



Environmental Laws with Application: A review

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Received 1 November 2015, Revised 2 December 2015, Accepted 3 December 2015, Published 1 January 2016

Abstract: The environmental situation in Egypt constrains the national drive towards sustainable development. Degradation of natural resources is a significant threat to agriculture and tourism, as well as to continued economic growth. Air and water pollution, as well as improper waste disposal, furthermore, cause significant health problems, lowers the quality of life, and even lead to increase mortality rates. The protection of the environment, in the sense of ecologically rational management of natural resource, is perceived today as a necessary condition for social and economic development. Therefore, the Egyptian government established in 1994 the Ministry of State for Environmental Affairs (MSEA) and its executive arm, the Egyptian Environmental Affairs Agency (EEAA) with the objective of integrating the environmental dimension into the national policies, plans, programs and projects and an immediate focus on the reduction of pollution rates for the protection of natural resources, biodiversity and the historical and cultural heritage, within the framework of sustainable development. The Egyptian government established the environmental law no. 4 of 1994 then its executive regulation in 1995 (EEAA, 2002), promulgating the Environment Law amended by Law no. 9 / 2009. The question, can environmental laws play a role in protecting the environment in Egypt?.

Keywords: Environmental laws, Environmental pollution, Environmental protection.

1. INTRODUCTION

Undoubtedly, industrial development has been a major feature in Egypt during the last 50 years as a result of development and construction movement during this period. In addition, interest in industry role in achieving national development policy has increased. However, interest in achieving standard rates for industrial development without previous environmental planning lead to natural resources deterioration and increased losses and consumption of raw material. This has basically contributed to ambient environment (water, air, and soil) pollution. The responsibility of Egypt's Minister for Environmental Affairs has focused, in close collaboration with the national and international development partners, on defining environmental policies, setting priorities and implementing initiatives within a context of sustainable development. According to the Law 4/1994 for the Protection of the Environment, the Egyptian Environmental Affairs Agency (EEAA) was restructured with the new mandate to substitute the institution initially established in 1982. At the central level, EEAA represents the executive arm of the Ministry. The main objective of EEAA is to preserve natural resources, biological diversity and national heritage in relation to sustainable development. Environmental Protection Agency scientists signed an

agreement with counterparts in Egypt to protect human consumption from microbiological contamination in drinking water. An Environmental Protection Fund (EPF) will in accordance with the Environment Act of 1994 (amended by Law 9/2009) be set up. The Fund will receive the amount specifically allocated to it in the General State Budget by way of support, donations and grants presented by national and foreign organizations concerned with environmental protection, fines and compensation awarded by courts of law or via out-of-court settlements for damage caused to the environment. The EPF shall have a legal personality and shall be affiliated to the competent Minister for Environmental Affairs. The financial resources of the Fund shall be exclusively used for the purpose of realizing its objectives. The Agency will offer incentives to institutions and individuals engaged in activities and projects directed to environmental protection purposes. Environmental Impact Assessment (EIA), a strategic tool on which EEAA is based, depends on as one of the main preventive activities conducted by EEAA to assess the impacts of initiatives, projects, or developmental activities, with a view of identifying necessary actions to minimize negative impacts and maximize positive ones. In Egypt, a number of environmental laws were established; efforts to protect the environment done by



governmental agencies and several conventions and agreements signed.

2. ENVIRONMENTAL SITUATION

Environmental concerns need to be addressed in Egypt in order to prevent more damage and increase the standard of living of people in the region. One of the biggest environmental issues is that of pollution. Egyptians are faced with excessive garbage, sewage, unclean streets, polluted air, undrinkable water, and noise pollution. While all of these issues are important, water and air pollution are two of the most threatening environmental issues in the country. Water pollution considerably affects people's ability to obtain and use water, as well as maintain healthy living standards. Egypt is "one of the developing countries which is likely to be a drain on the Earth's dwindling resources and contribute to environmental degradation," and has been listed among the ten countries that are threatened by want of water by the year 2025 due to the rapidly increasing population. The people of Egypt obtain about 97% of their water from the River Nile, and the rest from winter rain and non-renewable ground water aquifers. Much of this water is polluted through industrial activities (Muralidaran; 2013; Tantawi et al. 2009; Farouk; 2003; Hopkins et al. 2003; Mitchell; 2002).

Although industrialization is essential in developing countries, it has also led to the deterioration of the environment. Since the 1950's, many industries have developed in Egypt along the Nile Delta, the most prominent types in the country being in food, metal products, and textiles. Industrial waste liquids from all these industries are often deposited into the water and result in the major chemical threat to agriculture land. Much of the industrial waste liquids are untreated, and end up laden with organic or heavy metals, or corrosive and toxic substances. Untreated industrial wastes of more than 350 factories are discharged directly into the Nile and Mediterranean, polluting the water. There are many reasons for air pollution. As is the case in many other cities around the world, overcrowded areas and industrialization contribute to the air pollution issues; examples of this industrial contribution include open-air waste burning, a common practice in Egyptian households, and automobile exhaust. Primarily, the climate contributes to the air pollution, as the windblown dust from arid areas prominently cover the cities in sand (Tantawi, et al. 2009; Farouk; 2003; Brinkmann and Sims; 2001; CEAA; 2000; EPA; 1995; Bringer and Benforado; 1994; Burnett-Hall; 1994).

Problems resulting from hazardous materials and waste mismanagement in Egypt constitute a significant environmental problem linked to economic, social, and legislative aspects. Environment Law 4/1994 and its

Executive Regulations generally defined hazardous materials and wastes, and clarified basic principles for dealing with them through a comprehensive methodology: starting with their generation up till their final safe disposal in appropriate places totally isolated from the remaining items of the ecosystem. It also assigned relevant agencies for their handling, denoting the roles of each of them, and obliging each to issue lists with hazardous wastes forbidden to be handled unless by virtue of licenses from the competent administrative agency. In this respect, MSEA makes a large effort to coordinate with line ministries handling hazardous materials and wastes to issue hazardous material and waste lists, in accordance with the provisions of Article 25, Executive Regulations, and Law 4/1994. International agreements endorsed and enforced by Egypt are part of the legislative framework. One of the most important agreements on hazardous wastes is Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Bamako Convention on the Ban of the Import Into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa, Stockholm Convention on Persistent Organic Pollutants (POPs), and Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (MSEA; 2010; 2009; 2006; EEAA; 2002; 2000). Therefore, hazardous material and waste management is a main MSEA activity; moreover, a most important basis for maintaining public health and environment. On the other hand, their negative impact pose a great danger the human being, living organisms, and facilities equally, and need huge efforts to develop appropriate solutions in order to avoid management unsafe. Efforts include controlling their leakage to the environment, or reducing their production, owing to the diversity of their forms and the inevitability of dealing with them. They have significantly impacted the balance of the ecosystem that current increasing practices need a clear and examined encounter to control, prevent, or reduce such impacts on the long run (Hussein et al. 2013; Tantawi et al. 2009; Farouk; 2003; Brady et al. 1999; Brimelow and Spencer; 1992).

3. THE ENVIRONMENTAL LEGISLATIONS

The legislative tools for biodiversity conservation and sustainable development in Egypt pre-date the ratification of the Convention on Biological Diversity. They were issued as laws and ministerial decrees and can be summed up in chronological order as follows (MSEA-EEAA, 1997):-

-Law no. 53 of 1966.

-Ministerial decree no. 28 of 1967 specified the species of birds and other wild animals under protection.

-Law no. 72 of 1968 concerning the prevention of pollution of sea water by oil.



-Ministerial decree no. 349 of 1979 established the Egyptian Wildlife Service.

-Ministerial decree no. 66 of 1982 prohibited hunting all species of birds and other animals in certain areas of the Sinai Peninsula.

-Law no. 48 of 1982 for the protection of the River Nile and other water courses against pollution. It prohibits the discharge of solid, liquid and gaseous wastes with certain levels of pollutants into the Nile and all freshwater bodies; while the Ministry of Irrigation determined the maximum allowable levels of polluting elements in such wastes, the Ministry of Health is empowered to carry out the required analysis of samples of these wastes.

-Law no. 102 of 1983 set up the legal framework for the declaration and management of protected areas and regulates the conservation of natural resources.

-Law no. 101 of 1985, levied an additional tax on aeroplane tickets issued locally, in order to secure a suitable source of funding to finance programmes for developing tourism and environmental protection.

-Law no. 4 of 1994 is by far the most comprehensive environmental legislation to date. It defines (in articles 2-13) the scope and responsibilities of EEAA, establishes (in articles 14-16) the Environmental Protection Fund (EPF), provides for the setting up of a system of environmental incentive (articles 17-18), spells out the necessity of environmental impact assessments as a pre-requisite of development projects (articles 19-23), establishes environmental monitoring networks with their stations and working units (article 24), authorises the EEAA to prepare an environmental contingency plan (article 25), and forbids the hunting of specified types of wild birds and animals (article 28), as well as the destruction of their natural habitats. Articles 29-83 cover the protection of air, water and land from all sources of pollution. Articles 84-101 deal with the penal code for violation of articles 1-83. It is important to refer that article no. 1 in this law gave organisations existing at the time of enacting law three years to adjust their status according to the requirements of law.

4. CONVENTIONS AND AGREEMENTS

Since 1936, Egypt is party to a large number of regional and international conventions, treaties and agreements dealing with the conservation of nature in general and biodiversity in particular. According to article 151 in the Egyptian Constitution, any international convention to which Egypt is a party, becomes the law of the land in Egypt and takes precedence over Egyptian law (MSEA, 2002). It can be summarized these conventions in chronological order as follows:-

-Convention relative to the preservation of Fauna and Flora in their natural state. London, 1933 (ratified in 1936).

-Agreement for the establishment of a General Fisheries Council for the Mediterranean. Rome, 1951).

-International Plant Protection Convention. Rome, 1953.

-International Convention for the Prevention of Pollution of the Sea by Oil. London, 1963.

-Phy to -Sanitary Convention for Africa. Kinshasa, 1968.

-African Convention. Algeria, 1968 (ratified in 1972)

-Convention for the Protection of the Mediterranean Sea against Pollution. Barcelona, 1976 (ratified in 1978).

-Convention of International Trade in Endangered Species of Wild Fauna and Flora. Washington, 1978.

-Convention of International for regulation of Whaling. Washington, 1981 (ratified in 1989).

-Convention on the Conservation of Migratory species of Wild Animals. Bonn, 1979 (ratified 1982).

-United Nations Convention on the Law of the Sea. Montego Bay, Jamaica, 1982 (ratified in 1983).

-Protocol Concerning Mediterranean Specially Protected Areas. Geneva, 1983 (ratified in 1986).

-Convention on Wetlands of International Importance Especially as Waterfowl Habitat. Ramsar, Iran, 1971 (1975), (ratified in 1988).

-Regional Convention for the Conservation of the Red Sea and Gulf of and Environment. Jeddah, 1990.

-Convention of Biological Diversity, Rio de Janeiro, 1992 (ratified in 1994).

-Agreement for the Establishment of the Near East Plant Protection Organisation. Rabat, Morocco, 1993 (ratified in 1995).

-International Tropical Timber Agreement. Geneva, 1994 (ratified in 1996).

-protocol concerning specially protected areas and biological diversity in the mediterranean. Barcelona, 1995.

5. ESTABLISHMENTS SUBJECT TO LAW 4 OF 1994

The Law no. 4 of 1994 determines establishments, which will follow this law. They are classified according to the following criteria:

First: Type of Activity:

-Industrial establishments subject to the provisions of Law No. 21 of 1985 concerning the Organization and Encouragement of Industry and Law No. 55 of 1977 concerning the Establishment and Operation of Thermal Machines and Steam Boilers.

-Tourist Establishments subject to the provisions of: Law No. 1 of 1973 concerning Hotel Establishments.

-Law No. 38 of 1977 concerning the Organization of Tourist Companies.

-Law No. 117 of 1983 concerning the Protection of Monuments.



- Law No. 1 of 1992 concerning Tourist Establishments
- Companies operating in the field of oil exploration, extraction, refining, storage, and transport and subject to the provisions of:
 - Law No. 6 of 1974 authorizing the Minister of Petroleum to sign Petroleum Concession Agreements.
 - Law No. 4 of 1988 concerning Petroleum Pipelines.
- Electricity production and generation establishments subject to the provisions of:
 - Law No. 145 of 1948 establishing the Cairo Electricity and Gas Department.
 - Law No. 63 of 1974 concerning Establishments of the Electricity Sector.
 - Law No. 12 of 1976 establishing the Egyptian Electricity Authority.
 - Law No. 13 of 1976 establishing the Nuclear Electricity Generating Plants Authority.
 - Law No. 27 of 1976 establishing the Rural Electricity Authority.
 - Law No. 102 of 1986 establishing the Authority for the Development and Utilization of New and Renewable Energy.
- Companies operating in mines and quarries, and in the production of building materials, which are subject to the provisions of:
 - Law No. 66 of 1953 concerning Mines and Quarries.
 - Law No. 86 of 1956 concerning Mines and Quarries.
- All infrastructure projects, including plants for the treatment and recycling of waste water or agricultural drainage water, irrigation projects, roads, bridges, barrages, tunnels, airports, sea ports, railway stations, and others.
- Any other establishment, activity or project liable to have a noticeable impact on the environment and for which a decree shall be issued by the EEAA with the agreement of the competent administrative body.

Second: Location

These include establishments set up on the banks of the Nile, its branches or the main canals, as well as those operating in touristic areas and antiquities sites, in densely-populated areas, on the shores of seas and lakes or in the nature reserves.

Third: Extent of Depletion of Natural Resources

These include establishments, which cause the denudation of agricultural land, desertification, destruction of trees and palm trees, or the pollution of water resources, especially the River Nile, its branches, the lakes, or underground water.

Fourth: Type of Energy Used

- Fixed establishments, which use thermal fuel and whose emissions exceed the permissible levels.

- Establishments using nuclear fuel for their operation. (Law 4, 1994, Annex no. 2)

Environmental Impact Assessment (EIA)

The Purpose of EIA is to ensure the protection and conservation of the environment and natural resources including human health aspects against uncontrolled development. EIA must be performed for new establishments or projects and for expansions or renovations of existing establishments according to the law no. 4 of 1994. All projects including the EIA studies divide into three groups which require different levels of EIA according to the severity of possible environmental impacts as follow:- (EEAA, 2000, PP. 3-7).

Table (1): Three groups of the projects are categorized according to the severity of possible environmental impacts

1-White Projects	Projects with minor environmental impacts and can normally be approved on the basis of a simple Environmental Screening (Form A)
2-Grey Projects	Projects which may cause important environmental impact. The applicant must carry out a more elaborate Environmental Screening (Form B). For some cases a scooped EIA study of certain identified impacts / processes may be requested.
3-Black Projects	Projects, which due to their potentially severe environmental impacts need a full EIA study. Such as, Oil, Cements and Chemical Companies

6. THE ENVIRONMENTAL CONDITION REGISTER

According to law 4 of 1994, the establishment owner shall keep a register indicating the environmental impact of the establishment activities in which the following data shall be recorded:

- Emissions put out thereby or discharged there from.
- Specifications of discharges after the treatment process, and the efficiency of the treatment units used.
- Follow-up and environmental safety procedures applied in the establishment.
- Periodical tests and measures and their results.
- The name of the person in charge of follow-up.

The establishment owner or his / or her representative shall be notify the EEAA immediately, by means of registered letter with return receipt requested, of any deviation in the criteria and specifications of emitted or discharged pollutants and the procedures taken to rectify such deviations. (Law 4, 1994, Article no. 17). Furthermore, the EEAA shall be competent to follow-up the data recorded in the register to ascertain its



conformity with the facts, as well as to take the necessary samples and conduct the appropriate tests to determine the environmental impact of the establishment activity and the extent of its adherence to the criteria laid down for the protection of the environment. Such follow-up shall be regularly conducted every year and a report thereon deposited with the competent department in the EEAA. The report shall be signed by the officer in charge of follow-up and tests and shall indicate the date on which the follow-up was conducted. If any violations are discovered, the EEAA shall notify the competent administrative body, which shall instruct the establishment owner, to rectify such violations. If he /or she fails to do so within 60 days, the competent administrative body, shall be entitled to take the following procedures:-

Shut down the establishment.

Suspend the contravening activity.

Claim adequate compensation through the courts to remedy the damage resulting from the violation (Law 4, 1994, Article no. 18).

Also, the executive regulation of the law 4 provides model form shown in annex no. 3 to estimate the impact of establishment's activities on environment. The contents of the model as follows:

Table (2): Model of environmental condition register

Name and address of establishment
Name and job title of person in charge of filling in the Register.
Period covered by the current data.
Type of activity and nature of raw materials and production during the corresponding time period.
Regulations governing the establishment.
Special conditions set by the EEAA for the establishment.
Statement of the types of emissions, the rates of discharge (per hour/ day/ month/ year), and method of disposal thereof.
7/1 - Gaseous
7/2 - Liquid
7/3 - Solid
7/4 - Others
Rates at which tests are conducted on each type of emission emanating from the establishment.
Random samples [experimental]
Date, time and place of each sample.
Rate of sample collection.
Indicators requiring to be measured (daily/ weekly/ monthly).
Samples of compound wastes
Date and time of sample collection.
Places of mixing and percentages of mixture in the compound sample.
Indicators requiring to be measured (daily/ weekly/ monthly).
Extracted materials after treatment processes.
Extent of efficiency of treatment method.
Date and signature of officer in charge.

It can be argued that environmental record or register now becomes formal and legal record for any company in Egypt (according to law no. 4 of 1994). Therefore, in any audit process, the independent auditor should ensure that the auditee has environmental record and audits it. Consistent with generally accepted auditing principles, the auditor shall mention in his/ or her report whether the auditee keeps legal records or not.

Some Important Articles and Penalties in Law 4 of 1994

Articles no. 34, 35, 36, 40, 42, 43, 44, and 47 point out that:-

The site on which a project is established must be suitable for the project activity to ensure that the permissible levels of air pollutants are not overstepped, and that the total pollution emitted by all the establishments in one area is within the permissible levels. The executive regulation of this law determines the permissible levels of air pollutants and noise (annex no. 5, 6, and 7 in law 4 of 1994).

Establishments in carrying out their activities must ensure that emissions or leakage of air pollutants do not exceed the maximum levels permitted by law. Also, it is prohibited to use machines, engines or vehicles whose exhaust emissions exceed the limits set by law. Furthermore, it is mandatory when burning any type of fuel or otherwise, whether for industrial, energy production, construction or other commercial purpose, that the harmful smoke, gases and vapors resulting from the combustion process are within the permissible limits. The person responsible for such activity shall be held to take all persecutions necessary to minimize the pollutants in the combustion products.

The level of radioactivity or concentration of radioactive substances in the air shall not exceed the permissible limits as determined by the competent authorities in accordance with law.

The owner of an establishment is held to take all persecutions and procedures necessary to prevent the leakage or emissions of air pollutants inside the work premises except within the permissible limits. Also, he /or she should take the necessary procedures to maintain temperature and humidity in a permissible limits.

Penalties

-Whoever violates the provisions of article 36 of the law 4 shall be fined. The court may order the suspension of the license for a period of not less than week and not more than six months, and in case of recidivism, the court may revoke the license.

-The fines imposed on those who violate the provisions of articles 35, 40, 43, and 44 of this law shall be not less



than thousand Egyptian Pounds and not more than twenty thousand Egyptian Pounds.

-Any person who violates the provisions of article 47 of the present law shall be punished by imprisonment for a term of not less than five years and a fine of twenty thousand Egyptian Pounds to forty thousand Egyptian Pounds.

In all cases, the violator shall be held to remove or rectify the violating works by the date determined by Ministry of Environment. If the violating works are not removed or rectified by due date, the Ministry shall have the right to take procedures to remove or rectify the violation by administrative means, at the expense of the violator, without prejudice to the right of the Ministry to revoke the license.

Article no. 29, 30, 31, 32, and 33 point out that:-

- It is forbidden to displace hazardous substances and waste without a license from the competent administrative authority. The executive regulation of this law shall determine the procedures and conditions for license. It is forbidden to construct any establishment for the treatment of hazardous waste or import without a license issued by the competent authority after consulting the EEAA.
- Establishments which engaged in the production or circulation of hazardous materials, either in gas, liquid or solid form, are held to take all precautions to ensure that no environmental damage shall occur.
- The owner of an establishment whose activities produce hazardous waste pursuant to the provisions of this law shall be held to keep a register of such waste indicating the method of disposing thereof, and the agencies contracted with to receive the hazardous waste. The executive regulation shall determine the data to be recorded in the register and the EEAA shall be responsible for following up the register to ensure its conformity with the facts.

Penalties

-Any person who violates the provisions of articles 29 and 32 of law shall be punished by imprisonment for a term of not less than five years and a fine of twenty thousand Egyptian Pounds to forty thousand Egyptian Pounds.

-Whoever violates the provisions of articles 30, 31 and 33 of the law shall be imprisoned for a period of not less than one year and /or fined ten to twenty thousand Egyptian Pounds.

In all cases, the Ministry has the right to revoke the license of offending establishments.

Articles 49, 50, 51, 52, and 56 point out that:-

-National and foreign companies and organizations licensed to explore, extract or exploit off-shore oil fields and other marine natural resources, including oil

transport facilities, are forbidden to discharge any polluting substances resulting from drilling, exploration, testing of wells or production in the territorial sea of Egypt. They are held to use safe measures not liable to harm the water environment and to treat any discharged waste or polluting substance according to the available technical methods and in accordance with the regulations of international conventions.

Penalties

Whoever commits one of the following acts shall be fined a sum of not less than one hundred and fifty thousand Egyptian Pounds, as the following:

-Discharges oil or oily mixtures or harmful substances in the territorial sea or the exclusive economic zone in violation of articles 49, 50 and 56 of this law.

Fails to comply with the requirement to treat the wastes and polluting substances discharge, or fails to use safe procedures, which prevent damage to the water environment in violation of article 52.

-Discharges any other substances that pollute the environment.

In case of recidivism, the penalty shall be both imprisonment and the fine provided for in the preceding paragraph.

In all cases, the violator shall be held to remove the effects of the violation within the time frame determined by the competent administrative authority, otherwise the administrative authority shall proceed with the removal at his /or her expense. Also, the ministry has the right to revoke the license of offending establishments.

The Egyptian Environmental Affaires Agency (EEAA)

The EEAA established by law 4 of 1994. It follows the Minister of State for Environmental Affairs and is the agency responsible for implementing law 4 of 1994. The principle functions of EEAA such as:-

Formulating environmental policies.

Preparing the necessary plans for environmental protection and environment development projects.

-Setting the standards and conditions, which should follow by organizations.

-Setting the principles and procedures for mandatory Environment Impact Assessment (EIA) of projects.

-Monitoring programs and employing data and information.

-Establishing public environmental education programs and assisting in their implementation.

-Implementing pilot projects for the preservation of natural resources.

-Participating in the preparation of a plan to prevent illegal acts by organizations.

-Preparing an annual report on the state of the environment to be submitted to the Cabinet of Ministers.



-Establishing a National Biodiversity Unit (NBU) that set: (1) a national study of the Egyptian biodiversity, (2) a national biodiversity data bank (to be linked with a national biodiversity data network), (3) a national strategy for biodiversity conservation and a national plan of action (EEAA, 2000.)

Egypt: National Strategy for Biodiversity Conservation

Egyptian government established an environmental action plan. One of its aims is to strengthen the role of EEAA as an agency responsible for facilitating the development of national strategy for the environment. The strategy aims at setting in clear terms the limits of social responsibility of the present generation. Sustainable development requires justice in sharing the resources and maintenance of social peace and setting ethical responsibility towards future generations. This may be achieved through the following six goals:-

-Management of natural resources protection of ecosystems against degradation.

-Development of Egyptian scientific and technological capabilities in fields of conservation and development of natural resources to be able to implement programs of action in the fields of research, monitoring and inventories and management of projects.

-Mobilize national capacities and resources to conserve biodiversity with its ecological and genetical elements; to ensure the sustainability and national use of these elements.

-Set programs of actions that ensure the positive participation of people, as individuals and as organizations, in the implementation of biodiversity conservation programs.

-Establishment of legal instruments and economic and social incentives that support conservation and sustainable use of natural resources.

-National actions should complement regional and international actions in fields of biodiversity conservation, exchange equitable available scientific information related to conservation of biodiversity resources including genetic resources (EEAA, 2000).

In recent years, there has been a growing awareness of the need to address the public concern over environmental pollution in Egypt. The main causes of the pollution are generally considered to be rapid industrial development and a dramatic increase in population, particularly in Cairo.

Table (3): Pollution factors of the environment in Egypt

Elements	Main Pollution Sources	Pollutants
Air Pollution	*Gas from vehicle exhaust *Gas and fumes from factories	No _x , So _x , CO, heavy metals, hydrocarbon, dust, etc.
Water Pollution	*Industrial wastewater *Agricultural wastewater *Domestic wastewater	Organic matters, hazaroud substances(heavy metals, pesticides, etc), nutrient salts(total nitrogen, total phosphorus)
Solid Waste Pollution	*Household waste *Commercial waste *Industrial waste *Medical waste	Hazaroud substances (heavy metals and toxic chemicals, etc)

(EEAA, 2000)

Therefore, MSEA and EEAA establish many projects (about 40 projects now) to protect the environment and achieve other aims (such as, education, training and Awareness Program). Examples for these projects are:-

(1) Environmental Information and Monitoring Program (EIMP) aims at establishing monitoring network for ambient air quality. The design of the EIMP includes: (establishing 42 network measurement sites (a total of 14 sites in Cairo, one of them in Helwan area to control on Cement Companies' activities, 8 sites in Alexandria, 10 sites in Delta and Canal area, 9 sites in Upper Egypt and 1 site in Sinai) In addition to data collectors, sensors and monitors, then data transfer systems and data quality assurance/ control procedures.

(2) Cairo Air Improvement Project (CAIP)

The goals of the CAIP project are:-

-Reduce air pollutants that have the most serious impacts on human health in Cairo, especially, suspended particulate and lead.

-Reduce total suspended particulate emissions from diesel-fueled buses through expanded use of Compressed Natural Gas (CNG) in public transportation.

-Improve the fuel efficiency and reduce exhaust emissions from gasoline-fueled vehicles licensed in Cairo through vehicle emission testing enhancing modern tune-up capabilities, and vehicle certification (VET).



- Reduce airborne lead emissions from lead smelters.
- Increase public awareness and communication programs as well as evaluation of other air pollution prevention and reduction initiatives. (EEAA, 2000).

The Environmental Reports in Egypt

Some oil companies are beginning to disclose about their environmental costs and their environmental initiatives such as, having ISO14000 certification in their annual report to shareholders (such as, SUCO Oil Company in Egypt).

The EEAA established the Environmental Information Monitoring Programme (EIMP), which aims at providing detailed knowledge of the ambient air and coastal water quality in Egypt for the relevant authorities to take appropriate actions. Also, EIMP helps to produce the following kinds of reports to meet different purposes:-

- Daily reports on the air quality in greater Cairo area.
- Monthly report on the air quality in Egypt.
- Annual report on the air quality in Egypt.
- Monthly report on the progress of work in the air quality monitoring networks.
- Quarterly reports on the air quality in greater Cairo and Upper Egypt area.
- Annual reports on the air quality in greater Cairo and Upper Egypt area.
- Quarterly reports on the air quality in Alexandria and Delta.
- Annual report on the air quality in Alexandria and Delta.

The Auditing profession in Egypt

-The applied standards in auditing

The international auditing standards are applied standards in Egypt. The Egyptian auditing standards released in 2000, which consists of six standards as follows:-

- Standard no. 100 “the framework for Egyptian auditing standards”.
- Standard no. 200 “the independent auditor’s report on financial statements”.
- Standards no. 210 “additional information, which related to audited financial statements”.
- Standard no. 220 “the independent auditor’s report about auditing for specific purposes”.
- Standard no. 230 “examining the future financial information”.
- Standard no. 240 “limited investigation of financial statements”

The legal framework of independent auditors

Independent auditors in Egypt subject to some laws, which determine duties, rights and responsibilities of auditor, as the following:-

- Law no. 133 of 1951 for practising the accounting and auditing profession.
- Law no. 159 of 1981 for holding and subsidiary companies.
- Law no. 203 of 1991 for share companies.

-Requirements of practising the accounting and auditing profession

According to the law no. 133 of 1951, which concerns the accounting and auditing profession:-

-It is not permitted to practice the accounting and auditing profession in Egypt unless the person registers his/ or her name in the general register of accountants and auditors in the Ministry of Commerce and Industry. This general register includes three levels:

- Level 1: auditors and accountants under training.
- Level 2: auditors and accountants.
- Level 3: auditors and accountants assistants.

The law determines conditions and requirements to register in each level as well as required conditions for transferring from level to level according to scientific qualifications and experience years. Furthermore, there are additional requirements should be fulfilled to practise the profession in Egypt such as:-

- Scientific qualification at least bachelor degree of commerce (accounting division).
- The accountant and auditor must pass two exams, primer exam and final exam, each exam includes four subjects (accounting, auditing, taxes, and information system).
- Governmental laws regulate the accounting and auditing profession in Egypt. The Egyptian accounting bodies have a limited role concerning professional regulations. Their role is mainly devoted to put professional exams for accountants and auditors.

Summary

EEAA responsibility includes developing principles and standards for conducting, reviewing, and expressing opinions on EIA studies according to the bases and requirements stipulated in Environment Protection Law 4/1994 and its Executive Regulations, as well as issuing necessary EIA guidelines and identifying necessary procedures in coordination with competent administrative bodies. Such responsibility can improve institutional mechanisms for the sustainable management of Egyptian cities, as well as pollution awareness within Egypt will help address the issues of water and air pollution within the country. Continued efforts will hopefully pave the way to a healthier environment.



REFERENCES

- Brady, K., Henson, P. and Fava, J., 1999, "Sustainability, Eco-Efficiency, Life-Cycle Management, and Business Strategy", *Environmental Quality Management*, Spring, pp. 33-41.
- Brimelow, P. and Spencer, L., 1992, "You Cannot Get There from Here", *Forbes*, July, pp. 59-64.
- Bringer, R., and Benforado, D., 1994, "Pollution Prevention and Total Quality Environmental Management", In: Kolluru, R. V. (Ed), *Environmental Strategies Handbook: A Guide to Effective Policies and Practices*, New York, McGraw-Hill.
- Brinkmann, J. and Sims, R. R., 2001, "Stakeholder-Sensitive Business Ethics Teaching", *Teaching Business Ethics*, Vol. 5, No. 2, pp. 171-193.
- Burnett-Hall, R., 1994, "Asset Values and Environmental Legislation", *Accountancy*, January, PP. 126-128.
- (EEAA) The Egyptian Environmental Affairs Agency, 2002, <http://www.eeaa.gov.eg/>.
- (EEAA) The Egyptian Environmental Affairs Agency, 2000, <http://www.eeaa.gov.eg/>.
- (EPA) United States Environmental Protection Agency, 1995, "An Introduction to Environmental Accounting as a Business Management Tool: Key Concepts and Terms", Washington DC, EPA.
- Farouk, A. Global Information Network, 2003, "Egypt: New Charter Seeks to End all Kinds of Pollution.", <http://triplehelixblog.com/2013/05/pollution>.
- Hopkins, Nicholas S., and Sohair R. Mehanna, 2003, "Living with Pollution in Egypt." *Environmentalist*.no. 23. pp. 16-28.
- Hussein I., Abdel- Shafy, and Raouf O. Aly. 2013, "Water Issues in Egypt: Resources, Pollution and Protection Endeavors." *CEJOEM*. Vol.8, no.1, pp. 16-28.
- Mitchell, T, 2002, *Rule of Experts: Egypt, Techno-politics, Modernity*. Berkeley: University of California.
- (MSEA) Ministry of State for Environmental Affairs Egyptian Environmental Affairs Agency, 2010, "Egypt Environmental Profile", <http://www.eeaa.gov.eg/>.
- (MSEA) Ministry of State for Environmental Affairs Egyptian Environmental Affairs Agency, "Main Air Pollution Problems in Egypt", 2009, <http://www.eeaa.gov.eg/>
- (MSEA) Ministry of State for Environmental Affairs Egyptian Environmental Affairs Agency - Nature Conservation Sector, 2006, "Protected Areas of Egypt: Towards the Future", <http://www.fpir.noaa.gov/Library/PRD/Spinner>
- Muralidaran, S. 2013, Pollution in Egypt: Global Consequences to Poor Environmental Practices, <http://triplehelixblog.com/2013/05/pollution-in-egypt-global-consequences>.
- Tantawi, P, O'Shaughnessy, N, Gad, K and Ragheb, M, 2009, "Green Consciousness of Consumers in a Developing Country: A Study of Egyptian Consumers." *Contemporary Management Research*. Vol 3, No. 1, pp.29-50.
- Terdiman, M, 2010, "Green Compass Research" United States World Bank, "World Bank Supports Alexandria Coastal Management Project, <https://muslimenvironment.wordpress.com/tag/climate-change>
- The Environmental Law no. 4 of 1994, 2015, <http://www.eeaa.gov.eg/>

