

Compilation of environment information

on Egypt

**
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EXECUTIVE SUMMARY

BACKGROUND

The majority of the one million km² comprising the Arab Republic of Egypt is characterised by an arid climate. Over much of the territory rainfall is low (annual mean of 18 mm) and sporadic, with the coastal areas receiving the greatest amount of precipitation (up to an annual mean of 200 mm).

The River Nile is the most important perennial source of freshwater which the country depends on for drinking water, agriculture and industrial uses. The Aswan High Dam, which was built across the Nile in southern Egypt, has played a pivotal role in preventing destructive flooding and its upstream reservoir, Lake Nasser, has ensured year-round availability of water.

KEY ISSUES

Key environmental issues in Egypt are:

- Increasing demand for scarce water resources (for drinking water and irrigation), compounded by pollution of available resources through urban wastewater and agricultural and industrial effluent. It is predicted that per capita resources will drastically decrease in the future as a result of population increase, changing lifestyles, and increased demands from agriculture and industry.*
- Severe air pollution in major cities, including Cairo and Alexandria due to emissions from vehicles and industry (particularly cement factories and lead smelters), and associated health risks for the population.*
- Soil degradation due to unsustainable agricultural practices: overuse of agro-chemicals, overgrazing, removal of natural vegetation cover, and soil salinisation.*
- Degradation of the coastal zone caused by oil pollution, pressure from the tourism industry (construction of resorts etc.), and pollution from land-based sources. Impacts include degradation of coral reefs, beaches and marine habitats.*
- Inadequate management of solid waste in urban and rural areas leading to unmanaged dumping and its associated pressures, including groundwater contamination and health hazards.*

These problems are being exacerbated by the high rate of population growth being experienced by Egypt (nearly 2% per annum). In addition, the country has been undergoing a period of increased industrialisation with the accompanying increase in pollution emissions. This is leading to a strain on existing resources and natural habitats, as well as its further encroachment into fragile environments.

INSTITUTIONAL RESPONSE

The Government of Egypt (GOE) is currently addressing these environmental issues through the implementation of various initiatives and long-term programmes. For example, strategies for potable water supply and municipal waste water treatment are

currently being developed. In addition, a national programme to reduce pollution of the Nile from industrial, domestic and agricultural wastewater is also under way.

The Government of Egypt (GOE) is currently working to put in place an institutional framework for environmental management both at the central and local level. This has been directed through the issuing of laws and decrees, establishing the roles and responsibilities of key institutions and working towards the decentralisation of environmental management in Egypt.

The Egyptian Environmental Affairs Agency (EEAA) was established in 1982 although its current remit was not fully described until the enactment of Law 4/1994. This law, the most comprehensive to date, covers the protection of land, air and water. The law also specifies legal and economic enforcement instruments including permitting procedures and the establishment of an Environmental Fund. Although the EEAA is building up its institutional capacity through secondments from other ministries and recruitment of new staff both centrally and in its Regional Branch Offices, it still lacks technical and managerial know-how in order to oversee its duties.

At the national level, the GOE has sponsored various initiatives to set a strategy for tackling environmental issues. The most recent is embodied within the Environmental Objectives and Policies Directives (August 1998), which draws upon the Draft National Environmental Strategy and Action Plan produced in the same year. This policy document examines the main problems and proposes seven broad directives for addressing environmental management. These are summarised below.

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- I. Fostering partnerships, coordination and collaborative work between the different segments of society at the national level.
 - II. Fostering partnerships at the bilateral, regional and global levels.
 - III. Implementation of Law 4/1994 for the protection of the environment.
 - IV. Development and upgrading of natural protectorates and protection of biodiversity.
 - V. Support to institutional capacity building in the Egyptian Environmental Affairs Agency, its regional branch offices and environmental management units in 26 governorates.
 - VI. Support to sustainable environmental management systems.
 - VII. Operationalisation of market-based instruments in the field of environmental protection.
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INTERNATIONAL ASSISTANCE

The international donor community, and the European Commission (EC) in particular, have directed substantial funds towards improving Egypt's environmental situation. Several EU bilateral donors have funded environment-based programmes in Egypt, including DFID, KfW and Danida. Internationally, the World Bank, USAID and JICA have also been active in Egypt.

Funding from the EC has taken various forms, including MEDA financing and LIFE 3rd countries funds. Examples of funding include interest rate subsidies for EIB loans and environmental programmes both at the country and regional level.

This document presents an Environmental Profile of Egypt, and has been compiled for the European Commission, (DG IB), as part of the Tractebel-ERM-Kampsax Framework Contract for the Mainstreaming of the Environment into EC Development Co-operation. The objectives of the assignment are to:

- provide input to the elaboration of country strategy papers and indicative programmes, both by supporting the identification of relevant co-operation activities with specific environment objectives, and the establishment of any necessary environmental safeguards in “non-environmental” co-operation activities;
- provide background information for programming missions; and
- serve as an orientation for pre-screening of project proposals as to their relevance, feasibility and sustainability.

The Report is structured into the following sections:

- the remainder of this section provides background information on the geographical, economic and political makeup of Egypt to provide the context for the Profile;
- *Section 2* identifies the key environmental problems which are currently experienced in Egypt. The underlying causal factors for these impacts are considered and examples are given of activities and actions that the Government of Egypt is taking to address the issues;
- *Section 3* considers the institutional, regulatory and policy framework for environmental management and protection in Egypt, outlining key responsibilities for the environment and identifying strengths and weaknesses within the system;
- *Sections 4 and 5* summarise the recent support given to environmental management and protection in Egypt by various donor agencies. The main foci of action are identified, examples of environmental projects are illustrated and an indication is given of some of the lessons donors have experienced in implementing environmental management projects in Egypt in recent years.

1.1 *GEOGRAPHICAL, ECONOMIC AND POLITICAL BACKGROUND TO EGYPT*

1.1.1 *Location*

Egypt is located in the north-eastern corner of the African continent, and has a total area of just over 1 million km². It is bordered in the north by the Mediterranean Sea; in the east by Israel, the Gaza Strip and the Red Sea; in the south by Sudan; and in the west by Libya. Egypt has 2,450 km of coastline.

1.1.2 *Climate and Geography*

Climate

Egypt's mean annual rainfall is estimated at 18 mm, ranging from 0 mm in the desert to 200 mm in the northern coastal region. In many districts rainfall is sporadic, with precipitation only occurring once every two or three years. In the summer, temperatures range between 32 °C on the coast to a maximum of 49 °C in the southern and western deserts.

1.1.3 *Topography*

Egypt can be divided into 4 main geographical regions: the Nile Valley and Delta, the Western Desert, the Eastern Desert and the Sinai Peninsula. About 95% of Egypt's land area consists of desert and semi-desert areas, salt flats and sand dunes. Of the remaining 5%, 1.6% is covered by trees and shrubs and 3.4% (34,000km²) is arable land and human infrastructure.

The majority of the country is characterised by large expanses of desert and semi-desert planes up to 1000 m in altitude. Running along the Red Sea coast, the land rises to reach altitudes of over 1500 m.

Water Resources

The Nile river supplies 97% of Egypt's water needs, and is shared with Sudan according to the 1959 Nile Waters Agreement between the two countries. Egypt's total surface water resources add up to approximately 56.0 km³/year.

In terms of groundwater resources, Egypt's total renewable resources are 2.3 km³/year. The main source of internal recharge is percolation from irrigation water, and its quality depends mainly on the quality of the irrigation water. In the northern part of the Delta, groundwater becomes brackish to saline due to sea water intrusion (about half the Delta contains brackish to saline groundwater). The Nubian Sandstone aquifer, located under the Western Desert and extending to Libya, Sudan and Chad, contains important non-renewable fresh groundwater resources. Large irrigation schemes pumping water from the Nubian aquifer are under development in the south-western part of the country (Al Aweinat).

1.1.4 *Raw Materials and Land Use*

Egypt has a number of mineral deposits including petroleum, natural gas, iron ore, phosphates, manganese, limestone, gypsum, talc, asbestos, lead and zinc.

Only 3% of Egypt's land surface is cultivated, and 0.4% is used for public utilities (roads etc.).

1.1.5 *Population*

In 1998 the estimated population of Egypt was about 66 million. Population growth was estimated at 1.86% in 1998. Average population density is 63 inhabitants/km², however, geographically the population is concentrated in the Nile Valley and Delta region (4% of the of the total land area) where the population density reaches 1,492 people/km².

Ethnically, 99% of the population is of Eastern Hamitic origin (Egyptians, Bedouins, and Berbers). The remaining 1% is composed of Greek, Nubian, Armenian, and other Europeans (primarily Italian and French).

Egypt's official language is Arabic although English and French are also understood in the metropolitan areas.

1.1.6 *Government*

Egypt is divided into twenty six governorates, or Muhafazah, that serve as administrative regions. As a republic, the Government is subdivided into executive, legislative and judicial branches. The chief of state is President Mohammed Hosni Mubarak (since 14 October 1981), who is currently serving a third term in office. The bicameral system of the legislative branch consists of the People's Assembly, or Majlis al-Sha'b (454 seats; 444 elected by popular vote, 10 appointed by the president).

Egypt's legal system is based on English common law, Islamic law, and Napoleonic codes.

1.1.7 *Economy*

In the late 1970s and early 1980s the economy of Egypt grew rapidly, supported by oil sales, workers' remittances and growing tourism receipts. In the mid 1980s however growth slowed in the region as a whole and macro economic imbalances became severe. Since the early 1990s Egypt has followed policies of structural adjustment and the economy has performed strongly. GDP grew by over 5% in 1996 and 1997, while inflation declined steadily from 12% per annum in 1993 to 4.6% in 1997. The fiscal balance has also improved substantially; in 1991 the budget deficit was 18.1% of GDP, but by 1996 it had been reduced to about 1%.

The economy is generally well diversified, with important contributions from agriculture, manufacturing, petroleum products and trade and financial

services. In 1992, agriculture accounted for 17% of Egypt's GDP and 38% of the labour force. While there have been no significant structural changes to the economy over the last decade, foreign exchange earnings show some vulnerability. Remittances from overseas workers, earnings from tourism and fees from the Suez Canal have all been affected adversely by the global economic upheaval, and tourism earnings fell sharply after the events in Luxor in 1997.

Nevertheless, liberalisation and privatisation, key components of Egypt's structural reform process, should improve international competitiveness and support exports of manufactured goods. With the success of adjustment in the past few years, Egypt is no longer in a formal IMF programme, but the government is expected to press ahead with the reforms, aiming for sustainable economic growth of 7-8% per year by 2001/2. The reform programme will be supported by technical assistance from the IMF.

Overall, Egypt's economy appears robust and sustainable growth a realistic target. In the medium term however, growth could be threatened through a restricted availability in suitably trained or educated labour.

1.1.8

Social Issues

Poverty

The growth and success of the economy has lifted Egypt beyond the criteria for IDA ⁽¹⁾ terms. However, poverty continues to be a real problem. The country ranks about 70th in the world with a per capita income of \$1,080 (1996, World Development Indicators 1998), placing Egypt roughly on the border between low and middle income countries. About 2% of households are considered to live in poverty, whilst a further 7% live in extreme poverty. The majority of this group is represented by women (70%), particularly in rural areas of the south.

Gender, regional disparity, and the difference between rural and urban settings are critical indicators in describing poverty in the Egyptian context. Per capita incomes range from \$5,800 per year in Port Said and Suez ⁽²⁾ to \$2,200 in Fayoum and Menia. Per capita income in Aswan is approximately \$3,040 (Egypt, Human Development Report 1996). Care should however be taken in the interpretation of average figures as these conceal wide disparities.

(1) IDA (International Development Association), a World Bank Affiliate, provides concessionary loans to countries that qualify under certain criteria.

(2) In purchasing power parity terms.

2.1 KEY ENVIRONMENTAL TRENDS IN EGYPT

Key issues currently facing Egypt's environment are:

- Limited freshwater resources and increasing pressures from drinking, irrigation and industrial requirements.
- Water pollution by contaminated effluents from agriculture, industry and municipal wastewater.
- Air pollution in major cities due to industry and vehicle emissions, leading an increase in the health risk to the population.
- Desertification through unsustainable agricultural practices (salinisation and overgrazing) and uncontrolled settlement in fragile environments.
- Soil degradation due to overuse of agrochemicals, overgrazing and poor land management priorities.
- Degradation of the coastal zone caused by oil pollution and uncontrolled human settlement, threatening coral reefs, beaches and marine habitats.
- Inadequate solid waste management in urban and rural areas leading to dumping and subsequent degradation of water and land resources.

An additional factor exacerbating some of the above trends is the high rate of population growth leading to a strain on existing infrastructure, urban and industrial expansion, increased exploitation of resources and encroachment onto fragile environments.

2.2 WATER RESOURCES AND QUALITY

The protection of water resources is the most critical environmental issue in Egypt. Water resources in Egypt are becoming increasingly scarce and the surface water resources from the Nile are now fully exploited by agriculture, industry and for drinking water (see below). Similarly, groundwater resources are now being brought into full production. Egypt is facing an increasing demand for water, brought on by a rapidly growing population, by increased urbanisation, by higher standards of living and by an expansion-based agricultural policy.

It has been predicted that per capita water resources will drop from a value of 922 m³ per year at the beginning of this decade to about 337 m³ per year in 2025. If the prevailing management practices and cropping patterns continue, this could signify for example, up to 60% of agricultural land being without irrigation waters.

2.2.1 Access to Drinking Water

About 90% of the urban population have access to piped water, but its quality varies and WHO drinking water standards are commonly in breach. In rural

areas 86% of the population have access to some drinking water, mostly from standpipes. Many of these standpipes are not adequately maintained. About 70% of the urban settlements have adequate sewerage, but wastewater treatment plants have inadequate capacity, are in need of maintenance, or are entirely absent. In general, villages have no domestic wastewater collection systems or treatment plants.

Water supply and sanitation are Government of Egypt's (GOE) priority targets for action. Strategies for potable water supply and municipal waste water treatment are currently being developed and tailored to regional circumstances.

2.2.2 *Water Use in Agriculture*

The main objective of water planning in Egypt has been to harness the highly fluctuating Nile flows, culminating in the construction in 1971 of the Aswan High Dam. Except for the Nile itself, every other segment of the Egyptian water conveyance system is man-made. The irrigation system is extensive and complex, consisting of approximately 30,000 km of public canals, 17,000 km of public drains, 80,000 km of private canals and farm drains, 450,000 private water-lifting devices, 22,000 public water-control structures, and 670 large public pumping stations for irrigation. Throughout this system, approximately 59 billion m³ of water are distributed annually, divided between irrigation, municipal and industrial uses, generation of hydro-electricity, and the navigation of freighters and tourist boats on the Nile.

2.2.3 *Pollution of Water Resources*

The River Nile is strongly polluted from a large number of major industrial point sources as well as from municipal waste water effluents. The total amount of organic matter discharged in the effluent of industrial plants into the Nile equals 270 tons/day. This amount corresponds to the untreated discharge of sewerage from more than 6 million people. Subsequent treatment measures to Nile sourced water supplies are therefore extremely capital intensive.

Environmental issues have become of great concern because the water supply system relies heavily on re-use of the waste- and drain-water. A high percentage of the drain- and waste-water is discharged untreated directly back into canals, drains or the Nile. Subsequently, Egypt's wetlands have come under increasing pressure. Lake Mariut is a highly polluted lake, Lake Manzala is another seriously degraded lake. The latter receives some 845 million m³ of drainage water every year containing industrial wastewater from some 80 factories in the Greater Cairo area.

The most urgent issues to be addressed are salinity from irrigation; water pollution from municipal and industrial use; potential groundwater contamination from Nitrogen, Phosphate and potash fertilisers; and the impact of herbicide use, originating from schemes to control weeds in canals.

Impact of Industry

Industrial wastewater is considered to be one of the main sources of water pollution in Egypt. It was estimated in 1994 that Egypt's major factories discharged a total of 2.5 million m³ per day of untreated effluent into Egypt's waters. This resulted in damage to coastal shores, coastal fishing and tourism, areas around industrial zones becoming inhospitable, and water purification becoming very costly.

Cairo is one of the main industrial centres in Egypt: 50-64% of industrial activity is concentrated in the capital. The Capital's industries use approximately 162 million m³ of fresh water per year, and discharge 129 million m³ per year. It has been estimated that 0.75 tons of heavy metals are discharged per day.

2.3

AIR QUALITY

Air pollution is a serious problem in the major cities of Egypt, particularly Cairo and Alexandria, with direct implications to public health. A recent study supported by USAID has estimated an average loss of 4 IQ (Intelligence Quotient) points for children who grow up in Cairo, due to lead pollution. Lead mainly originates from vehicle exhaust gas and from open lead smelters.

One of the major causes of air pollution is the large concentration of polluting industries in and around urban residential areas, especially steel, cement, fertiliser, and chemical plants which contribute to levels of dust and SO₂ that are 2 to 10 times maximum safe levels (WHO). These are the prime cause of lung disease for those people living in the vicinity of polluting industries, especially among children. In addition, Egypt's historical monuments, many of which represent global cultural heritage, suffer serious damage from air pollution.

Vehicle exhaust gas contributes to high concentrations of carbon monoxide, nitrogen oxides, VOCs, particulates and lead. The concentrations of total suspended particulates (TSP) in the air of urban centres is generally very high and in exceedance of WHO guidelines. This results in a high ratio of asthma cases, particularly in Cairo, where TSP-values for example are 6-27 times the WHO values. Concentrations of carbon monoxide, sulphur dioxide and lead in the city atmosphere also exceed WHO limits, and high concentrations of lead have been recorded in the blood of Cairo residents.

Some programmes have been established to reduce air pollution. For example, to decrease air pollution from cement factories an annual surcharge of 1.5 USD/tonne of cement sold was added in 1995. The fund is accumulating and should be used to finance installation of air pollution control equipment and rehabilitation programmes. To reduce lead pollution the Ministry of Petroleum has gradually introduced lead-free gasoline and reduced lead in

normal types of gasoline by 40-55% since 1995. Additionally, to control lead emissions from major smelters in the Great Cairo area a further programme is being implemented by EEAA.

2.4 *LAND RESOURCES*

2.4.1 *Desertification*

Over the past decade, agricultural activities have expanded beyond the Nile Delta and Valley region. This has resulted in the deterioration of the fragile environment due to pressures from agriculture on the one hand, and the expansion of settlements on the other.

Wind erosion of top soil has been particularly severe in the agricultural zone along Egypt's North coast, (an area covering 1.7 million hectares) where the region's natural crops of olives and figs have been replaced by expanding cereal production. This has been compounded by unplanned urban development along the coast which has resulted in further clearing of the natural vegetative cover.

Overgrazing in the pasture areas south of the coastal strip, in the Sinai, and in the southern valleys neighbouring the Red Sea has also increased the area of land vulnerable to wind erosion. The plentiful resources for forage and feeding have encouraged an increase in the number of cattle in these regions which have a total combined area of about 4 million hectares.

Egypt has developed and is now implementing a Strategy for Combating Desertification. This includes the establishment of nurseries for the afforestation of new roads, the improvement of existing plantings along roads, and the stabilisation of sand dunes through tree planting.

2.4.2 *Soil Quality*

Agricultural activities have had a significant impact on soil quality in various ways. Insufficient management of water for irrigation has led to severe salinisation of soil, which has reduces the fertility of the land. Prior to the construction of the Aswan High Dam, this problem was reduced as the deposited salt was removed by the Nile's annual floods.

Land deterioration has also occurred in the irrigated oasis lands. The problems of salinisation and inundation in these areas have occurred largely due to the unmanaged use of natural spring water, inefficient irrigation and the absence of a drainage system.

Egypt has engaged itself in a number of measures to promote sustainable agricultural practices. These include monitoring soil contaminants and promoting soil conservation through crop rotation as well as awareness raising.

2.5

COASTAL ZONE MANAGEMENT

The coastal zone in Egypt is an area of rapid (and often) uncontrolled development. The coastal lakes in the Nile Delta are hyper-eutrophic (due to agricultural effluent) and heavily polluted. Pollution from maritime transport, especially from oil tankers, has been rising in the eastern Mediterranean region. However most of the pollution of the coastal water comes from land-based sources. These arise from wastewater - containing nutrients, heavy metals, pesticides, oil and grease - being discharged from agricultural drains and from the lakes to the north and east of the Delta into the Mediterranean sea (amounting to 15 billion cubic metres per year).

Coastal erosion is also a critical problem throughout the Delta, where prior to the construction of the Aswan High Dam, silt deposits from the River Nile compensated the subsidence of the land and the erosive forces of the Mediterranean Sea. This is resulting in the loss of fertile land and increased exposure of previously inland areas to saltwater intrusion.

In other coastal areas local erosion problems occur in connection with uncontrolled construction, due to lack of planning and adequate assessment of the potential impacts of settlements on the environment. Wide areas of coral reef in the Red Sea are endangered from uncontrolled construction and activity related to tourism. These reefs are the World's northern-most and represent Egypt's greatest source of biological diversity. The coastal marine environment is threatened by oil pollution from ships and pollution from municipal and industrial sources.

In response to pressures on the coast, the Egyptian Environmental Affairs Agency (EEAA) has developed an Integrated Coastal Zone Management Strategy. In order to tackle problems relating to tourism, a government-sponsored Sustainable Tourism Project has been responsible for promoting the concept of eco-tourism and developing a National Sustainable Tourism Strategy. The Ras Mohammed National Park, which includes a network of protectorates along the South Sinai, has been established to manage coastal areas under increasing pressure from tourism.

2.6

SOLID WASTE MANAGEMENT

Solid waste is a growing environmental problem throughout Egypt. In urban areas, about 15,000 tons of urban solid waste is collected each day from households (68%), commerce (15%), street sweepings (12%), and industry (5%).

A major proportion of the solid waste from households in Cairo is collected, manually sorted and efficiently recycled or used for fodder. This traditional *Zabbaleen* system is most effective in the wealthier urban areas (where waste contains relatively valuable components) and is a relatively structured and organised waste collection system. However solid waste generally

accumulates in the poorer city areas and is occasionally dealt with by open incineration. Solid waste is deposited in open dumps, with the ensuing problems such as fire hazards and health risks to waste-pickers.

Egypt has no formal systems for removal and handling of the 20,000 to 50,000 tons per year of hazardous waste from industry, hospitals, etc. These wastes are currently either burned (creating toxic air pollution), dumped in sewer drains (causing water pollution), or dumped on vacant land or in wetlands (contributing to future long term environmental problems). The increasing inclusion of hazardous waste into the bulk solid waste, especially the infectious waste from hospitals and health clinics, poses a severe health risk for the garbage collectors and sorters.

3.1 INSTITUTIONAL FRAMEWORK AND CAPACITY

3.1.1 *Overview of Egypt's Institutional Framework*

At the Highest Policy level environmental matters come under the purview of the State Ministry for Environmental Affairs (SMEA), whose State Minister is a member of the GOE Cabinet of Ministers. The Minister is also the Chairperson of the Egyptian Environmental Affairs Agency (EEAA). The EEAA is the highest authority in Egypt responsible for promoting and protecting the environment and was established in 1982, although its current full remit was not fully described until the enactment of *Law 4/1994* (see *Section 3.3*). The head of the Agency is the Chief Executive Officer (CEO), who reports to the Minister.

Role of Central Government

In order to fulfil their mandate of co-ordination and working through the line ministries, the EEAA, through the SMEA's Minister's office, prepares specific co-operation protocols with other Ministries. These protocols establish the framework for information flow, personnel exchange and co-ordination in relevant areas. Currently there are six such protocols in operation, with the ministries of Manpower, Health, Justice, Industry, Petroleum and Tourism. The formal co-operation protocols however, are not the only form of co-operation between the central government ministries and EEAA. In certain cases, co-operation was institutionalised through the details of the project management plans, on a case by case basis.

Role of Regional Local Government

The basic structure for local administration in Egypt is as follows:

- 26 governorates, headed by a Governor appointed by the President;
- 163 districts, 42 urban quarters, which are subdivisions of major cities and some provincial cities and 184 towns; all of these are headed by a Chief of District, urban quarter or town who works under the supervision of the Governor, but who is appointed by the Prime Minister;
- 910 village units headed by a chief who is appointed by the Governor and is usually drawn from one of the central ministries present in the area.

Other key individuals in the local administration system include the chairpersons of various local peoples councils, secretary generals and other high administrative staff, key officials in the national party system and representatives of the police and security agencies assigned in the areas.

For each level in the Egyptian local administrative system there is an executive council chaired by the chief executive of that council: the governor for the governorate executive council, the district chief for the district executive council and the chief of the village unit for the village unit executive council. The executive councils are the major administrative bodies for co-ordinating, planning, implementing, and administering general government policies within their respective levels of the administrative system. The membership of these executive councils usually includes representatives of the central ministries who have had their functions and responsibilities transferred to the governorates.

In addition there are locally elected people's councils at each local administration level. These councils should play a significant role but tend to be completely dominated by the local executive councils. While under the law the people's councils have a significant amount of authority and influence over the various utilities (directorates and departments of central ministries) in most cases the people's councils supervisory role tends to be advisory and evaluative rather than administrative or managerial. The people's councils are encouraged to develop projects that involve the local community and to mobilise local resources to finance such projects.

Environmental Management at Governorate Level

Specifically regarding environmental management at the Governorate level, there have been a number of decrees and laws (summarised in *Section 3.3*) that have resulted in some degree of confusion regarding the establishment of Environmental Management Units (EMU) ⁽¹⁾ at the Governorate level. One issue is regarding the division of responsibilities and resources between the EEAA (see discussion below) and its Regional Branch Offices (RBOs) on the one hand and the governorate EAOs on the other hand. As matters stand, apart from the Department for Natural Protectorates of the EEAA, there is no direct linkage between the EEAA and the EAOs.

Egypt has been implementing a policy to develop RBOs of the EEAA, each dealing with a jurisdiction of maybe 3-5 Governorates. These in turn may develop a co-ordinating role with EEAA policy at the Governorate level EMUs. However to date, the autonomous nature of the Governorate structure in Egypt necessitates that EMUs report directly to the Governor (not the State). Nevertheless, there is growing potential for widening stakeholder involvement in localising environmental management and many decision-making functions where appropriate, through dual reporting mechanisms. We understand that lobbying is underway to upgrade the status of EMUs to General Offices for the Environment (GOEs) - Governorate level units in receipt of EEAA budgets, and that USAID, DFID, EU, Danida and CIDA have indicated interest in supporting this approach.

(1) Most documentation, donor agencies and many people in the EEAA refer to the local units as Environmental Management Units (EMU); however the official translation from Arabic should be Environmental Affairs Offices (EAO).

3.1.2

The Egyptian Environmental Affairs Agency (EEAA)

The institutional capacity of the EEAA at headquarter level is sufficient to meet its current work programme, particularly given the recent expansion with 104 additional posts. A breakdown of staff by section and category of contract is presented in the *Table 3.1* below.

Table 3.1 *Employee Breakdown at the EEAA*

Section	Permanent	Seconded	Seconded full time	Temporary	Consultants	Seconded temporary
Office of head Agency	18	2	1	12	5	0
Financial and Administration	47	0	1	2	0	0
Drivers	24	1	0	11	0	0
Service staff, plumbers, electricians	8	0	0	2	0	0
Environmental management sector	7	1	1	21	16	0
Information centre	11	0	2	14	0	0
Environmental awareness	10	3	2	8	3	0
Media and environmental awareness	8	0	2	5	0	1
Central Administration for departments and laboratories	9	0	4	35	2	1
Protectorates	19	0	26	116	8	26
Total	161	7	39	229	34	28

The Agency has requested another 200 staff both for headquarters and for the RBOs, but at the time of writing approval had not yet been granted. Capacity has been strengthened through technical co-operation programmes with several donor agencies over recent years, including training in important areas such as: environmental action plans, auditing, EIA, licensing procedures, data base development and management, environmental education, training and awareness and laboratory analytical techniques and laboratory management.

At the RBO level (excluding Greater Cairo) there is currently no capacity beyond laboratory staff. It is expected that the RBOs at Suez (North Sinai), and Aswan (Lower Egypt), will be established by January 2001.

Interaction with Other Government Departments and Agencies

The work and responsibilities of the EEAA require co-operation with a number of line ministries to ensure both compliance to, and enforcement of,

environmental laws and regulations. Although Law 4/1994 points out the need for co-operation, no mechanisms were established to implement such co-operation. Therefore, through a series of cooperation protocols, clearly defined working relationships and divisions of tasks have been established. For example, GOFI (General Organisation for Industrialisation) undertakes the inspection and licensing system for all industries with a capital investment of more than LE 1 million and/or 1000 employees; referring environmental issues to the EEAA prior to the issuance of an operating licence. Through these formal protocols, the EEAA has also been able to receive civil servants seconded to them, either on a permanent or short term basis, from other ministries. These arrangements appear to work quite well, although it has not been possible to discover how much say the EEAA has in determining which personnel would be seconded.

Institutional Capacity

The EEAA does not yet have sufficient capacity to train relevant personnel in all of the co-operating ministries to undertake the work on their (EEAA's) behalf. This is due to the fact that the current staffing at EEAA has only recently attained a satisfactory level and many employees still require further training.

A recent document prepared on behalf of Danida ⁽¹⁾, stated that "EEAA is still a relatively weak organisation. At the present time, EEAA shows evidence of serious deficiencies in overseeing its major responsibilities" The document lists the main areas of weaknesses as being:

- EIA: enforcement, review and follow-up;
- Management of coastal zones and marine resources - capacity weaknesses both within EEAA and other administrative authorities;
- Inspection - mostly related to pollution sources that are not of an industrial nature:
- Waste management requirements of Law 4/1994 in which the capacity of EEAA "is virtually non-existent" and in which the "the capacities of other competent administrative authorities are also quite efficient";
- Management of protected areas in which only one of the 18 declared protected areas (in Southern Sinai) are being adequately managed, and another one (Wadi El Rayan, in Fayoum with the support of the EU) will soon be managed more effectively with assistance from the Italian Government; and,
- Environmental awareness raising.

Decentralisation of Environmental Management

At the EEAA level, the Central Department of Branches Affairs is responsible for the liaison with and management of the RBOs, and is the functional link

(1) Analysis of the Institutional Set-up for Environmental management in Egypt at National and Governorate Level"

between the RBOs and the various departments of the EEAA. However, the department is run by a staff of three and currently has no recruitment designated for the RBOs.

3.2 *FUNDING FOR THE ENVIRONMENT SECTOR*

3.2.1 *Budget Items in the Sector*

Expenditure on environmental activities cuts across a number of line ministries in addition to the activities of the SMEA. Expenditure on the environment is not explicit within the public expenditure accounts nor within GDP.

Actual expenditures on the environment in Egypt comprise:

- expenditures by the SMEA and EEAA;
- expenditures by other line ministries on environmental projects and programmes (eg public works, health);
- expenditures on water supply and sanitation and solid waste management, incurred mainly at governorate level and below;
- private sector expenditures; and
- donor funds in addition to resources expended through the EEAA.

3.2.2 *Expenditure by SMEA/EEAA*

At the central government level direct expenditure on the environment is mainly undertaken through the EEAA and the SMEA. The total value of the budget in 1997/98 was LE 23.8 million. The capital budget was increased by LE 5.3 million in 1998/9, bringing an overall increase in the budget of nearly 30%, to LE 30.8 million. All capital expenditure is shown in the EEAA budget, so that the SMEA budget covers only a modest allocation for salaries and recurrent expenditures.

The EEAA budget is supporting a number of capital projects, as shown in the following table. The main sources of funds for capital expenditure are the National Investment Bank; the Environment Protection Fund and the Tourism and Environment Funds; and foreign capital funding which accounts for about one quarter of the resources budgeted.

Table 3.2 *Capital Budget for EEAA, 1998/99 (LE '000)*

Proj.no	Expenditure item	Total Outlay	Foreign	Local	Total
2022	Completion of pollution control network support	7,485	1,100	6,385	7,485
2023	Completion of environmental monitoring support network	7,260	2,500	4,760	7,260
2024	Protection and treat river transport wastes	400		400	400
2025	Desertification combat programme, El Nasr, Marsa Matrouh	105		105	105

2026	Protection of Nature reserves	4,500	1,900	2,600	4,500
2028	National project, preservation of potable water	550		550	550
3027	Project for developing food	390		390	390
	TOTAL	20,690	5,500	15,190	20,690

Source: EEAA Draft Budget for 1998/99, Ministry of Finance

3.2.3

Funds for the Environment

The Environment Protection Fund (EPF) was established under Law 4/94 to provide resources for a wide range of environmental management activities ⁽¹⁾. It was established as an 'economic' institution which means that it has flexibility to accrue revenues and can carry a surplus over from one year to the next, it is independent of the State Treasury, and its resources can be earmarked for specific purposes. The fund was established with LE 64 million and stood at LE 22 million in early 1999.

The sources of revenues for the EPF were set out in Law 4/90 and offer considerable flexibility and autonomy to the Fund. They include: state budget allocation; contributions and donations; fines and compensation; protected areas (entrance fees); airline ticket tax share; and revenue from pilot projects, services, and permits issued by EEAA.

At present, the two most substantial sources of funds are revenues raised from fines and compensation payments, and revenues from entrance tickets to protected areas. The fund is entitled to revenues arising from fines in respect of violations of Law 4/1994 but in practice fines have only been imposed on ships captains for marine damages. The level of funds from this source is unpredictable, and for next year a much smaller contribution is predicted. Visitor fees to the protected areas are budgeted at LE 2.7 million in the current year.

A separate fund - the Tourism and Environment Fund (TEF) - should also be a significant source of funds, deriving its revenues from a 25% tax on airline tickets and the EPF should receive half of the revenues raised from this source. In 1997/98 the TEF contributed LE 3.75 million to the capital budget of the EEAA (according to the final accounts for that year) and it is understood that the TEF provided LE 14.245 million to the EEAA in 1997/98, funds which were used for setting up the RBOs, a conference on ozone depletion and drainage ditches. The functioning of the TEF is not clear and it is doubtful whether it offers a reliable line of resources for the EEAA and EPF.²

Other potential sources of funds include charges for EEAA services, revenues arising from EEAA demonstration projects and national or foreign funds including donor funds. At present there are no pollution charges (and their

⁽¹⁾ These activities range from confronting environmental disasters, establishing and administering Nature Reserves, financing manufacture of equipment for pollution control, participation in financing environmental projects by local government and NGOs, financing studies, establishing environmental monitoring networks etc

^{(1) 2} This is not seen as a problem by the Fund in the future planning. (Hoda Sabry, pers comm)

	Environmental Protection Fund and Incentives
Chapter One:	Protection of the land
Chapter Two:	Protection of the air
Chapter Three:	Protection of the water
Chapter Four:	Penalties

Other aspects of the environment (e.g. water resources, fresh water, land use, and natural reserves) are not covered by law number 4, as they are regulated through other existing laws and controlled by the relevant ministries. The law is provided with a number of executive regulations, developed during 1995-96.

The law defines the role of the EEAA as an overall coordinating authority with specific responsibilities in terms of setting environmental standards, ensuring compliance with such standards, preparing master plans for environmental management in cooperation with other relevant authorities, establishing and operating a national monitoring network, implementing pilot-projects, as well as compiling and disseminating environmental information.

The law specifies legal and economic enforcement instruments including permitting procedures and the establishment of an Environmental Fund. It also requires a constructive cooperation between EEAA and a number of line ministries and the necessary building of enforcement capacity in the relevant agencies. It is interesting to note that a Governor can order the cessation of an activity or close down a facility using this law.

A core element of the GOE's policies is to decentralise environmental management. This process began with a 1982 Decree establishing Environmental Affairs Offices in the Governorates. More recently, a 1995 Decree established the EEAA's Regional Branch Offices. A summary of the relevant decrees is presented in *Box 3.1* below.

Box 3.1

Summary of Decrees on Decentralisation of Environmental Management

-
- 1982: CAAO issued Circular number 8 requesting all governorates to establish an EAO. These offices were to be directly affiliated to the Governors office. The circular included a list of responsibilities, organisational structure and working arrangements, but did not deal with budgetary matters.
 - 1987: The Minister for Cabinet Affairs and of the State Ministry for Administrative Development issued Decree No.12 of 1987 merging existing Environmental Affairs Offices (EAO) or those to be established in the future, with respective branches of the EEAA. The decree defined the organisational structure of the EEAA Branches and their responsibilities. It should be noted that at that time, there were no EEAA Branches and even today there is only one (Greater Cairo). During this project, a RBO is to be established in Aswan (Lower Egypt), where currently there is no EAO.
 - 1987: the Director CAAO issued another Circular (Attachment number 1 of Circular no. 8 of 1982) amending the mandate of the EMUs of the Governorates that had no protected areas. The amendment essentially added to the EAO's responsibilities, the requirement to co-ordinate with EEAA and follow up on their recommendations. There was no mention of EEAA Branches and EMUs were still treated as discrete entities of the Governorates.

- 1994: Law 4 was passed. This stated that the “Minister of Environmental Affairs may establish EEAA branches in the Governorates by decree”. The Law makes no mention of Governorate EMUs.
 - 1995: The Minister for Cabinet Affairs and State for Administrative Development and Environmental Affairs issued Decree No. 187 of 1995 for the creation of eight branches of the EEAA and identified their responsibilities. Regarding EMUs, the Decree merely states that the RBOs should co-ordinate with Environmental Affairs Offices of the Governorates in public awareness activities, according to EEAA plans. This could imply that the EMUs, contrary to the intent of Decree 12 of 1987, are considered as separate governorate entities. This Decree also, while stating that the RBOs should supervise the implementation of the NEAP by the governorate, makes no mention of the EMUs.
-

3.3.2 *International Environmental Commitments*

The GOE has ratified (or acceded to) numerous international environmental conventions and is a signatory to many more. These are listed in *Box 3.2* below.

Box 3.2 Conventions Ratified, Acceded or Signed by Egypt

Ratified/Acceded by GOE

- Convention to Combat Desertification
- Convention on Biological Diversity
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- Convention on the International Maritime Organisation
- UN Framework Convention on Climate Change (UNFCCC)
- International Plant Protection Convention
- Montreal Protocol for the Protection of the Ozone Layer
- Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention)
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter

Conventions Signed by GOE

- African Convention on the Conservation of Nature and Natural Resources
 - Convention Concerning the Protection of the World Cultural and Natural Heritage
 - Convention for the Protection of the Mediterranean Sea Against Pollution
 - Convention on Wetlands of International Importance Especially as Waterfowl Habitat
 - International Convention for the Prevention of Marine Pollution from Ships
 - Protocol Concerning Mediterranean Specially Protected Areas
 - Convention on the Ban of the Import of Hazardous Wastes into Africa and on the Control of Their Transboundary Movements within Africa
 - Convention on the Conservation of Migratory Species of Wild Animals
 - International Convention on Oil Pollution Preparedness, Response and Coordination
 - Regional Convention on the Conservation of the Red Sea and the Gulf of Aden Environment
-

3.4 *PLANS AND POLICIES*

National environmental policy-making in Egypt has gone through a series of initiatives which have culminated in the Government’s Environmental Objectives and Policy Directives issued in 1998.

3.4.1 *The Egyptian Environmental Action Plan (EEAP)*

In Egypt the first step towards formulating an integrated environmental strategy was taken with the Egyptian Environmental Action Plan (EEAP) of 1992. Ten national working groups of experts drawn from the different ministries and agencies were put together to draw up a high-priority environmental action programme for the country. The EEAA was entrusted with the coordination of this work. At the same time the Government requested the World Bank to lead a team of experts provided by several donors to assist in the preparation of the Plan.

The Action Plan identifies several major environmental problems including the salinisation of irrigated land, the pollution of the River Nile and air pollution in large cities. The Action Plan also sets out a number of required policy actions and outlines an investment programme amounting to about 5,000 million LE. Over two five-year planning periods, the Plan emphasises the need for institutional and legislative strengthening.

Unfortunately the objectives of the EEAP were never fully achieved according to the proposed timeschedule as apparently the complexity of implementation superseded its ambitions.

3.4.2 *Draft Environmental Strategies of 1995*

With the passing of the Egyptian Environmental Law (Law 4 of 1994) and its Executive Regulations, the EEAA felt a need to formulate an updated environmental strategy which among other things would incorporate the requirements of the new law and address how they should be enforced. The EEAA's Technical Coordination Office for the Environment (TCOE) initiated the process by preparing a draft "Environmental Strategy" in 1995. In this document, the issues discussed in the EEAP were focused further by dividing the country's environmental problems into a larger number of areas (such as industrial pollution, transport air pollution, municipal waste, hazardous waste etc.), and then analysing and propose actions for each area.

3.4.3 *Draft National Environmental Strategy and Action Plan (NESAP)*

In January 1998, TCOE issued the draft National Environmental Strategy and Action Plan, which is the most recent and up-to-date strategy document. The Government's most recent policy statement, Environmental Objectives and Policy Directives (August 1998), incorporates the general recommendations and environmental issues expressed by the NESAP. It confirms the GOE's commitment to environmental improvement and calls for the introduction and integration of environmental dimensions in all national policies, plans and programmes relevant to the protection of human health and the management of natural resources. It calls for the implementation of law 4/94

for the protection of the environment by providing the institutional and legislative frameworks at national and local level and identifies key challenges as being:

- addressing the cumulative impacts of environmental problems extending over the past 40 years;
- setting up an information infrastructure that is based on monitoring networks;
- mobilising approximately LE 12 billion in investments until the year 2004;
- rehabilitation of existing industries in compliance with environmental legislation;
- establishing a skilled and trained human resource base in the field of environmental management;
- changing public behaviour and attitudes towards the environment.

To address these challenges GOE has formulated seven policy directives, described in *Box 3.3* below.

Box 3.3

Environmental Policy Directives of the GOE

- I. Fostering partnerships, coordination and collaborative work between the different segments of society at the national level.
 - II. Fostering partnerships at the bilateral, regional and global levels.
 - III. Implementation of Law 4/1994 for the protection of the environment.
 - IV. Development and upgrading of natural protectorates and protection of biodiversity.
 - V. Support to institutional capacity building in the Egyptian Environmental Affairs Agency, its regional branch offices and EMUs in 26 governorates.
 - VI. Support to sustainable environmental management systems.
 - VII. Operationalisation of market-based instruments in the field of environmental protection.
-

3.4.4

Government Response to Water Resource Issues

The Ministry of Public Works and Water Resources has prepared a Strategy for the Management of Water Resources defining and addressing the needs of the various sectors. In addition, a national programme addressing pollution of the Nile from industrial, domestic and agricultural wastewater resources is being developed. An inventory of industrial pollution sources to the Nile has been prepared and prioritised, thus providing the basis for implementation measures.

There are currently plans for preserving and maximising water resources for irrigation through the large scale reuse of wastewater, for example by establishing wastewater treatment facilities in factories. Measures currently being undertaken include waste water reuse and the development of programmes for non-traditional water sources (eg. sea water and rain). Additionally, municipalities now take part in freshwater management

programmes and six stations have been constructed along the Nile to collect the wastes from tour ships.

The GOE is planning to increase waste water networks and treatment capacity to raise the share of clean water received by citizens in both urban and rural areas. New concepts such as private sector participation in BOT and BOOT projects are being encouraged by government to help fund the development of water infrastructure.

3.5

THE ROLE OF CIVIL SOCIETY

Concerning public participation, Egypt is in the process of drafting a new law which has been developed in close co-operation with representatives from the Egyptian Government and civil society. According to the latest draft all NGOs are allowed to register. The procedure of registration only requires NGOs to notify the Ministry of Social Affairs of their existence.

Democracy is an ongoing process in Egypt, however it should be noted that the present state of emergency limits the democratic process and popular participation. Still, parliamentary elections are taken very seriously in rural Egypt and voting levels are fairly high. This is in contrast to the cities, where voting levels are low.

Important achievements have taken place within the field of environmental public participation. The first public consultations on environmental issues have been conducted and the Minister for Environment has taken initiatives to set up public complaint systems.

4.1 OVERVIEW OF DONOR ACTIVITY IN THE ENVIRONMENT SECTOR

4.1.1 Introduction

The environment sector has attracted considerable donor support over the past decade amounting to about \$200 million. The largest donors have been USAID and KfW, each supporting programmes of about \$60 million on air quality improvements for Cairo and about the same amount in improving industrial performance in both public and private sectors, respectively.

USAID is in the process of finalising a new line of programme support to the value of \$170 million to be disbursed between 1999 and 2003. The funds will be distributed between EEAA, Ministry of Tourism and the Ministry of Petroleum, and will include both loans and technical assistance. The EEAA is expected to receive the major part of the fund.

Table 4.1 summarises the main non-EC donor activities in the environment sector, distinguishing between support for institutions and direct support (usually through loans) for investment in pollution control and emissions reduction. Table 4.2 gives examples of recent Donor Funded projects in Egypt.

Table 4.1 Non-EC Donor Activity in the Environment Sector (US\$ million)

Donor	Time frame	Institutional strengthening (US\$)	Direct investment (loans to industry etc) (US\$)	Application/type of support
JICA	1994 (ongoing)	6		Equipping RBO laboratories
DFID	1995 to present.	1.5	1	Cleaner production and support to two EMUs (SEAM 1 and 2)
EEIF	Phase 2 under preparation			
	Over 7 years, from 1998		14.5	Support to NGOs and SMEs
KfW			64.71	Loans to private and public sectors for investments including environmental, focus on waste water treatment. US\$ 38 million already disbursed as loans to private sector.
EPAP* - World Bank	Started in 1998	5.7	35	Loans to industry for pollution abatement. Strengthening three RBOs and 4 EMUs in Alexandria, Cairo, Qaliubiya, and Suez.
EEPP - USAID	Under preparation	60	110	Funds to be allocated through Min of Tourism, Min of Petroleum and EEAA/EPF
Metap		0.58		Institutional support to EMUs in Sharkeya and Ismailia
USAID - Cairo Air	Ongoing		60	Restructuring of lead smelters within wider air quality

Donor	Time frame	Institutional strengthening (US\$)	Direct investment (loans to industry etc) (US\$)	Application/type of support
Project				programme for Cairo
Danida	Ongoing	11.51	3.85	
	Sector Support Programme under preparation	8.75	5.24	
TOTAL		94.04	294.29	

Source: Donor sources, discussions in Cairo

* Environmental Pollution Abatement Programme

Institutional strengthening attracts about one quarter of the total donor funds. Direct activities in pollution control are dominated by the KfW and World Bank projects; and by the USAID EEPP programme which will amount to about \$170 million, of which \$60 million is earmarked for institutional strengthening. The new USAID programme significantly increases the total level of support to the sector, but over the period 1994-96 total support was around \$165 million (and some of that is ongoing into the current period). Broadly speaking, the value of support to the sector could be estimated as lying somewhere between \$50 and \$70 million per year.

4.2

SELECTED INTERNATIONAL (NON-EU) DONOR ACTIVITY

4.2.1

World Bank

In December 1997 the World Bank approved funding for the Pollution Abatement Project for Egypt, worth \$35 million (of which \$15 million are concessional funds from the International Development Association (IDA), a Bank affiliate). The objectives of this pilot project are to strengthen the monitoring and enforcement capacities of the environmental institutions and establish technical and financial mechanisms for pollution abatement investments in Greater Cairo, Alexandria, Suez City, and Ismailia. Some of the benefits of the project include:

- introducing innovative and replicable market mechanisms for environmental management that simultaneously develop collaboration between the financial and regulatory/enforcement institutions and industrial enterprises;
- introducing pollution prevention investments as a tool for environmental management in Egypt; and

Table 4.2 Selected Donor Activities for Institutional Development and Capacity Building Within the Environment Sector in Egypt

Donor	Name of Project	Summary Project Description
USAID	Promotion of Environmentally Sustainable Tourism	Training/Establishment of pilot database for selected cultural heritage sites / Development of an Environmental Sustainable Tourism Strategy for the Red Sea.
	Lead Exposure Abatement Plan (LEAP)	Preparation of the Plan.
	Egyptian Environmental Policy Program (EPPP)	Technical Assistance and Capacity Building activities to develop the intended program.
	Integrated Environment Programme for 10 th of Ramadam	Provides technical assistance to industries in the Tenth of Ramadam City including provision of training and development of promotional material.
	Cairo Air Improvement Project	Initiating a public awareness and communications campaign.
	Environmental Sector Policy Reform	Technical Support for Environmental Policy Reform, eg Technical support to EEAA to develop the lead pollution reduction action.
	National Community Water Conservation Project	The project aims at raising public awareness regarding the importance of water conservation, through research and co-ordination activities between the governmental and non governmental sectors.
DFID	Institutional Support to Technical Cooperation Office for the Environment (TCOE)	Provision of environmental management adviser, various short term consultant inputs to help TCOE identify and overcome some efficiency constraints
Danida	Organisational Support Programme to EEAA (OSP)	Organisational support to the EEAA, environmental training and education and establishment of an environmental monitoring and information system.
	Environmental Education and Training Programme (EETP)	The main objective of the EETP is institutional strengthening of EEAA through support to environmental education and training and through building capacity of the related department.

Donor	Name of Project	Summary Project Description
	Environmental Information and Monitoring Programme (EIMP)	The development objective is to establish detailed knowledge of the ambient air and coastal water quality in Egypt for the relevant authorities to act to improve the ambient environmental quality in Egypt. This is to be achieved through compilation of high quality environmental monitoring data series which will constitute the basis for appropriate political actions to be undertaken.
	Technical Cooperation Office for the Environment (TCOE)	Phase I focused on finalisation of the Egyptian Environmental Action Plan; Phase II on the translation of the Action Plan into project proposals and co-ordinating donor contributions. It also provided assistance to EEAA in preparing for the enforcement and implementation of Law 4/1994
	CARE CAFE in Aswan, Qena, Sohag and Fayoum	To aims at enhancing the livelihood of 180,000 residents in 40 communities in Aswan, Qena, Sohag and Fayoum through orienting public behaviour towards environmental problems and their prevention and cure through ENGOS
GTZ	Protection and development of Agricultural Resources in El Qasi Regional near Mara Matrouh	The project demonstrates methods of sustainable resource management and builds the capacity of the bedouin population inhabiting the region.
JICA	Mini Laboratories Monitoring Network at EEAA Regional Branch Offices	The Project includes the transfer of technical know how regarding the operation of the monitoring network and the provision of training to Egyptian staff
CIDA	Environmental Information Systems Project	Development of an action plan for EEAA's information needs / developing an operational geographic information system / Training staff on computers and Environmental information
	The Environmental Initiatives Fund	Includes training and capacity building components to the private sector and the non-governmental organisations
Finnida	Pilot projects for hazardous waste management in Alexandria	Includes capacity building to industries dealing with hazardous waste management
Switzerland	Hazardous waste Information and Management System	Includes the development of an information centre for all hazardous substances dealt with the Egyptian environment

Donor	Name of Project	Summary Project Description
Italy	Decision Support for Agricultural Water Resources Planning Based on Ecological Balance	The project aims at aiding decision makers in formatting national sustainable strategies for water resources management and its utilisation in agriculture
	Environmental Protection in Siwa and Fayoum Oases	Includes capacity building to the protectorates department at EEA and the relevant governorates
The World Bank	Environmental Pollution Abatement Project (EPAP)	Includes the provision of technical assistance in the preparation of environmental audits for the most polluting industries, and the training of industrial project staff in environmental management, pollution control and occupational safety
METAP II	Support to Environmental management Units in the Governorates of Isntailya and Sharkla	Includes training and institutional support activities
EU	Development of the Gulf of Aqaba Protectorates Sector	Includes capacity building to the protectorates department, training programmes and awareness raising activities in South Sinai and support to local Bedouins
	Development of Saint Catherine Protectorate	Includes training and awareness programs

- promoting the participation of the NGOs and the media to create a public expectation for the governorate and the industrial enterprises to adopt good environmental and safety practices.

4.2.2 *United States Agency for International Development (USAID)*

USAID's environmental protection programme for Egypt provides resources for activities focused in the areas of water/wastewater, air pollution and eco-tourism. Since 1975, USAID has invested over \$2 billion in urban water and wastewater infrastructure. In 1997, USAID committed over \$73 million projects relating to environmental protection.

In 1996, USAID began funding a programme to reduce the generation of air pollution which is expected to run until 2001. The programme is composed of two projects: the final two years of the 10-year Energy Conservation and Environment Project (ECEP) and the Cairo Air Improvement Project (CAIP).

The ECEP finances primarily energy conservation and pollution prevention activities. It funds technical assistance, the installation of low cost/no cost applications and energy efficiency technologies/practices, and training through numerous subactivities.

CAIP represents the first donor assisted effort that directly addresses air pollution. Results are structured to have immediate and longer term impacts through the demonstration of technologically and economically viable environmental solutions.

Illustrative activities to reduce pollutant emissions (particulate and gaseous) that are currently ongoing include:

- the introduction of compressed natural gas (CNG) fuel technology on approximately 100 public sector buses;
- lead and cement plant emissions control technology installation;
- vehicle tune-up and inspection programmes;
- air quality monitoring/analysis;
- public awareness campaigns;
- policy dialogue which supports increasing use of unleaded petrol; and
- the establishment of a Cairo-wide vehicle emissions testing system.

4.3 *OVERVIEW OF SELECTED EU BILATERAL DONOR ACTIVITY*

4.3.1 *Department For International Development (DFID), United Kingdom*

In 1993 DFID approved £4.64 million for the Support to Environmental Assessment and Management (SEAM) project which was completed in December 1998. The project was managed by the EEAA and supported various activities, as shown in *Table 4.3* below.

The SEAM project is widely recognised to have been very successful in developing cost effective approaches to environmental improvements and bringing direct benefits to poor people. DFID, with the support of the GOE, has decided to implement a second phase to this programme (SEAM II) in order to build on the successes of its predecessor. The Goal of SEAM II is to improve environmental planning and services for the poor in Egypt. The purpose of the project is to strengthen decentralised environmental management through the implementation, resourcing and replication of the Governorate Environmental Action Plan (GEAP) process throughout Egypt. The planned outputs are shown below.

Table 4.3 *SEAM I and SEAM II Activities*

SEAM I activities	SEAM II activities (planned and ongoing)
<ul style="list-style-type: none"> • preparation of Governorate Environmental Action Plans (GEAPs) in the Governorates of Sohag and Dakahleya and implementation of 14 Community Environment Projects (CEPs); • developing capacity in environmental auditing and implementation of over 20 cleaner production demonstration projects with industries in the textiles, food and oil & soap sectors; • developing solid waste management (SWM) strategies for the Governorates in Sohag and Dakahleya and implementing 3 SWM demonstration projects; • capacity building in EIA; • establishing an environmental database within EEAA. 	<ul style="list-style-type: none"> • fully operational Environmental Management Planning Systems (EMPS) in Sohag and Dakahleya which can be replicated throughout Egypt with support from EEAA; • systems in place to ensure more effective delivery of community based environmental projects which benefit the poor (including at least 50 CEPs that will benefit 30,000 people); • improved environmental services developed and managed by rural and urban communities in four governorates; • strengthen capacity of Governorates to manage and reduce the impacts of industrial pollution (including at least 30 cleaner production demonstration projects); • replicable systems for SWM demonstrated and implemented in four Governorates; • the GEAP process replicated by EEAA in Qena and Delta Governorate; • an improved national advisory service provided by EEAA to promote decentralised environmental management.

Lessons Learned from SEAM I

The following key lessons were learned from the implementation of the first phase of SEAM:

- Involving the community is the key to success in achieving environmental improvements.
- Investment of time to raise the environmental awareness of diverse stakeholders was a key factor in enabling a wide range of views to contribute to shaping the GEAP and to enable the legitimate involvement of NGOs and Community Based Organisations (CBOs).
- Counterpart arrangements (eg with the EEAA and governorates) were beneficial.
- Demonstration projects are a cost effective way of disseminating best practice in solving environmental problems.
- Cleaner production, waste minimisation and good housekeeping provide significant “win-win” opportunities for industrial operators to improve

their environmental performance and also achieve significant financial savings.

4.3.2 *Danish International Development Agency (Danida)*

Danida has decided to continue its support to the environment sector in Egypt by an annual amount of DKK 50-60 million over the coming 5-7 years.

Danida will continue to support ongoing activities and realign the future support towards decentralisation. The overall objective will be to transfer the implementation of environmental management and improvement activities to the local level.

At present, continued support to the environment sector in Egypt is under preparation through Sector Programme Support (SPS). A strategy for the support has been developed through the following components:

- Decentralised environmental management;
- Environmental management in the Governorates;
- Education and awareness for environmental management;
- Promotion of cleaner technology within industry;
- Environmental Information and Monitoring systems; and
- Managing and monitoring shore protection activities.

5.1 EU-MED COOPERATION

Egypt's Co-operation Agreement with the EU entered into force in 1978 and since then, Egypt and the EC have continued to build relations in the fields of trade, economic and industrial development, and scientific and political co-operation. This has been followed by subsequent financial and technical protocols, including the EU-MED Co-operation protocols, which ran from 1979 through to 1995, followed by the Euro-Mediterranean Partnership and MEDA programme of assistance. These Co-operation activities are described in more detail below.

5.1.1 *Financial Protocols with the Southern Mediterranean Countries (1979-1995)*

Before Egypt signed the Barcelona Declaration which established the European-Mediterranean Partnership and its MEDA financial instrument, EC funding to the MED region was directed through four sequential financial protocols running from 1979 to 1995. Between 1986 and 1995, Egypt was by far the largest recipient of EC grants to the 11 MED countries, with committed aid totalling Euro 1.44 billion ⁽¹⁾. This represents 29% of total committed EU aid to the region.

The two major environmental projects funded by the financial protocols prior to MEDA were the Ras Mohammed National Park Project and the Gulf of Aqaba Protectorates Development Project. An overview of these projects is provided in *Box 5.1* below.

Box 5.1 *Selected Projects in the Environment Sector Funded in Egypt Under the Financial Protocols*

Ras Mohammed National Park Project (3.75 MEuro)

The main objectives of the project, to install a National Park at Ras Mohammad and to have the legal boundaries of the park recognised, was achieved. Furthermore the establishment of an administrative structure and management plan as well as the training of staff, has successfully been completed. The project has demonstrated that Protected Areas can be a useful vehicle to achieve large scale coastal zone management and to reduce damage to reef ecosystems due to diving activities and uncontrolled tourist developments. During the implementation of the project a total of 11,000 km² of the South Sinai have been protected.

A network of Protectorates in South Sinai have been established, to set aside critical ecosystems, protect natural processes, provide natural areas to adjacent tourism development zones, maintain the value of natural resources thus protecting and supporting investments in the area, and to conserve natural resources and biodiversity as a common property and hereditary resource for all.

Gulf of Aqaba Protectorates Development Project (10MEuro)

The objective of this project, which is a follow-up and expansion of the Ras Mohammed National Park Project, is to safeguard the natural resources of the entire coastline of the Gulf of

(1) Evaluation of Aspects of EU Development Aid to the MED Region. Final Synthesis Report, COWI Consulting Engineers and Planner (Table 0.2).

Aqaba, as the main basis of the tourist industry and to provide institutional capacity building assistance to the Natural Protectorates Department of the Egyptian Environmental Affairs Agency.

The sustainability of the present explosive tourist development in the Gulf of Aqaba will depend to a very large extent on the successful implementation of this project. The project includes the provision of expertise, the establishment and implementation of management plans and regulatory measures, the provision of essential infrastructure and materials, training facilities and programmes, including public awareness campaigns and support programmes for the local Bedouin population.

5.1.2 *Euro-Mediterranean Partnership (EMP)*

The Euro-Mediterranean Partnership (EMP) was established between the European Union and the southern and eastern Mediterranean states in Barcelona in 1995. Egypt has participated actively in the EMP, which has three main components:

- political and security partnership;
- economic and financial partnership (establishment of a free trade area by the year 2010); and
- social and cultural partnership.

To support the implementation of the EMP, the MEDA financing instrument was established which is supported by European Community. The European Investment Bank (EIB) also provides additional loan capital for MEDA supported projects and also assists in management and disbursement of funds through for example, the METAP programme (see *Section 5.2.1*). In terms of the environment, the Commission's Short and Medium-term Priority Environmental Action Programme (SMAP) was established as a framework programme of action for the protection of the Mediterranean environment, funded under MEDA. An overview of MEDA and SMAP is given below.

MEDA (1995-1999)

Under the Euro-Mediterranean Partnership (EMP), established in Barcelona in 1995, the MEDA financial instrument was introduced. MEDA funding is flexible and adjusted within the budgetary period according to a 'rolling' programme which is updated every year. In order to direct this, National Indicative Programmes (NIPs) have been adopted for bilateral cooperation. These set out the strategic priorities for cooperation with each of the eligible Mediterranean Partners.

For the period July 1996 to June 1998, Egypt was the largest recipient of MEDA funds receiving nearly 749 million Euro for the financing of 35 projects, or 26.54% of total funds for the Mediterranean region Partners over that period.

In 1997, Egypt's National Indicative Programme was updated to cover the period 1997-1999. At the time of this update, EC commitments were envisaged for supporting the Industrial Modernisation Programme (IMP) and National Health Sector Reform programme. Funds for these two programmes

have now been committed and are included in *Table 5.1* below. Although the IMP is not in itself a specific 'environmental' programme, it is expected that a substantial amount of its funds will go to helping small and medium sized enterprises comply with current environmental regulation (such as meeting air emissions standards). Therefore the programme can indirectly be considered to be of benefit to the environment.

Table 5.1 *Projects Funded Under MEDA, Period Jul 96 - Jun 98*

Year	Source of Funds	Amount committed (Euro)
1996	EIB - interest rate subsidy, environment	19,880,000
	Social Fund II programme	55,000,000
1997	Educational Enhancement Programme (EEP)	100,000,000
	Social Fund II programme	100,000,000
	EIB - Interest rate subsidy (ECC Grey Cement)	2,700,000
1998	Industrial Modernisation Programm (IMP)	250,000,000
	Health Sector Reform	110,000,000

Short and Medium Term Environmental Action Programme for the Mediterranean, SMAP (DGXI)

SMAP was adopted unanimously by the Euro-Mediterranean Ministerial Conference on the Environment (Helsinki, November 1997) and five priority areas of action were selected by consensus by the EU's Middle East and North African Partner countries (including Egypt). These areas for action are:

- Integrated Water Management;
- Waste Management;
- Hot Spots (covering both polluted areas and threatened biodiversity element);
- Integrated Coastal Zone Management; and
- measures to Combating Desertification.

In 1998 - the first year of implementation of the SMAP - Egypt submitted eight projects, of which four regional projects were selected by DGXI and endorsed by the SMAP correspondent as well as the Euro-Med Committee. At the time of writing, only the Med Committee needed to give its formal endorsement. The four regional projects selected (none of which exceed 1 million Euros in value) are listed in *Box 5.2* below:

-
- Regional Community Solid Waste Management Programme (coordinated by RAED)
 - Scheme to Combat Desertification Through the Promotion of Organic Agricultural Methods (coordinated by EBDA)
 - Mediterranean Urban Solid Waste Management Programme (coordinated by UNDP)
 - South East Mediterranean Water Community Programme (coordinated by Friends of the Earth Middle East)
-

5.1.3

Budgetline B7-6200: Environment in Developing Countries (DGIB)

The European Parliament first launched the budget line for supporting projects related to Environment in Developing Countries in 1982. This budget line (originally named B7-946 then changed to B7-5040, before being renamed B7-6200 in 1995) was established with the broad aim of contributing towards the implementation of sustainable development by encouraging the integration of the environment dimension within the development process.

Unfortunately, at the time of writing, information for this budget line was not available.

5.1.4

LIFE Third Countries (DGXI)

LIFE Third Countries support is open to countries bordering the Mediterranean and the Baltic Sea which have signed Association Agreements with the EU and included Egypt. *Table 5.2* below outlines all LIFE-funded projects carried out in Egypt as well as regional projects which encompass Egypt within their scope.

Table 5.2

LIFE-funded Projects in Egypt

Year	Title	LIFE Contribution (Euros)	Proportion of Total Budget provided by LIFE
1993	METAP Cairo Sludge Disposal Strategy	-	-
1994	Strengthening of Environmental Management Unit in Ismailia	-	-
1998	Action Plan for the Site Location and Development of Design, Operation and Environmental Impact Assessment Methods for Solid Waste Landfills in Egyptian Governorates (LIFE98 TCY/ET/152)	422,850	81.24%
<i>Regional LIFE Projects Which Include Egypt</i>			
1996	Development of Oil Spill Response Capabilities of Cyprus, Egypt and Israel (LIFE96 TCY/INT/08)	692,800	99.08%

Year	Title	LIFE Contribution (Euros)	Proportion of Total Budget provided by LIFE
1996	Indicators for Sustainable Development in the Mediterranean Region (LIFE96 TCY/INT/14)	766,000	98.97%

5.1.5 *Research Cooperation (DGXII)*

The European Commission (DG XII)'s "International Scientific Co-operation" (ISC) was established in 1984, geographically targeted at the ALA and MED partner countries. Further emphasis to Euro-Mediterranean Science and Technology co-operation has been given via the AVICENNE initiative established in 1992, which aims to intensify scientific links between European and Mediterranean partners. This approach has also taken within Action II of the Fourth Framework Programme (1994-1998) within the INCO-DC programme, which is part of the specific "Co-operation with Third Countries and International Organisations" programme. Joint research in four broad themes are promoted by this programme:

- sustainable development of natural resources;
- sustainable development of agriculture and agro-industrial production;
- health; and
- the development of a number of advanced technologies.

Unfortunately, at the time of writing, information for these programmes was not available.

5.2 *EIB FUNDING OF THE ENVIRONMENT SECTOR IN EGYPT*

The EIB's role as a major source of finances for the development of the Mediterranean region has been expanding. The EIB makes loan-capital available to the countries of the region from its own funds and it also manages some of the MEDA funds, through for example, the joint EIB/World Bank METAP programme, described in *Section 5.2.1* below. The main emphasis is on private sector investment and projects of a regional dimension, particularly in the environmental, energy and infrastructure sectors. The EIB is also contributing to the Middle East peace process by supporting intra-regional economic cooperation, such as the funding of joint Egyptian-Israeli industrial projects.

In 1996, 105 million Euros were made available to Egypt in the field of environmental protection - for wastewater collection and treatment schemes in Cairo and to finance pollution control equipment in the productive sector. In 1998, 20 million Euros were allocated to the GOE for the rehabilitation of pumping stations for irrigation and drainage purposes on the west bank of the Nile. In the same year, a conditional global loan of 25 million Euros were

given to the Egyptian financial sector for financing modernisation and restructuring schemes undertaken by Egyptian enterprises.

5.2.1 *Mediterranean Environmental Technical Assistance Programme, METAP (EIB/World Bank)*

METAP is the major component of the Environmental Programme for the Mediterranean, launched by the EIB and the World Bank in 1988 to reverse current trends towards environmental degradation in the region. The implementation of METAP is also supported by the EU and UNDP. The aim of METAP is to identify actions, through feasibility studies, which could be supported by investments from the World Bank, the EIB, national governments and others.

METAP II (1993-1995)

Under the second phase of METAP (METAP II), completed in 1997, the following activities and projects were supported in Egypt:

- Cairo Industrial Effluent Technical Assistance I and II - Technical assistance to Egyptian authorities for implementation of METAP I Industrial Effluents Study (legislative framework, monitoring etc.), (EIB, US\$ 38,000 for phase I and US\$ 82,000 for phase II);
- Cairo Sludge Disposal - To identify optimum solution for disposal of sludge from Cairo's wastewater treatment plants, (EC, US\$ 612,000);
- Cairo Sewage Branch Tunnels II - Review and assessment of sewage tunnels in southern Cairo in view of increases in population and flows, (EIB, US\$ 120,000);
- Regional EIA Unit - Support to improve the environmental information system of the Environmental Management Unit, (EC, US\$ 266,000); and
- Industrial Pollution - Support to increase public awareness of environmental and industrial pollution regulations, (World Bank, US\$ 90,000).

METAP III (1997-2000)

The priorities for funding under the third METAP programme for Egypt (METAP III) were identified as:

- Strengthening environment management (EIA decision support; Environment Business Centre);
- Solid waste management (industrial, hazardous waste, urban solid wastes);
- Rural water quality management (village-based water/waste water systems).

In turn, Egypt identified its own priorities for METAP III as:

- sustainable community management of low-cost innovative water and sanitation systems;
- Environment Business Centre;
- training of ministries and local authorities for environmental monitoring, enforcement and compliance;
- industrial hazardous waste management;
- environmental planning and compliance for relocation of the tanning industry located in old Cairo; and
- solid waste management strategy and investment plan for provincial governorates in Upper Egypt.

The following activities are currently being undertaken under METAP III:

- project preparation activity is being undertaken in support of a rural water and sanitation project, to be funded by the governments of Switzerland (US\$ 440,000), Italy (to be determined) and the World Bank (US\$ 40,000);
- project preparation activity is being undertaken in support of an Environmental Impact Assessment for the construction of the Northern Coastal Highway, to be funded by the EIB (US\$ 165,000);
- project preparation activity is being undertaken in support of the East Bank Sludge Management and Effluent Reuse project, to be funded by the EIB (US\$ 220,000); and
- project preparation activity is being undertaken in support of the Alexandria Wastewater Sludge and Effluent Reuse and the Cairo Sludge Disposal II, to be funded by the EIB (Euro 400,000 and 51,000 respectively).

The METAP initiative also supports regional projects and Egypt is benefitting from the following regional programmes under METAP III:

- Under the Regional Capacity Programme, MEDBRANCH has established a multi-stakeholder team in Lake Maryut region, Alexandria, which undertook local and national activities and participated in regional consultations and training in environmental management. In addition, a sub-regional Project Performance and Monitoring (PPM) workshop was held in October 1998 which included Egypt.
- The Medpolicies Initiative is working with Egypt preparing a case study on Trade and Environment titled "Impact of EU Product Standards on the International Competitiveness of Egyptian Leather Exports".
- Egypt has been chosen as one of seven countries to participate in the initial phases of the Pilot EIA Initiative, which is being undertaken by the EIA Centre in Manchester University under the supervision of the Capacity Building Unit (CBU).

LIST OF ABBREVIATIONS

CBO	Community Based Organisation
DANIDA	Danish International Development Agency
DFID	Department for International Development (UK Government)
EAO	Environmental Affairs Office (Governorate level)
EC	European Commission
EEAA	Egyptian Environmental Affairs Agency
EEAP	Egyptian Environmental Action Plan
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EMP	Euro-Mediterranean Partnership
EPF	Environmental Protection Fund
EU	European Union
GEAP	Governorate Environmental Action Plan
GOE	Government of Egypt
GOFI	General Organisation for Industrialisation
IDA	International Development Association
IMF	International Monetary Fund
JICA	Japan International Cooperation Agency
KfW	Kreditanstalt für Wiederaufbau
LE	Egyptian Pounds
METAP	Mediterranean Environmental Technical Assistance Programme
MSE	Ministry of State for the Environment
NESAP	National Environmental Strategy and Action Plan
NGO	Non Governmental Organisation
NIP	National Indicative Programme
RBO	Regional Branch of the EEAA
SMEA	State Ministry for Environmental Affairs
SWM	Solid Waste Management
TCOE	Technical Coordination Office for the Environment
TEF	Tourism and Environment Fund
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WHO	World Health Organisation

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