحام الأملاح القابلة 5 للذوبان 2 الألكيلات 2

المادة الحدود العتبية المتوسط الجزئي حدود التعرض لمدة قصيرة ملاحظات جزء في المليون مجم / م³ جزء في المليون مجم / م³ 3م أمونيوبيردين 5.5 2 4 2 أمونيا 25 18 35 27 كلوريد النوشادر (أدخنة) 10 ن - خلات أميل 100 800 150 530 ثانوى - خلات الأميل 125 670 150 800 انيلين ومثيلاته 2 10 5 + 20 جلد الأنتيمون ومركباته (محسوبة كانتيمون) 0.5 انتو 0.9 0.3 ANTU الزرنيخ ومركباته القابلة للذوبان (محسوبة كزرنيخ) 0.2 غاز الأرسين 0.05 0.2 أدخنة الأسفلت البترولى 5 10 اترازين 5 أزينفوس - مثل 0.2 0.6 + جلد باريوم ومركباته القابلة للذوبان (محسوبة كباريوم) 0.5 بنزين (بترول 75 25 30 10) كلوريد البنزيل 1 5 البريليوم 0.002

المادة الحدود العتبية المتوسط الجزئي حدود التعرض لمدة قصيرة ملاحظات جزء في المليون مجم / م³ جزء في المليون مجم / م³ 3م ثنائى الفنيل 0.2 4 0.6 1.5 تليورايد اليزموث 10 20 رباعى بورات الصوديوم لا مائى 1 ديكاهيدرات 5 خماسى الهيدرات 1 أكسيد البورون 10 20 ثالث بروميد البورون 1 30 3 10 ثالث فلوريد البورون 1 3 1000 + حد سقفي البروم 0.1 0.7 0.3 2 خامس فلوريد البروم 0.1 0.7 0.3 2 بروموفورم 0.5 5 بيوتادين 200 1250 2750 بيوتان 800 1100 ن - خلات البيوتيل 150 710 200 150 ثانوى خلات البيوتيل 950 200 1190 250 950 200 ثلاثى خلات البيوتيل 1190 250 950 200 بيوتيل اكريلات 10 55 ن - كحول بيوتيلى 50 150 + جلد ثانوى كحول بيوتيلى 100 305 150 450 ثلاثى كحول بيوتيلى 100 300 150 450

المادة الحدود العتبية المتوسط الجزئي حدود التعرض لمدة قصيرة ملاحظات جزء في المليون مجم / م³ جزء في المليون مجم / م³ 3م بيوتيل أمين 5 15 + جلد رباعى بيوتيل كرومات (محسوبة كأكسيد الكروم + 0.1) CrO₃ جلد حد سقفي لبنات البيوتيل 5 25 بيوتيل مركباتان 0.5 1.5 أتربة وأملاح الكديميوم (0.2 0.05 محسوبة ككديميوم) أدخنة الكديميوم 0.05 + حد سقفي كربونات الكالسيوم 20 أيدروكسيد الكالسيوم 5 أكسيد الكالسيوم 2 كرابريل 5 10 كربوفيوران 0.1 الكربون الأسود 3.5 7 ثانى أكسيد الكربون 5000 9000 15000 27000 ثانى كبريتور الكربون

30 10 + جلد أول أكسيد الكربون 440 400 55 50 رابع كلوريد الكربون 125 20 30 5 رابع بروميد الكربون
0.1 1.4 0.3 4 كلوردان 0.5 2 + جلد

المادة الحدود العتبية المتوسط الجزئى حدود التعرض لمدة قصيرة ملاحظات جزء في المليون مجم / م3 جزء في
المليون مجم / م3 الكامفين الكلور + 0.5 1 جلد أكسيد ثنائي الفينيل الكلور 0.5 2 كلور 9 3 3 1 ثنائي أكسيد
الكلور 0.1 0.3 0.3 0.9 كلورو استالدهيد 3 1 حد سقى كلوربنزين 350 75 كلوروداي فنيل (42 % كلور) 1
2 كلوروداي فنيل (45 % كلور) 1 0.5 كلورفورم 10 50 50 225 ثنائي كلوروميثيل اثير 0.001 0.005
كلوربكرين 10 45 كلوربيرفوس 0.2 0.6 + جلد الكروم ومركباته (محسوبة على أساس

الكروم) 0.5

مركبات الكروم السداسية التكافؤ (محسوبة على أساس الكروم) 0.05

المادة الحدود العتبية المتوسط الجزئى حدود التعرض لمدة قصيرة ملاحظات جزء في المليون مجم / م3 جزء في
المليون مجم / م3 منتجات قطران الفحم القابلة للتطاير والذوبان في البنزين 0.2 الكوبالت وأتربته وأدخنه 0.1 أدخنة
النحاس 0.2 النحاس أترية ورذاذ (محسوبة كنحاس) 1 2 غبار القطن الخام 0.2 0.6 الكريسولات 5 22 + جلد
أملاح السيانيد (محسوبة كسيانيد) 5 + جلد سينانوجين 10 20 كلوريد السيانوجين 0.3 0.6 حد سقف سيكلو
هكسان 300 1300 375 1050 سيكلوبنتادين 75 200 150 400 سيكلوينتان 600 1720 900 2580 د . د . ت .
1 3 ديكابورين 0.05 0.3 0.15 0.9 + جلد ديازينون 0.1 0.3 + جلد ثنائي ازوميثان 0.2 0.4 داي بورين 0.1
0.1 ثنائي كلوراستلين 0.1 0.4 حد سقى أورثو داي كلوربنزين 50 300 حد سقى باراداي كلوربنزين 75 450
110 675

المادة الحدود العتبية المتوسط الجزئى حدود التعرض لمدة قصيرة ملاحظات جزء في المليون مجم / م3 جزء في
المليون مجم / م3 1 3 ، 2- داي كلورواثيلين 200 790 250 1000 داي كلورايثيل ايثر 5 30 10 60 + جلد داي كلور
فوس 0.1 1 0.3 3 + جلد داي كروتوفوس 0.25 + جلد ديلدرين 0.25 0.75 + جلد داي ايثانول امين 3 15 داي
ميثيل انيلين 5 5 10 50 + جلد ثنائي نيتروبنزين 0.15 1 0.5 3 + جلد ثنائي نيتروارثوكريسول 0.2 0.6 + جلد
ثنائي نيتروتولين 1.5 5 + جلد ديوكسان 25 90 100 360 + جلد ثنائي برويلين جليكول (ميثيل ايتير) 100 600
150 900 + جلد داي كوات 0.5 1 داي سلفيرام 2 5 اندوسلفان 0.1 0.3 + جلد اندرين 0.1 0.3 + جلد ابيكلور
وهيدرين 2 10 5 20 + جلد خلات الايثيل 400 1400 ايثانول 1000 1900 ايثانول امين 3 8 6 15

المادة الحدود العتبية المتوسط الجزئى حدود التعرض لمدة قصيرة ملاحظات جزء في المليون مجم / م3 جزء في
المليون مجم / م3 3 م ايثل بنزين 100 545 125 435 ايثل بيوتيل كيتون 50 230 75 345 كلوريد الايثل 1000
2600 1250 3250 ايثل داي امين 10 25 أكسيد الايثلين 10 20 ايثلين كلوريد الايثلين 10 60 15 40 ايثلين
جليكول جسيمات 10 20 بخار 50 125 حد سقى ايثيل مركباتان 3 2 1 0.5 أترية الفانديوم الحديدى 1 0.3 أترية
الألياف الزجاجية 10 الفلوريدات (محسوبة على أساس الفلور) 2.5 الفلور 2 2 4 حد سقى فورمالدهيد 2 3 حد
سقى حامض الفورميك 5 9 جازولين 300 900 500 1500 هيبتاكلور 0.5 2 + جلد هيتان 400 1600 500
2000

المادة الحدود العتبية المتوسط الجزئى حدود التعرض لمدة قصيرة ملاحظات جزء في المليون مجم / م3 جزء في
المليون مجم / م3 3 م هكسا كلور سيكلوبنتادين 0.01 0.1 0.03 0.3 هكسا كلورونفتالين 0.20 0.60 + جلد ن -
هكسان 50 180 ايزومرات الهكسان 500 1800 1000 3600 بروميد الايدروجين 3 10 سيناييد الايدروجين 10
10 حد سقف فلوريد الايدروجين 3 2.5 6 5 كبريتيد الايدروجين 10 14 15 21 اليود 0.1 1 حد سقى أدخنة أكسيد
الحديد 3 5 10

خامس كربونيل الحديد 0.1 0.2 0.8 0.16 كحول ايزوبيوتيل 50 150 225 75 كحول ايزوبروبيل 400 980 500
1225 أترية وأدخنة الرصاص الغير عضوى (كرساص) 0.15 0.45 زرنياخات الرصاص 0.15 0.45 كرومات
الرصاص 0.05 لندان 0.5 + 0.5 جلد الغازات البترولية السائلة 1000 1800 1250 2250

المادة الحدود العتبية المتوسط الجزئي حدود التعرض لمدة قصيرة ملاحظات جزء في المليون مجم / م 3 جزء في المليون مجم / م 3 أدخنة أكاسيد الماغنسيوم 10 مالاثيون 10 + جلد أتربة ومركبات المنجنيز (كمنجنيز) 5 حد سقفي أدخنة المنجنيز 1 3 رابع أكسيد المنجنيز 1 الزنبق (كزنبق) : + جلد مركبات الالكيل 0.01 0.03 أبخرة كل المركبات الأخرى عدا الالكيل 0.05 مركبات الاربل والمركبات غير العضوية 0.1 ميثوميل 2.5 + جلد ميثوكسي كلور 10 الحكول الميثيلي 200 250 260 310 + جلد بروميد الميثيل 5 20 15 60 ميثيلين - بيوتيل كيتون 5 20 ميثيل كلورايد 50 105 100 205 ميثيل كلورفورم 2450 450 1900 350 ميثيلين ثنائي فنيل ايزوسيانييت MDI 0.02 حد سقفي 0.2

المادة الحدود العتبية المتوسط الجزئي حدود التعرض لمدة قصيرة ملاحظات جزء في المليون مجم / م 3 جزء في المليون مجم / م 3 كلوريد الميثيلين 1700 500 360 100 ميثيل ايثل كيتون 200 590 300 885 ميثيل هيدرازين 0.2 + 0.35 جلد ميثيل ايزوسيانييت 0.02 0.05 + جلد ميثيل مركبتان 0.5 1 ميثيل براتيون 0.2 0.6 + جلد مفينفوس 0.01 0.1 0.03 0.3 + جلد مونو كروتوفوس نفتالين 10 50 15 75 كربونيل النيكل (كالنيكل) 0.05 0.35 النيكل المعدن 1 المركبات القابلة للذوبان (كنيل) 0.1 0.3 نيكوتين 0.5 1.5 + جلد حمض النيتريك 2 5 4 10 أكسيد النيتريك 25 30 35 45 ب . نيترو انيلين 3 + جلد

المادة الحدود العتبية المتوسط الجزئي حدود التعرض لمدة قصيرة ملاحظات جزء في المليون مجم / م 3 جزء في المليون مجم / م 3 نيترو بنزين 1 5 2 + 10 جلد نيتروكلوروبنزين 1 2 + جلد ثاني أكسيد النيتروجين 3 6 5 10 ثالث فلوريد النتروجين 10 30 15 45 نيترو جلسرين 0.02 0.2 0.05 0.5 + جلد نيتروتولين 2 11 + جلد اوكتاكلورونفتالين 0.1 0.3 + جلد رذاذ الزيوت المعدنية 5 10 رابع أكسيد الأوزميوم (كاوزميم) 0.0002 0.002 0.006 0.006 حامض الاكساليك 1 2 ثاني فلوريد الأكسجين 0.05 0.1 0.15 0.3 أوزون 0.1 0.2 0.6 0.3 أدخنة شمع البرافين 2 6 براكوات (حجم الجسيمات القابل للإستنشاق 0.1) باراثيون 0.1 0.3 + جلد

المادة الحدود العتبية المتوسط الجزئي حدود التعرض لمدة قصيرة ملاحظات جزء في المليون مجم / م 3 جزء في المليون مجم / م 3 خماسي كلور النفثالين 0.5 2 خماسي كلور الفينول 0.5 1.5 + جلد ثنائي كلور الاثيلين 5 30 10 325 فينول 5 19 10 38 + جلد فينو ثيازين 5 10 + جلد بار افنيلين دايامين + 0.1 جلد فنيل هيدرازين 5 20 1 45 + جلد فنيل مركبتان 0.5 2 فوسيجين 0.1 0.4 فوسفين 0.3 0.4 1 1 حامض فوسفوريك 1 3 الفسفور الأصفر 0.1 0.3 حامض البكريك 0.1 0.3 + جلد معدن البلاتين 1 أملاح البلاتين القابلة للذوبان (كبلاتين) 0.002 أيدروكسيد البوتاسيوم 2 حد سقفي حامض البروبيونيك 10 30 15 45

المادة الحدود العتبية المتوسط الجزئي حدود التعرض لمدة قصيرة ملاحظات جزء في المليون مجم / م 3 جزء في المليون مجم / م 3 الحكول البروبيلي 625 250 500 200 جلد بيريثيرم 5 10 بيريدين 5 15 10 30 روتينون 5 10 أملاح السلنيوم (كسلنيوم) 0.2 هكسافلوريد السلنيوم 0.05 0.2 سليكون 20 كربيد السليكون 20 معدن الفضة 0.1 أملاح الفضة القابلة للذوبان 0.01 ازيد الصوديون 0.1 0.3 حد سقفي صوديوم ثنائي سلفيت 5 فلورواسيتات الصوديوم 0.05 + 0.15 جلد أيدروكسيد الصوديوم 2 حد سقفي ميتابايسلفيت 5 استينين 0.1 0.5 1.5 0.3 الأتزيومات المحللة للبروتين (100% أنزيم نقي مبلور) 0.00006 حد سقفي

المادة الحدود العتبية المتوسط الجزئي حدود التعرض لمدة قصيرة ملاحظات جزء في المليون مجم / م 3 جزء في المليون مجم / م 3 ثاني أكسيد الكبريت 2 5 5 10 حامض الكبريتيك 1 سداسي فلوريد الكبريت 1000 6000 1250 7500 أحادي كلوريد الكبريت 1 6 3 18 خماسي فلوريد الكبريت 0.025 0.25 0.075 0.75

T - 2,4,5 10 20

0.2 + 0.01 0.05 0.004 TEPP جلد 2.2.1.1 رابع كلوروايثان 5 35 + 10 جلد رابع ايثيل الرصاص (كرصاص) 0.1 0.3 + جلد تتريل 1.5 3 + جلد أملاح التاليوم القابلة للذوبان (كتاليوم) 0.1 + جلد ثيرام 5 10 الفصدير ومركباته غير العضوية (عدا رابع أكسيد الفصدير) (محسوبة كقصدير) 2 4

المادة الحدود العتبية المتوسط الجزئي حدود التعرض لمدة قصيرة ملاحظات جزء في المليون مجم / م 3 جزء في المليون مجم / م 3 مركبات الفصدير العضوية (كقصدير) 0.1 0.2 + جلد ثاني أكسيد التيتانيوم 20 تولوين 100 375 + 150 560 جلد ثنائي ايزوسيانييت التلويين 0.02 0.14 حد سقفي اورثوتولويدين 2 + 9 جلد ثلاثي كلور

حامض الخليك 1 5 1,2 4 ثلاثى كلور بنزين 5 40 ثلاثى كلور اثيلين 50 270 150 805 ثلاثى كلور نفتالين 10 5
6,4,2 ثلاثى نترتولين + 3 0.5 جلد ثلاثى ميثيل بنزين 25 125 35 170 ثلاثى اورثوكريسيل فوسفات 0.3 0.1
اليورانيوم الطبيعى ومركباته القابلة للذوبان محسوبة كيورانيوم 0.2 0.6

المادة الحدود العتبية المتوسط الجزنى حدود التعرض لمدة قصيرة ملاحظات جزء في المليون مجم / 3م جزء في المليون مجم / 3م أتربة وأدخنة الفاناديوم القابلة للإستنشاق محسوبة كخماسى أكسيد الفاناديوم

0.5 كلوريد الفينيل 5 10 وارفارين 0.1 0.3 أدخنة اللحام 5 أتربة الأخشاب الصلبة 1 أتربة الأخشاب اللينة 5 10
زيلين جلد أدخنة كلوريد الزنك 1 2 أدخنة أكسيد الزنك 5 10 مركبات الزركونيوم محسوبة كزركونيوم 5 10

الحدود العتبية للتعرض للأتربة المعدنية 1- السليكا - ثانى أكسيد السليكون : (أ) المبلورة : الكوارتز : الحد العتبي (مليون جسيم في القدم المكعب) = 300 _____ النسبة المئوية لتتركيز الكوارتز في الأتربة + 10 الحد العتبي للأتربة الكلية (مجم/متر 3 30) مجم / 3م = _____ النسبة المئوية لتتركيز الكوارتز في الأتربة + 3 الكرسوباليت والتريديميت : تستعمل نصف القيمة المحسوبة للكوارتز (ب) السليكا غير المبلورة : الحد العتبي 20 مليون جسيم في القدم المكعب.

2-الأسبستس : أتربة الأسبستس التى تزيد طول أليافها عن 5 ميكرون : الأموسيت 0.5 من الألياف لكل سم 3 هواء الكروسيداوليت 0.2 من الألياف لكل سم 3 من الهواء الأخرى 2 من الألياف لكل سم 3 من الهواء -3التلك : النوع الليفى 2 من الألياف لكل سم 3 من الهواء النوع غير الليفى 20 مليون جسيم للقدم المكعب من الهواء 4-الميك:

20 مليون جسيم للقدم المكعب من الهواء

5-الجرافيت الطبيعى 15 مليون جسيم للقدم المكعب من الهواء 6-الفحم : الأتربة القابلة للإستنشاق (بشرط أن تقل نسبة السليكا عن 5 20 =) % مليون جسيم في القدم المكعب من الهواء إذا زادت نسبة السليكا عن 5 10 = % مجم/3م

نسبة السليكا في الأتربة القابلة للإستنشاق + 2

* مليون جسيم في القدم المكعب * 35.5 = مليون جسيم في المتر المكعب

= جسيم في السنتيمتر المكعب .

الحدود العتبية للأتربة التى تسبب المضايقة فقط (أقل من 1% كوارتز) الحد العتبي للأتربة الكلية = 30 مليون جسيم في القدم المكعب.

10 = ملليجرامات في المتر المكعب

الحد العتبي للأتربة القابلة للإستنشاق = 5 ملليجرامات في المتر المكعب إذا زادت نسبة الكوارتز عن 1% يستعمل الحد العتبي للكوارتز . أمثلة : من الأتربة التى تسبب المضايقة فقط : - الومنيا - كربونات الكالسيوم

الرخام

الحجر الجبرى

-سليكات الكالسيوم - الأسمنت البورتلاندى - الجرافيت الصناعى - الجبس - كبريتات الكالسيوم - كبريتات الماغنسيوم - الكاولين - ألياف الصوف المعدنى - أكسيد الزنك - ألياف السليولوز - رذاذ الزيوت النباتية - ما عدا المهيجة الحد العتبي لغبار القطن (الخام) الحد العتبي - متوسط زمنى 0.2 = مجم/3م الحد العتبي - للتعرض القصير = 0.6 مجم/3م

الحدود العتبية للمواد المسرطنة والتي يشتبه في أنها مسرطنة المادة الحد العتبي ملاحظات اكريلو نيتريل 2 جزء في المليون + جلد الاسبستس أنظر الأتربة المعدنية بيو كلورومثيل ابثر 0.001 جزء في المليون الكرومات (تنقية خام الكرومات) 0.05 مجم/م3 (ككروم) الكروم سداسي التكافؤ - بعض المركبات غير القابلة للذوبان في الماء 0.05 مجم/م3 (ككروم) المواد القابلة للتطاير في قطران الفحم 0.2 مجم/م3 مواد قابلة للذوبان في البنزين أتربة وأدخنة النيكل (تحميص كبريتيد النيكل) 0.1 مجم/م3 (كنيكل) كلوريد الفينيل 5 جزء في المليون بنزين 10 جزء في المليون البريليوم 2 ميكروجرام /م3 رابع كلوريد الكربون 5 جزء في المليون + جلد كلورفورم 10 جزء في المليون هيدرازين 0.1 جزء في المليون فينيل هيدرازين 5 جزء في المليون + جلد 1.1 ثنائي ميثيل الهيدرازين 0.5 جزء في المليون + جلد ميثيل هيدرازين 0.2 جزء في المليون + جلد - حد سقفى كبريتات ثنائي الميثيل 0.1 جزء في المليون + جلد أكسيد الاثيلين 1 جزء في المليون فور مالدهايد 1 جزء في المليون حد سقفى هكسا كلوروبيو تادين 0.02 جزء في المليون يوديد الميثيل 2 جزء في المليون + جلد 2- نيتروبروبان 10 جزء في المليون بيتابروبيو لاكتون 0.5 جزء في المليون بروبيلين امين 2 جزء في المليون + جلد أورثوتوليدين 2 جزء في المليون + جلد بروميد الفينيل 5 جزء في المليون ثاني أكسيد فينيل سيكلوهكسين 10 جزء في المليون

مواد ذات تأثير سرطاني وليس لها حدود عتبية معروفة لا يسمح للعاملين بملامستها أو التعرض لها بأى طريقة : 4- أمينو ثنائي الفينيل (بارا ازنيل أمين) بنزيدين كلور ميثيل ايثر بيتانافثيل أمين 5- نيترو ثنائي الفينيل مواد أو عمليات صناعية يشتبه في أنها مسرطنة : أميترول إنتاج ثالث أكسيد الأنثيمون بنزو (أ) بيرين إنتاج أكسيد الكدميوم 3.3 - ثنائي كلور وبنزيدين ثنائي ميثيل كرباميل كلوريد ثنائي بروميد لايثيلين هكسا ميثيل فوسفور اميد ن . نيتروزو ثنائي ميثيل أمين ن . فينيل بيتانافثيل أمين

التهوية في أماكن العمل : تهدف إلى الاحتفاظ بتركيز الملوثات تحت الحدود القصوى المسموح بها ويكون توفير التهوية الكافية داخل أماكن العمل بإحدى طريقتين : 1- التهوية العامة . 2- التهوية الموضوعية . 1- التهوية العامة:

وهي طريقة ملائمة لمعالجة أبخرة المذيبات ذات السمية المنخفضة . وهي لا تلائم المواد ذات السمية العالية ولا تلك الملوثات التي تنبعث بطريقة غير منتظمة أو بكميات كبيرة وهي بصفة عامة غير ملائمة للتعامل مع الأتربة والأدخنة . ويراعى حساب نظام التهوية العامة بعد معرفة كمية المادة المتبخرة ويتم حساب كمية الهواء المطلوب تحريكه ، بحيث تكفى لإحداث تغيير لهواء المكان ، يكفى للاحتفاظ بتركيز المادة الملوثة تحت الحدود القصوى المسموح بها . كما يجب أن تراعى النواحي الفنية الهندسية في إنشاء نظام التهوية ، وأن يقوم بالإشراف على تنفيذ ذلك مهندس متخصص مع الإستعانة بالتوصيات الواردة في مرجع American Conference of Governmental Industrial Hygienists, Committee On Ventilation. Industrial ventilation. Amanual Of Recommended practice, 13th ed.. ACGIH, Lansing, MI, 1974 .

3- التهوية الموضوعية:

وهي أكثر فاعلية في التحكم في أنواع الملوثات المختلفة وتتكون من برقع Hood ومجموعة من الأنابيب وجهاز لتنقية الهواء قبل التخلص منه إلى الخارج ومروحة لتحريك الهواء . ومهما كان تصميم البرقع ، فيجب أن يراعى أن تكون سرعة الهواء عند مكان انبعاث الملوثات كافية للتحكم فيها وإزالتها قبل إنتشارها في جو العمل . تراعى النواحي الفنية والهندسية في تصميم نظام التهوية الموضوعية ، ويجب أن يقوم بالإشراف على التنفيذ مهندس متخصص مع الإستعانة بالمرجع المذكور في التهوية العامة . ويراعى عند استعمال نظم التهوية العامة والتهوية الموضوعية ، أن يشرف على صيانتها بصفة دورية مهندس متخصص ، وأن تجرى قياسات كفاءة النظام عند القيام بالصيانة الدورية.

ملحق (9)

الحد الأقصى والحد الأدنى لكل من درجتى الحرارة والرطوبة ومدة التعرض لهما ووسائل الوقاية منهما

1- خلال ساعتى العمل في اليوم الواحد بالكامل يجب أن لا يتعرض العامل لظروف وطأة حرارية مرتفعة ، طبقا لما هو موضح بالجدول والمقاسة بالترمومتر الأسود المبلل . نوعية العمل سرعة هواء منخفضة سرعة هواء مرتفعة عمل خفيف 30 م 32.2 م عمل متوسط 27.8 م 30.5 م عمل شاق 26.1 م 28.9 م

2- لا يسمح بتشغيل عامل بدور رقابة وقائية عند التعرض لمستويات وطأة حرارية مرتفعة . 3- إذا تعرض أى عامل لظروف عمل لمدة ساعة مستمرة أو متقطعة خلال ساعتى عمل عند وطأة حرارية تزيد عن 26.1م. للرجال 24.5م . للنساء فيجب الرجوع إلى أى واحدة أو أكثر من هذه الطرق لضمان عدم ارتفاع درجة حرارة العامل الداخلية عن 38م . (أ) أقلمة العامل على درجة الحرارة لمدة ستة أيام ، بحيث يتعرض العامل إلى 50% من مدة التعرض اليومية في اليوم الأول من العمل ثم تزيد مدة التعرض بنسبة 10% يوميا ليصل إلى 100% في اليوم السادس . (ب) العامل الذى يتغيب لمدة 9 أيام أو أكثر بعد أقلمته على الحرارة أو يمرض لمدة 4 أيام متتالية لا بد أن تعاد أقلمته على فترة 4 أيام ، بحيث يتعرض إلى الحمل الحرارى لمدة تكون 50% من إجمالى مدة التعرض اليومية ثم تزيد بنسبة 20% يوميا ليصل إلى 100% من التعرض في اليوم الرابع -4. تنظيم أوقات العمل والراحة ليقل الحمل الفسيولوجى على العامل وليحصل على الراحة الكافية بين أوقات العمل . 5- توزيع إجمالى فترة العمل بالتساوى في اليوم الواحد . 6- جدولة الأعمال الحارة في أقل فترات اليوم حرارة- 7. فترات راحة قصيرة على الأقل مرة واحدة كل ساعة للتزود بالماء والأملاح ، بحيث يتم توفير 2 لتر من مياه الشرب على الأقل مذايا بها 0.1% أملاح للعامل الواحد (مع عدم إعطاء أقراص ملح) . لا بد من تواجد الماء بقرب العامل على مسافة لا تزيد عن 60 مترا . 8- توفير واستخدام الملابس والأجهزة الوقائية الملائمة . 9- أخذ جميع الإحتياطات والتصميمات الهندسية والتحكم والتنفيذ الهندسى الذى يسمح بتخفيض درجة حرارة الجو . طبيا : - فحص العامل تحت حمل حرارى للتأكد من قدرتهم على تحمل الجو ، مع ملاحظة فحص الجهاز الدورى والتنفسى والبولى والكبدى والغدد الصماء والجلد بدقة وكذلك التاريخ الطبى خصوصا ما له علاقة بالأمراض المرتبطة بالحرارة . - الفحص الدورى كل عامين تحت سن 46 سنة للمتعرضين لدرجات حرارة عالية وكل عام للعاملين الأكبر سنا . - وجود شخص مدرب لملاحظة ومواجهة الحالات والأمراض الناتجة عن الحرارة أثناء العمل مع وجود الإستعدادات الأولية اللازمة.

التدريب : لا بد من تعريف العمال المتعرضين لدرجات حرارة عالية بالأشياء الآتية : 1- أهمية التزود بالماء أثناء العمل . 2- أهمية التزود بالأملاح . 3- أهمية وزن الجسم يوميا قبل بدء العمل وعقب الإنتهاء منه- 4. معرفة أعراض أهم الأمراض المرتبطة بالتعرض للحرارة . على سبيل المثال : الجفاف والأغماء والإرهاق والتقلصات الناتجة عن الحرارة . 5- معرفة خطورة أية مواد سامة أو حمل طبيعى آخر يتعرض له العامل . 6- معرفة أهمية التأقلم الحرارى (مع تسجيل المعلومات الخاصة بكل عامل في ملف خاص يسهل على العامل الحصول عليه) . المراقبة : 1- وضع ترمومتر مبلل (الترمومتر الزئبقى العادى مع تغطية خزان الزئبق بقطعة شاش مبللة) في أماكن العمل الحارة . 2- استخدام الترمومتر الأسود ترمومتر جلوب (ترمومتر زئبقى مع وضع خزان الزئبق في غلاف معدنى أسود) إلى جانب الترمومتر المبلل . 3- الإنتظار لمدة نصف ساعة ثم الحصول على قراءات كل ترمومتر . 4- تحديد درجة الحرارة المبللة السوداء . من المعادلة:

درجة حرارة الترمومتر المبلل الأسود = $0.7 \times \text{قراءة الترمومتر المبلل} + 0.3 \times \text{قراءة ترمومتر جلوب}$.

كما يمكن استخدام الجدول الآتى للعمل ، بشرط أن يطبق عن كل ساعة عمل واحدة على حدة وتوافر الإشتراطات السابق ذكرها.

المستويات المأمونة لدرجات الوطأة الحرارية في بيئة العمل لكل ساعة عمل واحدة على حدة نظام العمل والراحة كل ساعة عمل خفيف عمل متوسط المشقة عمل شاق عمل مستمر 30م 27م 25م 75% عمل ، 25% راحة 30.5م 28م 26م 50% عمل ، 50% راحة 31.5م 29.5م 28م 25% عمل ، 75% راحة 32م 31م 30م في حالة العمل في ظروف الحرارة المنخفضة:

في حالة ضرورة العمل في درجة منخفضة فإنه يلزم إتخاذ إجراءات السلامة المهنية المناسبة ، من حيث ارتداء جهاز تنفس يسمح بتدفئة الهواء المستنشق ، وكذلك ارتداء الملابس العازلة والواقية التى تحافظ على درجة حرارة العامل الداخلية.

ملحق (10) المواد الملوثة غير القابلة للتحلل والتى يحظر على المنشآت الصناعية تصريفها في البيئة البحرية

مواد غير القابلة للتحلل هي تلك المواد التي تتواجد في البيئة لمدة طويلة معتمدة أساسا على الكميات التي يتم صرفها في البيئة البحرية ، حيث إن بعضا منها يتحلل بعد فترات طويلة تصل من شهور إلى عدة سنوات معتمدة على تركيب هذه المواد والتركيز في البيئة.

المواد غير العضوية:

مثال ذلك:

الزئبق ومركباته . الرصاص ومركباته . الكاديوم ومركباته . الكوبالت - الفاناديوم - النيكل - السلينيوم - الزنك ومركباتها. المواد العضوية : مثال ذلك **Organophosphorus Pesticides Dimethoate Malathion** :
- كمية ضئيلة جدا تتحلل في خلال شهور **Organochlorine Pesticides Aldrin Dieldrino, DDT**
- **Polychlorinated Biphenyls Chloridane Endrine** غير قابلة للتحلل تستمر بقاها عدة سنوات
- **Aroclor 1254 2,3,5,6 Tetrachlorobipheny 1 2,3,6 Trichlorobiphen I** هذه المواد (PCBs)
- **Polynuclear Aromatic Hydrocarbons (PAH) Enzo (a) Pyrene Naphthalene** غير قابلة للتحلل تماما وتعتبر شديدة السمية في تركيزاتها الضئيلة جدا
سنين المواد الصلبة مثال ذلك - البلاستيك - شباك الصيد - الحبال - الحاويات.

Appendix – E: Overview of the Water Usage and Liquids related Laws & Decrees

Appendix-E

Overview of the Water Usage and Liquids-related Laws & Decrees

Appendix-E

Overview of Water Quality Related Laws and Decrees

Level of Legislation	No.	Year	Topics
Law	93	1962	Liquid waste discharge into public sewers
Presidential Decree	421	1962	Ratifying Marpol convention
Ministerial Decree, MHUNC	649	1962	Implementation of law 93/1962
Presidential Decree, MWRI	2703	1966	High committee for water (Ministry of Health)
Law	38	1967	Bathing and Washing in Streams
Law	72	1968	Prevention of oil pollution of sea water
Ministerial Decree, MWRI	331	1970	Executive committee of water
Law	74	1971	Clearance of Weeds and Dead Animal Disposals in Streams
Presidential Decree	961	1972	Permanent committee for control of sea water pollution by oil
Law	27	1978	Control of potable water sources
Law	57	1978	Treatment of ponds, marshes and swamps
Ministerial Decree, MoHP	7/1	1979	Specifications of potable water
Law	27	1982	Public water resources for drinking water and domestic use
Law	48	1982	Protection of the River Nile from pollution
Ministerial Decree, MWRI	170	1982	Establishing High committee of the Nile
Ministerial Decree, MOI	380	1982	Technology & pollution
Presidential Decree	631	1982	Establishing an Environmental Affairs Authority under the presidency of the Cabinet (Council of Ministers)
Ministerial Decree, MWRI	8	1983	Implementing Law 48/1982
Law	12	1984	Irrigation and drainage and License of Groundwater Wells
Ministerial Decree, MWRI	43	1985	Regulation of drainage & waterways
Prime Minister Decree	1976	1985	Executive committee for Industrial drainage to the River Nile
Ministerial Decree, MWRI	9	1988	Amendment of provisions of decree 8/1983
Ministerial Decree, MHUNC	9	1989	Drainage of wastewater (related to 93/1962)
Law	4	1994	Environmental Protection, including tasks of the EEAA
Law	213	1994	(follow up of law 12/ 1984) on Water Users' Organizations;
Law	256	1994	Wastewater Quality Guidelines for Irrigation

Appendix – F: Guidelines for the "Egyptian Environmental Impact Assessment"- Update of January 2009 (English and Arabic)

Appendix-F

Table-1

Monthly Rates (Averages of 35 years) of the El-Minya Meteorological Station Parameters

↓ Parameter / Month →	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total precipitation (mm/month)	0.5	1.1	0.7	0.2	0.3	-	0	0.002	0.02	0.2	0.3	0.6
Largest precipitation within 24 hrs (mm/day)	6.8	11.4	8.0	10.2	8.4	-	0	0.1	1.2	6.5	5.7	4.4
Occurrence date (day/year)	8/1945	19/1975	21/1991	19/1948	21/1957	3/1963	=	20/1955	20/1957	20/1957	23/1984	30/1944
Total cloud cover (oktas)	1.8	1.5	1.5	1.5	1.2	0.2	0.1	0.1	0.3	0.6	1.2	1.8
Surface wind speed (m/sec.)	2.52	2.88	3.44	3.91	4.27	2.30	3.55	3.03	3.60	3.19	2.88	2.42
Days of thunder storm occurrence (days/month)	0	0.02	0.1	0.1	0.1	0	0	0	0	0.1	0.1	0.02
Days of mist occurrence (days/month)	14.6	9.0	7.2	2.4	0.3	0.3	1.7	5.2	6.3	9.3	13.8	16.4
Days of fog occurrence (days/month)	1.8	0.3	0.1	0	0.02	0	0	0	0	0.1	0.5	2.0
Days of blowing sand occurrence (days/month)	2.2	2.8	4.6	5.5	4.5	2.8	1.1	1.1	2.0	2.2	1.5	1.5
Days of dust/sand storm occurrence (days/month)	0.1	0.02	0.2	0.2	0.2	0	0	0	0	0	0	0
Days of windstorm occurrence (days/month)	0	0.02	0.1	0.1	0.1	0	0	0	0	0	0	0
Days of cloud cover > 6/8 occurrence (days/month)	0.6	0.4	0.8	0.9	0.5	0	0	0	0.02	0.1	0.2	0.6

NB:

Impact = precipitation < 0.1 mm

Data obtained from El-Minya Meteorological Station records and forms. It covers an area of a 50-km radius

Table-2
Monthly Rates (Averages of 35 years) of the El-Minya Meteorological Station Parameters

↓ Parameter / Month →	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sea level atmospheric pressure (hectopascals)	1019.3	1019.9	1012.4	1012.3	1011.6	1007.4	1006.1	1005.5	1010.4	1015.9	1016.2	1018.2
Highest sea level atmospheric pressure (hectopascals)	1027.2	1031.8	1020.6	1019.4	1018.3	1011.2	1010.0	1011.0	1017.9	1021.5	1020.6	1023.8
Occurrence date (day/ year)	31	20	3	17	1	11.4	26	29	30	31	14	31
Lowest sea level atmospheric pressure (hectopascals)	1012.8	1012.9	1003.3	1005.0	1006.5	1003.0	1002.5	1001.2	1005.9	1011.2	1009.0	1011.1
Occurrence date (day/ year)	10	17	28	24	29	20	16	16	6	4	18	21
Maximum temperature (C°)	18.4	21.1	29.1	31.4	34.2	38.5	37.3	38.8	36.6	30.2	27.3	22.8
Minimum temperature (C°)	4.4	5.6	11.7	13.7	18.0	22.3	23.4	24.3	22.3	17.4	13.2	8.9
Highest maximum temperature (C°)	22.4	26.0	40.8	42.6	40.0	43.4	39.6	41.3	40.4	40.0	31.2	29.5
Occurrence date (day/ year)	9	28	24	22	5.12	9	23	22	22	5	8	4
Lowest minimum temperature (C°)	0.0	2.3	6.4	8.7	13.0	20.0	20.0	20.2	19.6	13.5	9.6	5.7
Occurrence date (day/ year)	15.16	19	5	8.3	2	2	4	8	11	15	30	28
Dry temperature (C°)	11.1	13.1	20.0	22.3	26.3	30.7	30.4	31.2	29.3	23.7	19.8	15.3
Relative humidity (%)	67	65	53	50	43	44	49	50	51	58	62	64
Relative humidity per hour 0300 UT (%)	82	82	71	73	65	66	69	71	71	76	78	78
Relative humidity per hour 1200 UT (%)	45	43	33	31	25	27	32	30	32	39	41	45

NB:

- # UT = Universal Time (2 hours less than local time in winter, and 3 hours less in summer)
- # Data obtained from El-Minya Meteorological Station records and forms. It covers an area of a 50-km radius

Table-3
Monthly Averages of 2008 El-Minya Meteorological Station Parameters

↓ Parameter / Month →	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total precipitation (mm/month)	2.6	0	0	0	0	0	0	0	0	0	0	0
Largest precipitation within 24 hrs (mm/day)	2.6	0	0	0	0	0	0	0	0	0	0	0
Occurrence date (day/year)	21	=	=	=	=	=	=	=	=	=	=	=
Total cloud cover (oktas)	1.9	1.3	1.1	0.8	1.3	0.1	0	0.1	0.2	0.5	0.9	1.4
Surface wind speed (m/sec.)	2.57	2.57	2.57	3.60	4.11	3.08	3.60	2.57	2.57	2.57	1.54	2.06
Days of thunder storm occurrence (days/month)	0	0	0	0	0	0	0	0	0	0	0	0
Days of mist occurrence (days/month)	19	20	11	15	10	8	11	11	11	16	22	16
Days of fog occurrence (days/month)	7	2	0	0	0	0	0	0	0	0	1	2
Days of blowing sand occurrence (days/month)	8	3	7	11	7	2	5	4	2	2	1	2
Days of dust/sand storm occurrence (days/month)	0	0	0	0	0	0	0	0	0	0	0	0
Days of windstorm occurrence (days/month)	0	0	0	0	0	0	0	0	0	0	0	0
Days of cloud cover > 6/8 occurrence (days/month)	1	0	0	0	0	0	0	0	0	0	0	0

NB:

Impact = precipitation < 0.1 mm

Data obtained from El-Minya Meteorological Station records and forms. It covers an area of a 50-km radius

Table-4
Monthly Averages of 2008 El-Minya Meteorological Station Parameters

↓ Parameter / Month →	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sea level atmospheric pressure (hectopascals)	1019.1	1017.9	1015.5	1012.7	1011.2	1009.8	1007.4	1008.0	1011.3	1014.3	1017.7	1018.8
Highest sea level atmospheric pressure (hectopascals)	1034.7	1031.4	1031.3	1026.1	1023.4	1018.1	1014.9	1015.3	1020.3	1024.1	1028.6	1030.0
Occurrence date (day/ year)	4/1992	11/1992	3/1992	10/1997	8/1995	2/2004	24/1974	31/1985	29/1964	30/1996	28/2004	6/1994
Lowest sea level atmospheric pressure (hectopascals)	1002.3	1001.7	994.9	995.4	997.2	999.5	998.8	1000.7	1002.7	1003.0	1005.7	1002.4
Occurrence date (day/ year)	22/2004	23/1981	15/1998	29/1972	16/1983	5/1977	26/1961	12/1950	16/1998	19/1969	1/1979	17/1985
Maximum temperature (C°)	20.3	22.3	25.6	30.7	34.9	36.6	36.8	36.2	34.1	31.3	26.2	21.6
Minimum temperature (C°)	4.2	5.4	8.3	12.5	16.7	19.4	21.6	20.7	18.9	15.9	11.0	6.3
Highest maximum temperature (C°)	31.7	35.4	41.4	45.2	48.0	48.6	45.5	44.6	44.2	42.0	39.3	33.2
Occurrence date (day/ year)	15/1960	22/1941	26/1980	24/1981	31/1961	20/1992	5/1941	14/1968	6/1996	2/1989	2/1941	2/1956
Lowest minimum temperature (C°)	- 4.0	- 4.0	- 0.7	3.0	8.5	13.0	16.0	16.0	12.6	9.2	1.8	-0.8
Occurrence date (day/ year)	31/1950	7/1950	8/1943	7/1949	1/1948	2/1943	16/1952	29/1959	30/1949	27/1959	25/1988	26/1972
Dry temperature (C°)	11.8	13.4	16.7	21.6	26.0	28.2	28.8	28.3	26.3	23.1	17.9	12.3
Relative humidity (%)	62	56	51	42	37	40	47	51	53	55	62	65
Relative humidity per hour 0300 UT (%)	79	75	74	67	63	69	74	78	79	79	82	84
Relative humidity per hour 1200 UT (%)	39	34	30	22	19	22	27	30	31	32	38	42

NB:

- # UT = Universal Time (2 hours less than local time in winter, and 3 hours less in summer)
- # Data obtained from El-Minya Meteorological Station records and forms. It covers an area of a 50-km radius.

Appendix-F

Guidelines for the "Egyptian Environmental Impact Assessment"

Update of January 2009



**Arab Republic of Egypt
Cabinet of Ministries**



**Ministry of State for the Environment Affairs
Egyptian Environmental Affairs Agency
Environmental Management Sector**

Guidelines of Principles and Procedures for Environmental Impact Assessment



2nd Edition – January 2009



**Arab Republic of Egypt
Cabinet of Ministries**



**Ministry of State for the Environment Affairs
Egyptian Environmental Affairs Agency
Environmental Management Sector**

Guidelines of Principles and Procedures for Environmental Impact Assessment

2nd Edition – January 2009

Speech of the Minister of State for the Environment Affairs

Environmental impact assessment is one of the strategic tools upon which the Ministry of State for the Environment and the Egyptian Environmental Affairs Agency (EEAA) are based. It is also one of the main protective activities undertaken by EEAA.

The responsibility of EEAA can be summarized as follows:

- Set the required principles and criteria to undertake EIA studies and to review it and indicate the opinion based on the principles and conditions stipulated in the Environment Law 4/1994 and its executive regulations.
- Issue the needed EIA guidelines and indicate the procedures in that respect, in coordination with the Competent Administrative Authorities.
- Monitoring projects' compliance with environmental requirements issued to them and their compliance to Law 4/1994 of the Environment and its executive regulation.

The review of the studies are undertaken by a qualified team of researchers in the Central Department for EIA and technical expertise is also sought from the Egyptian universities and research centers for complete EIAs.

Within the policy of the Ministry of State for the Environment to protect the environment and promote development and facilitate procedures for investors, a compressive review and development was undertaken of the environmental categorization lists and forms in coordination with Ministries and concerned entities. This development was presented to EEAA Board of Directors and was approved.

In cooperation with the World Bank and with the support of the Environmental Sector Program, the Ministry has also reviewed the EIA system and undertaken the needed modifications in order to be compatible with the systems adopted in numerous developed countries and World Bank system adopted in projects financing. I have given directions to print and distribute the guidelines among Competent Administrative Authorities, Ministries and concerned entities, make it available for investors and consulting firms as well as apply it starting 1/7/2009.

With my wishes for success,

Eng. Maged George Elias
Minister of State for the Environment Affairs

Table of Contents

1. Introduction.....	1
1.1 Overview on the Guidelines.....	1
1.2 Background on the EIA System.....	1
2. Legislative Framework	2
3. The Egyptian EIA System	4
3.1 Categorization of Projects.....	4
3.2 EIA Procedures	4
3.3 Role of Competent Administrative Authorities (CAAs) in the EIA System	6
3.3.1 Provide Technical Assistance to Project Proponents.....	6
3.3.2 Ensure the Approval of the Project Site.....	6
3.3.3 Receive EIA Documents (Form/Study)	6
3.3.4 Forward the EIA to EEAA.....	7
3.3.5 Role of CAAs During EEAA’s Review of the Assessment Documents	7
3.3.6 Receive EEAA Decision Regarding the EIA.....	7
3.3.7 Role of CAAs During Appealing Procedures	7
3.3.8 Follow-up the Implementation of the EIA Requirements During Post Construction Field Investigation (before the operation license).....	8
4. The Appeal System	8
5. Project Classification	8
5.1 Criteria for Classification and their Application.....	8
5.2 Special Cases	10
6. Requirements of Different EIA Categories.....	11
6.1 Introduction.....	11
6.2 Category A Projects	12
6.2.1 Introduction.....	12
6.2.2 Requirements for Filling in the Environmental Impact Assessment Form A	12
6.3 Category B Projects	14
6.3.1 Introduction.....	14
6.3.2 Requirements for Filling in the Environmental Impact Assessment Form B	14
6.4 Category C Projects	18
6.4.1 Introduction.....	18
6.4.2 Requirements for EIA Study for Category C Projects.....	18
6.4.3 Requirements for Public Consultation	23
7. Requirement and Scope of EIA Public Disclosure	26

Annexes

Annex 1:

List of Projects that Have Special Conditions (not subject to EIA)

Annex 2:

Abstracts from Law 4/1994 and its Executive Regulations in relation to EIA

Annex 3:

A list of Some of the CAAs

Annex 4:

Category A List and Form

Annex 5:

Category B List and Form

Annex 6:

Category C List

1. Introduction

1.1 Overview on the Guidelines

This document is a guiding document produced by the Egyptian Environmental Affairs Agency (EEAA) regarding Environmental Impact Assessment (EIA). It updates and supersedes the guidelines issued in 1996. It is produced based on the modifications undertaken in the procedures of the EIA system in 2006.

The guidelines form the basis that is applied during EIA preparation and review. The guidelines aim to document different procedures, requirements and tools of the EIA process and to ensure uniform application as well as emphasize the role of involved parties in the EIA process. In specific the guideline aim to:

- Describe the objective of the EIA process and its legal requirements.
- Identify the projects for which EIAs are required.
- Indicate the criteria for classification and the different levels of assessment.
- Describe the requirements for EIA of different categories.

The current guidelines target the project proponent and the Competent Administrative Authorities (CAAs), responsible for issuing construction and operation licenses, to guide them through the EIA process and its requirements.

1.2 Background on the EIA System

The Government of the Arab Republic of Egypt has issued Law no. 4/1994, for the Protection of the Environment. Law no 4/1994 addresses pollution resulting from existing projects or establishments as well as potential pollution from new establishments and expansions of existing ones. According to the law, new establishments are required to carry out an environmental impact assessment (EIA) before embarking on the construction or the implementation of the project or the relevant expansions.

Environmental impact assessment (EIA) process¹ is the systematic examination of consequences of a proposed project, aiming to prevent, reduce or mitigate negative impacts on the environment, natural resources, health and social elements as well as capitalize on positive impacts of the project. This examination yields an EIA form/study that:

- Documents the results of the process.
- Analyzes potential environmental and social impacts of the project
- Analyze the project alternatives
- Incorporates the results of the public consultation process
- Describes the needed environmental management plan (EMP)

The Egyptian EIA system is based on definite principles which have been set by Law no 4/1994 for the protection of the environment. Furthermore, EEAA has developed the detailed principles of the EIA system which include the following aspects:

¹ Environmental impact assessment (EIA) process is known in other systems like the World Bank (Operational Procedure 4.01) as environmental assessment (EA) process.

- Identifying the projects subject to the EIA system
- Indicating the rules and procedures for EIA
- Classifying the projects according to their environmental impact and the level of assessment

The EIA system in Egypt has been continuously reviewed and refined since 1995. In 2002, EIA procedures have been updated and updated EIA lists and forms were issued. The continuous review and improvement of the EIA system is a legal requirement of Law no 4/1994, where the system is reviewed every 5 years.

The current EIA guidelines are concerned with projects subject to the EIA system and classified within its different EIA categories (A, B and C). Annex (1) includes a list of projects that are not subject to the EIA system², and for which special conditions are set to be applied by the licensing authorities.

2. Legislative Framework

According to Law no 4/1994 for the protection of the environment and law 9/2009 modifying it, an EIA should be undertaken for new establishments/projects and for expansions/renovations of existing establishments before construction. The law considers the EIA as a main condition for licensing and thus the project that does not prepare an EIA or does not abide by the EIA conditions could be subjected to its license revoke (Article 10, 12 and 19 of the executive regulations of Law 4/1994, modified by the decree 1741/2005).

The articles no. (19, 20, 21, 22, 23, 34, 70, 71, and 73) of Law no. 4 of 1994 stipulate measures and procedures related to the EIA. These are further clarified by the provisions of articles no. (10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 34, 57, 58, 59 and 60) of the Executive Regulations (ERs) issued by the Prime Minister's Decree No. 338 of 1995, modified by decree no 1741/2005.

Decisions of the ministerial committee no 18/06/0503 dated 26/6/2005 and no 3/12/05/3 dated 5/12/2005 prohibit the establishment of industrial activities outside the ratified industrial areas/estates.

The main EIA stipulations in law no 4/1994 and its ERs are shown in the following.

Principles and System of EIA

1. EEAA shall, in agreement with the CAAs, issue a decision identifying the elements, designs, specifications and principles in light of which the project proponents will prepare the EIA. These include EIA lists, assessment requirements and documentation requirements (forms and table of contents of EIA report).

² These projects are not legally subject to the EIA requirements on condition that it is not established on the Nile or its branches or canals or on the sea coasts or in protectorates or tourism areas or archeological areas. Examples are vocational facilities with minimal potential impact that is mitigated through implementing special conditions.

The project proponent shall be committed to follow these requirements and prepare the needed documents in accordance with article 19 of the Law and article 10 of the ERs.

EEAA shall revise the decisions, identifying the elements, designs, specifications and principles whenever this is deemed necessary (Article 10 of the ERs).

2. According to article 4 of the Executive Regulations, EEAA Board of Directors must, approve the elements, procedures and requirements of the EIA system.
3. The CAAs should assess the environmental impacts of the facility where they review the EIA documents submitted by the project proponent and then forward them to EEAA. EEAA must review the EIA and notify the CAA of its opinion and required conditions to be taken in order to ensure environmental protection. This notification should be undertaken within a maximum of 30 days from receipt of the EIA at EEAA, otherwise, the EIA is considered approved. (Article 20 of Law 4/1994).
4. The CAA shall notify the project proponent with the results of the assessment, via a registered letter with an acknowledgment of receipt. The project proponent has the right to appeal in writing the result of the assessment within 30 days from the date of his notification, (Law 4/1994 Article 21 and Article 14 of the ERs).
5. The Chief Executive Officer of the EEAA shall nominate three experts for the membership of the Permanent Review Committee as stipulated in Article 14 of the ER. The Minister for the Environment shall issue a decree for the formation of the Permanent Review Committee to be headed by a counselor from the State Council and the membership is as follows:
 - A representative of EEAA to be nominated by EEAA CEO.
 - The project proponent, or his/her representative, with an official power of attorney.
 - A representative of the CAA.
 - Three experts nominated by EEAA CEO for the membership of the Permanent Review Committee, for a period of three years.

EEAA CEO shall nominate one of the Agency's personnel to prepare the minutes of the meetings of the Permanent Review Committee and act as reporter for the committee. This delegate, however, shall not have a vote in the decision (Law 4/1994 Article 21 and Articles 15, 16 of the ERs).

6. EEAA shall keep a register including copies of the EIAs studies/forms, the final results of the review, and the other measures to be taken by the project proponent as required by EEAA (Article 12 of the ERs).

Annex (2) of this document includes the detailed stipulations stated in the Law and its Executive Regulations.

3. The Egyptian EIA System

3.1 Categorization of Projects

The ERs of Law 4/1994 identify projects which should be subjected to an EIA based upon the following main principles:

- Type of activity undertaken by the establishment.
- Extent of natural resources exploitation.
- Location of the establishment.
- Type of energy used to operate the establishment.

The EIA system classifies the projects into three categories based on different levels of EIA requirements according to severity of possible environmental impacts and location of the establishment and its proximity to residential settlements:

- 1- Category (A): projects with minimum environmental impacts. These are required to complete an environmental impact assessment form A.
- 2- Category (B): projects with potential adverse environmental impacts yet less adverse than category C. These are required to complete an environmental impact assessment form B.
- 3- Category (C): projects which have highly adverse impacts. These are required to prepare a full EIA study.

The classification of projects is based on criteria indicated in section (5). Based on these criteria, illustrative lists of projects for the three categories have been prepared to guide the project proponents. The lists are not exhaustive and provide examples for the projects in each category.

3.2 EIA Procedures

Each of the three categories has specific requirements for impact assessment yet have similar processing procedures (as shown in figure 1).

- The CAA directs the project proponent, on his request, to the correct project category using the illustrative lists and inform him/her of the related requirements. In case the project is not included in the EIA indicative lists, consultation with EEAA is undertaken using the criteria described in section (5) to identify the category of the project. EEAA will have the final decision regarding the classification and should provide the proponent with its opinion in writing via the CAA.
- The project proponent or whom he delegates applies to the CAA, before any construction works are initiated, with a letter of intent and attaches 4 copies of the required documents (forms/study) in Arabic, the official language for the review.

A CD of the study is also attached for category C projects. It is preferred to submit one English copy of the EIA if it exists.

- The CAA evaluates the EIA documents through checking the study/form to ensure that the selected category is correct and that the project is compatible

with the general plans for the CAA and to check that compliance of the information submitted with that required and check its completeness. If the project was not correctly categorized, the CAA directs the proponent to the right category and requests the resubmittal of the required documentation.

- The CAA formally forwards 3 copies of the documents to EEAA for review and evaluation. Such forwarding of the EIA documents is considered as a non-objection on the project according to criteria other than environmental ones.
- EEAA reviews and evaluates the documents and provides its remarks and conditions needed for mitigation and minimizing negative impacts. EEAA notified the CAA of its decision (approval, objection or information requests, etc.) within 60 days of EEAA's receipt of completed documents else it is considered an implicit approval. For projects deemed of high impacts by EEAA, an independent advisory entity will be considered by EEAA for additional advice. The review could require site inspection or meetings with the proponent or his delegate to discuss specific points of the study.
- EEAA registers the documents, its opinion and recommendations in the EIA register at EEAA and notifies the CAA of its decision. The CAA officially notifies the project proponent of the results via a registered letter with an acknowledgment of receipt and communicates the final result of the review. The result can be:
 - An approval of the EIA form/study, while indicating the environmental requirements (specified in the approval), with which the project proponent should comply.
 - An objection of the EIA and a recommendation to refuse the project. Reasons for objection are included and are usually related to environmental reasons related to the project and the maximum carrying capacity for pollution in the project area.
- Further requests from the proponent
 - Additional information or clarifications could be requested from the project proponent. The date of the receipt of the needed information to EEAA via the CAA is considered a new review process with a 60 days period.
 - For some of category B projects, EEAA might request scoped EIA study for certain components, impacts or processes of the project in accordance with the Terms of Reference prepared by EEAA.
 - In case of some of category C projects, EEAA could request additional studies such as risk assessment or cumulative pollution load (information to be provided through EEAA) to ensure compliance with allowable limits.
- The CAA follows-up and ensures the implementation of EEAA decision and related conditions.

3.3 Role of Competent Administrative Authorities (CAAs) in the EIA System

The CAAs are the entities responsible for issuing licenses for project construction and operation. The EIA is considered one of the requirements of licensing. The CAAs are thus responsible for receiving the EIA forms or studies, check the information included in the documents concerning the location, suitability of the location to the project activity and ensure that the activity does not contradict the surrounding activities and that the location does not contradict with the ministerial decrees related to the activity. The CAA forwards the documents to EEAA for review. They are the main interface with the project proponents in the EIA system. Annex (3) includes a list of some CAAs.

The CAAs should ensure that EIAs are prepared before any construction works are initiated. This will be according to the elements, designs, specifications, requirements and principles issued by EEAA, in agreement with the CAA and included in the guidelines.

3.3.1 Provide Technical Assistance to Project Proponents

When approached by project proponents, the CAAs provide technical support as follows:

- 1- Examine the illustrative EIA lists to identify the category of the project (section 5 of the guidelines).
- 2- Consult with EEAA in case the project is not included in the EIA indicative lists, using the criteria described in section 5 of the guidelines to identify the category of the project. EEAA will have the final decision regarding the classification and should inform the project proponent of its opinion in writing.
- 3- Provide the project proponent with EIA forms for Category A or B projects.
- 4- Advise the project proponent regarding the requirements of the form and address any questions.

3.3.2 Ensure the Approval of the Project Site

- 1- Check national laws and regulations as well as governorate specific decrees related to the location of the project.
- 2- Inform the project proponent that the EIA will not be approved if the location is not appropriate or if there is any other objection.
- 3- Conduct a field visit to the project site (for categories A and B) and prepare field investigation report and attach it to the EIA.

3.3.3 Receive EIA Documents (Form/Study)

- 1- Check that the project is correctly classified by the project proponent using the indicative EIA lists.
- 2- If the project was wrongfully classified, direct the project proponent to the correct category and provide him/her with the requirements and request the resubmittal of the EIA document.

- 3- For Categories A and B, check the EIA form for completeness³ to make sure that all questions have been answered. Identify parts where further information or clarification is needed.
- 4- For Category C projects, the CAA should ensure that the study follows the table of contents for Category C studies.
- 5- Contact the project proponent officially and direct him/her to complete missing information.

3.3.4 Forward the EIA to EEAA

- 1- Organize the EIA package to be sent to EEAA including the EIA form/study and its attachments as well as field investigation report and stamped project maps.
- 2- Forward 3 copies of Category A, B or C EIA package by mail/courier to EEAA⁴. For category (C) projects, the CD of the study is also sent to EEAA.

3.3.5 Role of CAAs During EEAA's Review of the Assessment Documents

- **Information and Clarification Requests**

- 1- Receive EEAA's letter requesting additional information.
- 2- Forward EEAA request to the project proponent by a registered letter.
- 3- Forward the response of the project proponent to EEAA.

- **Meetings with Proponents**

- 1- Receive EEAA letter requesting a meeting with the project proponent.
- 2- Forward the letter to the project proponent.
- 3- Attend the meeting and participate in discussions.
- 4- Obtain a copy of the minutes of the meeting from EEAA indicating the agreed upon points.

3.3.6 Receive EEAA Decision Regarding the EIA

- 1- Receive EEAA's decision concerning the EIA.
- 2- Forward EEAA's decision to the project proponent.

3.3.7 Role of CAAs During Appealing Procedures

- 1- Direct the project proponent to the appeal procedures.
- 2- Receive EEAA notification of the date of the committee meeting.
- 3- Attend the committee meeting.
- 4- Obtain a copy of the decision of the Permanent Committee for Review.

³ The EIA forms are designed so that, for most questions, information required (such as components of project) is clearly indicated.

⁴ Currently, the Regional Branch Offices (RBOs) of EEAA are involved in the review of category A EIA forms.

3.3.8 Follow-up the Implementation of the EIA Requirements During Post Construction Field Investigation (before the operation license)

- 1- Before granting the operation license, the CAA reviews the requirements that the facility should abide with through checking the EIA approval
- 2- A field visit is undertaken to check the compliance with the requirement

4. The Appeal System

The procedures for the appeal system are included in law 4/1994 for the protection of the environment and its ERs (Articles 21 of law 4/1994 and articles 14-16 of its ERs) and are presented in the following:

- The proponent has the right to appeal the decision taken by EEAA regarding the EIA and/or the measures required to be implemented. The appeal is submitted to the Permanent Review Committee by project proponent within 30 days after receiving such decision.
- This appeal is to be submitted, in writing, to EEAA including reasons of appeal, supported with legal and scientific reasons as well as other documents that verify submitted evidence. The appeal is to be submitted by the project proponent or by his representative according to an official power of attorney.
- The Permanent Review Committee shall convene, at the invitation of EEAA CEO within fifteen days as of the date of the Agency's receipt of the written appeal. The Permanent Review Committee has to make its decision within 60 days from the date of receiving the appeal documents. The Permanent Appeal Committee may seek the assistance of any person it chooses when carrying out its functions, and in this case it shall define the task entrusted to him/her, or in what respect his/her assistance is to be sought.
- The committee shall issue its decision, concerning the appeal submitted to it, with the majority of votes. This decision must be issued within 30 days from the date of the receipt of the complete documents of the appeal.
- The committee shall communicate its decision to the CAA via a registered letter with an acknowledgment of receipt.

5. Project Classification

The EIA system includes three categories A, B and C; each with its specific nature, assessment requirements and documentation requirements as per law 4/1994 and its executive regulations.

The Egyptian system has, since its establishment by law 4/1994, prepared non-exhaustive guiding lists for projects of the three categories. EEAA reviews the lists and forms periodically whenever required and takes needed actions based on accumulated experience and in consultation with concerned entities.

5.1 Criteria for Classification and their Application

The classification of projects depends on a number of criteria that take into consideration the elements of location, resources consumption, nature of project and

energy as per law 4/1994, for the protection of the environment. These criteria have been elaborated as follows:

- **Nature of the project** was elaborated in terms of types of inputs, outputs as well as the changes that the project may lead to and its geographical extent
- **The energy** is taken into consideration in terms of the nature of inputs
- **Resource consumption** is considered as one of the criteria

The criteria assume locations that are not sensitive, as defined by law 4/1994. Sensitive locations are considered as special cases for which special classification apply.

Accordingly, the classification is undertaken according to the following criteria⁵:

- Consumption of resources⁶
- Nature of the project and the change it may cause on the environment and resources
- Nature of inputs and nature and severity of aspects and pollution generated.
- Geographical extent of the project and its effects.

For each of these criteria, the classification approach depends on indicating three levels of severity (highest, medium and lowest). These levels have been indicated to guide the application of the criteria and render it more transparent so as to ensure uniform, equal and fair application of the criteria, guide the final decision and judgment of EEAA as well as support the project proponent in identification of the category of the project.

The three levels are:

- **Highest Level**

- Consumption and use of large quantities of resources.
- Causing a permanent and radical change in predominant landuse and development trends.
- Use or production or handling of hazardous substances in any of its forms solid, liquid and gaseous as an integral aspect of the activity.
- Handling or generation of hazardous waste in any of its forms solid, liquid and gaseous as an integral aspect of the activity.
- Generation of high loads of non-hazardous liquid, gaseous or solid wastes/pollutants, implied by the nature of the activities.
- Extended geographical extent and effect.
- Numerous environmental, health and social aspects in the construction and operational phases with high magnitudes.

- **Medium Level**

- Consumption and use of medium quantities of resources.
- Causing a permanent yet confined change in predominant landuse and development trends.
- Use or production or handling of hazardous substances in any of its forms solid, liquid and gaseous as a secondary aspect of the activity.

⁵ These criteria are compatible with those of most EIA systems such as the EU and EBRD systems.

⁶ Resources: Natural, human or economic resources.

- Handling or generation of hazardous waste in any of its forms solid, liquid and gaseous as a secondary aspect of the activity.
 - Generation of medium load of non-hazardous liquid, gaseous or solid wastes/pollutants, implied by the nature of the activities.
- **Lowest Level**
 - Consumption and use of limited quantities of resources.
 - Not causing permanent change in predominant landuse and development trends.
 - No use or production or handling hazardous substances in any form.
 - No handling or generation of hazardous waste in any form.
 - Generation of a small load of non-hazardous pollutants.

The classification is based on these criteria in the general case. However, for specific cases shown in section (5.2) of the guidelines, other classification approach is followed. Illustrative lists are prepared as examples of projects belonging to each category. The lists are not exhaustive and if a project cannot be found in any of the three lists, the project proponent should approach the CAA for assistance. The CAA consults with EEAA which provides the final decision regarding the categorization through a written response.

Using the criteria:

- Category A project: The project which meets all criteria of lowest level.
- Category B project: The project which meets at least one criterion of the medium level and the rest is of the lowest level.
- Category C project: The project which meets at least one criterion of the highest level.

Figure (2) provides a flow chart summarizing the above decision rules.

5.2 Special Cases

There are a number of special cases for which projects are not classified according to the criteria included in section (5.1) but are classified differently. These cases include:

- Projects in areas that are environmentally sensitive
 - Projects located in a development for which an integrated EIA has been prepared
 - Expansions of existing facilities/projects
- **Projects in Areas that are Environmentally Sensitive**

In this case, the project is located on, or in the vicinity of, or overlooks a location that should be preserved because of its environmental or heritage value or when any change in its characteristics causes large changes in its nature or its use. These include protectorates⁷, Nile banks and its branches, coastlines of the sea, lakes, wetlands, archeological areas and highly dense areas, as specified by law 4/1994. In this case, the project is considered of a more strict category than in the normal

⁷ In case of protectorates, specific conditions for development are imposed as per Law 102/1983 on in establishment decree of the protectorate.

case, i.e. if the project is originally classified as category A or B, it is considered in this case a category B or C respectively.

- **Projects Included in a Development for Which an Integrated EIA⁸ has been Prepared**

In this case, the project will be required to abide by the requirements of the category that is less strict than its original category if the projects are similar (i.e. cluster of foundries or tourism center). In case the projects of the development are not similar, projects of category C type will prepare Scoped EIA according to requirements set by EEAA. In both cases, the project proponent will be required to abide by all conditions in the approved integrated EIA of the development and to take them into consideration when preparing the project EIA.

- **Expansions of Existing Facilities/Projects**

The level of EIA assessment of these expansions is a function of the nature of the expansion, existing establishment and the environmental status of the project area as well as whether it has prepared an EIA:

- **Expansions in capacity:** The expansion will have the same category as the existing facility unless the facility has prepared an EIA. In that case, the expansion of the same activity will have a less strict category given there is no change in the surrounding environmental conditions (example category B in case of an expansion in a category C establishment that has prepared an EIA). The proponent will be required to abide by all conditions in the approved EIA for the existing project and to take them into consideration when preparing its individual EIA.
- **A new component:** In this case the component is classified according to its nature as an individual project. Example an industrial wastewater treatment of a facility is a category B project irrespective of the category of the facility.
- **Changing the production:** In this case, the expansion is considered as an individual new project and is categorized accordingly.
- **In-process modification (changing the production pattern of machines or units) and in-plant modifications (any modifications in buildings, infrastructure):** The category of the EIA depends on the nature of the modification and its potential impact on the environment or health. EEAA is approached through the CAA to indicate the correct category.

6. Requirements of Different EIA Categories

6.1 Introduction

The three categories A, B and C differ in the requirements of analysis and assessment. Category A has the basic requirements essential for environmental impact assessment. Requirements of category B are more stringent than those of category A and so do those of category C. This is related to the definition of the three categories and the nature of projects included in each category. Furthermore, some of the requirements of categories B and C (example public consultation and analysis of alternatives) do not exist for category A projects.

⁸ Integrated EIA is also known as Strategic or Regional EIA.

Comparing the two forms for categories A and B, they appear to be similar in the type of questions included. However, the level of details and analysis required for category B is much more than that of category A projects.

Fulfilling these requirements will facilitate the review process and ensure a justified decision based on a comprehensive assessment of project components and associated impacts.

6.2 Category A Projects

6.2.1 Introduction

This category includes projects with minimum environmental impacts⁹. The project proponent has to fill in the environmental impact assessment form A included in annex (4) of the guidelines. A non-comprehensive indicative list of category A projects is also included in annex (4) to provide guidance to the proponents. The form and updates of Category A projects indicative list could be acquired from the CAA or from EEAA headquarters or web-site (www.eeaa.gov.eg). Section (5) provides the basis for the classification.

6.2.2 Requirements for Filling in the Environmental Impact Assessment Form A

These requirements identify the level of information needed to be included for the environmental impact assessment form for category A projects. A number of these requirements will entail the attachment of specific documentations to the form.

6.2.2.1 Project Description

Category A projects require a detailed description of the project and its components. This entails the following:

- Identification of project components and attaching a project layout.
- Description of different components of the project (including utilities) and the activities undertaken in each component while providing illustrative figures of the sequence of the operations (examples flow charts for industrial facilities). This is in addition to a quantitative description of the project inputs and outputs, including water and energy, in the form of annual quantities.
- Quantify the labor during operation and their mode of operation and work shifts.
- Description, quantitative whenever possible, of the environmental aspects/issues associated with the project components during normal operation. This could be in the form of quantities, concentrations, intensity, or flow as relevant. Aspects include the use of infrastructure, traffic, waste, emissions, wastewater, etc.
- Identification of proactive measures taken in project design to minimize impacts such as energy and water conservation or waste minimization.

⁹ Note that current category A projects are not similar to the previous list due to the exclusion of the projects that are not subject to the EIA system.

- Description of the construction activities, time schedule and related inputs, including labor as well as related environmental aspects/issues for each activity, while quantifying these aspects whenever possible

6.2.2.2 Laws and Regulations

- Listing of the relevant stipulations (articles and requirements) of applicable environmental laws and regulations and decrees related to the project nature, environmental aspects and location.
- Listing of the environmental conditions and requirements that the facility should abide with (either in the integrated EIA in case the project is within a larger development for which an EIA was prepared or the EIA of the original establishment in case the project is an extension of an existing establishment)

6.2.2.3 Baseline Description

For the description of the baseline environment of the project area, it is required to:

- Include a general description of the site and its vicinity (immediate surroundings) in terms of physical, biological and social environments while illustrating the landuse in the area and available infrastructure.
- Attach a map with an appropriate scale, ratified by the CAA showing the neighbors, roads and adjacent activities.
- Description of the previous landuse of the project site\

The extent of coverage of these components depends on the location and nature of the project.

6.2.2.4 Assessment of Impacts

- **Impacts of the Project on the Environment**

It is required to undertake an analysis of impacts in normal operations and emergencies (including fires and spills, etc. in relation to the compliance of the project to the relevant requirements.

- **Impacts of the Environment on the Project**

The CAA is required to inform the project proponent of the adjacent incompatible developments. It is recommended that the project proponent estimates the impact of the previous landuse of the site on the future activities of the project.

6.2.2.5 Environmental Management Plan (EMP)

An Environmental Management Plan (EMP) is an integral part of the EIA report. It provides an essential link between the negative impacts and mitigation measures, and implementation and operational activities. The EMP should be formulated in such a way that it is clear and concise as much as possible and give reference to other relevant plans relating to the project, such as emergency plan, which will be prepared later on.

The EMP requirements for category A projects includes:

- Clear identification of needed mitigation measures based on the results of the impact assessment. These include:
 - Needed measures to address negative impacts including environmental management procedures in both construction and operation phases
 - Preventive measures for emergency cases as well as elements of the emergency plan, prepared according to labor law no 12/2003.
- Monitoring plan including parameters to be periodically measured, frequency and sampling points.
- Structure for environmental management and responsibilities

6.3 Category B Projects

6.3.1 Introduction

This category includes projects with relatively large environmental impacts. The proponent has to fill in the environmental impact form B included in annex (5) of the guidelines as well as attach the required documentation. Annex 5 also includes a non-exhaustive indicative list of category B projects to provide guidance to the project proponent. Section (5) provides the basis for the classification. The form and updates of Category B projects indicative list could be acquired from the CAA or from EEAA headquarters or web-site (www.eeaa.gov.eg).

Based on the review of form B, and upon specific criteria developed by EEAA, EEAA may request the proponent to submit a scoped EIA for specific identified components and impacts and will indicate its requirements.

6.3.2 Requirements for Filling in the Environmental Impact Assessment Form B

These requirements identify the level of information needed to be included for the environmental impact assessment form for category B projects. A number of these requirements will require the attachment of specific documentations to the form.

6.3.2.1 Indicate Name of Parties Preparing the Form

The name of parties who prepared the form should be indicated together with the role of each.

6.3.2.2 Project Description

Category B requires a detailed description of the selected alternative. This includes:

- Indication of the project components and attaching a project layout.
- Description of different components of the project (including utilities) and the activities undertaken in each component while providing illustrative figures of the sequence of the operations/activities (example flow chart for industrial projects). This is in addition to a quantitative description of the project inputs and outputs, including water and energy, in the form of annual quantities.
- Quantify the labor during operation and their mode of operation and work shifts

- Description, quantitative whenever possible, of the environmental aspects/issues associated with the project components during normal operation. This could be in the form of quantities, concentrations, intensity, flow as relevant. Aspects include use of infrastructure, traffic, waste, emissions, wastewater, etc.
- Identification of proactive measures taken in project design to minimize impacts such as substitute of hazardous material to a more environmentally friendly material, energy and water conservation, waste minimization¹⁰.
- Description of the construction activities and quantification of inputs, including labor and related environmental aspects/issues for each activity.

6.3.2.3 Laws and Regulations

- Listing of the relevant stipulations (articles and requirements) of applicable environmental laws and regulations related to the project nature, environmental aspects and location.
- Listing of the environmental conditions and requirements that the facility should abide with (either in the integrated EIA in case the project is within a larger development for which an EIA was prepared or the EIA of the original establishment in case the project is an extension of an existing establishment)
- Analysis of relevant landuse plans in the area.

6.3.2.4 Baseline Description

For the description of the baseline environment in the project area, it is required to:

- Include a general description of the site and its vicinity in terms of physical, biological and social environments.
 - **Physical environment:** This covers the main features of the project area including meteorological data (particularly prevailing wind direction, temperature and rain fall), topographic, geological and soil features, surface hydrology and groundwater and seismic activity, according to the case.
 - **Biological environment:** This includes the ecology of the project site and a brief description for the ecology of the surrounding area. The ecology data includes fauna and flora whether terrestrial or marine at the area, according to the case.
 - **Social environment:** This data include the general economic features including employment, available infrastructure, etc and general landuse in the area while illustrating sensitive areas as well as social characteristics including population characteristics, available education levels, etc. as well as services and traffic, according to the case.
 - Landuses in the project area and other existing sources of pollution including the existing establishments in case of expansions.

The extent of coverage of these components depends on the location and nature of the project.

¹⁰ For industry, the Pollution Prevention and Abatement Handbook (PPAH) developed by the World Bank, provide guidance to pollution prevention and is very useful in that respect. EEAA sector-specific self-monitoring and cleaner production manuals are also useful and available at EEAA site.

- Attach a map with an appropriate scale, ratified by the CAA showing the neighboring development, roads and adjacent activities.
- Detailed description (quantified as much as possible) of the relevant environmental elements expected to be affected, according to the nature of the area and activities of the project.
- Description of the previous landuse of the project site

6.3.2.5 Assessment of Impacts

- **Impacts of the Project on the Environment**
 - Detailed analysis of the impacts during construction and operation phases in normal operation and emergency situations. This necessitates a detailed description of the impact while clearly indicating criteria upon which significant impacts are determined.
 - Analysis should address impacts on physical, biological and social environment.
- **Analysis of significant impacts, to be quantified whenever possible**
 - Impacts of the Environment on the Project Impacts due to the natural factors, such as landslides, seismic activities and floods, and man-made activities as well as impacts due to the previous landuse of the project site are analyzed.

6.3.2.6 Analysis of Alternatives

It is required to analyze the project alternatives with due consideration to environmental, social and economic factors. The principles guiding the generation of alternatives should not be limited to minimizing the adverse impacts of the project as designed but should also aim at integrating the environmental and social considerations into the early stages of planning together with other technical and economic factors to avoid environmental impacts.

Alternatives are generated to achieve the objectives of the project within the project constraints. Alternatives to the project may address aspects such as project location when possible, site layout, technologies, design options, and management systems. In most cases, not all the aspects are relevant or need to be considered. The no-action (no-project) alternative should also be investigated, whenever possible

The comparison of alternatives should take into consideration environmental, economic, technical as well as landuse and socio-culture aspects. The rationale for considering or rejecting the various alternatives should be transparent and justified.

6.3.2.7 Environmental Management Plan (EMP)

An Environmental Management Plan (EMP) is an integral part of the EIA report. It provides an essential link between the impacts and mitigation measures, and implementation and operational activities. The EMP should be formulated in such a way that it is clear and concise as much as possible. The EMP should provide reference to identify linkages to other relevant plans relating to the project, such as the emergency plan, which will be prepared later on.

The following aspects should be addressed within the EMP:

- **Summary of Significant Environmental Aspects and Impacts**

This part identifies and briefly summarizes predicted adverse environmental and social impacts for which mitigation is required. Cross-referencing to the EIA report or other documentation is required for more details.
- **Description of Mitigation Measures**

The EMP should identify feasible and cost effective measures to reduce potentially significant adverse environmental and social impacts to acceptable levels. Each mitigation measure should be briefly described with reference to the impact to which it relates and the conditions under which it is required (for example, continuously or in the event of emergencies). Where the mitigation measures may result in secondary impacts, their significance should be evaluated. A cost estimate of the mitigation measures is required to be included.

Measures should include yet not limited to:

 - Needed measures to address impacts (management procedures or physical intervention) in different phases
 - Preventive measures for emergency cases as well as elements of the emergency plan, prepared according to the Labor law no 12/2003
- **Description of Self-Monitoring Program**

Environmental performance self-monitoring program will be designed to check whether mitigation measures are implemented, have the intended result, and that corrective measures are implemented. The monitoring program will clearly indicate the linkages between environmental impacts, parameters to be measured, methods to be used, sampling locations, frequency of measurements and allowable limits as well as a cost estimate for the monitoring plan.
- **Institutional Arrangements**

Responsibilities for mitigation and monitoring will be clearly defined. Training needs will also be indicated. The EMP will identify arrangements for coordination between the various parties responsible for mitigation. It is important to account for project constraints and to include a cost estimate for the program.
- **Requirements and Scope of EIA Disclosure**

The scoped EIA for category B projects are to be posted on EEAA website, excluding any sections that include sensitive information related to commercial, technical and security issues.

Electronic copies of category B forms and scoped EIA will be stored in the electronic library of EEAA EIA Central Department and the original forms and scoped studies will be stored at the RBOs responsible for the areas where the projects are located.

6.4 Category C Projects

6.4.1 Introduction

This category includes projects with substantial environmental impacts and thus needs a full EIA study. The project proponent or his delegate has to prepare a full EIA following the table of contents indicated in section (6.4.2). An indicative non-exhaustive list of category C projects is included in annex (6) to provide guidance to the project proponent. The list can be found on the EEAA website (www.eeaa.gov.eg). Section (5) provides the basis for the classification. EEAA has prepared a number of sector-specific EIA guidelines. These are available at EEAA headquarters or web-site.

6.4.2 Requirements for EIA Study for Category C Projects

The following requirements indicate the different elements required to complete the environmental impact assessment. For category C project, a detailed full EIA study is required to fulfill the requirements included in this section according to the following table of contents:

- Executive summary.
- Legal and administrative framework.
- Description of the project.
- Description of the environment.
- Identification and analysis of Impacts.
- Analysis of alternatives.
- Public consultation.
- Environmental management plan.
- List of references.
- Annexes include (yet not limited to):
 - List of consultants participating in the study and their role
 - Lists of attendees in public consultation meetings.
 - Agenda of public consultation meetings

6.4.2.1 Requirements related to the Consultants

The EIA should be carried out by an environmental consultant (or environmental consultancy firm).

The list of all consultants contributing to the EIA study should be attached to the study together with their role in the process.

6.4.2.2 Executive Summary

The proponent is required to prepare an executive summary including a brief description of the study and its results including a description of the project and its components and its related environmental aspects, potential environmental impacts and related environmental management plan (EMP). The summary should also account for public consultation activities. The summary should indicate the company

contact person for more information. As will be seen later, this summary will be disclosed to the public.

6.4.2.3 Project Description

For Category C projects, it is required to have a detailed description of the project and its components. This entails:

- Identification of the project components and attaching a site map and a project layout.
- Description of different components of the project¹¹ (including utilities and transport) and the activities undertaken in each component while providing illustrative figures of the sequence of the operations. This is in addition to a quantitative description of the project inputs and outputs, including water and energy, in the form of annual quantities.
- Quantify the labor during operation and their mode of operation and work shifts
- Description of the activities of decommissioning/closure, if applicable. (EEAA will identify the projects that should prepare and include a preliminary closure plan in the EIA)
- Quantitative description (whenever possible) of the environmental aspects/issues associated with the project components during the operation phase. This could be in the form of quantities, concentrations, intensity or flow as relevant. Pollution loads are also calculated. Aspects include waste, emissions, wastewater, etc.
- Identification of proactive measures taken in project design to minimize impacts such as substitution of hazardous material to a more environmentally friendly material, energy and water conservation and minimization of waste¹².
- Description of the construction activities, time schedule and quantification of inputs and related environmental aspects/issues for each activity.

6.4.2.4 Laws and Regulations

- Listing of the relevant stipulations (articles and requirements) of applicable environmental laws and regulations related to the project nature, environmental aspects and location.
- Listing of the environmental conditions and requirements that the facility should abide with
- Analysis of relevant landuse plans in the area.
- Analysis of relevant applicable international conventions to which Egypt is a signatory.

6.4.2.5 Baseline Description

For the description of the baseline environment in the area, it is required to:

¹¹ EEAA has developed a number of sector-specific guidelines to detail and tailor the requirements on the specific nature of the sector.

¹² For industry, the Pollution Prevention and Abatement Handbook (PPAH) developed by the World Bank provide guidance to pollution prevention and is very useful in that respect. EEAA sectorspecific self-monitoring and cleaner production manuals are also useful and available at EEAA site.

- Include an exhaustive description of environmental attributes in the project area in terms of physical, biological, social and cultural (if relevant) environments according to the nature of the area, project size, potential impacts.
 - **Physical environment:** This covers the main features of the project area including meteorological data (particularly prevailing wind direction, temperature and rain fall), topographic, geological and soil features, surface hydrology and groundwater and seismic activity, according to the case.
 - **Biological environment:** This includes the ecology of the project site and a brief description for the ecology of the surrounding area. The ecology data includes fauna and flora whether terrestrial or marine at the area, according to the case.
 - **Social environment:** This data include the general economic features including employment, available infrastructure, etc and general landuse in the area while illustrating sensitive areas as well as social characteristics including population characteristics, available education level as well as services and traffic, according to the case.
 - Landuses in the project area and other existing sources of pollution including the existing establishments in case of expansions.

The extent of coverage of these components depends on the location and nature of the project.

- As much as possible, quantify relevant baseline status for attributes that will potentially be significantly impacted by the project or may lead to impacts on the project.
- Investigate the previous landuse of the project site

6.4.2.6 Assessment of Impacts

- **Impacts of the Project on the Environment**
 - Clarification of the methodology used in impact assessment
 - A detailed analysis of the impacts during construction and operation phases as well as closure if relevant. This is undertaken for both normal and emergency situations while clearly indicating criteria upon which significant impacts are determined and at the same time calculating emission loads, which necessitates a detailed qualitative description of the impact. According to the case, the analysis will extend to cumulative impacts¹³ and EEAA will make needed information available. The analysis should address impacts on physical, biological and social environment. A high focus on social impacts is required in cases of impacts on livelihood, involuntary re-settlements and property expropriation.
 - Quantification of significant impacts in normal operations whenever possible in relation to the quality threshold of different environmental attributes. This could be undertaken through modeling and simulation techniques or by deduction.
 - Assessment of the decommissioning related impacts as applicable.

¹³ Cumulative Impacts: It is the aggregate of individual impacts of the activities of the project or the individual impacts of the project to those of other surrounding projects or activities.

It should be noted that EEAA has the right to request additional studies such as quantitative risk assessment or health risk assessment as parallel studies to EIAs for specific projects based on the nature of the project. The results of the studies are to be integrated in the EIA in the impact assessment chapter. EEAA is developing guidelines for projects for which quantitative risk assessment studies are required.

- **Impacts of the Environment on the Project**

It is required to undertake an analysis of impacts of environment on the project including impacts due to the natural factors such as landslides, seismic activities and floods and neighboring activities as well as the previous landuse of the project site. In addition, it is required to quantify the magnitude of the significant impacts, whenever possible.

6.4.2.7 Requirements for Alternatives Analysis

The principles guiding the generation of alternatives should not be limited to minimizing the adverse impacts of the project as designed but should also aim at integrating the environmental and social considerations into the early stages of planning together with other technical and economic factors to avoid environmental impacts.

Alternatives are generated to achieve the objectives of the project within the limiting conditions. Alternatives to the project may address aspects such as project location, site layout, technologies, design options, and management systems. In most cases, not all the aspects are relevant or need to be considered. The no-action (no-project) alternative should also be investigated, whenever possible.

The comparison of alternatives should take into consideration environmental, economic, technical as well as landuse and socio-culture aspects. The rationale for considering or rejecting the various alternatives should be transparent and justified. When identifying alternatives for analysis, information needed to evaluate and compare the considered alternatives should be kept to the minimum required to undertake such assessment. Detailed data collection is required in the stage of the evaluation of selected alternatives.

Various techniques could be used in the analysis of alternatives. A matrix may be prepared for each option summarizing qualitative and quantitative information and relevant factors (economic, environmental, social and technical).

The environmental impacts of the selected alternative should be compared to those of the best environmental alternative, if different and justification should be provided. Analysis of alternatives should be addressed in the public consultation especially in potentially controversial projects such as large infrastructure projects. The consultation should clearly present the alternatives to stakeholders.

6.4.2.8 Requirement of Environmental Management Plan (EMP)

An Environmental Management Plan (EMP) is an integral part of the EIA report. It provides an essential link between the impacts and mitigation measures, and implementation and operational activities. The EMP should be formulated in such a way that it is clear and concise as much as possible. References within the plan should be clearly and readily identifiable. The EMP should identify linkages to other relevant plans relating to the project, such as emergency plan, which will be prepared in later stages. The following aspects should be addressed within the EMP:

- **Summary of Impacts**

The predicted adverse environmental and social impacts for which mitigation is required will be identified and briefly summarized. Crossreferencing to the EIA report or other documentation is required, so that additional details can be readily accessed.

- **Description of Mitigation Measures**

The EMP should identify feasible and cost effective measures to reduce potentially significant adverse environmental and social impacts to acceptable levels. Each mitigation measure should be briefly described with reference to the impact to which it relates and conditions of its implementation (permanent or in case of emergency). Where the mitigation measures may result in secondary impacts, their significance should be evaluated.

Measures should include yet not limited to:

- Needed measures to address impacts (management procedures or physical intervention)
- Preventive measures for emergency cases as well as elements of the emergency plan, prepared according to the labor law no 12/2003.

The timing, frequency, and duration of mitigation measures will be specified as well as a cost estimates of the mitigation measures.

- **Description of Monitoring Program**

Environmental performance monitoring will be designed to check whether mitigation measures are implemented, have the intended result, and that remedial measures are implemented. The monitoring program will clearly indicate the linkages between impacts identified in the EIA, indicators to be measured, sampling locations, frequency of measurements and allowable limits. Cost estimates for the monitoring should be included as well as personnel/entities undertaking the monitoring.

- **Institutional Arrangements**

Responsibilities for mitigation and monitoring will be clearly defined. Training needs will also be indicated. The EMP will identify arrangements for coordination between the various parties responsible for mitigation. It is important to account for specific constraints of the project and to include a cost estimate of the institutional arrangements.

6.4.3 Requirements for Public Consultation

6.4.3.1 Scope of Public Consultation

The involvement of the public and concerned entities in the EIA planning and implementation phases is mandatory for Category C projects through the public consultation process with concerned parties.

Since public consultation is undertaken with the EIA process, it is a consultation undertaken mainly on the environmental and social aspects related to the project. Accordingly, this consultation does not include the political or economic aspects or any other aspects not to be addressed in the EIA. Competent administrative authorities are concerned with these aspects, each in its scope of responsibility. This is to be clarified in the consultation meetings¹⁴.

The consultation process provides the concerned parties with the opportunity to indicate their opinion in the measures to minimize potential negative environmental and social impacts, strengthen social acceptance of the project, informing the concerned parties that the environmental impacts will be minimized to levels that are low as reasonably practical and achieve the balance between legitimate requirements for development and environmental protection.

The concerned parties of a project include, as a minimum:

- EEAA and its RBOs
- Competent administrative authorities, indicated as per the project location and nature
- The governorate in which the project is located (in some of the projects the CAA is not the governorate)
- Local popular councils
- Representative from affected communities such as neighboring facilities, people living near the project. This is related to the project location, type and resulting impacts)

These could include:

- Local NGOs interested in environment
- Local universities and research centers
- Other concerned parties

Consultation is undertaken twice during the EIA process: the first in the phase of identifying the scope of the project EIA, and the second is after the preparation of the draft EIA.

Note that the continual consultation of the surrounding community and concerned parties during project operation phase to achieve social agreement is one of the requirements for funding agencies and the World Bank.

¹⁴ EEAA should confirm this in the different events such as the consultation meeting on the draft EIA.

6.4.3.2 Methodology of Public Consultation

- **Preparation of the Public Consultation Plan before Starting**

Before starting the consultation activities in the EIA scoping phase, the project proponent prepares a plan indicating the methodology of the public consultation to be adopted in the two public consultation phases (EIA scoping phase and consultation on the draft EIA). The plan should indicate the concerned parties that will be consulted, method of consultation and other points. A meeting will be held with EEAA to discuss the plan and the meeting could result in increasing the concerned parties or modifying the method of consultation.

The plan is to be prepared in accordance to the following:

- **Public Consultation during EIA Scoping**

- **Objective of the Consultation in this Phase**

The phase of indicating the EIA scoping aims to agree on the aspects and impacts that will be addressed and analyzed in the EIA study, accordingly to the nature of the project and the affected environment. Accordingly, it is important to involve the concerned parties in indicating these aspects and impacts and seek their opinion in these potential impacts to ensure that all potential aspects have been addressed in the study.

- **Method of Consultation**

Consultation in this phase can be undertaken through different forms:

- Meetings could be held with each concerned party, individually. This is done with representative (s) of the concerned party, to be delegated by the party. It is worth noting that the project proponent is responsible for contacting the concerned parties to request for a meeting and the concerned party should indicate the meeting timing and should delegate its representative in the meeting.
- A unified meeting could be held and all concerned parties are invited to attend the meeting together. It should be noted that the project proponent is responsible for inviting the concerned parties

In both cases, the proponent should provide a summary including a description of the project and its aspects as well as its consultation methodology and that is before the meeting by a sufficient time.

The following will be presented in the meeting:

- Project components and the activities of each component
- Summary of the project location features
- List of concerned parties that has been indicated based on the location and nature of the project
- The proponent view of the project's environmental and social aspects as well as potential impacts
- Commitment of the project owner towards improving the environmental status in the surrounding area and to support the neighboring community
- Aspects to be addressed in the study

The presentation should be in a clear and understandable method to ensure the assimilation of the audience. This could involve visual aids and illustrative drawings.

- **Points of Discussion and Consultation Outputs**

The presented information will be discussed to yield:

- Opinion of the concerned parties in environmental and social aspects to be addressed by the project proponent and if there is a need to address additional aspects
- Indicate additional concerned parties to be consulted

It is worth noting that in case separate meetings are held with concerned parties, a report with the consultation results should be prepared and discussed with EEAA to reach a final agreement on the study contents. In case a unified meeting is held, this agreement is reached during the meeting.

EEAA will take the decision concerning whether the call for the consultation meeting in the draft EIA phase will be by an ad in a local newspaper or by invitations to the convened parties. The decision is taken based on the nature of the project and the affected environment.

- **Consultation on the Draft EIA Report**

- **Objective of the Consultation in this Phase**

After the draft EIA is prepared and before the submittal of the study to the CAA, consultation is undertaken on the study to disclose its results and provide the concerned parties with the opportunity to be reassured that points indicated in the scoping meetings have been addressed in the study and to be comfortable with the mitigation measures to which the proponent is committed.

- **Method of Consultation**

A unified meeting is held (hearing session). The meeting is attended by representatives of all concerned parties, and as a minimum those who have participated in the scoping meetings. It is important to provide enough time for the participants before the meeting to review the study results and provide their comments through providing them with the executive summary of the study in Arabic 15 days in advance of the public consultation meeting. The meeting is publicized 2 weeks before the meeting. The meeting should be held in a venue that is accessible to participants. It is the responsibility of the concerned parties to delegate representatives to attend the meeting. As indicated in section (6-4-3-2), EEAA could decide that the call for the meeting is undertaken via an ad in a local newspaper.

Within the meeting, the following will be presented:

- Results of the study while referring to the points raised by the concerned parties in the EIA scoping phase
- Presentation of the mitigation measures to which the project proponent is committed so as the negative impacts reach levels that are low as reasonably practical

- **Points of Discussion and Consultation Outputs**

Enough time, not less than one third of the meeting, should be dedicated to discussion. Discussion will include what was presented and the concerned parties will have the right to discuss the mitigation measures to be reassured of the project from the environmental point of view. During the meeting, EEAA representatives should ensure that all points raised by the concerned parties have been addressed.

In case there are some supported objectives on some of the environmental protection measures, EEAA has the right to invite the project proponent and the objecting concerned party to discuss these points. When EEAA is reviewing the study, EEAA should provide the opinion in the extent that the supported objections have been addressed and if additional scientific response is needed from the project proponent.

6.4.3.3 Documentation of the Consultation Results

The following key issues related to public consultation will be included as an integral part of the EIA report:

- **As an individual chapter: An individual chapter in the EIA will be prepared for public consultation including:**
 - Methodologies used to inform and involve concerned parties in the EIA process
 - Analysis of the data and information gathered and feedback acquired.
 - Table with all aspects that have been discussed during the public consultation meetings and how the project will address or mitigate the aspects
 - Methodologies followed by the project proponent to ensure the continuity of the consultation process during the construction and, operation phases and until the project reaches the closure phase.
 - Commitments of the project owner to improve surrounding environment and support the neighboring community
- **As an annex:** Documentation of public meetings and meetings including dates, name of attendees as well as agenda and topics of discussion.

7. Requirement and Scope of EIA Public Disclosure

Disclosure of relevant material is an important process and should be undertaken in a timely manner for all Category C projects. This process permits meaningful consultations between the project proponent and project-affected groups and local NGOs is required to take place.

Before the public consultation on the draft EIA, the draft technical summary in Arabic should be disclosed to all concerned parties. After the EIA process is complete, the EIA report will be stored at EEAA's central library or that of the RBO of the projects region. Moreover, the executive summary of the final EIA will be available at EEAA website.

The project proponent should identify in a letter attached to the EIA the parts that he/she does not wish to disclose. These include sections that may have sensitivity related to trade, technology, or security.



وزارة الدولة لشؤون البيئة
جهاز شئون البيئة
قطاع الإدارة البيئية



جمهورية مصر العربية
رئاسة مجلس الوزراء

دليل أسس وإجراءات تقييم التأثير البيئي



الإصدار الثاني - يناير ٢٠٠٩



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كلمة السيد وزير الدولة لشئون البيئة

يعد تقييم التأثير البيئي من الأدوات الإستراتيجية التي تركز عليها وزارة الدولة لشئون البيئة وجهاز شئون البيئة كما يعتبر من الأنشطة الوقائية الرئيسية التي يقوم بها الجهاز بغرض تعظيم الأثار الإيجابية للمشروعات والحد من الأثار السلبية لها والحفاظ على الموارد الطبيعية تحقيقاً للتنمية المستدامة.

وتتلخص مسئولية الجهاز في الآتي :

- وضع المبادئ والمعايير اللازمة لإجراء دراسات التقييم البيئي ومراجعتها وإبداء الرأي بشأنها في ضوء الأسس والإشترطات التي نص عليها قانون حماية البيئة رقم ٤ لسنة ١٩٩٤ ولائحته التنفيذية.

- إصدار الأدلة الإرشادية اللازمة لتقييم التأثير البيئي وتحديد الإجراءات الخاصة بذلك بالتنسيق مع الجهات الإدارية المختصة.

- متابعة إنترام المشروعات بالإشترطات البيئية الصادره لها ومطابقتها لمتطلبات قانون حماية البيئة رقم ٤ لسنة ١٩٩٤ ولائحته التنفيذية.

وتتم عملية مراجعة الدراسات بواسطة فريق مؤهل من الباحثين بالإدارة المركزية لتقييم التأثير البيئي كما يتم الإستعانة بخبرات الجامعات والمراكز البحثية بالنسبة لدراسات التقييم البيئي الكاملة.

وفي إطار سياسة وزارة الدولة لشئون البيئة للحفاظ علي البيئة ودفع عجلة التنمية وتسهيل الإجراءات علي السادة المستثمرين فقد تم إجراء مراجعة شاملة لقوائم ونماذج التصنيف البيئي وتطويرها وإعطاء دور لإدارات شئون البيئة بالمحافظات للموافقة البيئية علي بعض المشروعات ذات التأثير البيئي المحدود طبقاً للإشترطات التي يضعها الجهاز بما يحقق الحفاظ علي البيئة وسهولة الإجراءات وذلك بالتنسيق مع الوزارات والهيئات المعنية وتم عرض التطوير علي مجلس إدارة الجهاز وتم الموافقة عليه.

كما قامت الوزارة بالتعاون مع البنك الدولي وبدعم من مشروع الدعم القطاعي للبيئة (ESP) بمراجعة نظام تقييم التأثير البيئي وإدخال التعديلات اللازمة عليه ليصبح موائلاً لنظيره في الأنظمة المطبقة في العديد من الدول المتقدمة والنظام المطبق في المشروعات الممولة من البنك الدولي. وقد أصدرت توجيهاتي بطبع وتوزيع هذا الدليل علي الجهات الإدارية والوزارات والهيئات المعنية وإتاحته للمستثمرين والمكاتب الإستشارية والبدء في تطبيقه فور إصداره على أن يتم إلزام كافة المعنيين بالتطبيق الكامل له إعتباراً من ٢٠٠٩/٧/١

مع تمنياتي بالتوفيق

مهندس / ماجد جورج إلياس

وزير الدولة لشئون البيئة

قائمة المحتويات

١	١-١ نبذة عن الدليل الإرشادي	١
١	٢-١ خلفية عن نظام تقييم التأثير البيئي	١
٢	٢- الإطّار القانوني	٢
٤	٣- نظام تقييم التأثير البيئي	٤
٤	١-٣ تصنيف المشروعات	٤
٤	٢-٣ إجراءات تقييم التأثير البيئي	٤
٥	٣-٣ دور الجهات الإدارية المختصة في نظام تقييم التأثير البيئي	٥
٦	١-٣-٣ تقديم المعونة الفنية لمقدمي المشروعات	٦
٦	٢-٣-٣ التأكد من الموافقة علي موقع المشروع	٦
٦	٣-٣-٣ استلام مستندات تقييم التأثير البيئي	٦
٧	٤-٣-٣ رفع مستندات دراسة تقييم التأثير البيئي إلي جهاز شئون البيئة	٧
٧	٥-٣-٣ القيام بالدور المنوط بها أثناء مراجعة جهاز شئون البيئة لمستندات التقييم	٧
٧	٦-٣-٣ استلام القرار النهائي الخاص بتقييم التأثير البيئي	٧
٨	٧-٣-٣ القيام بالدور المنوط بها أثناء إجراءات التظلم	٨
٨	٨-٣-٣ متابعة تطبيق اشتراطات الموافقة علي تقييم التأثير البيئي من خلال المعاينة الميدانية	٨
٨	٤- نظام التظلم	٨
٨	٥- تصنيف المشروعات	٨
٩	١-٥ معايير التصنيف وتطبيقها	٩
١١	٢-٥ الحالات الخاصة	١١

١٢	٦-متطلبات تصنيفات تقييم التأثير البيئي المختلفة
١٢	١-٦ مقدمة
١٢	٢-٦ مشروعات التصنيف (أ)
١٢	١-٢-٦ مقدمة
١٢	٢-٢-٦ متطلبات استيفاء نماذج التقييم البيئي لمشروعات التصنيف (أ)
١٤	٣-٦ مشروعات التصنيف (ب)
١٤	١-٣-٦ مقدمة
١٥	٢-٣-٦ متطلبات استيفاء نموذج التقييم البيئي لمشروعات التصنيف (ب)
١٨	٤-٦ مشروعات التصنيف (ج)
١٨	١-٤-٦ مقدمة
١٨	٢-٤-٦ متطلبات دراسات تقييم التأثيرات البيئي لمشروعات التصنيف (ج)
٢٣	٣-٤-٦ متطلبات المشاركة المجتمعية

٧-متطلبات ونطاق نشر نتائج تقييم التأثير البيئي

	الملاحق
٢٨	ملحق (١)
	قائمة بالمشروعات التي لا تخضع لتقييم التأثير البيئي والإشترطات البيئية الخاصة بها.
٤٦	ملحق (٢)
	النصوص الكاملة لمتطلبات تقييم التأثير البيئي المنصوص عليها في القانون رقم ٤ لسنة ١٩٩٤ واللائحة التنفيذية له والمعدلة بالقرار رقم ١٧٤١ لسنة ٢٠٠٥
٥١	ملحق (٣)
	قائمة ببعض الجهات الإدارية المختصة
٥٢	ملحق (٤)
	قائمة ونموذج التقييم البيئي للتصنيف (أ)
٦٣	ملحق (٥)
	قائمة ونموذج التقييم البيئي للتصنيف (ب)
٧٧	ملحق (٦)
	قائمة التصنيف (ج)

١ - مقدمة

١-١ نبذة عن الدليل الإرشادي

قام جهاز شئون البيئة بإعداد هذا الدليل الإرشادي لأسس وإجراءات تقييم التأثير البيئي وذلك تحديداً لدليل تقييم التأثير البيئي الذي صدر في عام ١٩٩٦ وقد تم إعداد الدليل بناء علي التعديلات التي تمت في إجراءات نظام تقييم التأثير البيئي عام ٢٠٠٦ .

ويعتبر الدليل الإرشادي هو الأساس الذي يتم تطبيقه بجهاز شئون البيئة أثناء مراجعة مستندات تقييم التأثير البيئي. ويهدف إلي توثيق مختلف إجراءات وأدوات ومتطلبات تقييم التأثير البيئي وضمان توحيد التطبيق والتأكيد علي دور مختلف الأطراف المعنية في نظام تقييم التأثير البيئي. كما يهدف بصفة خاصة إلي:

- وصف أهداف عملية تقييم التأثير البيئي ومتطلباتها القانونية .
- تحديد المشروعات التي تتطلب إعداد تقييم التأثير البيئي .
- تحديد معايير تصنيف المشروعات ومختلف مستويات التقييم .
- وصف متطلبات تقييم التأثير البيئي لمختلف التصنيفات .

هذا الدليل موجه إلي مقدمي المشروعات والجهات الإدارية المختصة المسؤولة عن منح تراخيص إنشاء وتشغيل المشروعات وذلك لإرشادهم إلي متطلبات وإجراءات تقييم التأثير البيئي .

٢-١ خلفية عن نظام تقييم التأثير البيئي

أصدرت جمهورية مصر العربية القانون رقم ٤ لسنة ١٩٩٤ في شأن حماية البيئة ويتطرق القانون إلي التلوث الناتج عن المشروعات أو المنشآت القائمة وكذلك التلوث المحتمل من المشروعات أو المنشآت الجديدة والتوسعات أو التعديلات في المنشآت القائمة .

وطبقاً للقانون، يطلب من المنشآت الجديدة أو التوسعات أو التعديلات في المنشآت القائمة إعداد مستندات تقييم التأثير البيئي للمشروع قبل البدء في إنشاء المشروع أو التوسعات أو التعديلات .

وتعد عملية تقييم التأثير البيئي^(١) تقيماً منظماً لتأثيرات المشروع بهدف المنع والخفض والتخفيف من التأثيرات السلبية علي البيئة والموارد الطبيعية والصحة والحياة الاجتماعية وكذلك تعظيم التأثيرات الإيجابية للمشروع وتنتج عن تلك العملية نموذج أو دراسة لتقييم التأثير البيئي بهدف:

- توثيق نتائج عملية التقييم .
- تحليل التأثيرات البيئية والاجتماعية للمشروع .
- تحليل بدائل المشروع المختلفة .
- إدراج نتائج التشاور العام .
- وصف خطة الإدارة البيئية اللازمة .

١- تعرف عملية تقييم التأثير البيئي بعملية تقييم التأثير في النظم الأخرى مثل البنك الدولي (إجراء تشغيلي رقم ٤-٠١) .

ويرتكز نظام تقييم التأثير البيئي في مصر علي أسس محددة وضعها القانون رقم ٤ لسنة ١٩٩٤ في شأن حماية البيئة وفي هذا الإطار وضع جهاز شئون البيئة العناصر التفصيلية لنظام تقييم التأثير البيئي شاملاً:

- تحديد المشروعات التي ينطبق عليها نظام تقييم التأثير البيئي .

- تحديد أسس وإجراءات تقييم التأثير البيئي .

- تصنيف المشروعات وفق تأثيراتها البيئية ومستوي التقييم .

وقد شهد نظام تقييم التأثير البيئي تطوراً مستمراً منذ عام ١٩٩٥ حيث تم تحديث الإجراءات وإصدار قوائم ونماذج محدثة لتقييم التأثير البيئي في عام ٢٠٠٢

ووفقاً للقانون رقم ٤ لسنة ١٩٩٤ في شأن حماية البيئة، فإن المراجعة والتحسين المستمر لنظام تقييم التأثير البيئي هو مطلب قانوني حيث يتم مراجعة النظام وتطويره كلما لزم الأمر .

يختص هذا الدليل بالمشروعات التي ينطبق عليها نظام تقييم التأثير البيئي والمصنفة في إطار تصنيفات تقييم التأثير البيئي الثلاثة (أ، ب، ج) . ويوضح الملحق رقم (١) قائمة ببعض الأنشطة التي لا تسري عليها اشتراطات نظام تقييم التأثير البيئي^(٢) ولها اشتراطات خاصة يتم تطبيقها بمعرفة الجهات الإدارية المختصة .

٢ - الإطار القانوني

وفقاً للقانون رقم ٤ لسنة ١٩٩٤ في شأن حماية البيئة، يجب تقييم التأثيرات البيئية للمشروعات أو المنشآت الجديدة أو للتوسعات والتجديدات لمنشآت قائمة وذلك قبل بدء الإنشاء . ويعتبر القانون رقم ٤ لسنة ١٩٩٤ تقييم التأثير البيئي كاشتراط من اشتراطات الترخيص ولذا يتعرض المشروع الذي لا يقوم بإجراء تقييم التأثير البيئي والالتزام باشتراطات الموافقة علي دراسة تقييم التأثير البيئي إلي وقف سريان إجراءات الترخيص لحين إتمام إجراءات تقييم التأثير البيئي للمنشأة . (المواد أرقام ١٠، ١١، ١٢، ١٩ من اللائحة التنفيذية للقانون رقم ٤ لسنة ١٩٩٤ والمعدلة بقرار رئيس الوزراء رقم ١٧٤١ لسنة ٢٠٠٥) .

وتتضمن المواد أرقام (١٩، ٢٠، ٢١، ٢٢، ٢٣، ٣٤، ٧٠، ٧١، ٧٣) من القانون رقم ٤ لسنة ١٩٩٤ الإجراءات والبنود الخاصة بتقييم التأثير البيئي والتي توضحها المواد أرقام (١٠، ١١، ١٢، ١٣، ١٤، ١٥، ١٦، ١٧، ١٨، ١٩، ٣٤، ٥٧، ٥٨، ٥٩، ٦٠) من اللائحة التنفيذية لهذا القانون والصادرة بقرار رئيس مجلس الوزراء رقم ٣٣٨ لسنة ١٩٩٥ والمعدل بالقرار ١٧٤١ لسنة ٢٠٠٥،

قراري اللجنة الوزارية رقم ١٨/٠٦/٠٥/٣ بتاريخ ٢٦/٦/٢٠٠٥ ورقم ٣/٠٥/١٢/٣ بتاريخ ٥/١٢/٢٠٠٥ بحظر إقامة أي أنشطة صناعية خارج المناطق الصناعية المعتمدة .

وفيما يلي ملخص بإجراءات نظام تقييم التأثير البيئي وفقاً للقانون ٤ لسنة ١٩٩٤ ولائحته التنفيذية .

٢- لا تتطلب هذه المشروعات إعداد تقييم تأثير بيئي قانونياً بشرط ألا تكون مقامة علي شواطئ النيل وفرعيه والرياحات أو عند شواطئ البحر والبحيرات أو في مناطق المحميات أو في المناطق السياحية والأثرية ومن أمثلتها المشروعات الحرفية ذات التأثيرات البيئية البسيطة والتي يتم الحد من آثارها السلبية علي البيئة من خلال الاشتراطات الخاصة .

أسس ونظام تقييم التأثير البيئي

١- يصدر جهاز شؤون البيئة بالتنسيق مع الجهات الإدارية المختصة قراراً بتحديد العناصر والتصميمات والمواصفات للقيام بتقييم التأثير البيئي للمشروعات وتشمل تلك العناصر قوائم تقييم التأثير البيئي ومتطلباته وكذلك متطلبات التوثيق (النماذج وقائمة المحتويات لدراسة تقييم التأثير البيئي).

ويلتزم صاحب المشروع بإتباع هذه المتطلبات وإعداد المستندات اللازمة وذلك وفقاً للمادة رقم ١٩ من القانون رقم ٤ لسنة ١٩٩٤ والمادة رقم ١٠ من اللائحة التنفيذية للقانون.

ويقوم جهاز شؤون البيئة بمراجعة القرارات الخاصة بتحديد العناصر والتصميمات والمواصفات والأسس المبينة بالفقرة السابقة كلما لزم الأمر (المادة ١٠ من اللائحة التنفيذية للقانون).

٢- بناء على المادة رقم ٤ من اللائحة التنفيذية للقانون، يتولي مجلس إدارة جهاز شؤون البيئة الموافقة على العناصر والتصميمات والمواصفات والأسس لنظام تقييم التأثير البيئي.

٣- تقوم الجهات الإدارية المختصة بتقييم التأثير البيئي للمنشأة حيث تقوم بمراجعة مستندات تقييم التأثير البيئي والتي سلمت لها بواسطة صاحب المشروع وإحالتها إلى جهاز شؤون البيئة. ويقوم جهاز شؤون البيئة بمراجعة وتقييم التأثير البيئي وإخطار الجهة الإدارية المختصة بالرأي والاشتراطات المطلوب تنفيذها لضمان حماية البيئة خلال مدة أقصاها ستين يوماً من تاريخ استلامه له وإلا اعتبر عدم الرد موافقة منه على التقييم (مادة ٢٠ من القانون رقم ٤ لسنة ١٩٩٤).

٤- تقوم الجهة الإدارية المختصة بإبلاغ صاحب المشروع بنتيجة التقييم بخطاب مسجل بعلم الوصول، ويحق له أو من ينيبه التظلم من قرار جهاز شؤون البيئة كتابة خلال ٣٠ يوماً من تاريخ الإخطار من الجهة الإدارية المختصة (مادة ٢١ من القانون رقم ٤ لسنة ١٩٩٤ ومادة ١٤ من اللائحة التنفيذية له).

٥- تشكل اللجنة الدائمة للمراجعة برئاسة مستشار من مجلس الدولة وعضوية:

- مندوب عن جهاز شؤون البيئة يرشحه الرئيس التنفيذي للجهاز.

- صاحب المنشأة أو من ينيبه بتوكيل رسمي.

- ممثل عن الجهة الإدارية المختصة.

- ثلاثة خبراء ممن يرشحهم الرئيس التنفيذي للجهاز وذلك لعضوية اللجنة الدائمة للمراجعة لمدة ثلاث سنوات.

ويصدر بتشكيلها قرار من الوزير المختص بشؤون البيئة وينتدب الرئيس التنفيذي لجهاز شؤون البيئة أحد العاملين بالجهاز ليتولي تحرير محاضر اجتماعات اللجنة الدائمة للمراجعة والقيام بأعمال أمانة سر اللجنة ولا يكون لهذا المندوب رأي معدود فيما يثار من مناقشات في اللجنة (مادة ٢١ من القانون رقم ٤ لسنة ١٩٩٤ والمواد ١٥ و١٦ من اللائحة التنفيذية للقانون).

٦- يعد جهاز شؤون البيئة سجلاً يتضمن صوراً من مستندات تقييم التأثير البيئي ونتائج التقييم وأية إجراءات يجب أن يلتزم بها مقدم المشروع وفق طلب جهاز شؤون البيئة. (مادة ١٢ من اللائحة التنفيذية للقانون رقم ٤ لسنة ١٩٩٤).

يضم الملحق رقم (٢) النصوص الكاملة لمتطلبات تقييم التأثير البيئي المنصوص عليها في القانون رقم ٤ لسنة ١٩٩٤ ولائحته التنفيذية.

٣- نظام تقييم التأثير البيئي

٣-١ تصنيف المشروعات

تحدد اللائحة التنفيذية للقانون رقم ٤ لسنة ١٩٩٤ المشروعات الخاضعة لأحكام تقييم التأثير البيئي بناء علي الضوابط الأساسية التالية:

- نوعية نشاط المنشأة .

- مدى استنزاف المنشأة للموارد الطبيعية .

- موقع المنشأة .

- نوع الطاقة المستخدمة لتشغيل المنشأة .

ويقسم نظام تقييم التأثير البيئي المصري المشروعات إلي ثلاثة تصنيفات بناء علي المستويات المختلفة من متطلبات تقييم التأثير البيئي والمرتبطة بشدة التأثيرات البيئية المحتملة:

١- التصنيف (أ): المشروعات ذات التأثيرات البيئية الضئيلة وتتطلب استيفاء نموذج تقييم التأثير البيئي (أ) .

٢- التصنيف (ب): المشروعات ذات التأثيرات البيئية الهامة المحتملة والتي تقل في شدتها عن مشروعات التصنيف (ج) وتتطلب استيفاء نموذج تقييم التأثير البيئي (ب) .

٣- التصنيف (ج): المشروعات ذات التأثيرات البيئية الشديدة المحتملة وتتطلب إعداد دراسة كاملة لتقييم التأثير البيئي .

ويعتمد تصنيف المشروعات إلي التصنيفات الثلاثة علي المعايير المحددة في الجزء (٥) من هذا الدليل . وتم إعداد قوائم استرشادية لمشروعات التصنيفات الثلاث وذلك لإرشاد مقدمي المشروعات وتعتبر هذه القوائم علي سبيل المثال لا الحصر للاسترشاد .

٣-٢ إجراءات تقييم التأثير البيئي

لكل من التصنيفات الثلاثة محددات للتقييم إلا أن إجراءاتها واحدة كما هو موضح في الشكل (١):

• توجه الجهة الإدارية المختصة صاحب المشروع للتصنيف الصحيح للمشروع بناء علي طلبه وذلك باستخدام القوائم الاسترشادية مع إفادة صاحب المشروع بالاشتراطات الخاصة بالتصنيف . وفي حالة عدم ورود المشروع في القوائم الاسترشادية، يتم التشاور مع جهاز شئون البيئة باستخدام معايير التصنيف والمفصلة في الجزء (٥) من الدليل وذلك لتحديد تصنيف المشروع . ويكون لجهاز شئون البيئة القرار النهائي بشأن تصنيف المشروع وعليه أن يخطر به صاحب المشروع كتابة من خلال الجهة الإدارية المختصة .

• يقدم صاحب المشروع أو من ينوبه طلبا إلي الجهة الإدارية المختصة قبل بدء إجراءات الإنشاء ويرفق بالطلب ٤ نسخ أصلية من المستندات المطلوبة (نموذج أو دراسة تقييم التأثير البيئي) باللغة العربية باعتبارها اللغة الأساسية للمراجعة :

كما يرفق اسطوانة مدمجة من دراسة التصنيف (ج) مع المستندات . ويفضل إرفاق نسخة واحدة من الدراسة باللغة الإنجليزية في حالة وجودها .

• تتولي الجهة الإدارية المختصة تقييم التأثير البيئي للمنشأة من خلال مراجعة المستندات (النموذج/الدراسة) للتأكد من صحة التصنيف والتأكد من توافق المشروع مع الخطط العامة للجهة الإدارية ومطابقة المعلومات المقدمة للمعلومات المطلوبة والتأكد من اكتمالها. وفي حالة عدم صحة التصنيف، يتم توجيه صاحب المشروع للتصنيف الصحيح ويطلب منه إعادة التقدم بالمستندات المطلوبة.

• تقوم الجهة الإدارية المختصة بإحالة ٣ نسخ من الدراسة / النموذج بصفة رسمية إلي جهاز شئون البيئة لمراجعتها وتقييمها مما يعتبر ضمناً عدم اعتراض الجهة الإدارية المختصة علي المشروع من النواحي غير البيئية.

• يتولي جهاز شئون البيئة مراجعة وتقييم المستندات وإبداء ملاحظاته وإضافة الاشتراطات اللازمة لإجراءات التخفيف والحد من التأثيرات السلبية. ويقوم الجهاز بموافاة الجهة الإدارية المختصة بالقرار (موافقة أو رفض أو طلب استكمال بيانات، الخ) وذلك في خلال ٦٠ يوماً من استلام الجهاز للمستندات كاملة وإلا اعتبر عدم الرد موافقة ضمنية منه علي الدراسة. وفي المشروعات التي يمكن أن ينتج عنها تأثيرات شديدة علي البيئة، قد ينظر جهاز شئون البيئة في الاستعانة بجهة استشارية محايدة للاسترشاد برأيها أثناء المراجعة وقد تحتاج المراجعة إلي عقد اجتماعات مع صاحب المشروع أو من ينييه لمناقشة بعض النقاط في الدراسة.

• يقوم جهاز شئون البيئة بتسجيل المستندات والرأي والمقترحات التي يتقدم بها في السجل الخاص بتقييم التأثيرات البيئية وإرسال نتائج المراجعة إلي الجهة الإدارية المختصة والتي تتولي بدورها إعلام صاحب المشروع بنتائج مراجعة الجهاز للمستندات وذلك عن طريق خطاب مسجل بعلم الوصول وتكون النتائج إما:

• الموافقة علي النموذج/الدراسة مع تحديد المتطلبات البيئية (المحددة في الموافقة) التي يجب أن يقوم صاحب المشروع بالتوافق معها.

• عدم الموافقة علي النموذج/الدراسة والتوصية برفض المشروع بناء علي الأسباب البيئية المتعلقة بالمشروع أو بالقدرة الاستيعابية القصوي للتلوث في منطقة المشروع.

• متطلبات إضافية من مقدم المشروع:

- قد يطلب معلومات إضافية أو استفسارات ويعتبر تاريخ استلام الجهاز للمعلومات المطلوبة عن طريق الجهة الإدارية المختصة بمثابة بداية فترة مراجعة جديدة مدتها ٦٠ يوماً.

- بعض مشروعات التصنيف (ب)، يجوز للجهاز طلب دراسة محددة لتقييم التأثيرات البيئية لمكونات أو تأثيرات أو أنشطة بعينها ويحدد الجهاز الشروط المرجعية لهذه الدراسة.

- بعض مشروعات التصنيف (ج)، يجوز للجهاز طلب دراسات إضافية مثل تقييم المخاطر أو دراسة أحمال التلوث التراكمية (ويتم توفير المعلومات من خلال جهاز شئون البيئة) للتأكد من التوافق مع الحدود المسموح بها.

• تقوم الجهة الإدارية المختصة بمتابعة وضمان تنفيذ قرار جهاز شئون البيئة والاشتراطات المحددة به.

٣-٣ دور الجهات الإدارية المختصة في نظام تقييم التأثير البيئي

الجهات الإدارية المختصة مسؤولة عن إصدار التراخيص لإنشاء وتشغيل المشروعات ويعتبر تقييم التأثير البيئي واحداً من

الاشتراطات المطلوبة للتراخيص. ومن ثم تكون مسؤولة عن استلام نماذج ودراسات تقييم التأثير البيئي ومراجعتها للتحقق مما ورد فيها من بيانات بشأن الموقع ومدى ملائمة الموقع للنشاط المقدم عنه النموذج وعدم تعارض نوع النشاط مع الأنشطة المحيطة وعدم تعارض الموقع مع القرارات الوزارية التي تخص النشاط وإحالتها إلي جهاز شئون البيئة للمراجعة وهي نقطة الاتصال الأساسية مع أصحاب المشروعات في نظام تقييم التأثير البيئي. ويعرض الملحق رقم (٣) قائمة ببعض الجهات الإدارية المختصة.

ولابد أن تضمن الجهات الإدارية المختصة أن دراسة تقييم التأثير البيئي يتم إعدادها قبل البدء في أعمال الإنشاء وذلك وفق العناصر والتصميمات والمواصفات والمتطلبات والأسس التي يصدرها جهاز شئون البيئة بالاتفاق معها والتي يتضمنها الدليل.

٣-٣-١ تقديم المعونة الفنية لأصحاب المشروعات

عندما يتقدم صاحب المشروع أو من ينوبه للجهة الإدارية المختصة للاستفسار عن إجراءات تقييم التأثير البيئي، تقوم بتقديم المعونة الفنية كما يلي:

- ١- فحص القوائم الاسترشادية لتقييم التأثير البيئي لتحديد تصنيف المشروع (الجزء ٥ من الدليل).
- ٢- التشاور مع جهاز شئون البيئة في حالة عدم وجود المشروع في القوائم الاسترشادية لمشروعات تقييم التأثير البيئي وذلك باستخدام المعايير الموضحة في الجزء (٥) لتحديد تصنيف المشروع ويكون لجهاز شئون البيئة الرأي النهائي بخصوص التصنيف ويخطر به صاحب المشروع كتابة.
- ٣- توفير نماذج تقييم التأثير البيئي لصاحب المشروع في حالة التصنيفين (أ) و (ب) من تقييم التأثير البيئي.
- ٤- توضيح متطلبات النموذج والرد علي الاستفسار لصاحب المشروع أو من ينوبه.

٣-٣-٢ التأكد من الموافقة علي موقع المشروع

- ١- بحث ومراجعة القوانين والتشريعات السارية وكذلك القرارات الخاصة بالمحافظة والمتعلقة بموقع المشروع.
- ٢- إذا لم يكن الموقع مناسباً أو في حالة وجود أي اعتراض آخر، يتم إبلاغ صاحب المشروع بأنه لن يتم الموافقة علي تقييم التأثير البيئي.
- ٣- القيام بمعابنة ميدانية لموقع المشروع (لمشروعات التصنيفين أ و ب) وإعداد تقرير بذلك وإرفاقه بالمستندات موضحاً المنطقة المحيطة والمشروعات القائمة بها.

٣-٣-٣ استلام مستندات تقييم التأثير البيئي

- ١- التأكد من قيام صاحب المشروع بتصنيف المشروع بطريقة سليمة باستخدام قوائم تقييم التأثير البيئي.
- ٢- في حالة عدم صحة تصنيف المشروع، يتم توجيه صاحب المشروع إلي التصنيف السليم، ويتم تزويده بمتطلبات التقييم ويطلب منه إعادة تقديم المستندات.

- ٣- بالنسبة للتصنيفين (أ) و (ب)، يتم فحص النموذج للتأكد من اكتماله^(٣) لضمان استيفاء كافة البيانات ويتم تحديد الأجزاء التي تحتاج إلي مزيد من المعلومات أو الإيضاحات.
- ٤- بالنسبة للتصنيف (ج)، يتم التأكد من استيفاء دراسة تقييم التأثير البيئي للمكونات المذكورة في قائمة محتويات دراسات التصنيف (ج).
- ٥- يتم الاتصال رسمياً بصاحب المشروع وتوجيهه لاستكمال البيانات الناقصة.

٣-٣-٤ رفع مستندات تقييم التأثير البيئي إلي جهاز شئون البيئة

- ١- إعداد المستندات التي يتم إرسالها إلي جهاز شئون البيئة متضمنة دراسة/ نموذج تقييم التأثير البيئي ومرفقاتها وتقرير المعاينة الميدانية وخريطة المشروع المعتمدة بختم شعار الجمهورية.
- ٢- إرسال عدد ٣ نسخ من المستندات (النموذج/ الدراسة) باليد أو البريد إلي جهاز شئون البيئة^(٤) وبالنسبة لمشروعات التصنيف (ج)، ترسل الجهة أيضاً الأسطوانة المدمجة للدراسة.

٣-٣-٥ القيام بالدور المنوط بها أثناء مراجعة جهاز شئون البيئة لمستندات التقييم

• طلب التوضيح ومزيد من المعلومات

- ١- استلام خطاب من جهاز شئون البيئة طلباً لمزيد من المعلومات.
- ٢- إرسال التعليقات لصاحب المشروع بموجب خطاب مسجل.
- ٣- إرسال رد صاحب المشروع إلي جهاز شئون البيئة.

• الاجتماع مع مقدمي المشروعات

- ١- استلام خطاب من جهاز شئون البيئة طلباً للاجتماع بصاحب المشروع.
- ٢- إرسال الخطاب إلي صاحب المشروع.
- ٣- حضور الاجتماع والمشاركة في المناقشات.
- ٤- أخذ نسخة من محضر الاجتماع من جهاز شئون البيئة والذي يتضمن النقاط التي تم الاتفاق عليها.

٣-٣-٦ استلام القرار النهائي الخاص بتقييم التأثير البيئي

- ١- استلام قرار جهاز شئون البيئة الخاص بتقييم التأثير البيئي.
- ٢- إرسال القرار إلي صاحب المشروع.

٣- نماذج تقييم التأثير البيئي مصممة بحيث يطلب في كل سؤال معلومات محددة (مثل مكونات المشروع).

٤- حالياً تقوم الفروع الإقليمية لجهاز شئون البيئة بمراجعة نموذج التصنيف البيئي (أ).

٣-٣-٧ القيام بالدور المنوط بها أثناء إجراءات التظلم

- ١- توجيه مقدم المشروع إلي إجراءات التظلم.
- ٢- استلام خطاب الإخطار بتاريخ انعقاد اللجنة الدائمة للمراجعة بجهاز شئون البيئة.
- ٣- حضور اجتماع اللجنة.
- ٤- أخذ نسخة من قرار اللجنة الدائمة للمراجعة بشأن التظلم.

٣-٣-٨ متابعة تطبيق اشتراطات الموافقة البيئية علي تقييم التأثير البيئي من خلال المعاينة الميدانية

- ١- قبل منح ترخيص التشغيل، تقوم الجهة الإدارية المختصة بمراجعة الاشتراطات التي يجب علي المنشأة الالتزام بها وذلك بفحص الموافقة علي تقييم التأثير البيئي.
- ٢- إجراء الزيارات الميدانية والتحقق من الالتزام بالاشتراطات خلال مرحلتي الإنشاء والتشغيل.

٤- نظام التظلم

يتضمن القانون رقم ٤ لسنة ١٩٩٤ بشأن حماية البيئة ولائحته التنفيذية إجراءات التظلم من قرارات جهاز شئون البيئة فيما يخص نماذج/دراسات تقييم التأثير البيئي (مواد ٢١ من القانون ٤/١٩٩٤ و١٤-١٦ من اللائحة التنفيذية) وفيما يلي عرضاً لهذه الإجراءات:

- يحق لمقدم المشروع التظلم من قرارات جهاز شئون البيئة بخصوص تقييم التأثير البيئي والاشتراطات التي يحددها للمشروع وذلك أمام اللجنة الدائمة للمراجعة علي أن يتم تقديم التظلم خلال ٣٠ يوماً من إخطار مقدم المشروع بالقرار.
- يتم تقديم التظلم كتابة إلي جهاز شئون البيئة متضمناً أسباب التظلم مدعماً بالأسانيد القانونية والعلمية وأية مستندات تؤيد أوجه التظلم. ويقدم التظلم من مقدم المشروع أو من ينيبه بتوكيل رسمي.
- تجتمع اللجنة الدائمة للمراجعة بدعوة من الرئيس التنفيذي لجهاز شئون البيئة خلال خمسة عشر يوماً من تاريخ ورود التظلم كتابة للجهاز. وللجنة الدائمة للمراجعة أن تستعين بمن تراه عند مباشرتها لمهامها وعليها في هذه الحالة أن تحدد المهمة الموكولة له أو التي تري الاستعانة به في شأنها.
- تصدر اللجنة قرارها فيما يخص التظلم المرفوع إليها بأغلبية الأصوات. وذلك خلال ٦٠ يوماً من تاريخ وصول أوراق التظلم مستوفاة إليها.
- تبلغ اللجنة قراراتها إلي الجهة الإدارية المختصة بخطاب مسجل بعلم الوصول.

٥- تصنيف المشروعات

يشمل نظام تقييم التأثير البيئي ثلاثة تصنيفات (أ) و(ب) و(ج)، لكل منها طبيعته الخاصة ومتطلبات التقييم ومستلزمات التوثيق الخاصة به طبقاً للقانون رقم ٤ لسنة ١٩٩٤ ولائحته التنفيذية.

وقد اعتمد نظام تقييم التأثير البيئي المصري منذ إنشائه علي إعداد قوائم استرشادية لمشروعات التصنيفات الثلاثة ويقوم جهاز شئون البيئة بمراجعة قوائم المشروعات ونماذج التصنيف دورياً كلما لزم الأمر وكذلك اتخاذ ما يلزم بناء علي الخبرة المتراكمة وبالتشاور مع مختلف الجهات المعنية.

١-٥ معايير التصنيف وتطبيقها

يعتمد تصنيف المشروعات علي عدد من المعايير التي تأخذ في الاعتبار عناصر الموقع واستهلاك الموارد وطبيعة المشروع والطاقة المستخدمة كما ورد في القانون رقم ٤ لسنة ١٩٩٤ وقد تم توضيح هذه العناصر كما يلي:

- **طبيعة المشروع:** وتم تفصيلها من حيث طبيعة المدخلات والمخرجات والتغييرات التي قد يؤدي لها المشروع وكذلك المدي الجغرافي للمشروع.

- **الطاقة:** وتم أخذها في الاعتبار من خلال طبيعة المدخلات.

- **استهلاك الموارد:** وتم أخذها كأحد المعايير.

وتفترض المعايير عدم حساسية المواقع وفقاً لتعريف القانون رقم ٤ لسنة ١٩٩٤ وتعتبر المواقع الحساسة بيئياً حالات خاصة يطبق عليها أسس تصنيف خاصة.

ومن ثم، يتم التصنيف وفق المعايير التالية^(٥):

- استهلاك الموارد^(٦)

- طبيعة المشروع والتغيير الذي قد يحدثه علي البيئة

- طبيعة المدخلات وشدة الجوانب البيئية والتلوث المتولد عنها.

- الامتداد الجغرافي للمشروع وتأثيراته.

ولكل من هذه المعايير، تعتمد منهجية التصنيف علي ثلاثة مستويات متدرجة (المستوي الأعلى والمتوسط والأدني) وقد تم تحديد هذه المستويات لإرشاد عملية تطبيق المعايير وجعلها أكثر شفافية مما يضمن أقصى قدر ممكن من التطبيق الموحد والتمائل والعادل للمعايير وتوجيه قرارات السلطات البيئية كما يدعم مقدم المشروع في تحديد تصنيف المشروع.

وتشمل المستويات المختلفة:

• المستوي الأعلى:

- استهلاك أو استخدام للموارد بكميات كبيرة.

- إحداث تغيير دائم وجذري في استخدامات الأراضي السائدة أو اتجاهات التنمية.

- استخدام أو تداول أو إنتاج المواد الخطرة في أي من صورها الصلبة والسائلة والغازية كعنصر أساسي من النشاط.

- تداول أو تولد المخلفات الخطرة في أي من صورها الصلبة والسائلة والغازية كعنصر أساسي من النشاط.

٥- توافق تلك المعايير مع معايير أغلب نظم تقييم التأثير البيئي مثل نظم الاتحاد الأوروبي والبنك الأوروبي لإعادة البناء والتنمية.

٦- الموارد: الطبيعية أو البشرية أو الاقتصادية

- تولد أحمال عالية من الملوثات أو المخلفات غير الخطرة في أي من صورها السائلة أو الغازية أو الصلبة كما تقتضى طبيعة النشاط.

- امتداد جغرافي للمساحة والتأثير.

- الجوانب البيئية والصحية والاجتماعية في مرحلتى الإنشاء والتشغيل متعددة وذات حجم كبير.

• المستوى المتوسط:

- استهلاك أو استخدام متوسط للموارد.

- إحداث تغيير دائم ولكن محدود في استخدامات الأراضي السائدة أو اتجاهات التنمية.

- استخدام أو تداول أو إنتاج المواد الخطرة في أي من صورها الصلبة أو السائلة أو الغازية كجانب ثانوى من نشاط المنشأة.

- تداول أو تولد المخلفات الخطرة في أي من صورها الصلبة أو السائلة أو الغازية كجانب ثانوى من نشاط المنشأة.

- تولد حمل تلوث متوسط من الملوثات غير الخطرة السائلة أو الغازية أو الصلبة كما تقتضى طبيعة النشاط.

• المستوى الأدنى:

- استهلاك أو استخدام كميات محدودة من الموارد.

- لا يحدث تغييراً دائماً في استخدامات الأراضي السائدة أو اتجاهات التنمية.

- لا يستخدم أو ينتج أو يتداول مواد خطيرة.

- لا يتداول أو يتولد عنه مخلفات خطيرة.

- تولد حمل تلوث غير خطر منخفض.

ويعتمد التصنيف علي هذه المعايير في الحالة العامة ولكن في الحالات الخاصة المذكورة في الجزء (٥-٢) من الدليل، يتم اتباع طريقة مختلفة للتصنيف. وقد تم إعداد قوائم استرشادية كأمثلة لمشروعات كل تصنيف، وهي قوائم ليست كاملة وفي حالة عدم وجود المشروع في أى منها، لا بد أن يقوم صاحب المشروع بطلب المعونة الفنية من الجهة الإدارية المختصة لتحديد تصنيف المشروع وتقوم الجهة الإدارية المختصة بالتشاور مع جهاز شؤون البيئة في هذا الصدد.

وباستخدام هذه المعايير، يتم تصنيف المشروعات كما يلي:

- مشروع التصنيف (أ): المشروع الذى يحقق كل المعايير من المستوى الأدنى.

- مشروع التصنيف (ب): المشروع الذى يحقق علي الأقل معيار واحد من معايير المستوى المتوسط والباقي من المستوى الأدنى.

- مشروع التصنيف (ج): المشروع الذى يحقق علي الأقل واحد من معايير المستوى الأعلى.

ويوضح الشكل (٢) رسماً توضيحياً لتطبيق هذه القواعد.

٥-٢ الحالات الخاصة

يوجد عدد من الحالات الخاصة والتي لا يتم بها تصنيف المشروعات وفقاً للمعايير الموجودة في الجزء

(٥-١) بل يتم تصنيفها بطريقة مختلفة وتشمل هذه الحالات:

- المشروعات في المناطق الحساسة بيئياً.
- المشروعات التي تقع في منطقة تنمية سبق إعداد دراسة متكاملة لتقييم تأثير بيئي لها.
- التوسعات في المشروعات/المنشآت القائمة.

• المشروعات في المناطق الحساسة بيئياً

في هذه الحالة، يكون المشروع مقاماً في أو يطل علي أو قريباً أو متاخماً من موقع يجب حمايته والحفاظ عليه إما لأهميته البيئية أو الأثرية أو لكون أي تغيير في خصائصه يترتب عليه تغيير كبير في طبيعته أو استخداماته وتشمل المناطق الحساسة المحميات الطبيعية^(٧) و شواطئ النيل أو فروعه وسواحل البحر والبحيرات والمناطق الأثرية والمناطق كثيفة السكان كما جاء في القانون رقم ٤ لسنة ١٩٩٤ وفي هذه الحالة، يعتبر المشروع من التصنيف الأكثر شدة من تصنيفه الأساسي فمثلاً لو أن التصنيف الأساسي للمشروع هو التصنيف (أ) أو (ب)، فهو يعتبر في هذه الحالة من التصنيف (ب) أو (ج) علي التوالي.

• المشروعات التي تقع في منطقة تنمية سبق إعداد دراسة متكاملة^(٨) لتقييم التأثير البيئي لها

في هذه الحالة، يطلب من مقدم المشروع أن يلتزم بمتطلبات التصنيف الأقل شدة من التصنيف الأساسي لمشروع وذلك في حالة ما إذا كانت المشروعات متماثلة (مثلاً منطقة مسابك أو منطقة سياحية) أما في حالة كون المشروعات داخل المنطقة غير متماثلة، يكون علي المشروعات ذات التصنيف (ج) تقديم دراسة محددة (ب) وفق المتطلبات الذي يحددها جهاز شئون البيئة وفي كلا الحالتين، يطالب مقدم المشروع بالالتزام بكل الاشتراطات الموجودة في الموافقة علي الدراسة المتكاملة لتقييم التأثير البيئي وأن يأخذها في الاعتبار عند إعداد دراسة تقييم التأثير البيئي للمشروع.

• التوسعات في المشروعات/المنشآت القائمة

يختلف مستوي تقييم التأثير البيئي لهذه التوسعات باختلاف طبيعتها وطبيعة المنشآت القائمة والحالة البيئية للمنطقة المقام بها المشروع وإذا كان قد تم إعداد دراسة لتقييم التأثير البيئي لها.

- **التوسعات في الطاقة/القدرة:** سوف يكون للتوسعات نفس التصنيف الخاص بالمنشأة القائمة إلا في حالة كون المنشأة قد تم إعداد دراسة تقييم التأثير البيئي لها، وفي هذه الحالة سوف تكون التوسعات في نفس النشاط ضمن تصنيف أقل شدة في حالة عدم حدوث تغيير في الظروف البيئية المحيطة (مثلاً التصنيف (ب) في حالة توسع في منشآت من التصنيف (ج) تم إعداد دراسة تقييم تأثير بيئي لها). ويكون مقدم المشروع مطالب بالالتزام بالاشتراطات الموجودة في دراسة تقييم التأثير البيئي التي تم الموافقة عليها للمنشأة القائمة وأن يأخذها في الاعتبار عند إعداد دراسة تقييم التأثير البيئي للتوسعات.

- **مكون جديد:** في هذه الحالة يتم تصنيف المكون بناء علي طبيعته كمشروع منفصل مثلاً محطة لمعالجة مياه الصرف

٧- في حالة المحميات، يتم تطبيق اشتراطات خاصة للتنمية وفق قانون ١٠٢/١٩٨٣ وقرار إنشاء المحمية.

٨- تعرف الدراسة المتكاملة كذلك بالدراسة الاستراتيجية أو الإقليمية

الصناعى في مصنع ما تتبع التصنيف (ب) بغض النظر عن التصنيف الذى تتبعه المنشأة.

- **التغير فى الإنتاج/النشاط:** فى هذه الحالة يعتبر التوسع كمشروع جديد مستقل ويتم تصنيفه وفق ذلك.

- **تعديلات فى العمليات الإنتاجية (التغير فى نمط الإنتاج للمكينات أو الوحدات) والتعديلات فى المنشأة/المصنع (التعديلات فى المبانى أو البنية الأساسية):** تصنيف هذه التعديلات وفق طبيعة التعديل وتأثيراته البيئية والصحية، ويتم الاتصال بجهاز شئون البيئة من خلال الجهة الإدارية المختصة وذلك لتحديد التصنيف الصحيح.

٦- متطلبات تصنيفات تقييم التأثير البيئى المختلفة

٦-١ مقدمة

تختلف التصنيفات (أ) و(ب) و(ج) فى متطلبات التحليل والتقييم وتعتبر متطلبات التصنيف (أ) هى المتطلبات الأساسية اللازمة لتقييم التأثير البيئى وتكون متطلبات التصنيف (ب) أكثر شدة من متطلبات التصنيف (أ) وكذلك بالنسبة لمتطلبات التصنيف (ج) ويرتبط ذلك بتعريف التصنيفات الثلاثة وطبيعة المشروعات فى كل تصنيف وبالإضافة إلى ذلك، فإن بعض متطلبات التصنيف (ب) و(ج) (مثل تحليل البدائل) لا توجد لمشروعات التصنيف (أ).

وقد يبدو نموذجي التصنيف (أ) و(ب) متماثلين فى طبيعة الأسئلة عند المقارنة إلا أن مستوي التفاصيل والتحليل المطلوب لمشروعات التصنيف (ب) أكثر عمقاً من مشروعات التصنيف (أ).

ويسهل استيفاء المتطلبات من عملية المراجعة ويضمن قراراً معللاً بناء على تقييم مفصل لمكونات المشروع والتأثيرات المتعلقة بها.

٦-٢ مشروعات التصنيف (أ)

٦-٢-١ مقدمة

يشمل التصنيف (أ) المشروعات ذات التأثيرات البيئية الضئيلة^(٩) ويكون على صاحب المشروع أو من ينييه استيفاء نموذج تقييم التأثير البيئى (أ) والمتضمن فى الملحق (٤) من الدليل ويحتوي الملحق (٤) أيضاً على قائمة استرشادية لمشروعات التصنيف (أ) وهى قائمة ليست كاملة بل هي بغرض إرشاد صاحب المشروع. ويمكن الحصول على نموذج تقييم التأثير البيئى والقائمة الاسترشادية لمشروعات التصنيف (أ) من الجهة الإدارية المختصة أو من مقر جهاز شئون البيئة أو موقعه الإلكتروني www.eeda.gov.eg ويعرض الجزء (٥) أسس تصنيف المشروعات.

٦-٢-٢ متطلبات استيفاء نماذج تقييم التأثير البيئى لمشروعات التصنيف (أ)

تحدد هذه المتطلبات مستوي المعلومات اللازمة لاستيفاء نموذج تقييم التأثير البيئى (أ) وتستلزم عدد من هذه المتطلبات إرفاق مستندات محددة إلى النموذج.

٩- يلاحظ أن مشروعات التصنيف (أ) الحالي لا تتماثل مع مشروعات التصنيف السابق وذلك لاستبعاد المشروعات التي لا تخضع لنظام تقييم التأثير البيئى.

٦-٢-٢-١ وصف المشروع

يتطلب التصنيف (أ) وصف تفصيلي للمشروع ومكوناته ويشمل الوصف:

- تحديد مكونات المشروع مع إرفاق المخطط العام للمشروع.
- وصف تفصيلي للمكونات المختلفة للمشروع (والتي تشمل المرافق) والأنشطة الخاصة بكل مكون مع توفير رسومات توضيحية لتتابع العمليات أو الأنشطة (مثلاً رسوم تتابع العمليات الإنتاجية في المشروعات الصناعية) وكذلك وصف لمدخلات ومخرجات المشروع شاملاً الطاقة والمياه مع تقديرها كمياً في صورة كميات سنوية.
- تحديد حجم العمالة خلال فترة التشغيل وأسلوب العمل والورديات.
- وصف الجوانب البيئية المرتبطة بمكونات المشروع في حالة التشغيل العادي للمشروع وتقديرها كمياً كلما أمكن ذلك ويكون ذلك في صورة كميات أو تركيز أو شدة أو معدل تدفق وفق الحالة. وتشمل الجوانب البيئية استخدام البنية الأساسية والمخلفات والانبعاثات ومياه الصرف، الخ.
- تحديد التدابير الوقائية التي اتخذت في التصميم للحد من الآثار البيئية مثل ترشيد استهلاك المياه والطاقة أو خفض المخلفات.
- وصف لأنشطة مرحلة الإنشاء وجدولها الزمني ومدخلاتها شاملاً العمالة وكذلك الجوانب البيئية المتعلقة بكل نشاط مع التقدير الكمي لهذه الجوانب كلما أمكن ذلك.

٦-٢-٢-٢ القوانين والتشريعات السارية

- إعداد قائمة بمتطلبات القوانين والتشريعات والقرارات البيئية (يذكر بها رقم القانون والمادة وكذلك طبيعة المتطلب) التي تنطبق علي طبيعة المشروع والجوانب البيئية والموقع.
- إعداد قائمة الضوابط والاشتراطات والمتطلبات والتي يجب علي المشروع الالتزام بها (سواء المتضمنة في دراسة تقييم التأثير البيئي المتكاملة في حالة وجود المشروع داخل منطقة تم إعداد دراسة متكاملة لتقييم التأثير البيئي لها أو في دراسة المشروع الأصلي في حالة كون المشروع توسعات في منشأة قائمة).

٦-٢-٢-٣ وصف البيئة المحيطة

- عند وصف البيئة المحيطة بموقع المشروع، يتم ما يلي:
- إعداد وصف عام للموقع والمناطق المناخية له من حيث البيئة الطبيعية والبيولوجية والاجتماعية مع توضيح استخدامات الأراضي في المنطقة والبنية الأساسية المتاحة.
- إرفاق خريطة أو كروكي بمقياس رسم مناسب تعتمدها الجهة الإدارية المختصة توضح الأنشطة والتنمية المجاورة والطرق وغيرها.
- وصف الاستخدام الأسبق لموقع المشروع.
- تعتمد درجة عمق وصف المكونات السابقة علي موقع وطبيعة المشروع.

٦-٢-٤-٤ تقييم التأثيرات

• تأثيرات المشروع علي البيئة

يتم إجراء تحليل لتأثيرات المشروع علي البيئة في حالات التشغيل العادي وكذلك حالات الطوارئ والتي تشمل الحريق والانسكاب، الخ، وفق التزام المشروع بالمتطلبات القانونية السارية.

• تأثيرات البيئة علي المشروع

يطلب من الجهة الإدارية المختصة إخطار مقدم المشروع بالأنشطة المتاخمة غير المتوافقة مع طبيعة المشروع وينصح صاحب المشروع بتقدير مدي تأثير الاستخدام السابق للموقع علي أنشطة المشروع المستقبلية.

٦-٢-٥ خطة الإدارة البيئية

تعتبر خطة الإدارة البيئية جزءاً أساسياً لأي دراسة تقييم تأثير بيئي حيث أنها تمثل رابطة ضرورية بين التأثيرات البيئية وإجراءات الحد من التأثيرات السلبية من جهة وتطبيقها من جهة أخرى. ولا بد أن يتم صياغة الخطة بطريقة واضحة ومحددة كما يجب أن تشير إلي الخطط الأخرى ذات الصلة مثل خطة الطوارئ والتي يتم إعدادها لاحقاً.

وتشمل متطلبات خطة الإدارة البيئية لمشروعات التصنيف (أ):

- تحديد واضح لإجراءات الحد والتخفيف من التأثيرات بناء علي نتائج التقييم وتشمل:
 - الإجراءات اللازمة للحد والتخفيف من التأثيرات السلبية شاملة إجراءات الإدارة البيئية في مرحلتي الإنشاء والتشغيل.
 - إجراءات وقائية في حالات الطوارئ وكذلك عناصر خطة الطوارئ وفقاً لقانون العمل رقم 37 لسنة ٢٠٠٣
- خطة الرصد متضمنة المعايير التي تقاس دورياً، ودورية القياس وكذلك نقاط أخذ العينات.
- هيكل الإدارة البيئية بالمشروع ومسئوليته.

٦-٣ مشروعات التصنيف (ب)

٦-٣-١ مقدمة

يتضمن هذا التصنيف المشروعات ذات التأثيرات البيئية الكبيرة نسبياً ويقوم صاحب المشروع أو من ينييه باستيفاء نموذج التقييم البيئي (ب) والمرفقة في الملحق (٥) من الدليل وكذلك إرفاق المستندات المطلوبة. ويحتوي الملحق أيضاً علي قائمة استرشادية غير شاملة لمشروعات التصنيف (ب) وذلك لإرشاد صاحب المشروع. ويعرض الجزء (٥) من الدليل أسس التصنيف ويمكن الحصول علي نموذج تقييم التأثير البيئي والقائمة الاسترشادية لمشروعات التصنيف (ب) من الجهة الإدارية المختصة أو من مقر جهاز شئون البيئة أو الموقع الإلكتروني له www.eeda.gov.eg

وبناء علي نتائج مراجعة تقييم التأثير البيئي الخاص بمشروعات التصنيف (ب) ووفقاً لمعايير محددة وضعها جهاز شئون البيئة، يمكن لجهاز شئون البيئة أن يطلب من صاحب المشروع إعداد دراسة محددة لتقييم التأثير البيئي لمكونات أو تأثيرات بعينها ويحدد جهاز شئون البيئة متطلبات الدراسة المحددة.

٦-٣-٢ متطلبات استيفاء نموذج التقييم البيئي لمشروعات التصنيف (ب)

تحدد هذه المتطلبات مستوى المعلومات اللازمة لاستيفاء نموذج التقييم البيئي لمشروعات التصنيف (ب) وتستلزم عدد من هذه المتطلبات إرفاق مستندات محددة بنموذج تقييم التأثير البيئي (ب).

٦-٣-٢-١ تحديد أسماء بمعدي النموذج

يتم تحديد أسماء معدي النموذج وأدوار كل منهم.

٦-٣-٢-٢ وصف المشروع

يتطلب التصنيف (ب) وصف تفصيلي للبديل الذي تم اختياره ويشمل الوصف:

- تحديد مكونات المشروع مع إرفاق المخطط العام للمشروع.
- وصف للمكونات المختلفة للمشروع (والتي تشمل المرافق) والأنشطة الخاصة بكل مكون مع توفير رسومات توضيحية لتتابع العمليات أو الأنشطة (مثلاً رسوم تتابع العمليات الإنتاجية في المشروعات الصناعية) ووصف لمدخلات ومخرجات المشروع متضمناً الطاقة والمياه مع تقديرها كمياً في صورة كميات سنوية.
- تحديد حجم العمالة في مرحلة التشغيل وطريقة العمل والورديات.
- وصف للجوانب البيئية المرتبطة بمكونات المشروع في حالة التشغيل العادي للمشروع وتقديرها كمياً كلما أمكن ذلك ويكون ذلك في صورة كميات أو تركيز أو شدة أو معدل تدفق وفق الحالة. وتشمل الجوانب البيئية استخدام البنية الأساسية والمواصلات والمخلفات والانبعاثات ومياه الصرف، الخ.
- تحديد للتدابير الوقائية التي اتخذت في التصميم للحد من الآثار البيئية مثل استبدال المواد الخطرة بمواد أخرى صديقة للبيئة وترشيد استهلاك المياه والطاقة أو خفض المخلفات^(١٠).
- وصف أعمال الإنشاء وتقدير كمي للمدخلات والعمالة وكذلك للجوانب البيئية الناتجة عن كل نشاط من أنشطة الإنشاء.

٦-٣-٢-٣ القوانين والتشريعات

- إعداد قائمة بمتطلبات القوانين والتشريعات والقرارات البيئية (يذكر بها رقم القانون والمادة وكذلك طبيعة المتطلب) التي تنطبق علي طبيعة المشروع والجوانب البيئية والموقع.
- إعداد قائمة الضوابط والاشتراطات والمتطلبات والتي يجب علي المشروع الالتزام بها (سواء المتضمنة في دراسة تقييم التأثير البيئي المتكاملة في حالة وجود المشروع داخل منطقة تم إعداد دراسة متكاملة لتقييم التأثير البيئي لها أو في دراسة المشروع الأصلي في حالة كون المشروع توسعات في منشأة قائمة).
- تحليل للخطة المعتمدة ذات الصلة لاستخدامات الأراضي في المنطقة.

١٠- يعد دليل منع والحد من التلوث Pollution Prevention and Abatement Handbook الذي أصدره البنك الدولي مصدراً مفيداً في مجال الحد من التلوث وكذلك الأدلة الإرشادية القطاعية التي أعدها جهاز شئون البيئة للرصد الذاتي والإنتاج الأنظف والتي يمكن الاطلاع عليها من خلال الموقع الإلكتروني لجهاز شئون البيئة.

٦-٣-٢-٤ وصف البيئة المحيطة

عند وصف البيئة المحيطة بموقع المشروع، يتم ما يلي:

• إعداد وصف عام للموقع والمناطق المتاخمة له من حيث البيئة الطبيعية والبيولوجية والاجتماعية مع توضيح استخدامات الأراضي بالمنطقة:

- **البيئة الطبيعية:** وتشمل الملامح الرئيسية لمنطقة المشروع، وتتضمن البيانات المناخية (خاصة اتجاه الرياح السائدة ومعدلات سقوط الأمطار)، التضاريس، الخصائص الجيولوجية، طبيعة التربة، هيدرولوجيا السطح، خصائص المياه الجوفية، والنشاط الزلزالي، حسب الحالة.

- **البيئة البيولوجية:** وتشمل وصفا للبيئة الحية بموقع المشروع ووصف مختصر لهذه البيئة بالمنطقة المحيطة، وتتضمن البيئة الحية النباتية والحيوانية سواء كانت برية أم مائية، حسب الحالة.

- **البيئة الاجتماعية:** تشمل بيانات هذا الجزء الملامح الاقتصادية العامة، وتشمل معدلات العمالة والبطالة، البنية الأساسية المتاحة، وكذلك الخصائص الاجتماعية لمنطقة المشروع، وتشمل الخصائص السكانية ومستويات التعليم المتاحة. وكذلك الخدمات والحركة المرورية حسب الحالة.

- استخدامات الأراضي بالمنطقة ومصادر التلوث الأخرى بما يشمل المنشآت القائمة في حالة التوسعات تعتمد درجة وصف المكونات السابقة علي موقع وطبيعة المشروع.

• إرفاق خريطة بمقياس رسم مناسب، توضح الأنشطة والتنمية المجاورة والطرق وغيرها.

• تقدير كمي كلما أمكن للعناصر البيئية ذات الصلة والمتوقع تأثرها حسب طبيعة المنطقة وأنشطة المشروع.

• وصف للاستخدام السابق لموقع المشروع.

٦-٣-٢-٥ تقييم التأثيرات

• تقييم تأثيرات المشروع علي البيئة

- تحليل تفصيلي للتأثيرات البيئية الناتجة عن مرحلة الإنشاء والتشغيل للمشروع وذلك في حالات التشغيل العادي وكذلك الطوارئ ويتطلب ذلك وصف تفصيلي للتأثير مع تحديد المعايير التي يتم علي أساسها تحديد التأثيرات الهامة ولا بد أن يتناول التحليل التأثيرات علي البيئة الطبيعية والبيولوجية والاجتماعية.

- تحليل للتأثيرات الهامة بطريقة كمية كلما أمكن ذلك.

• تقييم تأثيرات البيئة علي المشروع

يتم تحليل تأثيرات البيئة علي المشروع وتتضمن التأثيرات الناتجة عن العوامل الطبيعية وتشمل تلك الناتجة عن الانزلاق الأرضي، الأنشطة الزلزالية وكذلك السيول، ويتم أيضاً تحليل التأثيرات الناتجة عن الأنشطة التنموية علي المشروع والاستخدام السابق لموقع المشروع.

٦-٣-٢-٦ تحليل البدائل

يطلب من مقدم المشروع تحليل بدائل المشروع آخذاً في الاعتبار العوامل البيئية والاجتماعية والاقتصادية. ويجب ألا تقتصر أسس تولد البدائل علي الحد من التأثيرات البيئية للمشروع كما هو مصمم بل يجب أن يهدف تحليل البدائل إلي إدراج البعد البيئي والاجتماعي في المراحل الأولى لتخطيط المشروع جنباً إلي جنب مع العوامل الفنية والاقتصادية الأخرى وذلك لتفادي التأثيرات البيئية.

وتتولد البدائل لتحقيق أهداف المشروع في ظل الظروف الحاكمة وقد تتناول بدائل المشروع عناصر عدة مثل موقع المشروع في الحالات الممكنة أو توزيع الأنشطة به أو التكنولوجيا المستخدمة أو بدائل التصميم أو نظم الإدارة. وفي معظم الأحيان لا تكون كل هذه العناصر ذات صلة بالمشروع وبالتالي لن يكون هناك داعي لبحثها كلها ولا بد أيضاً من بحث بديل لا مشروع أو عدم إقامة المشروع عند الإمكانية.

ولا بد أن يراعي تحليل البدائل المحددات المتعلقة بالمشروع مثل الجوانب البيئية والاقتصادية والفنية واستخدام الأراضي وكذلك العوامل الاجتماعية ولا بد أن يكون قرار اختيار أو استبعاد أي بديل محدد بشفافية ومعلل.

٦-٣-٢-٧ خطة الإدارة البيئية

تعتبر خطة الإدارة البيئية جزء لا يتجزأ من دراسة تقييم التأثير البيئي، وتعتبر رابطة ضرورية بين التأثيرات المتوقعة وإجراءات التخفيف من ناحية وبين تطبيقها من ناحية أخرى ويجب صياغة خطة الإدارة البيئية بطريقة واضحة وموجزة قدر الإمكان وينبغي أن تشير الخطة إلي الخطط الأخرى ذات الصلة بالمشروع، مثل خطة الطوارئ والتي يتم إعدادها لاحقاً.

وفيما يلي عرض للجوانب اللازم تناولها في الخطة:

• ملخص التأثيرات البيئية

يشمل هذا الجزء تحديد وتلخيص التأثيرات البيئية والاجتماعية المتوقعة للمشروع والتي تتطلب إجراءات تخفيف ويتم الإشارة إلي تقييم التأثير البيئي أو أي مستندات أخرى للمشروع، للحصول علي المعلومات التفصيلية الإضافية.

• وصف إجراءات التخفيف

يجب أن تحدد خطة الإدارة البيئية إجراءات التخفيف الممكنة ذات الفاعلية الاقتصادية للحد من التأثيرات البيئية والاجتماعية الهامة والوصول إلي الحدود المقبولة. ويتم وصف كل إجراء بإيجاز بالإشارة إلي التأثير المرتبط به وشروط تنفيذه (مثلاً: بصورة دائمة أم في حالة الطوارئ فقط). وفي حالة أن إجراءات التخفيف قد ينتج عنها تأثيرات ثانوية، ينبغي تقييم التأثيرات الثانوية وأهميتها ويتم كذلك تقدير مالي لبرنامج التخفيف

ويجب أن تتضمن إجراءات الحد ما يلي:

- الإجراءات اللازمة للحد من التأثيرات (إجراءات إدارية أو تدخلات مادية) في مراحل المشروع المختلفة.
- الإجراءات الوقائية لحالات الطوارئ وكذلك عناصر خطة الطوارئ وفقاً لقانون العمل رقم ١٢ لسنة ٢٠٠٣

• وصف برنامج الرصد البيئي

يتم تصميم برنامج رصد الأداء البيئي للمشروع لضمان أنه قد تم تطبيق إجراءات التخفيف المقترحة وأن تحقق النتائج المرجوة منها، وأن الإجراءات التصحيحية قد تم اتخاذها. ويجب أن يشير برنامج الرصد البيئي بوضوح إلي العلاقة بين التأثيرات البيئية ومؤشرات الرصد المقاسة، وطرق الرصد، ومواقع القياس وأخذ العينات، وتكرارية الرصد، والحدود المسموح بها ويتم كذلك تقدير مالي لبرنامج الرصد

• المتطلبات المؤسسية

يتم تحديد المسؤوليات اللازمة لتطبيق إجراءات التخفيف والرصد بوضوح في الخطة ويتم تحديد احتياجات التدريب أيضاً. كما يتم تحديد المتطلبات والترتيبات اللازمة للتنسيق بين مسؤوليات الجهات المختلفة لتطبيق إجراءات التخفيف. ومن المهم أخذ الظروف والعقبات المرتبطة بالموقع في الاعتبار عند إعداد خطة الإدارة البيئية ويتم كذلك تقدير مالي لبرنامج المتطلبات المؤسسية

• متطلبات ونطاق نشر نتائج تقييم التأثير البيئي :

يتم إتاحة الدراسة البيئية المحددة لمشروعات القائمة (ب) علي الموقع الإلكتروني لجهاز شئون البيئة ، علي ان يتم عدم نشر بعض الاجزاء المتضمنة لمعلومات ذات حساسية متعلقة بالنواحي التجارية أو التكنولوجية أو الأمنية . كما يتم حفظ نسخة الكترونية من النموذج والدراسة المحددة بالأرشيف الإلكتروني بالإدارة المركزية لتقييم التأثير البيئي والنسخة الأصلية المطبوعة للنموذج والدراسة المحددة بالفرع الاقليمي للجهاز والذي يقع المشروع في نطاقه الجغرافي .

٦-٤ : مشروعات التصنيف ج

٦-٤-١ مقدمة

يتضمن هذا التصنيف المشروعات ذات التأثيرات البيئية الشديدة والتي تحتاج إلي دراسة تقييم تأثير بيئي كاملة ويجب أن يقوم صاحب المشروع أو من ينوبه بإعداد دراسة تقييم تأثير بيئي كاملة وفق قائمة المحتويات المحددة في الجزء (٦-٤-٢) . ويحتوي ملحق (٦) علي قائمة غير كاملة لمشروعات التصنيف (ج) وذلك لإرشاد صاحب المشروع ويمكن الإطلاع علي القوائم علي الموقع الإلكتروني لجهاز شئون البيئة www.eead.gov.eg ويعرض الجزء (٥) من الدليل أسس التصنيف وقد أعد جهاز شئون البيئة العديد من الأدلة الإرشادية القطاعية لتقييم التأثير البيئي ويمكن الحصول عليها من جهاز شئون البيئة والموقع الإلكتروني الخاص به .

٦-٤-٢ متطلبات دراسات تقييم التأثير البيئي لمشروعات التصنيف (ج)

تحدد هذه المتطلبات العناصر اللازمة لإعداد دراسة تقييم التأثير البيئي لمشروعات التصنيف (ج) حيث يتم إعداد دراسة تفصيلية كاملة لتقييم التأثير البيئي وفق قائمة المحتويات التالية:

- الملخص التنفيذي .
- الإطار القانوني والمؤسسي .
- وصف المشروع .

- وصف البيئة المحيطة.
- تحديد وتحليل التأثيرات.
- تحليل البدائل.
- التشاور العام.
- خطة الإدارة البيئية.
- قائمة المراجع.
- الملاحق (والتي تتضمن ولا تقتصر على):
- قائمة الاستشاريين المشاركين في الدراسة ودور كل منهم.
- قائمة بالحاضرين في جلسات التشاور العام.
- أجنحة اجتماعات/جلسات التشاور العام.

٦-٤-٢-١ متطلبات خاصة بالاستشاري

- لابد أن تعد دراسة تقييم التأثير البيئي بواسطة استشاري بيئي (أو مكتب استشاري بيئي).
- ويجب أن يتم إرفاق قائمة بالاستشاريين المشاركين في تقييم التأثير البيئي موضحاً بها أدوار كل منهم.

٦-٤-٢-٢ الملخص التنفيذي

يطلب من معد الدراسة إعداد ملخص تنفيذي يحتوي علي وصف مختصر للدراسة ونتائجها ويشمل وصف المشروع ومكوناته والجوانب البيئية المتعلقة به وكذلك التأثيرات البيئية المحتملة وخطة الإدارة البيئية وكذلك أنشطة التشاور العام وأن يحدد مسئول الاتصال في المنشأة لمزيد من المعلومات. وكما هو موضح لاحقاً، سوف يتم إتاحة هذا الملخص للجمهور.

٦-٤-٢-٣ وصف المشروع

- يتطلب التصنيف (ج) وصف تفصيلي للمشروع ومكوناته ويشمل الوصف:
- تحديد لمكونات المشروع مع إرفاق خريطة للموقع ومخطط المشروع.
- وصف للمكونات المختلفة للمشروع^(١١) (والتي تشمل المرافق) والأنشطة الخاصة بكل مكون مع توفير رسومات توضيحية لتتابع العمليات أو الأنشطة مع وصف لمداخلات ومخرجات المشروع متضمناً الطاقة والمياه مع تقديرها كمياً في صورة كميات سنوية.
- تحديد حجم العمالة وطريقة العمل والورديات.
- وصف أنشطة ما بعد إغلاق الموقع، عند وجودها ويحدد جهاز شئون البيئة المشروعات التي يجب إعداد إطار لخطة إغلاق لها.

١١- قام جهاز شئون البيئة بإصدار عدد من الأدلة الإرشادية الخاصة بقطاعات مختلفة وذلك لتطبيق المتطلبات العامة علي عدد من القطاعات وفقاً لطبيعتها.

- وصف كمي للجوانب البيئية المرتبطة بمكونات المشروع في حالة التشغيل العادي للمشروع كلما أمكن ذلك ويكون ذلك في صورة كميات أو تركيز أو شدة أو معدل تدفق وفق الحالة ويتم كذلك حساب أحمال التلوث، وتشمل الجوانب البيئية المخلفات والأنبعاثات ومياه الصرف.
- تحديد للتدابير الوقائية التي اتخذت في التصميم للحد من الآثار البيئية مثل استبدال المواد الخطرة لمواد أخرى صديقة للبيئة وترشيد استهلاك المياه والطاقة أو خفض المخلفات^(١٢).
- وصف لأنشطة مرحلة الإنشاء وتقدير كمي للمدخلات وكذلك الجوانب البيئية الخاصة بكل نشاط.

٤-٢-٤-٦ القوانين والتشريعات

- إعداد قائمة بمتطلبات القوانين والتشريعات والقرارات البيئية (يذكر بها رقم القانون والمادة وكذلك طبيعة المتطلب) التي تنطبق علي طبيعة المشروع والجوانب البيئية والموقع.
- إعداد قائمة الضوابط والاشتراطات والمتطلبات الأخرى التي يجب علي المشروع الالتزام بها.
- تحليل للخطط المعتمدة ذات الصلة لاستخدامات الأراضي في المنطقة.
- تحليل الاتفاقيات والمعاهدات الدولية ذات الصلة والتي وقعتها مصر.

٥-٢-٤-٦ وصف البيئة المحيطة

عند وصف البيئة المحيطة بموقع المشروع، يتم ما يلي:

- إعداد وصف تفصيلي عام للعناصر البيئية في منطقة المشروع من حيث البيئة الطبيعية والبيولوجية والاجتماعية والثقافية وفقاً لطبيعة المنطقة وحجم المشروع والتأثيرات البيئية المتوقعة مع تحديد استخدامات الأراضي بالمنطقة. وتشمل المعلومات:
- **البيئة الطبيعية:** وتشمل الملامح الرئيسية لمنطقة المشروع، وتتضمن البيانات المناخية (خاصة اتجاه الرياح السائدة ومعدلات سقوط الأمطار)، التضاريس، الخصائص الجيولوجية، طبيعة التربة، هيدرولوجيا السطح، خصائص المياه الجوفية، والنشاط الزلزالي، حسب الحالة.
- **البيئة البيولوجية:** وتشمل وصفا للبيئة الحية بموقع المشروع ووصف مختصر لهذه البيئة بالمنطقة المحيطة، وتتضمن البيئة الحية النباتية والحيوانية سواء كانت برية أم مائية، حسب الحالة.
- **البيئة الاجتماعية:** تشمل بيانات هذا الجزء الملامح الاقتصادية العامة، وتشمل معدلات العمالة والبطالة، البنية الأساسية المتاحة، وكذلك الخصائص الاجتماعية لمنطقة المشروع، وتشمل الخصائص السكانية، مستويات التعليم المتاحة. وكذلك الخدمات والحركة المرورية حسب الحالة.
- استخدامات الأراضي بالمنطقة ومصادر التلوث الأخرى بما يشمل المنشآت القائمة في حالة التوسعات

١٢- يعد دليل منع والحد من التلوث Pollution Prevention and Abatement Handbook الذي أصدره البنك الدولي مصدراً مفيداً في مجال الحد من التلوث خاصة لقطاع الصناعة كما أن الأدلة الإرشادية الخاصة بالرصد الذاتي والإنتاج الأنظف والتي أصدرها جهاز شئون البيئة تعتبر مفيدة للغاية ويمكن الإطلاع عليها من خلال الموقع الإلكتروني للجهاز.

تعتمد درجة عمق وصف المكونات السابقة علي موقع وطبيعة المشروع.

- تقدير كمي كلما أمكن ذلك للوضع البيئي للعناصر المتوقع أن تتأثر تأثيراً شديداً من المشروع أو العناصر التي قد تؤثر تأثيراً شديداً علي المشروع.
- بيان الاستخدام السابق لموقع المشروع.

٦-٤-٢-٦ تقييم التأثيرات

• تقييم تأثيرات المشروع علي البيئة المحيطة

- توضيح المنهجية المستخدمة في تقييم التأثيرات

- تحليل تفصيلي للتأثيرات البيئية الناتجة عن مرحلتي الإنشاء والتشغيل للمشروع وكذلك مرحلة الإغلاق في حالة وجودها وذلك في حالات التشغيل العادي وكذلك الطوارئ مع تحديد المعايير التي يتم علي أساسها تحديد التأثيرات الهامة وحساب أحمال التلوث الناتجة عن المشروع ويتطلب ذلك وصف كافي للتأثير. ويجب أن يشمل التحليل وصفاً كيفياً للتأثيرات المتركمة^(١٣) حسب الحالة وعند توافر المعلومات من خلال جهاز شئون البيئة. ولا بد أن ينطرق التقييم للتأثيرات علي البيئة الطبيعية والبيولوجية والاجتماعية مع التركيز علي التأثيرات الاجتماعية في الحالات التي قد تؤدي إلي تأثيرات علي مستوى الحياة وإعادة التوطين ونزع الملكية.

- تحليل كمي للتأثيرات الهامة في الظروف العادية كلما أمكن ذلك وذلك بربطها بالحدود القصوي لنوعية البيئة والمحددة في القوانين والتشريعات والقرارات البيئية.

- تقييم التأثيرات البيئة لمرحلة الإغلاق، وفق الحالة.

وجديد بالذكر أنه يحق لجهاز شئون البيئة أن يطلب دراسات إضافية مثل التقييم الكمي للمخاطر أو تقييم التأثيرات الصحية كدراسات موازية لدراسة تقييم التأثير البيئي لمشروعات محددة بناء علي طبيعة المشروع ويتم إدراج نتائج تلك الدراسات في دراسة تقييم التأثير البيئي وذلك في الجزء الخاص بتقييم التأثيرات البيئية. ويقوم جهاز شئون البيئة بإعداد دليل إرشادي للمشروعات التي قد يطلب منها إعداد دراسة للتقييم الكمي للمخاطر.

• تقييم تأثيرات البيئة المحيطة علي المشروع

يتم تحليل تأثيرات البيئة علي المشروع وتتضمن التأثيرات الناتجة عن العوامل الطبيعية مثل الانزلاق الأرضي والأنشطة الزلزالية والسيول وكذلك التأثيرات الناتجة عن الأنشطة التنموية المجاورة وعن الاستخدام السابق لموقع المشروع بالإضافة إلي ذلك، يتم تقدير حجم التأثير المتوقع كميًا كلما أمكن ذلك وذلك للتأثيرات الهامة.

١٣- يشمل هذا الوصف التأثيرات المتركمة والناتجة عن تراكم التأثيرات البيئية لمختلف الأنشطة في المشروع وكذلك تأثيرات المشروع مع تأثيرات البيئية للمشروعات المجاورة.

٦-٤-٢-٧ متطلبات تحليل البدائل

لا تقتصر أسس تولد البدائل علي الحد من التأثيرات البيئية للمشروع كما هو مصمم بل يجب أن يهدف تحليل البدائل إلي إدراج البعد البيئي والاجتماعي في المراحل الأولى لتخطيط المشروع جنباً الي جنب مع العوامل الفنية والاقتصادية الأخرى وذلك لتفادي التأثيرات البيئية.

وتتولد البدائل لتحقيق أهداف المشروع في ظل الظروف الحاكمة وقد تتناول بدائل المشروع عناصر عدة مثل موقع المشروع إذا كان ذلك ممكناً أو توزيع الأنشطة بالموقع أو التكنولوجيا المستخدمة أو بدائل التصميم أو نظم الإدارة وفي معظم الأحيان لا تكون كل هذه العناصر ذات صلة بالمشروع وبالتالي لن يكون هناك داعي لبحثها كلها ولا بد أيضاً من بحث بديل لا مشروع أو عدم إقامة المشروع عند الإمكانية.

ولا بد أن يراعي تحليل البدائل المحددات المتعلقة بالمشروع مثل الجوانب البيئية والاقتصادية والفنية واستخدام الأراضي وكذلك العوامل الاجتماعية ولا بد أن يكون قرار اختيار أو استبعاد أى بديل محدد بشفافية ومعلل. وعند تحديد مجموعة البدائل لدراستها، لا بد أن تظل المعلومات اللازمة لتقييم ومقارنة البدائل في أقل الحدود علي أن يتم جمع المعلومات التفصيلية في مرحلة تقييم البدائل التي تم تحديدها لدراستها.

وتستخدم العديد من الطرق في تحليل البدائل ويمكن إعداد مصفوفة لكل بديل لتلخيص المعلومات الخاصة به والعوامل (الاقتصادية والبيئية والاجتماعية والفنية) المرتبطة به.

يجب أن يتم مقارنة التأثيرات البيئية للبديل الذي تم اختياره مع مثيلاتها للبديل الأفضل من الناحية البيئية، في حالة عدم اختياره مع التعليل كما يجب أن يتطرق التشاور العام لعملية تحليل البدائل وخاصة في حالة المشروعات المثيرة للجدل مثل مشروعات البنية الأساسية العملاقة ويتم في هذه الحالة عرض البدائل المختلفة في جلسات التشاور العام.

٦-٤-٢-٨ متطلبات خطة الإدارة البيئية

تعتبر خطة الإدارة البيئية جزء لا يتجزأ من دراسة تقييم التأثير البيئي، وتعتبر رابطة ضرورية بين التأثيرات المتوقعة وإجراءات التخفيف من ناحية وبين تطبيقها من ناحية أخرى. ويجب صياغة خطة الإدارة البيئية بطريقة واضحة وموجزة قدر الإمكان وينبغي أن تشير الخطة إلي الخطط الأخرى ذات الصلة بالمشروع، مثل خطة الطوارئ والتي يتم إعدادها لاحقاً. وفيما يلي عرض للجوانب اللازم تناولها في الخطة:

• ملخص التأثيرات البيئية

يشمل هذا الجزء تحديد وتلخيص التأثيرات البيئية والاجتماعية المتوقعة من المشروع والتي تتطلب إجراءات تخفيف ويتم الإشارة إلي تقييم التأثير البيئي أو أى مستندات أخرى للمشروع، للحصول علي المعلومات التفصيلية الإضافية.

• وصف إجراءات التخفيف

يجب أن تحدد خطة الإدارة البيئية إجراءات التخفيف الممكنة وذات الفاعلية الاقتصادية للحد من التأثيرات البيئية والاجتماعية الهامة والوصول إلي الحدود المقبولة. ويتم وصف كل إجراء بإيجاز بالإشارة إلي التأثير المرتبط به وشروط تنفيذه (مثلاً: بصورة دائمة أم في حالة الطوارئ فقط) وفي حالة أنه قد ينتج عن الإجراء التخفيفي تأثيرات ثانوية، ينبغي تقييم التأثيرات الثانوية وأهميتها.

ويجب أن تتضمن إجراءات الحد ما يلي:

- الإجراءات اللازمة للحد من التأثيرات (إجراءات إدارة بيئية أو تدخلات مادية) في مراحل المشروع المختلفة.
- الإجراءات الوقائية لحالات الطوارئ وكذلك عناصر خطة الطوارئ وفقاً لقانون العمل رقم ١٢ لسنة ٢٠٠٣ من الضروري تحديد توقيات وتكرارية ومدة تطبيق إجراءات التخفيف ويتم كذلك تقدير مالي لبرنامج التخفيف

• وصف برنامج الرصد البيئي

يتم تصميم برنامج رصد الأداء البيئي للمشروع لضمان أنه قد تم تطبيق إجراءات التخفيف المقترحة، وتحقيقها للنتائج المرجوة، وأن الإجراءات الإصحاحية قد تم اتخاذها. ويجب أن يشير برنامج الرصد البيئي بوضوح إلي العلاقة بين التأثيرات المحددة في دراسة تقييم التأثير البيئي، ومؤشرات الرصد المقاسة، وطرق الرصد، ومواقع القياس وأخذ العينات، وتكرارية الرصد والحدود التي تستوجب إجراءات التصحيحية ويتم كذلك تقدير مالي لبرنامج الرصد وتحديد الأفراد أو الجهات القائمة بالرصد.

• المتطلبات المؤسسية

يتم تحديد المسؤوليات اللازمة لتطبيق خطة الإدارة البيئية شاملة إجراءات التخفيف والرصد حيث يتم تحديد المتطلبات التدريبية والترتيبات اللازمة للتنسيق بين مسؤوليات الجهات المختلفة لتطبيق إجراءات التخفيف. ويجب أخذ هذه الظروف والمحددات المرتبطة بالموقع في الاعتبار عند إعداد خطة الإدارة البيئية ويتم كذلك تقدير مالي لبرنامج المتطلبات المؤسسية

٦-٤-٣ متطلبات المشاركة المجتمعية :

٦-٤-٣-١ نطاق التشاور العام

يعتبر اشتراك المواطنين والجهات المعنية في مرحلتى التخطيط والتنفيذ لتقييم التأثير البيئي مطلباً لمشروعات التصنيف البيئي (ج)، وذلك من خلال عملية التشاور العام مع الأطراف المعنية بالمشروع.

وحيث أن عملية التشاور العام تحدث في إطار نظام تقييم التأثيرات البيئية، لذا فهو تشاور يتم علي الجوانب البيئية والاجتماعية المرتبطة بالمشروع في المقام الأول. بناء عليه، لا يشمل هذا التشاور الجوانب السياسية أو الاقتصادية أو أي جوانب أخرى لا يتم التطرق إليها في دراسة تقييم التأثيرات البيئية وتعني بهذه الجوانب الجهات الإدارية المختصة كل في إطار مسؤولياته. ويتم توضيح ذلك أثناء اجتماعات التشاور^(١٤).

وتعطي عملية التشاور الفرصة للأطراف المعنية لإبداء الرأي في طرق الحد من التأثيرات السلبية البيئية والاجتماعية المحتملة عن المشروع وتعزيز القبول الاجتماعي له وطمأنة الأطراف المعنية إلي الحد من التأثيرات البيئية للمشروع إلي أدنى حد يمكن الوصول له عملياً وتحقيق التوازن بين المتطلبات المشروعة للتنمية والحفاظ علي البيئة.

١٤ - يقوم جهاز شئون البيئة بالتأكد علي ذلك في المناسبات المختلفة مثل اجتماع التشاور علي مسودة دراسة تقييم التأثير البيئي

وتشمل الأطراف المعنية بالمشروع كحد أدنى:

- جهاز شؤون البيئة وفروعه الإقليمية
 - الجهات الإدارية المختصة والتي تتحدد وفق موقع المشروع وطبيعته
 - المحافظة التي يقع بها المشروع (وفي بعض المشروعات تكون الجهة الإدارية المختصة جهة أخرى غير المحافظة)
 - المجالس الشعبية المحلية
 - ممثلي المجموعات المتأثرة بالمشروع مثل المنشآت المجاورة أو القاطنين بجوار المشروع وذلك وفق موقع ونوع كل مشروع والتأثيرات التي قد تنتج عنه
- كما قد يشمل:

- المنظمات غير الحكومية المحلية المهتمة بشؤون البيئة.
 - الجامعات أو الجهات البحثية المحلية
 - أطراف أخرى معنية
- ويتم التشاور مرتين خلال العملية، المرة الأولى في مرحلة تحديد نطاق تقييم دراسة التأثير البيئي للمشروع والثانية عقب إعداد مسودة دراسة تقييم التأثير البيئي.
- كما يعتبر التشاور المستمر مع المجتمع المحيط والأطراف المعنية طوال فترة تشغيل المشروع لتحقيق التوافق الإجتماعي أحد متطلبات جهات الإقراض الدولية والبنك الدولي.

٦-٤-٣-٢ منهجية التشاور العام

• إعداد خطة التشاور العام قبيل البدء

قبل بدء التشاور في مرحلة تحديد نطاق التأثير البيئي، يقوم مقدم الدراسة بإعداد خطة توضح منهجية التشاور العام التي سوف يتبعها في مرحلتي التشاور العام (مرحلة تحديد نطاق تقييم دراسة التأثير البيئي للمشروع وعقب إعداد مسودة دراسة تقييم التأثير البيئي). وتحدد الخطة الأطراف المعنية التي يتم التشاور معها وأسلوب التشاور وغير ذلك من النقاط. ويتم عقد اجتماع مع جهاز شؤون البيئة لمناقشة الخطة وقد ينتج عن الاجتماع زيادة الأطراف المعنية أو تعديل في أسلوب التشاور.

ويتم إعداد الخطة استرشاداً بما يلي:

• التشاور العام في مرحلة تحديد نطاق تقييم التأثير البيئي

• الهدف من التشاور في هذه المرحلة

وتهدف مرحلة تحديد نطاق تقييم التأثير البيئي والاجتماعي إلي التوافق علي الجوانب والتأثيرات التي يتم التطرق إليها وتحليلها في الدراسة وذلك بناء علي طبيعة المشروع والبيئة المتأثرة بها ومن ثم فمن المهم أن يتم إشراك الأطراف المعنية

في تحديد تلك الجوانب والتأثيرات والتعرف علي رأيها في التأثيرات المحتملة لضمان أخذ كل الجوانب المحتملة في الدراسة .

• أسلوب التشاور

يمكن القيام بعملية التشاور العام في هذه المرحلة بأشكال مختلفة:

- يمكن عقد إجتماعات مع كل طرف معني علي حدة وذلك مع ممثل (ممثلي) الطرف المعني والذي يتم ترشيحه (ترشيحهم) من قبل هذا الطرف. وتجدر الإشارة إلي أن مقدم الدراسة مسئول عن مخاطبة الأطراف المعنية طلباً لعقد اجتماع علي أن يقوم كل طرف معني بتحديد موعد الاجتماع وترشيح من يمثله فيه.
- يمكن عقد اجتماع موحد يتم فيه دعوة الأطراف المعنية مجتمعة وتجدر الإشارة إلي أن مقدم الدراسة هو المسئول عن دعوة الأطراف المعنية.
- في كلتا الحالتين، يجب علي مقدم المشروع توفير ملخص لوصف المشروع وجوانبه البيئية ومنهجية التشاور قبل الاجتماع بوقت كافي.

ويتم في الاجتماع عرض:

- مكونات المشروع والأنشطة الخاصة بكل نشاط
 - موجز عن خصائص موقع المشروع
 - قائمة الأطراف المعنية التي تم تحديدها بناء علي موقع وطبيعة المشروع
 - رؤية مقدم الدراسة للجوانب البيئية والاجتماعية والتأثيرات البيئية والاجتماعية المحتملة من المشروع
 - إلتزام ملاك المشروع تجاه تحسين الوضع البيئي بالمنطقة المحيطة ودعم المجتمع المحيط.
 - الجوانب التي يتم تناولها بالدراسة
- ويكون العرض بطريقة واضحة ومفهومة تضمن استيعاب المتلقي مما قد يشمل استخدام الوسائل المرئية أو الرسوم التوضيحية.

• نقاط المناقشة ومخرجات التشاور

يتم مناقشة ما عرض وذلك للوصول إلي:

- رأي الأطراف المعنية في الجوانب البيئية والاجتماعية التي تم تحديدها من قبل مقدم الدراسة ومدى الحاجة إلي إدراج جوانب أخرى فيها
 - تحديد أطراف معنية أخرى يتم التخاطب معها
- تجدر الإشارة إلي أنه في حالة القيام بإجتماعات منفصلة مع الأطراف المعنية، يتم إعداد تقرير بنتائج التشاور عرضه علي جهاز شئون البيئة وذلك للتوصل إلي اتفاق نهائي علي مكونات الدراسة. وفي حالة عقد اجتماع موحد، يتم هذا الاتفاق أثناء الاجتماع.

يقوم جهاز شؤون البيئة باتخاذ قرار بخصوص كون اجتماع التشاور علي مسودة دراسة تقييم التأثير البيئي يدعي إليها إما بإعلان في جريدة محلية أم بدعوات إلي الأطراف المعنية. ويكون ذلك القرار بناء علي طبيعة المشروع والبيئة المتأثرة .

• التشاور حول مسودة دراسة تقييم التأثير البيئي

• الهدف من التشاور في هذه المرحلة

بعد الانتهاء من إعداد مسودة دراسة تقييم التأثير البيئي وقبيل تسليمها علي الجهة الإدارية المختصة، يتم إجراء التشاور حول الدراسة للإعلان عن نتائجها وإعطاء الفرصة للأطراف المعنية للتأكد من تناول النقاط التي تحددت من خلال اجتماعات التشاور السابقة في مرحلة تحديد النطاق والاطمئنان لإجراءات الحد من التأثيرات التي يتعهد بها مقدم المشروع.

• أسلوب التشاور

يتم عقد اجتماع موحد (جلسة إستماع) يحضره ممثلو الأطراف المعنية جميعاً وهم كحد أدني أولئك الذين شاركوا في مرحلة التشاور الأولي. من المهم إعطاء وقت كاف للمشاركين في جلسة التشاور قبل عقدها لمراجعة نتائج الدراسة وإعداد ملاحظاتهم بخصوصها ويتم ذلك عن طريق مقدم الدراسة بإعداد ملخص تنفيذي باللغة العربية قبل ميعاد جلسة التشاور بأسبوعين علي الأقل ويتم الإعلام مسبقاً (بأسبوعين علي الأقل) عن مكان الجلسة وموعدها وتكون في مكان يسهل وصول المشاركين إليه. وتقع المسؤولية علي الأطراف المعنية لترشيح ممثل عنها لحضور الاجتماع. وكما ذكر في الجزء (٦-٤-٣-٢)، قد يري جهاز شؤون البيئة أن تكون الدعوة لحضور الجلسة عن طريق إعلان في جريدة محلية.

ويتم في الاجتماع عرض:

- نتائج الدراسة بالإشارة إلي النقاط التي أثارها الأطراف المعنية في مرحلة تحديد نطاق تقييم التأثير البيئي
- عرض إجراءات الحد من التأثيرات التي يتعهد بها مقدم المشروع للوصول بالتأثيرات السلبية إلي أدني حد يمكن الوصول له عملياً.

• نقاط المناقشة ومخرجات التشاور

يتم تخصيص وقت كاف للمناقشات لا يقل بأي حال عن ثلث الوقت المخصص للجلسة ككل ويتم مناقشة ما عرض ويكون للأطراف المعنية الحق في مناقشة إجراءات الحد من التأثيرات للاطمئنان للمشروع من الناحية البيئية ويتولي ممثلو جهاز شؤون البيئة أثناء الجلسة التأكد من استيفاء كل النقاط التي أثارها الجهات المعنية.

في حالة وجود اعتراضات مدعمة علي بعض إجراءات حماية البيئة، يكون للجهاز الحق في دعوة مقدم الدراسة والأطراف المعنية المعارضة لمناقشة هذه النقاط. وعند مراجعة الدراسة، يكون لجهاز شؤون البيئة الرأي في مدي استيفاء الاعتراضات المدعمة للأطراف المعنية والحاجة إلي رد علمي إضافي من جانب مقدم الدراسة.

٦-٤-٣-٣ توثيق نتائج التشاور

ويتم إدراج نتائج التشاور العام بوصفها جزء متكامل من دراسة تقييم التأثير البيئي كما يلي:-

• كجزء أساسي من الدراسة، يتم إدراج الآتي بها:

- المنهجيات المتبعة لإعلام وإشراك الأطراف المعنية في عملية تقييم التأثير البيئي .
 - تحليل البيانات والمعلومات التي تم تجميعها .
 - جدول يتضمن كافة الجوانب التي تم مناقشتها أثناء اجتماعات التشاور العام وكيفية تناول المشروع لها أو التخفيف من آثارها .
 - المنهجيات المتبعة من جانب ملاك المشروع لضمان إستمرارية عملية التشاور والتوافق المجتمعي علي المشروع طوال فترة إنشاؤه وتشغيله وحتى مرحلة غلق وإزالة المشروع .
 - الوعود التي ألتزم بها مالك المشروع لتحسين البيئة المحيطة ودعم المجتمع المحيط .
- **وكملاحق بالدراسة، يتم توثيق جلسات التشاور والمقابلات متضمنةً التواريخ وأسماء الحضور وأجندة الاجتماعات وموضوعات المناقشات .**

٧- متطلبات ونطاق نشر نتائج تقييم التأثير البيئي

- يعتبر نشر المعلومات ذات الصلة عملية ضرورية ويجب إجرائها في نطاق زمني محدد لمشروعات التصنيف (ج) . وتسمح هذه العملية بإتمام عملية تشاور هادفة بين مقدم المشروع والمجموعات المتأثرة بالمشروع والمنظمات غير الحكومية .
- قبل التشاور العام حول مسودة دراسة تقييم التأثير البيئي، يتم إتاحة الملخص التنفيذي للدراسة باللغة العربية لكافة الأطراف المعنية . وبعد إنهاء دراسة تقييم التأثير البيئي، يتم حفظ الدراسة في المكتبة المركزية بجهاز شؤون البيئة أو بالفرع الإقليمي الذي يقع المشروع في نطاقه الجغرافي، كما يتم إتاحة الملخص التنفيذي علي الموقع الإلكتروني لجهاز شؤون البيئة .
- يقوم مقدم المشروع بتحديد الأجزاء التي لا يرغب في إتاحتها للنشر، وذلك في خطاب مرفق مع دراسة تقييم التأثير البيئي . وتشمل هذه الاستثناءات الأجزاء المتضمنة لمعلومات ذات حساسية متعلقة بالنواحي التجارية، التكنولوجية أو الأمنية .

Appendix – G: Climate Information Available for the EI-Minya Area

Appendix-G

Climate Information Available for the El-Minya Area

Appendix-G

Table-1

Monthly Rates (Averages of 35 years) of the EI-Minya Meteorological Station Parameters (*)

↓ Parameter / Month →	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total precipitation (mm/month)	0.5	1.1	0.7	0.2	0.3	-	0	0.002	0.02	0.2	0.3	0.6
Largest precipitation within 24 hrs (mm/day)	6.8	11.4	8.0	10.2	8.4	-	0	0.1	1.2	6.5	5.7	4.4
Occurrence date (day/year)	8/1945	19/1975	21/1991	19/1948	21/1957	3/1963	=	20/1955	20/1957	20/1957	23/1984	30/1944
Total cloud cover (oktas)	1.8	1.5	1.5	1.5	1.2	0.2	0.1	0.1	0.3	0.6	1.2	1.8
Surface wind speed (m/sec.)	2.52	2.88	3.44	3.91	4.27	2.30	3.55	3.03	3.60	3.19	2.88	2.42
Days of thunder storm occurrence (days/month)	0	0.02	0.1	0.1	0.1	0	0	0	0	0.1	0.1	0.02
Days of mist occurrence (days/month)	14.6	9.0	7.2	2.4	0.3	0.3	1.7	5.2	6.3	9.3	13.8	16.4
Days of fog occurrence (days/month)	1.8	0.3	0.1	0	0.02	0	0	0	0	0.1	0.5	2.0
Days of blowing sand occurrence (days/month)	2.2	2.8	4.6	5.5	4.5	2.8	1.1	1.1	2.0	2.2	1.5	1.5
Days of dust/sand storm occurrence (days/month)	0.1	0.02	0.2	0.2	0.2	0	0	0	0	0	0	0
Days of windstorm occurrence (days/month)	0	0.02	0.1	0.1	0.1	0	0	0	0	0	0	0
Days of cloud cover > 6/8 occurrence (days/month)	0.6	0.4	0.8	0.9	0.5	0	0	0	0.02	0.1	0.2	0.6

NB:

(*) Data obtained from the EI-Minya Meteorological Station records and forms. It covers an area of a 50-km radius.

Appendix-G

Table-2

Monthly Rates (Averages of 35 years) of the El-Minya Meteorological Station Parameters ⁽¹⁾

↓ Parameter / Month →	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sea level atmospheric pressure (hectopascals)	1019.3	1019.9	1012.4	1012.3	1011.6	1007.4	1006.1	1005.5	1010.4	1015.9	1016.2	1018.2
Highest sea level atmospheric pressure (hectopascals)	1027.2	1031.8	1020.6	1019.4	1018.3	1011.2	1010.0	1011.0	1017.9	1021.5	1020.6	1023.8
Occurrence date (day/ year)	31	20	3	17	1	11.4	26	29	30	31	14	31
Lowest sea level atmospheric pressure (hectopascals)	1012.8	1012.9	1003.3	1005.0	1006.5	1003.0	1002.5	1001.2	1005.9	1011.2	1009.0	1011.1
Occurrence date (day/ year)	10	17	28	24	29	20	16	16	6	4	18	21
Maximum temperature (C°)	18.4	21.1	29.1	31.4	34.2	38.5	37.3	38.8	36.6	30.2	27.3	22.8
Minimum temperature (C°)	4.4	5.6	11.7	13.7	18.0	22.3	23.4	24.3	22.3	17.4	13.2	8.9
Highest maximum temperature (C°)	22.4	26.0	40.8	42.6	40.0	43.4	39.6	41.3	40.4	40.0	31.2	29.5
Occurrence date (day/ year)	9	28	24	22	5.12	9	23	22	22	5	8	4
Lowest minimum temperature (C°)	0.0	2.3	6.4	8.7	13.0	20.0	20.0	20.2	19.6	13.5	9.6	5.7
Occurrence date (day/ year)	15.16	19	5	8.3	2	2	4	8	11	15	30	28
Dry temperature (C°)	11.1	13.1	20.0	22.3	26.3	30.7	30.4	31.2	29.3	23.7	19.8	15.3
Relative humidity (%)	67	65	53	50	43	44	49	50	51	58	62	64
Relative humidity per hour 0300 UT ⁽²⁾ (%)	82	82	71	73	65	66	69	71	71	76	78	78
Relative humidity per hour 1200 UT (%)	45	43	33	31	25	27	32	30	32	39	41	45

NB:

- (1) Data obtained from the El-Minya Meteorological Station records and forms. It covers an area of a 50-km radius.
- (2) UT = Universal Time (2 hours less than local time in winter, and 3 hours less in summer).

Appendix-G

Table-3

Monthly Averages of 2008 El-Minya Meteorological Station Parameters (*)

↓ Parameter / Month →	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total precipitation (mm/month)	2.6	0	0	0	0	0	0	0	0	0	0	0
Largest precipitation within 24 hrs (mm/day)	2.6	0	0	0	0	0	0	0	0	0	0	0
Occurrence date (day/year)	21	=	=	=	=	=	=	=	=	=	=	=
Total cloud cover (oktas)	1.9	1.3	1.1	0.8	1.3	0.1	0	0.1	0.2	0.5	0.9	1.4
Surface wind speed (m/sec.)	2.57	2.57	2.57	3.60	4.11	3.08	3.60	2.57	2.57	2.57	1.54	2.06
Days of thunder storm occurrence (days/month)	0	0	0	0	0	0	0	0	0	0	0	0
Days of mist occurrence (days/month)	19	20	11	15	10	8	11	11	11	16	22	16
Days of fog occurrence (days/month)	7	2	0	0	0	0	0	0	0	0	1	2
Days of blowing sand occurrence (days/month)	8	3	7	11	7	2	5	4	2	2	1	2
Days of dust/sand storm occurrence (days/month)	0	0	0	0	0	0	0	0	0	0	0	0
Days of windstorm occurrence (days/month)	0	0	0	0	0	0	0	0	0	0	0	0
Days of cloud cover > 6/8 occurrence (days/month)	1	0	0	0	0	0	0	0	0	0	0	0

NB:

(*) Data obtained from the El-Minya Meteorological Station records and forms. It covers an area of a 50-km radius.

Appendix-G

Table-4

Monthly Averages of 2008 El-Minya Meteorological Station Parameters⁽¹⁾

↓ Parameter / Month →	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sea level atmospheric pressure (hectopascals)	1019.1	1017.9	1015.5	1012.7	1011.2	1009.8	1007.4	1008.0	1011.3	1014.3	1017.7	1018.8
Highest sea level atmospheric pressure (hectopascals)	1034.7	1031.4	1031.3	1026.1	1023.4	1018.1	1014.9	1015.3	1020.3	1024.1	1028.6	1030.0
Occurrence date (day/ year)	4/1992	11/1992	3/1992	10/1997	8/1995	2/2004	24/1974	31/1985	29/1964	30/1996	28/2004	6/1994
Lowest sea level atmospheric pressure (hectopascals)	1002.3	1001.7	994.9	995.4	997.2	999.5	998.8	1000.7	1002.7	1003.0	1005.7	1002.4
Occurrence date (day/ year)	22/2004	23/1981	15/1998	29/1972	16/1983	5/1977	26/1961	12/1950	16/1998	19/1969	1/1979	17/1985
Maximum temperature (C°)	20.3	22.3	25.6	30.7	34.9	36.6	36.8	36.2	34.1	31.3	26.2	21.6
Minimum temperature (C°)	4.2	5.4	8.3	12.5	16.7	19.4	21.6	20.7	18.9	15.9	11.0	6.3
Highest maximum temperature (C°)	31.7	35.4	41.4	45.2	48.0	48.6	45.5	44.6	44.2	42.0	39.3	33.2
Occurrence date (day/ year)	15/1960	22/1941	26/1980	24/1981	31/1961	20/1992	5/1941	14/1968	6/1996	2/1989	2/1941	2/1956
Lowest minimum temperature (C°)	- 4.0	- 4.0	- 0.7	3.0	8.5	13.0	16.0	16.0	12.6	9.2	1.8	-0.8
Occurrence date (day/ year)	31/1950	7/1950	8/1943	7/1949	1/1948	2/1943	16/1952	29/1959	30/1949	27/1959	25/1988	26/1972
Dry temperature (C°)	11.8	13.4	16.7	21.6	26.0	28.2	28.8	28.3	26.3	23.1	17.9	12.3
Relative humidity (%)	62	56	51	42	37	40	47	51	53	55	62	65
Relative humidity per hour 0300 UT (%)	79	75	74	67	63	69	74	78	79	79	82	84
Relative humidity per hour 1200 UT ⁽²⁾ (%)	39	34	30	22	19	22	27	30	31	32	38	42

NB:

- (1) Data obtained from the El-Minya Meteorological Station records and forms. It covers an area of a 50-km radius. .
 (2) UT = Universal Time (2 hours less than local time in winter, and 3 hours less in summer).

Appendix – H: Mean Concentrations of Gaseous Air Pollutants at
Two Locations in the El-Minya Governorate

Appendix-H

Mean Concentrations of Gaseous Air Pollutants at Two Locations in the El-Minya Governorate

Appendix-H

Table-1

Mean Concentrations of Gaseous Air Pollutants at Beni Khalid

Site	CO mg/m ³	CO ₂ mg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	HCHO µg/m ³	H ₂ S µg/m ³
Mean	1.16	7.80	0.44	29.13	16.43	24.29
TLV*	10 (8-hr mean)	-	150	150	-	-

*According to the Environment Law #4 (1994) modified by the Law #9 (2009).
 - Not listed in the law.

Table-2

Mean Concentrations of Gaseous Air Pollutants at Samallout

Site	CO mg/m ³	CO ₂ mg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	HCHO µg/m ³	H ₂ S µg/m ³
Mean	1.30	8.06	1.85	21.79	16.77	18.80
TLV*	10 (8-hr mean)	-	150	150	-	-

*According to the Environment Law #4 (1994) modified by the Law #9 (2009).
 - Not listed in the law.

Table-3

Mean Concentrations of Solid Air Pollutants at Beni Khalid

Site	Total Suspended Particulate µg/m ³	Smoke µg/m ³
Mean	353.80	167.66
TLV*	230	150

*According to the Environment Law #4 (1994) modified by the Law #9 (2009).

Table-4

Mean Concentrations of Solid Air Pollutants at Samallout

Site	Total Suspended Particulate µg/m ³	Smoke µg/m ³
Mean	267.17	151.38
TLV*	230	150

* According to the Environment Law #4 (1994) modified by the Law #9 (2009).

Appendix – I : Some of the Recorded Flora and Fauna Species

Appendix-I

Some of the Recorded Flora and Fauna Species

Appendix-I

Figure-1

Some of the Recorded Plant Species



Cornulaca monacantha Delile;



Haloxylon salicornicum (Moq.) Bunge ex Boiss.

Figure-1 (Contd.)

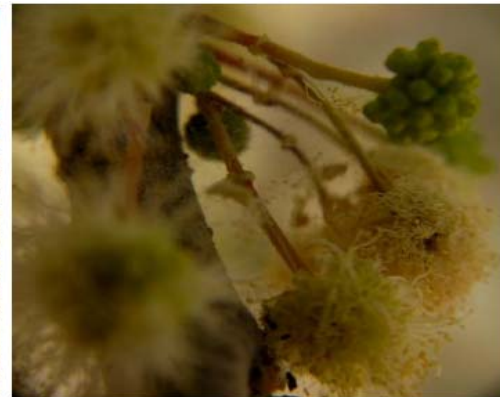
Some of the Recorded Plant Species



Capparis decidua (Forssk.) Edgew



Ochradenus baccatus Delile



Acacia tortilis (Forssk.) Hayne

Appendix-I

Figure-2

Taxonomy for Some of the Recorded Fauna

Kingdom: Animalia
 Phylum: Arthropoda
 Class: Insecta
 Order: Thysanura
 Family: Lepismatidae
 Genus: *Lepsima*
 Species: *L. saccharina*
 English name: silverfish- fishmoths-
 carpet sharks- paramites
 Local name: Al-samak al-Feddy

السماك الفضي



Kingdom: Animalia
 Phylum: Arthropoda
 Class: Insecta
 Order: Odonata
 Suborder: Epiprocta
 Infraorder: Anisoptera
 Family: Libellulidae
 Genus: *Crocothemis*
 Species: *C. erythraea*
 English name: Scarlet Dragonfly
 Local name: Al-Raash

الرعاش



Figure-2 (Contd.)

Taxonomy Some of the Recorded Fauna

Kingdom: Animalia
 Phylum: Arthropoda
 Class: Insecta
 Order: Orthoptera
 Family: Acrididae
 Genus: *Schistocerca*
 Species: *S. gregaria*
 Common name: Desert locust
 Local name: Al-Garad al-Sahrawy
 الجراد الصحراوي



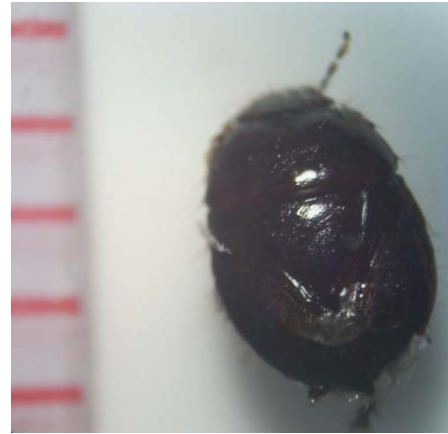
Kingdom: Animalia
 Phylum: Arthropoda
 Class: Insecta
 Order: Hymenoptera
 Suborder: Apocrita
 Superfamily: Vespoidea
 Family: Formicidae
 Subfamily: Formicinae
 Genus: *Formica* sp.
 Common name: wood ants-mound ants- field ants
 Local name: Naml-Al khab نمل الخشب



Figure-2 (Contd.)

Taxonomy for Some of the Recorded Fauna

Kingdom: Animalia
 Phylum: Arthropoda
 Class: Insecta
 Order: Hemiptera
 Superfamily: Pentatomoidea
 Family: Cydnidae
 Genus: *Sehirus*
 Species: *Sehirus morio*
 Common name: burrower bugs
 Local name: البق الحفار *Al-bak haffar*






Kingdom: Animalia
 Phylum: Arthropoda
 Class: Insecta
 Order: Coleoptera
 Family: Curculionidae
 Subfamily: Entiminae
 Genus: *Naupactus* sp.
 Common name: white-fringed weevil or white-fringed beetle.
 Local name: خنفساء *Khonfosaa*



Figure-2 (Contd.)

Taxonomy for Some of the Recorded Fauna

<p> Kingdom: Animalia Phylum: Chordata Class: Aves Order: Passeriformes Family: Alaudidae Genus: <i>Ammomanes</i> Species: <i>A. deserti</i> Common name: The desert lark Local name: Asfoor عصفور </p>	
<p> Kingdom: Animalia Phylum: Chordata Class: Aves Order: Passeriformes Family: Corvidae Genus: <i>Corvus</i> Species: <i>C. ruficollis</i> Common name: The crow Local name: Al-gorab Alnoohy الغراب النوحى </p>	
<p> Kingdom: Animalia Phylum: Chordata Class: Aves Order: Pelecaniformes Family: Ardeidae Genus: <i>Bubulcus</i> Species: <i>B. ibis</i> Common name: The cattle egret Local name: Abu-Gerdan أبو قردان </p>	

Appendix – J: More Details on the Socio-economic Characteristics
of the El-Minya and Beni-Suef Governorates

Appendix-J

More Details on the Socio-economic Characteristics of the El-Minya and Beni-Suef Governorates

Appendix-J (I)

Characteristics of Households and Poverty Indicators

- The whole sample surveyed are male headed families. In El-Minya, only 3.3% were female headed family.
- Only (15.0%) of the sample in El-Minya was headed by aged person versus only (10.5%) in Beni Sueif. As it was noted in the secondary data, the majority of the two governorates were among age category less than 50 years old.
- A quarter of the HHH are farmers. In addition about 20.0% were skilled workers. Common workers represented about 115.0% of the HHH. The legislators and high officials and specialist and high professions were less than 10.0%.
- The majority of the sample surveyed live in a separate house as (63.2%) of the sample in Beni Sueif live in such pattern of housing. While (53.3%) of the sample in El-Minya live in separate house. Living in one room is a pattern of housing more relevant to extended families. It was noted that (43.3%) of the sample in El-Minya live in an apartment building versus only (23.7%) in Beni Sueif live in an apartment.
- The majority of the sample in Beni Sueif own their houses. While (75.0%) of the dwellers in El-Minya own their houses. Few percentage in El-Minya reported that they live in a rented house.
- The 2006 census reported a national average household size of 4.1 In Egypt, the average size of the household is 4.61 and in Beni Sueif, it is 4.18 in El-Minya, which places El-Minya Figure quite near the national average. Regarding the density rate it was 1.15 in Egypt while it was 1.20 in Beni Sueif and 1.14 in El-Minya.
- The data collected revealed that the average household size in Beni Sueif 5.97. and 4.85 in El-Minya. That is relatively higher than the secondary data due to targeting rural areas.
- About (99.0%) of the sample surveyed reported having access to electricity. Only a small percentage reported no access to electricity. The connectivity to electricity might be legitimate or illegitimate. But in case of asking any of the residents about the legality of connectivity, they never tell that it is illegitimate.
- Regarding the connectivity to potable water supply, Almost the whole sample has access to potable water, either inside the dwelling or from the neighbour's house. Few percentage in Beni Sueif reported having a tube well which might be saline and not pure.
- Almost the majority of sample surveyed has access to toilet. (18.4%) of the sample has modern flush toilet. While (81.6%) has traditional with bucket flush toilet. This was one of the indicators about the wellbeing of houses as the majority of them have toilet
- Based on the data collected, the majority of the sample surveyed suffer due to the lack of sewage system, especially in Beni Sueif Governorate as the majority of the sample is located in rural areas. (71.7%) of the sample surveyed in El-Minya has public sewer versus (28.3%) have Vault. In Beni Sueif, the dominant type is vault

- followed by local sewage (24.3%) and another type (septic tank) which is emptied (18.9%).
- Concerning the number of rooms per dwelling, the data revealed that 62.2% of the sample surveyed live in units with three or four rooms . This Figure is close to the (70%) recorded in EDHS 2005. The average number of rooms in Beni Sueif is 4.21 while the mode number is 3 rooms. In Beni Sueif the number of rooms average is 3.28. However, the mode is also 3.
 - (86.7%) of the sample have a colour TV, (56.1%) of the sample own a large refrigerator, 76.5% of the sample have cellular phones and 16.3% of the sample have a landline telephone. Those living in urban areas are more likely to have more appliances. About 3.1% of the sample surveyed have a car and 12.2% have a motorcycle.
 - The average of family members who work are 1.68 in Beni Sueif and 1.5 in El-Minya. While the mode value of working family members was one member.
 - Around (39.8%) of the sample surveyed spend between 500 L.E. and 1000 L.E. per month. While those who spend less than 500 L.E is (18.4%). About a quarter of the sample surveyed reported spending 1000-1500 L.E. This is relatively consistent with the Social Contract Survey 2005 which have almost the same Figure s.
 - About (50.0%) of the sample surveyed earn between 500:1000 L.E. (15.3%) of the sample earn less than 500 L.E. a quarter of Beni Sueif sample earn 1000: 1500 L.E. This is relatively above poverty line.
 - The majority of the sample does not get any economical support. However (10.2%) of the total sample surveyed get money as a support. Few percentage reported getting food as financial support.
 - Approximately (40.0%) of El-Minya sample income decreased during the past 12 months (especially due to the revolution) while 26.3% reported a salary decreased in Beni Sueif. About third of El-Minya sample income increased and (36.8%) of Beni Sueif sample. That is mainly due the increase in the prices of agricultural crops during the previous year.
 - A large proportion of the sample surveyed in El-Minya falls in the lowest wealth index (49.3%), whereas in Beni Sueif (26.3%) falls in the lowest wealth index. Almost a third of the sample surveyed in Beni Sueif falls in the highest quintiles as most residents in rural areas own house and durable goods.

Appendix-J (II)

Beni Sueif Governorate

Beni Sueif governorate is located in the North Upper Egypt Region that encompasses Giza, Fayoum, Beni Sueif, and El-Minya governorates. It is known for its rural style. The total area of the Governorate is up to 10954 Km². . The total populated area represents about 12.50% of the total area. While housing and scattering areas represent 0.44%. The agriculture land is about 10.9% of the total area. According to the preliminary results of 2006 census, the population is about 2.3 million; 23.3% of them live in urban areas, and 76.8% in rural areas. The population natural growth rate has reached 21.9 per thousand. Beni Sueif is an agricultural governorate. The cultivated areas cover 279.8 thousand feddans (Feddan is equivalent to 4200 square meters). Major crops are: wheat, cotton, sugar cane, in addition to medical and aromatic plants. Arable agricultural lands amount to 63 thousand feddans.

The governorate contributes to the industrial activity through big industries such as cement, clay bricks, and textiles, besides small industries such as: carpets, and handmade carpets. Furthermore, it hosts a zones for light industries, and another for medium industries as well as small industries complex.

El-Minya Governorate

The El-Minya governorate is located in the North Upper Egypt Region that encompasses Fayoum, El-Minya , and Beni Sueif governorates. It is characterized with its rural style. El-Minya is known as the beautiful bride of Upper Egypt.

The total area of Minya Governorate is up to 32279 Km². . The total populated area represents about 7.47% of the total area. While housing and scattering areas represent 0.25%. The agriculture land is about 6.12% of the total area.

The distribution of the land use reflects that the majority of lands in both governorates is empty desert lands. This is a common feature of the Egyptian society, that people gather around the Nile river and the majority of Egyptian lands are desert lands. Yet, there is a reclaiming for lands in the whole areas. However, it is still slow process.

The governorate moved towards the expansion into the desert and established new urban communities such as New Minya City and is expected to achieve human and economic development (urban, agricultural, and tourist). El-Minya is an agricultural governorate with estimated cultivated areas of 472.7 thousand feddans. Cotton, wheat, onion, and sugar cane are the major crops. Besides being an agricultural governorate, it has made major strides in industry, particularly in food processing, spinning and weaving and chemicals, in addition to the establishment of an industrial area in the East of the Nile, 12 km south of El-Minya bridge. The area was mapped out and divided into nine industrial zones, along with establishing the small enterprises complex as well as the main and secondary services centers taking into consideration environment friendly standards.

Demographic Characteristics

The total population of El-Minya is estimated with 4.166.299 million while it is 2.291.618 in Beni Sueif (CAPMAS 2006), this number was increased according to the estimations of the Egyptian Human Development Report 2010 to 4.308.4 in El-Minya Governorate and 2371.0 in Beni Sueif Governorate. But due to having more details from CAPMAS the study team relied upon the Figure provided from CAPMAS. The distribution of population in El-Minya is represented in the Figure below. It shows that the most population is located in Samalot (14.1%) and in Beni Mazar (13.5%) followed by Minya Markaz (12.6) and Abu Qorqas Markaz (10.4%). The lease population reported is in New Minya City.

In Beni Sueif the distribution of population in different Marakazs is so identical. Slight differences were reported. El Wasta is inhabited with (15.7%) of the total population, followed by El Fashn (14.7%) and Beba (14.4%) Ehnasia's population is (12.4%)

The age-distribution of the population in El-Minya governorate is almost identical. Children less than 15 years represents about (50.0%) of the total population. That reflects the type of residents during the coming years which tends more to be of younger age. Those who are 20- less than 30 years represent about (24.0%) of the total population in El-Minya.

In Beni Sueif, the distribution of population by age reflects that the community is young also as about (60.0%) of the total population are less than 25 years old. Such young age distribution adds power to the communities. (CAPMAS Census 2006).

The crude birth rate in Beni Sueif is (30.3 live births/1000 population per year) while it is 30.4 in El-Minya. That is relatively higher than the rate reported for Egypt as a whole (27.8)

In Beni Sueif the death rate is 5.9, while in El-Minya it is 6.0. that is approximately the same as the total death rate of Egypt; since the national estimate is (6.1 deaths/1000 population per year). Egypt Human Development Report 2010

The natural rate for increase represents the difference between the level of births and deaths in a population. It is important because it indicates how fast a population will grow (EDHS 2009). The natural rate of increase varies from El-Minya 2.2 to Beni Sueif 2.0% which is exactly the same rate in Egypt 2.0. Egypt Human Development Report 2010

Life expectancy at birth 71.6 in Beni Sueif whereas it is only 69.3 in El-Minya. Beni Sueif rate is approximately the same rate as in Egypt which is 71.7.

Living Conditions

The 2006 census reported a national average household size of (4.7). In El-Minya the size of family is estimated with (4.56). While the density is not as high as may be anticipated. In fact, household density in El-Minya varies between 1.14 in urban areas to 1.24 in rural areas. On average it is up to 1.14

In Beni Sueif family size varies between 3.88 in Qism Beni Sueif to 5.19 in Markaz Ehnasia, thus the density rate varies between 1.07 in Beni Sueif Qism to 1.25 in Ehnasia district.

Access to electricity in Upper Egypt is high at (99.0%) (EHDR 2010). That is primarily due to the care given to improve living conditions for people in Egypt in particular access to electricity. Even squatter areas have access to electricity regardless of their formality and legality. That indicates to the stability of infrastructure in most of areas.

The census showed that the majority of households use electricity as the main source of light represent 98.8% of the population in Beni Sueif and 98.5% in El-Minya.

Both El-Minya and Beni Sueif depend almost entirely on Nile water for all its water needs whilst ground water, which is extremely saline and brakish in nature, is not used for drinking water purposes and is only partially used for irrigation in some areas.

Accessibility to piped water is high in Beni Sueif and El-Minya, indicating the well being of community there. The high rate of access to potable water is mainly due to the Government's clear prioritization of water quantity and quality issues. Most households have easy access to water (tap water in dwellings) (68.8% in Beni Sueif and 60.14% in El-Minya). Not only that, the type of source of water available reflects the well being of the house conditions as it is mainly tap water inside the unit. Few percentage reported using other types i.e. wells or pumps. However, it is worth mentioning that the quality of water supply is poor as water in some area has bad smelling and colored.

Access to a proper Sewage System is not high in both governorates , with a connectivity rate of (13.0%) in El-Minya and (13.1%) in Beni Sueif (CAPMAS 2006). That is consistent with the low connectivity reported in upper Egypt which is less than 37.2% (EHDR 2010).

The main sanitary system reported was the septic tank which represents (84.0%) in Beni Sueif and (80.1%) in Minya Governorate. The septic tanks cause so many environmental problems to the community people and affects their standard of health conditions.

Human Development Profile

Egypt's Human Development Report (2010) ranked the governorates according to their human development index scores, tracking the level of Human Development achieved in different governorates since 2005, five governorates occupied the first five rankings in Human Development level, namely Port Said, Suez, Cairo, Alexandria and Damietta. while the governorates that occupied the bottom five ranks are Fayoum, Assuit, El-Minya, Beni Sueif and Suhag.. This is relatively reflects the poor conditions of the governorates. Some determinants constitute such index including, education, work status ...etc. this section will discuss in details such determinants

The Egyptian Human Development Report (2010) stated that adult literacy rate (+15) is (59.5%) in 2007/2008 in Beni Sueif, and (58.7%) whereas the overall rate is (71.7%) in Egypt. The combined Primary, Preparatory and Secondary level gross enrolment ratio is up to (73.7)% in Beni Sueif and (74.2%) in El-Minya while it is only 66.0 in Egypt. That is mainly due to paying attention to education in the governorate. Education Index consequently 0.642 in Beni Sueif and 0.639 in El-Minya versus 0.689 in Egypt.

The governorate pays less attention to education in comparison with the Egyptian Governorates as about (60.0%) of the total population in Minya are literate. A big gap

between males and females was reported. (52.9%) of the Governorate females are illiterate versus only (30.07%) among males.

In Beni Sueif the total literate rate is also about (60.0%) of the total population are literate. The gap between males and females is big also as (52.16%) of the females are illiterate versus only (29.24%) of the males.

In El-Minya (35.4%) of the population are in the labor force among which (31.4%) are females. El-Minya is famous for agriculture, such types of work might need more man power. Therefore, (58.1%) of the labor force work in agriculture. While, (12.8%) of the labor force works in industrial sectors, whilst, (29.1%) work in services sector. Professional and technical staff represent (9.1%) of the laborers.

The data reported in Beni Sueif is identical to some extent with El-Minya data as (36.0%) of the total population are in the labor force among which (33.7%) are females. (55.1%) work in the agriculture sector followed by services (29.3%) and 15.6% in industrial fields. The professional and technical staff is a little bit higher as they represent about (12.0%) in Beni-Sueif .

(9.0%) of El-Minya females are unemployed versus only (5.5%) of the total population in the governorate are unemployed. But in Beni-Sueif, it is only (4.8%) of the females are unemployed versus only (3.5%) on the level of governorate. While the total unemployment rate in Egypt is (8.9%). That is mainly due to the main economical activity which is agricultural work which needs more laborer . Urban areas suffer from the unemployment more than rural areas as 10.4% of the residents in urban areas are unemployed versus only 4.4% in the rural areas in El-Minya. In Beni-Sueif, the urban unemployment rate is (11.4%) versus (1.4%) in rural areas. The highest unemployment rate was among secondary graduates (66.8%) in Minya and (68.7%) in Beni-Sueif and (31.3 %) among university graduates in El-Minya and (30.6%) in Beni-Sueif, while it is only (1.9%) among below secondary people in El-Minya and (0.7%) in Beni-Sueif

In 2010, EHDR reported that the real gross domestic product (GDP) per capita is US\$ 8857.4 in Beni-Sueif, US\$ 8655.9 in Minya and US\$7787.0 in Egypt. This means that gap between the two governorates and Egypt is relatively high

In 2007, Egypt Description by Information reported that 164 industrial establishments registered in El-Minya versus only 164 establishments in Beni- Sueif. The number of industrial zones in Beni Sueif is higher than in El-Minya as 7 zones are located in Beni-Sueif versus 2 zones in El-Minya. Number of productive cooperation association in El-Minya is 20 versus 7 only in Beni-Sueif

Appendix – K: Nomadic Groups and Living Style of the Bedouins

Appendix-K

Nomadic Groups and Living Style of the Bedouins

Appendix-K

Nomadic Groups and Living Style of the Bedouins

Nomadic Groups in the Project Area

The deserts of Egypt contain nomadic, semi-nomadic, and sedentary but formerly nomadic groups, with distinct ethnic characteristics. Apart from a few tribal groups of non-Arab stock and the mixed urban population, the inhabitants of the Sinai and the northern section of the Eastern Desert are all fairly recent immigrants from Arabia, who bear some physical resemblances to Arabian Bedouin. Their social organization is tribal, each group conceiving of itself as being united by a bond of blood and as having descended from a common ancestor. Originally tent dwellers and nomadic herders, many have become semi-nomads or even totally

The inhabitants of the Western Desert, outside the oases, are of mixed Arab and Amazigh (Berber) descent. They are divided into two groups, the Saādī (not to be confused with the Saīdī, Upper Egyptians) and the Mūrābiīn. The Saādī regard themselves as descended from Banū Hilāl and Banū Sulaym, the great Arab tribes that migrated to North Africa in the 11th century. The most important and numerous of the Saādī group are the Awlād Alī. The Mūrābiīn clans occupy a client status in relation to the Saādī and may be descendants of the original Amazigh inhabitants of the region.

It is foreseen that both Minya and Beni Sueif governorates have the same tribes of Bedouins. They inhabit the desert areas and the suburbs of villages and remote areas. For the majority of people, those groups are named after Arabs as they are the descendants of Arab tribes. It is worth mentioning that they are not found in the project areas until now. However, they might move and occupy lands in the project areas.

Nomadic is a misleading word to describe those groups in El-Minya and Beni Sueif as they are semi-nomadic or sedentary groups. Due to that, it was difficult to highlight them in the El-Minya and Beni Sueif Governorates.

Location of Bedouins

- Beni Sueif desert areas close to Ihnasia Markaz
- In Minya,
 - Samalot Markaz (Shousha, Beni Gany and El Tayba)
 - Beni Mazar (El Fergany)
 - Behasah , Beni Werkan, El Maseed in El adwa
 - In Markaz Minya, Arab El Borgaia, Gabal El Sheikh Masoud, Gabal El Saraira, Abu Hashimah, El Abed in Beni Khalled, Gabal El Teir, Arab Moteir,
 - Arab El Sheikh Mohamed, El Motahrah, Toky El Kheil
- In the Western areas Amar Alama, Kom Na'om

Explaining the Bedouin life and culture is really a tricky topic, a moving target at best. The reason for this is that they are an ancient people, with ancient customs and traditions, who these days are often subjected to a modern and changing world.

Some Bedouins have become completely modern, with modern trappings such as cell phones and color TVs, perhaps most influenced by the Egyptian tourism trade and by various government policies. For example, up until recently, Bedouin men were obligated to do military service with other Egyptian men. Of course, they came back to the desert very much changed.

Finally, The survey site is public area under government regulation, so the land right is under GoE. However it is possible to be taken as possession by the Bedouins. This discrepancy has to be considered. Therefore it may be necessary to find an arrangement with the Bedouins to secure a possible implementation of such a project.

Living Style of the Bedouins

Bedouin has their own norms and traditions to the exceed that they have their own laws (Urfi Laws). The Bedouins consider their laws as their bible. They scarcely follow the national laws, Only if they have legal problem with other people. (This is an important piece of information for our study as it might affect the project implementation). The majority of Bedouins possess lands without legal documents. They seize the lands in the desert without any documents. That might cause a problem for any project implemented in the areas. Before the revolution, the government of Egypt implemented a project named after Build your House. That project faced many problems with Bedouins (they stole construction materials and attacked the houses.. finally the owners of houses had to pay 3000 EGP each for Bedouins to settle disputes with them.

The Bedouin often band into small, tightly knit tribes and in some tribes, their leaders, picked for their wisdom and judgment, retain their positions by finesse and largesse, for their proud Bedouin brethren would find direct commands insulting. However, that is certainly not always the case, and perhaps some of these traditions are changing. For example, in some tribes the leader, or Sheikh, is not chosen; it is passed from father to oldest son.

The family unit is the basis for domestic life. Strong family ties and taking responsibility for ones relatives is expected. Both boys and girls usually marry in their late teens, and some men have more than one wife. In the event that there is more than one wife, they do not live in the same household, and the man is expected to divide his time equally among them. These days, therefore, he may have one wife in town and an apartment there, and one wife in the desert. Having more than one wife is therefore a rather expensive proposition.

Most of Bedouins live in a big house that is inhabited by parents and married children (extended family type) the family live as one unit. They build their houses in their lands. They cultivate different crops. However, it is worth mentioning that they cultivate Marijuana, especially in remote areas.

The main activities they do are agricultural work, drug dealing, purchasing lands and driving minibuses to and Fro Libya . Few of them smuggle weapons from Libya and

the Sudan. Modern inroads into the desert are changing the Bedouin's life. Over the past, some rulers of Egypt have provided farm land to the Bedouin, and encouraged their settlement. Many families have settled, building houses, and the handmade tents are disappearing. Trucks bring water in 100-gallon barrels and move goats to pasture. The Bedouin is investing in land and businesses, and sending his sons to school in Cairo and Alexandria and the nearby governorates, where more higher institutes and universities were set up recently. Although the more typical Bedouin still keeps himself apart from the sedentary Egyptian, his ancient desert lifestyle is vanishing; the Toyota pickup is steadily replacing the camel. Nevertheless, even modernized Bedouins will, at times, seek out the desert to escape the trappings of their modern world.

Appendix – L: Characteristics of Households and Poverty Indicators

Appendix-L

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- The whole sample surveyed are male headed families. In El-Minya, only 3.3% were female headed family.
- Only (15.0%) of the sample in El-Minya was headed by aged person versus only (10.5%) in Beni Sueif. As it was noted in the secondary data, the majority of the two governorates were among age category less than 50 years old.
- A quarter of the HHH are farmers. In addition about 20.0% were skilled workers. Common workers represented about 115.0% of the HHH. The legislators and high officials and specialist and high professions were less than 10.0%.
- The majority of the sample surveyed live in a separate house as (63.2%) of the sample in Beni Sueif live in such pattern of housing. While (53.3%) of the sample in El-Minya live in separate house. Living in one room is a pattern of housing more relevant to extended families. It was noted that (43.3%) of the sample in El-Minya live in an apartment building versus only (23.7%) in Beni Sueif live in an apartment.
- The majority of the sample in Beni Sueif own their houses. While (75.0%) of the dwellers in El-Minya own their houses. Few percentage in El-Minya reported that they live in a rented house.
- The 2006 census reported a national average household size of 4.1 In Egypt, the average size of the household is 4.61 and in Beni Sueif, it is 4.18 in El-Minya, which places El-Minya Figure quite near the national average. Regarding the density rate it was 1.15 in Egypt while it was 1.20 in Beni Sueif and 1.14 in El-Minya.
- The data collected revealed that the average household size in Beni Sueif 5.97. and 4.85 in El-Minya. That is relatively higher than the secondary data due to targeting rural areas.
- About (99.0%) of the sample surveyed reported having access to electricity. Only a small percentage reported no access to electricity. The connectivity to electricity might be legitimate or illegitimate. But in case of asking any of the residents about the legality of connectivity, they never tell that it is illegitimate.
- Regarding the connectivity to potable water supply, Almost the whole sample has access to potable water, either inside the dwelling or from the neighbour's house. Few percentage in Beni Sueif reported having a tube well which might be saline and not pure.
- Almost the majority of sample surveyed has access to toilet. (18.4%) of the sample has modern flush toilet. While (81.6%) has traditional with bucket flush toilet. This was one of the indicators about the wellbeing of houses as the majority of them have toilet
- Based on the data collected, the majority of the sample surveyed suffer due to the lack of sewage system, especially in Beni Sueif Governorate as the majority of the sample is located in rural areas. (71.7%) of the sample surveyed in El-Minya has public sewer versus (28.3%) have Vault. In Beni Sueif, the dominant type is vault

- followed by local sewage (24.3%) and another type (septic tank) which is emptied (18.9%).
- Concerning the number of rooms per dwelling, the data revealed that 62.2% of the sample surveyed live in units with three or four rooms . This Figure is close to the (70%) recorded in EDHS 2005. The average number of rooms in Beni Sueif is 4.21 while the mode number is 3 rooms. In Beni Sueif the number of rooms average is 3.28. However, the mode is also 3.
 - (86.7%) of the sample have a colour TV, (56.1%) of the sample own a large refrigerator, 76.5% of the sample have cellular phones and 16.3% of the sample have a landline telephone. Those living in urban areas are more likely to have more appliances. About 3.1% of the sample surveyed have a car and 12.2% have a motorcycle.
 - The average of family members who work are 1.68 in Beni Sueif and 1.5 in Minya. While the mode value of working family members was one member.
 - Around (39.8%) of the sample surveyed spend between 500 L.E. and 1000 L.E. per month. While those who spend less than 500 L.E is (18.4%). About a quarter of the sample surveyed reported spending 1000-1500 L.E. This is relatively consistent with the Social Contract Survey 2005 which have almost the same Figure s.
 - About (50.0%) of the sample surveyed earn between 500:1000 L.E. (15.3%) of the sample earn less than 500 L.E. a quarter of Beni Sueif sample earn 1000: 1500 L.E. This is relatively above poverty line.
 - The majority of the sample does not get any economical support. However (10.2%) of the total sample surveyed get money as a support. Few percentage reported getting food as financial support.
 - Approximately (40.0%) of Minya sample income decreased during the past 12 months (especially due to the revolution) while 26.3% reported a salary decreased in Beni Sueif. About third of Minya sample income increased and (36.8%) of Beni Sueif sample. That is mainly due the increase in the prices of agricultural crops during the previous year.
 - A large proportion of the sample surveyed in Minya falls in the lowest wealth index (49.3%), whereas in Beni Sueif (26.3%) falls in the lowest wealth index. Almost a third of the sample surveyed in Beni Sueif falls in the highest quintiles as most residents in rural areas own house and durable goods.

Appendix – M: Elaboration on the Thematic Maps Produced for the Survey Study

Appendix-M

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Elaboration on the Thematic Maps Produced for the Survey Study

Much of the information used in this study was acquired from topographic charts, satellite images, geologic map, related studies and field surveys. Information has also been taken from technical literature, reports, unpublished documents and other sources (e.g. the Internet). The project study area has been divided into different sectors. Sectoral areas allow regional comparisons so that comparative of features of different study areas can be determined. The ability to analyze and update these features is essential to study area planning, management and conservation. This has been facilitated by the use of different thematic maps extracted from satellite images and linked by a Geographical Information System (GIS).

From the data collected it is possible to determine the main features found along the study area. This specific information are seen as critical to make planning, particularly since research data have generally not been collected systematically along the study area in the past. As indicated, data from this project are seen as primary for the management plans, which are more analytical. Information and it can also be used as the basis for monitoring human-induced and natural environmental change.

Environmental change can also result from other, less obvious factors including human interventions and natural variability. There is also the possibility of adverse climate change. The database gathered during the project will also be valuable for determining the significance of these events on the Egyptian coast.

1. Topographic Map (Contour of Elevations Map)

Most of the governorate's lands are normal salt and suitable for agriculture. In other words, the nature of land in El-Minya governorate is characterized by the following, *Figure 7-8* illustrates the topographic nature of El-Minya : (a) Newly formed river precipitation lands stretching along the two edges of the Nile, including most of the lands, representing about 70% of the agricultural lands Most of these areas fall between the Nile east and Bahr Youssef west, (b) Pure old sand river precipitation lands that was air borne and lies on the western edge of the cultivated valley up the new river plains. The rest could be cultivated as well. They represent an important part of the reclaimed areas, (c) Surface lime lands thrown by the fluids from the feet of the Eastern hill. These lands are formed east of the Nile.

2. Land-use / Land-cover Map

Land reclamation

The area of the land applicable for reclamation and cultivation is about 26500 feddans, which is good potential for horizontal agricultural expansion (18000 feddans west of Beni Mazar, 6000 feddans west of Samallout, 2500 feddans and east of Abo Korkas). Worth mentioning is that these areas have already been reclaimed. Area of land applicable for reclamation is more than 200000 feddans within the governorate. However, these areas have to be doubled more than once in order to achieve a balance between the areas cut from the agricultural

lands for construction and services and the newly reclaimed areas beside the increase in the population (about 3% annually).

The crawling of the sand hills over the monumental sites which changes its nature and appearance. Leaving the roads to such sites unsaved negatively affects the development of such places.

Water Resources

The Nile valley reservoir is considered of high potentials in the area directly surrounding the river path, and decreases she we head towards the desert, as it is a renewable reservoir. As for the Nubian sand stone reservoir, it is of low potentials regarding Minya, where as the lime stone reservoir is of average potentials. The ground reservoir of the Nile valley is supplied from the excess what leaking from irrigation as well as he canals. On the other hand, draining from the reservoir takes place when the ground waters leak to the Nile, especially in cases of demand on water, and for agricultural, industrial and drinking uses that reaches about 612 m/year.

The Nubian sand stone reservoir in Egypt is considered a part of the regional Nubian reservoir stretching between Libya, Sudan and KSA. It can be divided in Egypt into 5 basins: one of these is the western desert, where the ground reservoir is divided into several consecutive layers of muddy sand stone that separate the layers carrying the waters into several reservoirs. The water moves towards east with a hydraulic graduation of about 0.05 m/km.

Mining

The mining and prettification activities are increasing, which affects the monumental sites and the related services. Because some of these sites are found in the desert, using some of the land near to the monumental garbage which negatively affects the general appearance of such sites.

Urban

Main habitant clusters are found inside the green valley, the thing that necessitates going outside to habitat desert edges and margins towards east and west and establishing habitant clusters and various developmental projects with providing connection means between these projects and the existing civilization centers to accomplish the suggested regional developmental programs (see Figure 7-9).

3. Digital Elevation Model (DEM)

The representation of continuous elevation values over a topographic surface by a regular array of z-values, referenced to a common datum. DEMs are typically used to represent terrain relief, (Figure 7-18).

Slope can be measured in degrees from horizontal (0–90), or percent slope (which is the rise divided by the run, multiplied by 100). A slope of 45 degrees equals 100 percent slope. As slope angle approaches vertical (90 degrees), the percent slope approaches infinity. The slope of a TIN face is the steepest downhill slope of a plane defined by the face. The slope for a cell in a raster is

the steepest slope of a plane defined by the cell and its eight surrounding neighbors (Figure 7-18).

One divided by distance, often raised to some power ($1/D$ or $1/D^2$, for example), where D is a distance value. By inverting the distance among spatial features, and using that inverted value as a weight, near things have a larger weight or influence than things that are farther away. An interpolation method for multivariate data in a Delaunay triangulation. The value for an interpolation point is estimated using weighted values of the closest surrounding points in the triangulation. These points, the natural neighbors, are the ones the interpolation point would connect to if inserted into the triangulation. The process of sorting or arranging entities into groups or categories; on a map, the process of representing members of a group by the same symbol, usually defined in a legend.

4. Road Network

The area of the wasteland and lakes reach about 0.3% of the total area. It includes the paved and unpaved roads network connecting the 2 as well as the railway habitant communities which is about 17 km² (Cairo/Aswan) penetrating the governorate with about 135 km (see Figure 7-22).

5. El-Minya Population Dynamics

Habitants and population are concentrated inside the outpouring plain strip of the Nile Valley. Such connected habitant range that stretches along 200 km is subject to the winds coming from the North West with no topographical obstacle what so ever. As a result, and according to its geographical location, it became opened to the effects coming from north and North West. On the other hand, and being on the river sides has had a relative effect in soothing the temperature. Nevertheless the continental pattern is the dominating feature of El-Minya since it's far away from the Red Sea and the Mediterranean One.

According to the estimated census dated 1-1-2005, is about 40 49 000. The inhabited area is estimated to be about 2.4 thousand km, representing 7.5% only of the total area, upon which lives more than 4 million people. It's worth mentioning that El-Minya is the second biggest populated governorate, after Giza, among Upper Egypt governorates capital.

The rural feature dominates the governorate, with 82% of the population peasants and 18% urban. Most of the population concentrates along the Nile Valley that runs through El-Minya South-north. 437957 feddans are cultivated in El-Minya depending on the Nile's water. The rest of the governorate is considered desert the thing that makes the desert feature dominates the governorate. However, the desert of El-Minya is rich in various natural resources: marble, pure lime stone, loam etc. such desert spans have its environmental impact on the development of this region, especially the valleys with its natural gifts of groundwater, rocks, and mineral treasures. It also has its negative impact represented in the running fluids and its major affect upon inhabitation and land use. The historical importance of El-Minya goes back to the pharonic era. Tal El-Amarna village was the new capital of Akanatone within the period between 1375-1358 B.C. Akanatone and his beautiful wife Nefertiti were the first to call for

Tawheed, realistic art, and discard discrimination through worshipping the sun (Atone).

Most of the population live in the villages, rancher and hamlets that exceeds over 2000 in number accumulated in the valley whereas rarely found in the desert area. Such overcrowdings over the valley without penetrating the desert has lead the countryside people to invade the agricultural land to build houses. As much as 4.1 thousand feddans were used for such purpose. On the other hand, city people built houses an established many random regions, about 30, all around the governorate. Electricity reaches to about 94% of the families, however, lesser percentage has access to safe drinking water (about 78%). The rural regions are as not as lucky as the urban ones in receiving their share of the public utilities.

The structure and style of the house differs in the urban areas than the countryside. The common style in the urban areas is the modern buildings of different heights and independent units (flats). Cement and hard bricks are used in building such houses. In the rural areas, a house doesn't exceed three floors. Most of them are composed of one or two floors. Stone bricks and wood are used in building such houses, few of which use cement. In the urban areas, one building holds many families that come from different places, whereas in the rural areas only relatives live the house. The average family number in the rural area is five, while the average family number in the urban area is four. The rate of population condensation or the number of persons in one room is related to the social and economic conditions as well as the living standards (see Figure 7-8).

6. Ecological Map (Fauna and Flora)

The El-Minya governorate is characterized by being longitudinal with a big share of the Nile that reaches 135 km. Therefore, various kinds of plants and animals that live along the Nile, and in the valley, exist (see Section 5). Figure 7-12 and Figure 7-13 depict the different fauna and flora photos that were recorded during the field work.

7. Geological Map

Based on the geological study conducted for this survey, the geological map has been developed as shown in Figures 7-14.

8. Geomorphology Map

Based on the same geological study mentioned in item 7.4.8, geomorphological map has been produced as depicted in Figures 7-16

9. Sand Dunes Movement Map

Sand dunes extends in a longitudinal shape from the central part of the Depression of Wadi El-Rayan (Latitude 29° 11' N) to the western margins of Nile Valley flood plain opposite the town of Dayrut in the south (Latitude 27° 30' N), a distance of about 185 km (Mostafa, 2002). This field is composed of several parallel compound and complex dune belts extending in the same SSE direction. Space images and topographic maps show that along this field, dune form

changes from linear ridges to barchan and barchanoid belts. Therefore, it can be divided into two sections according to prevailing form. The northern division lies in the Wadi El-Rayan Depression and is dominated by linear dunes, while the barchans and barchanoid prevail in the southern section, which lies outside the Depression.

They are organized in three parallel belts, trending in a SSE direction. In spite of this general orientation, these linear dunes are sinuous. This was interpreted by the wind environment, which is characterized by a bi-directional wind system (Mostafa, 2002). Apart from few ones, they are concentrated in the eastern part of the Depression (Abdel-Moa'ti, 1993). The main feature in the southern section of this dune field is that it is composed of several parallel barchan belts, and that the eastern horn of most barchans is extended southwards more than the western one (Figures 7-24), taking the form of linear dune or 'draa' as it is known in desert geomorphology literature (Mostafa, 2002). The length of these 'draa' varies between 0.2 and 1.2 km, while their orientation varies between 133° and 173° with a mean direction of 157.7'. Gad (1988) concluded from his study of dune morphology in this field that linear dunes evolve out of the eastern horn of barchans and ultimately grow into independent longitudinal dunes. This is caused not only by north northwesterly winds as indicated by the mean wind pattern, but also by the stormy wind component that blows even more from the west. In the meantime, it should be noted that the slope of the terrain is from west to east (sloping down towards the Nile Valley), and it is thus expected that the sand move preferably down slope. Hence, a component in an eastern direction is expected.

This dune field represents the third cycle of dune development in this region. Which lies to the south of Wadi El-Rayan and to the west of the Nile Valley. In this stretch, aeolian sand and dune remains known as El-Khafoug formation (Said, 1981) inter-finger both the Prenile deposits of the Middle Pleistocene (ending 1(N),000 BP) and the Neonile sediments of Late Pleistocene estimated to be 12,000-20,000 BP (Said, 1981).

In the southern part of this dune field, inter-dune areas of the extreme eastern belt are reclaimed and are cultivated during the last three decades, and the dunes appear as if they are captured by cultivated land. However, dune movement and sand encroachment on the cultivated fields along the margins of the Nile flood plain represents a permanent threat to soil productivity and agricultural production in this region (Kishk, 1990).

Although several studies dealt with the morphology and morphometry of dunes in Egypt, only few of them depended on systematic field measurements and statistical analysis. Since barchans and linear dunes are the dominant forms in the sand seas and dune fields of the Western Desert, previous studies concentrated on these two forms (Harding King, 1918; Embabi, 1976-1977, 1967, 1978; Ali, 1993).

10. Transmission Line Map

The El-Minya governorate doesn't have a power station for generating electricity. It depends on the unified grid to meet its demands of electrical energy. There is a

main sub-station (500/220/132/11 k.volt) at shousha village is Samallout (represents a key element regarding electrical supply in Minya governorate) connected to the electricity generating station of the High Dam. It is supplied by 2 lines from Assuit transformers station 500 k volt.

El-Minya governorate is also provided by electricity through a network of 220 volt supplied from the generating station of Koraymat and generating station of Haram hill 500 k volt which is connected to the unified net. Middle Egypt Company for distributing the electricity is responsible for distributing and selling electrical energy to the subscribers over the average and the low voltage along the governorates of northern Sa'eid. Figure 7-21 depicts the transmission lines over the study area.