

ARAB REPUBLIC OF EGYPT

**Ministry of State for Environmental Affairs
Egyptian Environmental Affairs Agency**

**Annual Report
2000/2001**

Preface

Two important developments have impacted on the way we manage our portfolio during 2000 – 2001, and will continue to shape the way in which we will operate in the coming years. Firstly, the commitment to environmental protection that has been expressed by 26 governorates across Egypt, and the relevant decisions which were endorsed by the Council of Governors regarding the implementation of environmental regulations. Secondly, the growing public pressure for environmental improvements as is communicated through the media and other channels of public dialogue that have been initiated by the Ministry at the central and local levels. We welcome these developments as they build on our long term goal of managing our natural resources in such a way that meets the needs of the present while securing resources for future generations.

This year, we have maintained a good record of ensuring compliance across the industrial and tourism sectors. We aim to extend this level of performance to areas of environmental impact which are remotely located. To achieve this, we have set our priority for next year to develop further our early warning systems and monitoring infrastructure at the regional level, as well as advancing our environmental awareness initiatives to influence a change in lifestyle and behaviour.

Since the adoption of the Ministry's environmental policy in 1997, a more systematic approach to environmental management has been introduced to our programs and projects. There has been a strong emphasis on setting targets in relation to environmental impacts identified, as well as auditing and following up as a means of contributing to continual environmental reporting.

This second annual report is indeed a reflection of our commitment to this end. It not only includes the range of partnerships and initiatives that we have undertaken over the past year; but also the way in which we have, and will continue to conduct our business. An approach that relies on environmental, social, and financial accountability. The report acknowledges every employee's role and support in materializing our outputs. At this point, I also wish to acknowledge the inputs of our development assistance partner organizations, their experts and valued contributions to our projects and programs.

Development and environmental inextricably linked across all sectors. Through our portfolio, we are seeking to achieve a balance between benefit to society on the one hand, and the effects on the environment in which that society lives, on the other hand. The content of this report reflects the Ministry's dual responsibility to this end: firstly, with respect to the organization's development activities which aims at strengthening the regulatory and operational framework to implement environmental regulations, and secondly, the means to adopting an integrated approach to environmental management in the air and waste management sectors.

Over the past year, we have come a long way toward addressing a number of longstanding pollution priorities and demonstrating their effective management in an environmentally and socially-responsible manner. Long term planning and integrated environmental management are at the core of our portfolio, which has grown to accommodate the needs of our challenging role on Egypt's sustainable development agenda. As such, the Ministry is developing capability in a number of allied disciplines such as pollution monitoring and prevention, cleaner production, environmental planning and management and impact assessment.

The sustainability agenda previously understood by businesses as an attempt to harmonize the traditional financial outcome with emerging thinking about environmental considerations is turning out to be much more complicated. As the world transforms into a global market place, our businesses are under growing pressure to meet environmental and social responsibilities, the scope of which are continually broadening. Recognizing this complexity, we are trying to promote social responsibility as an integral focus for industries and businesses, the exclusion of which may jeopardize their corporate image and product credibility in the eyes of the international and; likewise, the Egyptian consumer base. Social responsibility – in its wider sense – as expressed by the government's commitment to poverty eradication, dealing with

unemployment and improving the environmental quality in low-income areas, is also a prominent feature of the Ministry's programs and projects.

We are committed to maintaining the momentum, ensuring the active participation of civil society, and working collectively with major stakeholder groups to realize our challenging agenda. For us, last year has been a rewarding experience as we welcomed more partners from society, the private sector and the international community to our dynamic process. It is through this collaborative process that we have been able to implement some of our legitimate dreams, and it is with this determined spirit that we will be able to turn these dreams into a sustainable reality.

H.E. Nadia Makram Ebeid

Minister of State for Environmental Affairs

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List of Acronyms

CAA	Competent Administrative Authority
CBO	Community Based Group
CDA	Community Development Association
CFC	Chlorofluorocarbons
CNG	Compressed Natural Gas
DM	Deutsch Mark
ECIS	Egyptian Common Information System
ECPIS	Environmental Contingency Plan Information System
EEAA	Egyptian Environmental Affairs Agency
EGAC	The Egyptian National Accreditation Council
EHSIMS	Egyptian Hazardous Substances Information Management System
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EMU	Environmental Management Unit
EPF	Environmental Protection Fund
GEAP	Governorate Environmental Action Plan
GEF	The Global Environmental Facility
GHG	Green House Gas
GIS	Geographical Information System
ILAC	International Laboratory Accreditation Cooperation
IP3	Institute for Public-Private Partnership
IPIS	Industrial Pollution Information System
KfW	The German Bank for Reconstruction
MSEA	Ministry of State for Environmental Affairs
NBI	Nile Basin Initiative
NDZIS	New Development Zones Information System
NEAP	National Environmental Action Plan
NG	Natural Gas
NGO	Non Governmental Organization
ODS	Ozone Depleting Substances
RBO	Regional Branch Office
SME	Small and Medium Enterprises
UNIDO	United Nations Industrial Development Organization
USD	United States Dollars

Environmental Policy

Sustainable Development and Environmental protection

Development and the Environment

Sustainable development entails a pattern of growth in which economic, social, as well as environmental conditions are equally considered and carefully balanced, leading to living standards for future generations which are no worse off, if not better, than present ones. In this respect, environmental protection and a balanced use of natural resources must constitute an integral part of the development process. In Egypt, as the available natural resources must support a rapidly increasing population, sound management of such resources, together with a continuous improvement of the protection of the environment are an evident necessity.

The Ministry of State for Environmental Affairs (MSEA) with its executive agency, the Egyptian Environmental Affairs Agency (EEAA), meet this challenge by continuously striving for the integration of the environmental dimension into national policies, plans and lines of action. This is carried out with an immediate focus on the reduction of pollution and the conservation of Egypt's natural resources through effective environmental management.

The Policy Framework

The environmental policy of the Government of Egypt seeks to achieve environmental protection through the establishment of proper institutional, economic, legislative and technical frameworks at the local, regional, national and international levels. This is expressed through the seven directives of the policy statement of the MSEA:

- Strengthening partnerships at the national level
- Supporting bilateral and international partnerships in the environmental fields
- Enforcing Law 4 of 1994 for the protection of the environment, and Law 102 of 1983 for Natural Protectorates and all other environmental legislation.
- Supporting institutional strengthening and capacity building for the Egyptian Environmental Affairs Agency and Environmental Management Units (EMU's) of the governorates
- Supporting Integrated Environmental Management Systems
- Integrate the use of market-based instruments in the field of environmental protection
- Transfer and adaptation of environmentally friendly technologies

Within this policy framework, institutional and regulatory reforms are carried out, aiming at the implementation of national environmental policy objectives and measures.

Institutional Set-up

The Ministry of State for Environmental Affairs:

In 1997, H.E. Nadia Makram Ebeid was assigned the responsibilities of Egypt's first full time Minister of State for Environmental Affairs, as stated by the Presidential Decree number 275/1997. Since then, the Ministry has played a central role within the Government of Egypt for the definition of environmental policies and the setting of environmental priorities, as well as designing, actively supporting and implementing initiatives within the context of sustainable development. This is carried out in close collaboration with national and international development partners.

The Egyptian Environmental Affairs Agency:

The Egyptian Environmental Affairs Agency, originally established in 1982, was restructured with new mandates by Law 4 for 1994 for the protection of the environment. At its central level, EEAA presents the executive arm of the Ministry of State for Environmental Affairs. Regionally, it is currently in the process of establishing eight Regional Branch Offices (RBO's) throughout the country, as part of its strategy for decentralization of environmental management. The organization of EEAA into sectors and departments is a reflection of the lines of action necessary for environmental protection.

According to Law 4 of 1994 for the Environment, EEAA is responsible for the following:

Preparation of draft legislation and decrees relevant to fulfilling the objectives of the Agency and consideration of proposed legislation that is related to the protection of the environment.

Preparation of studies related to the state of the environment of the country, and formulation of the national plan for the protection of the environment. This would include environmental protection projects and their estimated budgets as well as the environmental maps of urban areas and areas planned to be developed. In addition, it shall set the necessary norms that need to be followed when planning and developing new areas as well as targeted norms for old areas.

Establishment of norms and conditions to be complied with by owners of projects and establishments before the start of construction and during the operation of these projects.

Compilation of a list of agencies and national institutes as well as qualified individuals who could contribute to the preparation and execution of environmental protection programs, and the preparation and implementation of the projects and studies undertaken by the Agency.

Carrying out of field follow-up of compliance to norms and conditions to be followed by agencies and establishments. Also, it shall undertake the procedures stated in the law against those who violate these norms and conditions.

Establishment of necessary norms and standards to assure compliance with the permissible limits of pollutants and to ensure that these norms and standards are followed.

Collection and publication of national and international information related to the environment on a periodical basis in cooperation with information centres of other agencies. It shall evaluate and utilize this updated information in environmental management and planning.

Setting of principles and measures for environmental impact assessment of projects.

Preparation of the Environmental Contingency Plan in the manner stated in Article 25 of Law 4 and coordination with the competent agencies for the preparation of programs for confronting environmental disasters.

Preparation of a plan for environmental training and supervision of its implementation.

Participation in the preparation and implementation of the national program for environmental monitoring and utilization of its data.

Preparation of periodical reports on the main environmental indicators and publication of these indicators on a periodical basis.

Preparation of programs for environmental education of the public and cooperation in their implementation.

Coordination with other competent authorities for the organization and handling of hazardous materials.

Management and supervision of natural protectorates.

Preparation of the draft budgets required for the protection and development of the environment.

Follow-up of the implementation of the international and regional conventions related to the environment.

Suggestion of economic mechanisms to encourage different activities for carrying out pollution prevention procedures.

Implementation of pilot projects for the preservation of natural resources and for the protection of the environment from pollution.

Coordination with the competent ministry for international cooperation to ensure that projects financed by organizations and donor countries are in accordance with environmental safety considerations.

Participation in the preparation of the country's safety against the smuggling of substances and dangerous wastes causing environmental pollution.

Participation with concerned agencies and ministries in the preparation of a national integrated coastal zones management plan for the Mediterranean Sea and the Red Sea coasts.

Participation with the Ministry of Education in the preparation of training programs for the protection of the environment within the scope of various educational programs at the fundamental educational stage.

Preparation of an annual report on the state of the environment to be submitted to the President of the Republic and the Cabinet. A copy of this report shall be deposited at the People's Assembly.

Underlying Principles

The implementation of the environmental policies of the Government of Egypt, as expressed by the policy framework and directives of the MSEA, is carried out with four main principles underlying environmental management and protection initiatives:

Strengthening the Integrative Capacity of Central and Local Government:

Safeguarding the Environment is a responsibility shared by all ministries and institutions in Egypt. In this respect, and in order to ensure the successful integration of environmental dimensions in relevant national policies, plans, programs, and practices, MSEA and EEAA place a particular emphasis on close cooperation, continuous dialogue, and an effective partnership with all concerned central and local governmental entities. This is achieved by a variety of means, primarily encompassing cooperation protocols, inter-ministerial committees, and working groups.

Protocols and agreements with other ministries and organizations, such as the Ministries of Agriculture and Land Reclamation, Education, Health and Population, Interior, Local Development, Manpower and Immigration, Tourism, Transport, Youth, as well as the Social Fund for Development, aim at promoting cooperation for the improvement of environmental management, protection, and awareness. This is further strengthened through inter-ministerial committees and working groups for different issues. Examples include Trade and Environment, primarily concerned with minimizing adverse effects on Egypt's international trade within the framework of the application of environmental specifications as non-tariff barriers following the liberalization of international trade, Climate Change, concerned with national efforts in meeting Egypt's international commitment in this regard, Coastal Zones Management, The National Oil Spill Contingency Plan, etc.

The effectiveness of this approach in addressing common environmental challenges has been clearly demonstrated in the development of the National Integrated Solid Waste Management Strategy and Plan of Action, led by MSEA, as well as the committee on the management of agricultural wastes. The National Integrated Solid Waste Management Strategy and Plan of Action ensure the commitment of the different ministries and governorates to radical and sustainable solutions to existing problems. The committee on the management of agricultural waste focuses on operational solutions to the problems associated with the disposal of agricultural wastes, such as rice straw, and the development of possibilities for the reuse of such wastes.

On the level of local government, the development of the Environmental Management Units (EMU's) of the governorates and their active involvement, together with the Community Development Authorities of the New Industrial Cities, in environmental management, protection, and awareness, represent another important aspect of inter-governmental cooperation.

Strengthening of Public - Private Partnerships:

Within its strong commitment towards effective and successful environmental management and protection, the Government of Egypt has recognized the importance of the active involvement of the private sector in this regard. To this end, the MSEA, together with its executive institution the EEAA, are offering continuous support for the private sector participation in environmental services.

Such support relies on a number of measures, entailing a commitment to enforce existing environmental legislation, the implementation of demonstration projects promoting technology transfer, as well as the exchange of private sector experiences through the promotion of foreign environmental trade missions to Egypt. In conjunction with the latter, a focus is placed on the development of financial mechanisms to promote partnerships between foreign private sector entities and the national private sector in the area of environmental services. This aims at creating an enabling environment for knowledge and experience transfer. A recent example of such an initiative is the development of a "private sector platform" with the Dutch government, to be offering financial support to Dutch and Egyptian environmental private sector partnerships.

Moreover, cooperation protocols are in place between the MSEA and the Federation of Egyptian Industries, as well as the 10th Ramadan Industrial City, representing means of fostering partnerships with the industrial private sector for integrated environmental management initiatives.

Within this context, and as a consequence to the increased demand for qualified professionals in the field of environmental services, the preparation of a directory listing providers of environmental information, equipment and services, has been initiated in 2000/2001, planned to be published by the end of 2001.

Partnerships with Environmental Non Governmental Organizations:

In recent years, civil society has come to play an important role in efforts targeting environmental awareness and protection. Recognizing the significance of this role and its potential in promoting and achieving environmental improvement, the MSEA, within the context of strengthening national partnerships, is working on strengthening the dialogue and cooperation with environmental NGO's.

To this end, a round table meeting, held under the auspices of H.E. Minister of State for Environmental Affairs in February 2001, investigated possible mechanisms for promoting NGO's participation in the implementation of the MSEA and EEAA's policies and plans, as well as the role of the voluntary sector in raising environmental awareness of various groups of society. Moreover, the various challenges to the work of environmental NGO's in Egypt were also identified, and suggestions for overcoming such obstacles put forward. In this respect, an NGO committee is to be formed from representatives from the MSEA and EEAA and the Egyptian Environmental NGO Federation, with the purpose of developing a concrete program for the promotion of cooperation between the MSEA and EEAA and environmental NGO's. Within this context, the establishment of an NGO unit, acting as a focal point for support and cooperation to environmental NGO's, is under study.

The Integration of Gender Issues in Environmental Policies and Programs:

In response to the establishment of the Supreme Council for Women, under the auspices of H.E. Mrs. Suzan Mubarak, the MSEA accords special attention to gender issues within the environmental policy-making process. In line with the various concerns regarding gender-differentiated roles and impacts in natural resources management, environmental challenges and practices, the special working group on gender issues in MSEA and EEAA launched a gender program during 2000/2001.

Within the framework of this program, four workshops on gender and the environment were conducted during the past year, and three training modules on the topic are being prepared for implementation in 2001/2002. The workshops and training programs cover areas such as gender-differentiated impacts in the textile industry, the use of information technology to explore linkages between environmental issues and gender, as well as the relations between gender and industrial development, and gender and water and land management. In this respect, an Environmental Resource Guide is under preparation as an output of the gender program, and is planned for publication in January 2002, with plans for subsequent yearly production and publication.

The Way Forward: From Policy to Practice

The Means of Action

Policy Implementation

Within the national environmental policy framework, an Egyptian Environmental Policy Program has been initiated in 1999 with support from the United States Agency for International Development. Through this program, the Government of Egypt seeks to implement its priority environmental policy objectives and measures, through institutional, and regulatory reforms, with a focus on a number of areas. These include economic and institutional constraints, cleaner and more efficient energy use, reduced air pollution, improved solid waste management, sustainable tourism, as well as nature conservation. In April 2001, the 18-month-long Tranche I of the program came to an end with the successful achievement of the planned policy measures by the MSEA and its executive institution the EEAA. The year 2001/2002 will witness the operationalization of Tranche II of the program, building onto the achievements of Tranche I, and further advancing the implementation of the priority environmental policies of the Government of Egypt.

The National Environmental Action Plan

The preparation of the National Environmental Action Plan (NEAP) for Egypt, initiated in 1999, is currently entering its final phase. The primary aim of the NEAP is to provide support for the introduction of a participatory and demand-driven environmental planning process, favourable to sustainable development. To this end, the development of the NEAP, with the identification of environmental priorities, and needed initiatives, has been carried out through a consultative process involving key stakeholders from central and local government as well as interest groups and organizations.

Within this context, a number of consultative workshops were carried out during 2000/2001 targeting different groups of stakeholders such as women, youth, the Media, universities, and the private sector, with the purpose of creating a number of working groups to provide inputs to the NEAP both at the strategic level and the operational one where project ideas were formulated. Further inputs were obtained from EEAA, line ministries, local government, as well as non-governmental organizations (NGO's) during the second consultation process of the NEAP held in October 2000, to produce an Agenda for Action with detailed description of proposed programs and projects. These cover a period of 15 years (2002-2017) with areas of focus encompassing water quality and management, air quality, management of land resources, desertification, the protection of marine environment, solid waste management, biodiversity, and biological safety. Underlying these areas of focus are cross cutting issues such as institutional development, and economic issues related to Environment.

During the second half of 2001, the finalization of the Agenda for Action will be carried out, together with the publication of the Environmental Profile of Egypt. This will be accompanied with the preparation of the final NEAP, providing a summary and overview of the environmental situation in Egypt and the proposed lines of actions recommended to be implemented over the period of 2002-2017.

The Five Year Action Plan of MSEA/EEAA

In conjunction with the NEAP, the year 2000/2001 has witnessed the development of a five-year action plan for MSEA and EEAA. The plan, covering the period of 2002-2007, comprises 14 programs reflecting the priorities of the MSEA and EEAA, and incorporating current initiatives, thus ensuring their sustainability. The plan specifies the policy measures to be achieved through each of the 14 programs, as well as the projects to be implemented, together with the necessary legislative developments and the different participating ministries,

authorities and organizations, both public and private. This action plan, officially adopted by the Board of Directors of EEAA, furthers the institutionalization of strategic planning within the Ministry and the Agency.

Development of detailed plans of action for each of these programs is underway.

<i>EEAA Five year Action Plan 2002 – 2007</i>	
<i>Program</i>	<i>Main Objectives</i>
1. Integrated Solid Waste Management	Achieve sound management of solid waste and healthcare waste in all governorates of Egypt.
2. Protecting River Nile and Water Resources	Improve quality of water resources by controlling industrial waste.
3. Improve Air Quality of Greater Cairo	Reduce concentrations of dust and lead in Cairo air.
4. Environmental Education, Training and Awareness	Increase public awareness of environmental problems and develop human resources within the field of environment.
5. Environmentally Friendly Industrial Cities	Identify environmentally friendly cities in order to increase competitive advantage.
6. Environmentally Friendly Technology Transfer	Promote the use of environmentally friendly technology in all economic activities.
7. Environmental Information Systems	Enhance the use of information technology, especially in the field of environmental management.
8. Environmental Management	Provide the support for the adoption and implementation of integrated systems for environmental management in various activities.
9. Nature Conservation	Conserve national biodiversity.
10. Capacity Development of EEAA and RBO's	Support the institutional structure of environmental management at the national level.
11. Environmental Financial Mechanisms	Facilitate funding of environmental projects. Attract local investment to the environmental sector.
12. Green Area Expansion	Support governorates and NGO's in establishing nurseries and carrying out greening projects.
13. Environmental Inspection	Encourage institutional commitment to environmental laws.
14. International Environmental Commitments of Egypt	Implement Egyptian commitments to environmental agreements at international and regional level.

Institutional Development

In line with the objective of further enabling EEAA in meeting its responsibilities at the central and local levels, a number of lines of action have been carried out during the year 2000/2001, and are planned to continue during the coming year of 2001/2002. These aim at the development of the institutional capacities of the Agency, both organizationally and administratively.

One such line of action entails the accreditation of the Central Laboratory of EEAA. This is carried out within the framework of support offered by the Egyptian Environmental Policy Program to the Egyptian National Accreditation Council (EGAC) of the Ministry of Industry, with the objective of assisting it in gaining recognition by the International Laboratory Accreditation Cooperation (ILAC). The accreditation process is in response to legal needs for cases of non-compliance of different establishments to Law 4/1994 for the Environment. Within a three year period, laboratory quality assurance and quality control criteria would be developed, and the accreditation process extended to RBO laboratories.

Another line of action is concerned with the development of a new public complaint handling system, with assistance from Danida. This system integrates the different complaint response mechanisms that were already in place, comprising the Technical Secretariat of the MSEA, the Public Complaint Unit of EEAA, and the existing RBO's. The new system relies on the assessment of the prior systems, and makes use of international experiences in this field, as well as those of the Hot Line initiative in Egypt. The system has been tailored to classify the complaints received according to their nature and their geographical distribution throughout the Egyptian governorates.

During 2001/2002 the operationalization of the unit for the Management of Environmental Disasters will be carried out. Within the scope of support from the Egyptian Environmental Policy Program, the contingency plan framework and the standard operational procedures of the plan will be finalized over the coming eighteen months.

Decentralisation of Environmental Management

Following the MSEA policy directives, and in meeting its responsibilities at the regional and local levels within Egypt, EEAA is continuously developing the capacities and partnerships necessary to strengthen its presence in the Governorates. This is achieved through the expansion and the consolidation of its network of Regional Branch Offices (RBO's), and the development of the capacities of the Environmental Management Units (EMU's) of the governorates. Moreover, the support to initiatives implemented at the local level with the aim of enabling governorates in the fields of environmental management and protection, consolidates these efforts.

In this respect, the process of enhancing the capacity of the RBO's to carry out their responsibilities has progressed during the year 2000/2001 by further staffing, and the establishment of five equipped laboratories out of the total eight, an accomplishment achieved with support from the Japanese Government. This was accompanied by continuous capacity building, carried out through the Central Laboratory of EEAA. Furthermore, a number of training courses and on-the-job training targeting both RBO and EMU staff members, were conducted during 2000/2001. These activities were primarily focusing on environmental inspection of the industrial sector, supported by Danish and Finnish assistance, in conjunction with the importance accorded by EEAA to the enforcement of Law 4/1994 for the Environment.

With the objective of clearly defining the policies and operational procedures of the RBO's, a decree of the Chief Executive Officer of EEAA was issued (Decree 17 for 2001) within the context of the Egyptian Environmental Policy Program. Furthermore, the coordination procedures between the central level of EEAA, its RBO's and the EMU's, have been subject to an extensive study carried with the assistance of the Organizational Support Programme, supported by the Danish Government. The study, focusing on the areas of environmental impact assessment, industrial inspection and management of hazardous substances and waste, presents procedures for the coordination of RBO and EMU activities within these areas.

Over the past years, the development of Governorate Environmental Action Plans (GEAP's) in the Governorates of Sohag and Dahkaliya has been supported by EEAA through the Support for Environmental Assessment and Management initiative of the United Kingdom Department for International Development. Extensive community consultation and participation of the local communities have helped build consensus on the priority environmental issues and

actions identified in these GEAP's, currently under implementation. During 2000/2001, the focus has been on strengthening the institutional capacities of the respective governorate EMU's and consolidating the roles and functions of environmental offices at the Marqaz (district) level, established, together with environmental officers at village level, as a result of the GEAP process.

Through this same initiative, environmental improvements to the immediate benefit of some of the poorer communities in Sohag and Dakahliya have also been achieved by the implementation of community projects focusing on solid waste management. In accordance to the priorities of MSEA, solid waste management and industrial abatement have been areas of particular focus, with the development and implementation of solid waste strategies and demonstration projects as well as cleaner technology initiatives. These were developed to support the strategic planning and capacity building activities in the two governorates. In recognition of the participatory environmental planning and management system that was developed in the two governorates, the programs carried out in Sohag and Dakahliya were collectively awarded with the European Environment Award for the year 2000.

Based on the successful experiences from Sohag and Dakahliya, a participatory GEAP process is under way for replication in three additional governorates in Upper Egypt comprising Qena, Beni Sueif and Aswan, and in the Delta governorate of Damietta. In Qena, baseline studies for background information necessary to the GEAP's to be developed are already being carried out with assistance from the Support for Environmental Assessment and Management initiative of the United Kingdom Department for International Development, with a similar process about to start in Damietta. With the purpose of supporting the development and the implementation of the GEAP's in these two governorates as well as Sohag and Dakahliya, Geographical Information Systems (GIS) have been developed. In Beni Sueif and Aswan, assistance to the EMU's for the development of GEAP's will be provided by the Danish Government. This assistance will entail strengthening the capabilities of the EMU's in these two governorates to carry out routine environmental management activities such as enforcing environmental regulations, monitoring, implementing national policies and co-ordinating investment and development activities within the governorates.

The coming year will see further support to the decentralization of environmental management, through institutional support to two RBO's, yet to be determined, as well as to EEAA's Central Department of Branches Affairs, to be carried out with assistance from the Danish Government.

Financial Mechanisms

The successful response to environmental challenges relies on the presence of supportive financing mechanisms presenting incentives for the stimulation of investments in the environmental management and protection fields.

The Environmental Protection Fund:

The Environmental Protection Fund (EPF) was established under Law 4/1994 for the Environment with the aim of mobilizing investments in the environmental sector. The financial resources of the EPF include revenues from the national protectorates entrance fees, and fines on environmental violations.

The EPF provides financial assistance to environmental projects on a competitive basis. In this regard, a broad range of organizations, including private enterprises, public institutions and non-governmental organizations, are eligible to apply to the EPF for support for the implementation of environmental projects and initiatives. Applicants, however, must meet a number of criteria primarily concerned with their ability to cover a share of the projects costs, as well as demonstrate their capability, both financially and technically, to undertake the proposed project.

Each year, the EPF issues a plan describing the financial support program offered for that year, specifying the types of financial packages provided, as well as the areas of focus based on the

national environmental priorities. The financial packages offered by the EPF include interest rate subsidies on commercial loans, equity participation, as well as grants offered to non-profit environmental projects on a cost-sharing basis.

The year 2000/2001 was the pilot year for the EPF. During this first year, the focus was on solid waste management, as well as wastewater, and financial support was awarded as grants and interest rate subsidies. A total of 177 applications were received, and after undergoing the evaluation procedures of the EPF, 8 projects were granted support.

Five of the selected projects were awarded grants of approximately 350,000 LE each. These projects are:

- Disposal of medical waste from the National Liver Institute of Menoufiya University
- Safe disposal of medical waste in Fayoum City
- Composting of agricultural waste in a village of Minya Governorate
- Integrated wastewater management in the village of Kom El Dabaa in Qena Governorate
- Safe disposal of dead animal bodies from the Veterinary School of Cairo University

Three of the selected projects were given interest rate subsidies of 6 % on commercial bank loans for up to five years. These projects are concerned with:

- Recycling of waste oils in Giza Governorate
- Evacuation of wastewater from Nile Cruises in the city of Edfu in Aswan Governorate
- Rehabilitation of a waste disposal site in the city of Dahab.

With the aim of ensuring effective cooperation with the banking sector in financing the environmental projects, the EPF has signed a cooperation agreement with Misr Bank, and agreements with other banks are underway.

Areas for support by the EPF for the coming year will entail water quality, air pollution abatement, hazardous substances, solid waste and nature management and conservation.

EVALUATION CRITERIA		WEIGHT
OF THE ENVIRONMENTAL PROTECTION FUND		
1.	Projects that address serious environmental problems in their specific geographic areas, or serve a large number of beneficiaries, or provide solutions to urgent environmental problems. Priority for project selection will depend on severity of the environmental problem and its impact on health, social and economic conditions, and the number of beneficiaries.	30
2.	Demonstration projects that have the potential for disseminating environmental know-how and technology and replicability in other areas. Priority will be assigned to projects, which include activities that will contribute to the dissemination of project results, such as special workshops, or publication of articles in specialized journals.	30
3.	Projects that are associated with an integrated approach to the management of environmental problems, or provide a major component of an integrated system to achieve long-term and sustainable solutions to environmental problems.	20
4.	Environmental projects, for which there are readily available studies and documents to facilitate quick project start-up and implementation, or projects that are already being implemented.	10
5.	Environmental projects that integrate and foster partnerships among various stakeholders, agencies and sectors, and contribute to the achievement of developmental objectives such as job generation, poverty alleviation and empowerment of women.	10
Total Weight/Score		100

Financial Packages for Industrial Compliance:

Within the context of the importance accorded by MSEA to industrial compliance, as specifically reflected in the policy directives and the adopted five year action plan, three financial packages are made available to assist major industrial establishments in this regard. The underlying objective is to promote investments for pollution abatement and the implementation of cleaner technology initiatives.

The World Bank is providing access to 35 million USD made available on a soft loan basis for supporting pollution abatement projects, of which a total amount of about 15 million USD has been already allocated over the past year to ten major polluting industries. Moreover, 9 million USD are underway to three establishments at different stages of tendering their respective pollution abatement initiatives. In this respect, a number of changes to the conditions of these funds have been carried out during 2000/2001 with the aim of broadening the scope of support. These changes include the extension of the geographical scope for the allocation of funds to include all governorates of Egypt, as well as the extension of support to new industrial sectors such as the cement industries, petrochemical industries and pharmaceuticals. Furthermore, financial modifications entail the development and implementation of measures to avoid risks resulting from rate exchange fluctuations.

In addition to the above, the European Investment Bank (EIB) is making available a total of 15 million Euros, as soft loans, of which about 5 million Euros have been allocated to one industrial establishment in 2000/2001. The disbursement conditions for three further loans, amounting to 5.5 million Euros, are still under study, and the funds are expected to be released in the coming year 2001/2002. The primary focus of the European Investment Bank loans lies in the conversion of combustion processes of the different industrial establishments to natural gas.

As for the German Bank for Reconstruction (KfW), access to a total of 50 million Deutsch marks (DM) is provided, targeting the public enterprises industrial sector for the end of pipe, in-plant pollution abatement and prevention projects. In this respect, projects in 14 establishments were allocated a total cost of 20.3 million DM in 2000/2001, and the allocation of a further 13.6 million DM is under study for projects at different stages of tendering.

In line with the MSEA and EEAA aim of promoting the involvement of the banking sector in environmental protection issues, the Environmental Risk and Liability Guide was finalized during 2000/2001, thus enabling banks to take environmental issues into account during the conduct of credit analyses of industrial projects.

In conjunction with the World Bank assistance, the Finnish Government, through the Environmental Pollution Abatement initiative in EEAA, is providing technical and institutional support. This targets the institutional development of EMU's and RBO's, the promotion of the roles of NGO's in industrial pollution abatement, as well as financial support of required technical assistance for industrial abatement investments. This is presented in more detail in the section concerned with the Abatement of Industrial Pollution.

**Industrial Pollution Abatement
The Misr Aluminium Company at Nagaa Hamadi
(EGYPTALUM)**

Misr Aluminium Company in Nagaa Hamadi benefited from the available financial packages in decreasing the emissions of Hydrofluoric acid (HF) and Carbon monoxide (CO) generated during aluminium melting processes to meet the requirements of Law 4/1994. This was carried out by switching to the use of the dry method for gas treatment.

The total project cost amounted to 200 million L.E, of which 18.6 million L.E were provided by the World Bank, and 16.5 million L.E by the European Investment Bank, as soft loans. The remainder costs were self financed by the company.

Egypt Environmental Initiatives Fund:

The overall aim of the Egypt Environmental Initiatives Fund, supported by the Canadian International Development Agency, is to promote the involvement of the Egyptian private and voluntary sectors in sound and sustainable environmental practices and management. This is achieved through three lines of action:

- The first, targeting the small and medium enterprises (SME's) of the private sector, aims at improving the environmental performance of such SME's, as well as promoting their adoption of sound environmental management practices, through technical and financial assistance.
- The second line of action targets the voluntary sector composed of non-governmental organizations (NGO's) and community development associations (CDA's), aiming at increasing their capacity to deliver community-based environmental improvement initiatives.
- The third line of action supports the development and expansion of green businesses in Egypt.

The operational strategy of the Fund is based on sustainability, both financial and institutional, achieved through the support of replicable, financially self-sustaining demo-projects, as well as the involvement of "implementation partners teams" composed of stakeholders, local government and beneficiaries.

Within this context, and the Fund's geographical focus in 2000/2001 on the Eastern Region in Egypt (comprising the seven governorates of Ismailia, Port Said, Suez, North and South Sinai, the Red Sea and Sharkiya), a total of twelve workshops have been carried out for building the capacity of the implementation partners teams in a number of significant areas such as environmental impact assessment, pollution prevention and cleaner production, environmental management, needs assessment, as well as the integration of gender in environmental activities. These workshops have succeeded in triggering further events organized by the different implementation partners of the Fund, thus indicating the successful initiation of functional networks between the different stakeholders.

The year 2000/2001 has also witnessed the selection and initiation of a number of projects and initiatives to be supported by the Fund in its region of focus. These comprise the following:

- A total of 10 pollution abatement projects for SME's, focusing on cleaner production in the sectors of metal finishing, textile, and agrochemical industries, with an overall support amounting to 1,395,000 L.E.
- A total of 7 initiatives within the voluntary sector, focusing on solid waste management, environmental awareness, as well as advocacy, with an overall support amounting to 500,000 L.E.
- A total of 4 projects for green businesses, with an emphasis on agriculture waste management and composting, solid waste recycling, and marine waste management, with an overall support amounting to 1,173,000 L.E.

Plans for the coming year of 2001/2002 entail the shift to another geographical region of focus which will include the Delta governorates of Dakahliya, Menoufiya, Gharbiya, Damietta and Alexandria. In this regard, and in preparation for its involvement in these five governorates, the Fund is conducting a "Knowledge Attitude and Practice" study of the region aiming at the collection of baseline information necessary in assessing the needs for intervention for environmental improvement.

Regional and International Cooperation

Many environmental challenges, such as air pollution, global warming, marine pollution, have regional or global implications, and can therefore only be addressed through joint efforts by the regional or international communities. Moreover, it is widely recognised that the achievement of sustainable development depends on a global commitment, as much as the state of the global environment depends on the environmental commitment expressed by individual states. Over the past decades, the heightened awareness on transboundary environmental problems has resulted in a series of international agreements supporting the pursuit of sustainable development. In this respect, the Government of Egypt has assumed obligations under a number of such agreements and is furthermore engaged in several regional and international cooperation arrangements targeting environmental problems and sustainable development. Together with the Ministry of Foreign Affairs, MSEA and EEAA play a central role in this context, through the coordination of the implementation of Egypt's obligations under various multilateral environmental agreements as well as the coordination of Egypt's position on various regional and international environmental issues.

On the regional level, Egypt is a central participant in the Council of Arab Ministers for the Environment, the African Ministers Conference on the Environment, the Mediterranean Action Plan and the Regional Convention for the Protection of the Red Sea. One of the primary milestones in 2000/2001 of these regional activities was the Abu Dhabi Declaration, an output of the Council of the Arab Ministers for the Environment. It sets the framework for future cooperation on various key environmental issues of the region, comprising management and protection of scarce water resources, protection of arable land from deterioration, management of the environmental problems associated with increased urbanization, as well as the protection of marine, coastal and wetland areas. On the bilateral level, cooperation agreements on environmental issues, primarily encompassing institutional development, awareness and education, industrial pollution, marine pollution, waste management, and funding mechanisms for environmental initiatives, exist with a number of Arab countries such as Morocco, Tunisia and Jordan.

Concerning international environmental treaties, Egypt has ratified 64 international conventions concerning different environmental issues. Of these, Egypt is most active in the conventions dealing with global climate change, protection of the ozone layer, the transboundary movement of hazardous waste, desertification and the protection of biodiversity, among others.

Successful partnerships with various international assistance agencies, primarily those of the governments of Canada, Denmark, Finland, Germany, Great Britain, Italy, Japan, Switzerland, and the United States, have resulted in a number of environmental initiatives in Egypt. Further initiatives represent the outcome of successful partnerships between the MSEA and EEAA with multilateral organisations such as the European Union, the World Bank and several United Nations organisations. In addition, plans are underway for further extending cooperation on environmental issues within the D8 group.

Finally, in response to Egypt's commitment to international efforts for sustainable development, the MSEA, together with the Ministry of Foreign Affairs, has established a national committee for the preparation of Egypt's position in the Rio +10 Summit for Sustainable Development, scheduled to take place in Johannesburg, South Africa in September 2002.

The Global Environmental Facility

Since its establishment in 1991, the Global Environmental Facility (GEF), has played an important role in financing initiatives addressing the five urgent threats to the global environment, which entail the loss of biodiversity, climate change, international waters, ozone depletion and land degradation. In this context, Egypt has developed a successful partnership with GEF, resulting in a number of initiatives concerned with these challenges, and having a regional and international impact. An emphasis was placed on technology transfer, whenever possible, in line with the priorities set by the Government of Egypt. These initiatives comprise:

Solar Thermal Power with Private Sector Participation,

aiming at increasing the use of renewable energy sources in Egypt to enhance the levels of commercialisation and financial performance in the Egyptian power sector using private participation.

Fuel Cells for Cairo Buses,

aiming at addressing the reduction of GHG and other pollutants emissions, through the introduction of eight fuel cell buses in the Cairo public transport fleet, with associated hydrogen production and supply facilities. Hydrogen fuel cell technology is not the least-cost alternative presently, but has the potential of becoming so through such a demonstration project, involving technology transfer, which would hopefully be expanded in case of success.

Energy Efficiency Improvement and Greenhouse Gas (GHG) Reduction,

aiming at achieving an absolute reduction in GHG emissions through adopting policies to address the management of the demand-side for GHG and energy conservation activities, as well as creating an enabling environment for utilization of energy efficiency equipment and techniques.

Climate Change Enabling Activity,

promoting technical assistance and capacity building in Egypt to respond to the Framework Convention on Climate Change through the enhancement of capacities and institutional networks, development of greenhouse gas inventory, training of personnel, raising of public awareness, assessment of climate change mitigation alternatives, review of climate change vulnerabilities, and development of project proposals.

Conservation and Sustainable Use of Medicinal Plants on Arid and Semi-Arid Ecosystems,

aiming at conserving globally-significant medicinal plant species and associated habitats in the protectorates of Saint Catherine.

Lake Manzala Engineered Wetlands,

aiming at demonstrating a low-cost technology to clean up polluted waters through the creation of engineered wetlands. This is carried out in the Lake Manzala area for the reduction of the level of municipal, industrial and agriculture pollutants reaching the Mediterranean Sea and the improvement of the overall water quality of the lake.

- **Biodiversity Enabling Activity,**
aiming at capacity building and supporting the ability to formulate and manage sectoral and cross-sectoral programs, in line with the objectives of the Convention on Biological Diversity, relying on a cost-effective approach within the context of national sustainable development efforts.

- **Red Sea Coastal and Marine Resources Management,**
supporting the development and implementation of policies, plans and regulations to ensure an economic development in the Red Sea area which is in consistence with sound environmental management in order to protect the marine resources of the area's costal zones.

- **Developing Groundwater Resources in the Eastern Desert,**
evaluating the use of renewable ground water resources of the Eastern Desert to develop sustainable irrigation in Upper Egypt, as an alternative that could potentially alleviate some of the dependence on the Nile water.

- **GEF Small Grants Program,**
providing financial support to community-based organizations (CBO's) and non-governmental organizations (NGO's) for activities addressing local challenges related to the GEF areas of concern. Since the establishment of this program in 1992, support was provided to 29 projects implemented by the voluntary sector. Underway are a number of various projects giving special attention to sustainable livelihood options including poverty alleviation, income generation, and health, as being issues related to local environmental degradation.

Major regional activities implemented through the GEF include:

- **Nile Basin Initiative :**
The Nile ten riparian countries have taken a historic step towards cooperation in the establishment of the Nile Basin Initiative (NBI). Formally launched in February 1999, the initiative is a transitional institutional mechanism including all riparian counties and providing an agreed upon basin-wide framework to fight poverty and promote economic development in the region.

- **Strategic Action Programs for the Mediterranean Sea:**
The project aims at protecting wetland and coastal zone biodiversity losses in the Mediterranean by undertaking key demonstration activities directly addressing root causes and threats to globally-significant biodiversity. It covers Albania, Egypt, Morocco, the Palestinian Authority, and Tunisia. The Egyptian component focuses on 3 sites along the Mediterranean coast, which are: Zaranik, Burullus, and Ommayed.

- **Implementation of the Strategic Action Program for the Red Sea and Gulf of Aden:**
The project aims at safeguarding the costal and marine environments of the Red Sea and Gulf of Aden region and ensuring sustainable use of it resources as well as supporting the implementation of Jeddah convention signed by the Arab countries bordering the Red Sea and Gulf of Aden, which are Djibouti, Egypt, Jordan, Saudi Arabia, Somalia and Sudan.

Achievements and Planned Activities

A profile of Initiatives

Air Quality

The protection of the air environment from pollution presents one of the primary lines of action of the MSEA and EEAA, reflected by the long-term commitment to this issue as expressed by the five year action plan. This is in line with the continuous efforts in enforcing existing environmental legislation, as air quality is one of the principal issues addressed in Law 4/1994 for the Environment.

Initiatives and activities are carried out on both the strategic and operational levels. On a strategic level, the preparation of an Air Quality Management Strategy is underway, primarily addressing air pollution resulting from the mismanagement of solid waste, as well as pollution abatement from mobile sources. Moreover, an emissions inventory in Greater Cairo including all sources of air pollution, industrial and non-industrial, is to be carried out with support from the United States Environmental Protection Agency, and in collaboration with the Finnish-supported initiative concerned with the conduct of an industrial emissions inventory for Cairo Governorate. On an operational level, a number of activities and initiatives were carried out during 2000/2001 with a particular focus on the Greater Cairo area, where the highest levels of air pollution occur:

Monitoring of Ambient Air Quality:

A comprehensive national air quality monitoring system has been established over the past years as part of Environmental Information and Monitoring Program of EEAA, implemented with support from the Danish Government. The monitoring system has been operational for the past two years, measuring concentrations of common air pollution parameters such as sulphur dioxide (SO₂), nitrogen dioxide (NO₂), carbon monoxide (CO), ozone (O₃) and particulate matter (PM₁₀). This is carried out by 42 monitoring stations throughout the country. In this respect, in 2001, EEAA took over full responsibility for the operation and maintenance of the system, with Danish technical assistance to be gradually phased out over the next three years.

The focus of this air monitoring program during 2000/2001 has been on establishing procedures for efficient utilisation and dissemination of the collected data. To this end a website has been established, where monthly reports on air quality are available. Moreover, further progress has been made with respect to integrating the air pollution monitoring database with the information management system of EEAA. Two new monitoring stations were added to the network during 2000/2001, and an additional station will be installed during the coming year 2001/2002 in the Delta region.

Air quality in Greater Cairo is a major concern to the Government of Egypt, particularly with regards to adverse health impacts. In this context, the MSEA and its executive institution the EEAA, are carefully overlooking the developments in the ambient concentrations of lead and fine particulate matter through a network of 36 additional monitoring stations scattered throughout the city. This monitoring network has been operational since 1998 and was established in cooperation with the Government of the United States through an initiative for the improvement of air quality in Cairo. In 2000/2001 activities in this regard were focused on developing and applying a methodology whereby specific pollution sources can be pointed out based on the ambient monitoring data. Furthermore, the collected monitoring data are continuously used to evaluate the effectiveness of various efforts to reduce lead and particulate emissions. For example, the relocation of a major lead smelter plant away from the Shoubra El Kheima area during the past year has resulted in a decrease in ambient lead concentrations.

Finally, a pilot phase of an early warning system producing 3-day forecasts for air pollution levels in Greater Cairo Region has been established in cooperation with the Egyptian Meteorological Authority. The air pollution forecasts are produced using measured concentrations of fine particulate matter from monitoring networks and meteorological data.

The testing and validation of this pilot phase emphasized the need for further development of the system in order to be more consistent and reliable. Therefore, it is currently under evaluation and is reviewed for updating.

Air Quality

Air quality is monitored at 42 monitoring stations distributed throughout the country, through the measurement of a number of parameters, such as PM10, sulphur dioxide, and carbon monoxide. For the year 2000, PM10 presented the most critical air quality problem in Egypt, primarily due to high background values resulting from dust blown from the desert. The highest recorded PM10 values were found in industrial and heavy traffic areas.

Sulphur dioxide values were generally falling within the limits set by Law 4/1994. However, these were occasionally exceeded in a number of industrial areas. As for nitrogen dioxide, the recorded values were found to also fall within the limits of Law 4/1994. Finally, concentrations of carbon monoxide were found to exceed the limits in heavy traffic areas, particularly during traffic congestion.

Reduction of Vehicle Emissions in Greater Cairo:

With more than one million vehicles on the streets, mobile emissions are one of the major sources of air pollution in Greater Cairo. Vehicle emissions of fine particulate matter and other pollutants are significant, and the MSEA is currently working towards a tighter control over vehicle emissions.

During 2000/2001, on-the-road testing of vehicles with mobile emission analysers have continued in partnership with the Ministry of Interior. Moreover, a network of stationary facilities for emissions testing, operated through the Traffic Department has been identified as the most feasible option for systematic testing of vehicles in the long term. Procedures for establishing such facilities at the centres for licenses renewal have been initiated.

With the objective of demonstrating the feasibility of replacing diesel-fuelled city public transport buses with compressed natural gas (CNG) the introduction of CNG buses into the fleets of the public bus companies of Greater Cairo is currently taking place. In 2000/2001, twenty CNG buses were on the road, and the infrastructure for their operation and maintenance was in place. Furthermore, a program has been established whereby the worst polluters among the fleet of more than 4500 diesel fuelled public buses are identified and subsequently tuned-up or replaced, in line with the efforts for immediate improvements to the air quality in Greater Cairo. Finally, a reference laboratory for setting up emission limits for primarily large vehicles has been established. Future plans comprise a study investigating the best approaches to be adopted by the public bus companies in Cairo for making use of funding mechanisms available in Egypt for supporting activities concerned with the extension of the CNG bus fleet.

Reduction of Emissions from Lead Smelters in Greater Cairo:

After the successful introduction of lead-free gasoline, the lead smelting industry has become the main source of lead emissions in Cairo. The secondary lead smelting industry produces elemental lead and lead alloys by reclaiming lead, primarily from scrap automobile and truck batteries. The 1999-2000 Lead Emissions Inventory published in 2001 provides the most recent documentation of the emissions from lead smelters and other stationary sources

Lead Emissions Inventory for the Greater Cairo Area

The 1999-2000 inventory of stationary lead emission sources in Greater Cairo clearly shows that secondary lead smelters, and in particular rotary furnaces at these facilities, are the most significant sources of lead emissions in the city.

According to the study, lead emissions experienced a decrease of about 30 % in 2000 compared to 1999. Of the total emission in 2000, 79 % came from lead smelting activities, compared to 82% in 1999, and 20% resulted from the combustion of mazout in 2000, compared to 18 % in 1999.

The reduction in the total emissions is primarily due to a production decrease in the lead smelting industry in Greater Cairo as well as switching to Natural Gas (NG) instead of mazout in the industrial and power generation sectors.

The Government of Egypt's Lead Smelter Action Plan addresses the high emissions from the smelters by promoting the use of more environmentally friendly technology in the smelting industry, and by supporting the relocation of all lead smelting activities away from densely populated areas. In this respect, plans for 2001/2002 entail the building of the first prototype bag house filter in Egypt. Moreover, plans are underway for the relocation of lead smelting activities from Shoubra El Kheima to Abu Zabaal, as well as for site remediation, presenting a pilot study for future replication.

Conversion to the Use of Natural Gas:

Within the framework of the cooperation between MSEA, EEAA, and the Ministries of Electricity and Petroleum for the improvement of air quality, the conversion of the power plants in the Greater Cairo region from the use of fossil fuels to that of natural gas, was successfully carried out, thus reducing ambient concentrations of sulphur dioxide. In addition, and following the implementation of three demonstration projects for the environmental upgrading of brick factories and their conversion to natural gas use for their combustion processes, the Egyptian Environmental Initiatives Fund will provide technical and financial assistance for the further upgrading of another 50 factories in the area of Arab Abu Saed, encompassing the conversion of their combustion processes to the use of natural gas. This initiative, to be started in 2001/2002, will be supported by the Climate Change Secretariat of Canada.

Global Atmospheric Pollution

Reduction of Green-House Gas Emissions:

There is growing evidence that the increasing atmospheric concentrations of carbon dioxide, methane, nitrous oxide, and others, collectively known as greenhouse gases (GHG), may lead to an increase in global temperatures. While not a major contributor to the world's total emissions of GHG, Egypt is vulnerable to the potential effects of global climate change such as rising sea levels and changed patterns of rainfall in the Nile Basin. Therefore, Egypt has joined the cooperative global efforts to confront the threats of climate change by ratifying the United Nations Framework Convention on Climate Change in 1994 and signing the Kyoto Protocol in 1999.

EEAA plays a leading role in coordinating national efforts for the reduction of GHG emissions, through a National Committee on Climate Change. This committee is an inter-ministerial forum representing a wide range of governmental and non-governmental stakeholders responsible for establishing and following up on national policies on climate change. As the majority of Egypt's GHG emissions results from the burning of fossil fuels, the overall strategy adopted is to reduce GHG emissions by improved energy efficiency measures.

Through its Climate Change Unit, EEAA is co-ordinating the numerous projects and activities carried out within the framework of climate change. On-going activities include:

Annual updating of the GHG emissions inventory, with a focus on the emissions from the energy sector and the waste sector (burning and landfilling of solid wastes).

Promotion of wind and solar energy as alternative sources for electricity generation through a number of large projects carried out by the New and Renewable Energy Authority.

Various demonstration projects on cleaner fuels. The Fuel Cell Demonstration Project in Cairo, is one implemented in cooperation with the Global Environmental Facility (GEF) and featuring eight fuel cell buses with associated hydrogen production supply facilities. Another project deals with the conversion of two-stroke motorcycle engines to compressed natural gas.

A demonstration project on the recovery of methane from landfills, which is currently under implementation in cooperation with the Canadian Government.

The preparation of a National Strategy on Clean Development Mechanism, within the context of the United Nations Framework Convention on Climate Change and the Kyoto Protocol, initiated in 2000/2001 to explore the option of introducing market based instruments for reducing GHG emissions through the application of cleaner technologies.

The development of an Energy Efficiency Strategy for Egypt, for which a framework was finalized in 2000/2001 with support from the Egyptian Environmental Policy Program.

Ozone Depleting Substances:

As a signatory to the Montreal Protocol, Egypt is committed to gradually phase out the use of ozone depleting substances (ODS) such as chlorofluorocarbons (CFC's), halons, carbon tetrachloride, methyl chloroform and methyl bromide. These substances are mainly used in the refrigerating, air conditioning, foam, aerosol, electronic and metal cleaning industries as well as soil fumigation and grain storage activities (methyl bromide). This process is carried out in phases, and following the start of the phase concerned with freezing the use of these substances, in 2000, a Ministerial Decree of the Minister of State for Environmental Affairs (Decree 77 for 2000) was issued in this regard, prohibiting the imports of ODS controlled by the Montreal Protocol, without the notification of EEAA. Within its context, activities in 2000/2001 carried out along the following lines of action:

Establishing an import/export licensing system in collaboration with the Customs Authority aiming at ensuring the monitoring, control and reporting of ODS consumption.

Monitoring and control of imports and use of ODS in cooperation with Customs Authorities according to the Ministerial Decree number 77/2000.

Raising awareness on alternatives to ODS and on the recovery and reuse of ODS in various equipment (refrigerators, air conditioners etc.), particularly targeting concerned industries

Providing technical assistance to Egyptian enterprises interested in phasing out ODS through the application of alternative substances.

Future plans in this regard encompass the implementation of a quota and licensing system, starting 2002, wherein importation licences for ODS would only be granted conditional to the approval of EEAA.

Activities carried out in cooperation with the UNDP included the reconstruction and update of the existing database of industrial establishments handling ODS as well as the initiation of the "Halon Bank Management Project", which will enable Egypt to ban the imports of halons within the two coming years. Moreover, implementation of investment projects for the phase

out of ODS in the rigid and flexible foam manufacturing sectors was carried out.

Furthermore, coordination and cooperation links with different international organizations involved in the phase out of ODS have been established, with the purpose of controlling and reducing the use of these substances. One important example of such cooperation is the development of investment projects, with support from UNIDO, for the phasing out of ODS in the domestic refrigeration, solvents, soil fumigation and grain storage sectors. Moreover, the Egyptian Refrigeration Management Plan for recovery and recycling projects for CFCs, targeting formal, informal, civil and military sectors, is under implementation.

Water Quality

The protection of the water environment from pollution represents another important priority of MSEA and its executive institution, the EEAA. In this respect, Law 4/1994 for the Environment places an emphasis on the protection of the coastal waters and the marine environment, complementing Law 48/1982 for the protection of the River Nile. The lines of action in this regard encompass water quality monitoring activities and initiatives, as well as pollution abatement and mitigation efforts.

Protection of the River Nile:

During 2000/2001, the MSEA announced the River Nile to be free from industrial pollution. This significant environmental improvement is resulting from the compliance with environmental laws and regulations of 34 large industrial establishments, previously responsible for discharging a total of 100 millions m³/year of untreated industrial waste to the river. Their compliance was ensured due to continuous inspection visits carried out by a committee with representatives from MSEA, the Ministry of Water Resources and Irrigation and Surface Water Police Department. A total of approximately 360 million Egyptian pounds had been invested in pollution abatement at the 34 establishments.

The National Program for Prevention of Polluted Industrial Discharge to Water Resources (1996-2008)

First phase: Prevention of Polluted Industrial Discharge to the River Nile

Number of establishments	34 establishments
Implementation period	September 1996- December 1998
Budget	360 million L.E.
Funding source	Self funded by the industrial establishments

Second Phase: Prevention of Polluted Industrial Discharge to Drains Ending in Fresh Water Resources

Number of establishments	24 establishments
Implementation period	January 1999- December 2002
Budget	120 million L.E. (estimate)
Funding source	Self funded by the industrial establishments and soft loans from the MSEA
Current situation (July 2001)	21 industrial establishments have complied and the remaining 3 are implementing the necessary measures for compliance.

Third Phase: Prevention of Polluted Industrial Discharge to Drains Ending in Lakes

Number of establishments	54 establishments
Implementation period	January 2002- December 2006
Budget	260 million L.E. (estimate)
Funding source	Self funded by industrial establishments and soft loans from the MSEA
Current situation (July 2001)	10 industrial establishments have complied, and the remaining 44 establishments have not yet taken any

action towards compliance.

Fourth Phase: Prevention of Polluted Industrial Discharge to the Mediterranean Sea and the Gulf of Suez

Number of establishments	36 establishments (15 in Suez)
Implementation period	January 2001-December 2008
Budget	300 million L.E. (estimate)
Funding source	Self funded by industrial establishments and soft loans from the MSEA
Current situation (July 2001)	13 industrial establishments have complied, 5 establishments are implementing the necessary measures for compliance, while the remaining 18 establishment have not yet taken any action towards compliance.

During 2000/2001, four docking stations for receiving wastes from Nile cruise boats became operational. The stations are located in Cairo, El Minya, Assiut, and Sohag. Another station located in Aswan has been constructed, and efforts are underway for putting it into operation. In conjunction with this, standards and specifications were prepared for the construction of new cruise docking stations along the Nile, as well as the operation of Nile cruise boats. Furthermore, continuous activities are carried out monitoring the river water quality. In the summer of 2000, a study was published concerning the water quality of the River Nile, carried out by the Central Laboratory of EEAA in collaboration with the Ministry of Water Resources and Irrigation, and covering a stretch of the river from south of Helwan to the mouth of the Damietta and Rosetta branches along the Mediterranean. Underway is the finalization of the 2001 study, which covers the whole stretch of the river in Egypt, from Aswan to the Mediterranean.

The Protection of Lakes:

Development activities along lakes and surface water bodies in Egypt has accelerated at an increasing pace during recent years. This has rendered the need for the incorporation of the environmental dimension in these developmental activities an urgent need, aiming at sustainable management of these resources. In this respect, plans are underway for 2001/2002 for the development of an integrated management system for lakes in Egypt, where standards and specifications for further developmental activities would ensure their protection from environmental damage.

Within the overall framework of the protection of lakes from pollution, a demonstration initiative concerned with the establishment of engineered wetlands for the treatment of wastewater from the Bahr El Bakar drain before it enters lake Manzala, has progressed further in 2000/2001, with its construction phase underway.

Marine Water Quality:

The quality of the coastal waters along the Mediterranean and Red Sea coastlines in Egypt is monitored through a network of 84 sampling stations. The monitoring network was set up with assistance from the Danish Government as part of the Environmental Information and Monitoring Program of EEAA, and has been fully operational for the past two years, measuring various chemical, bacteriological and biological parameters of the water on a bi-monthly basis.

Dissemination of the coastal water quality results takes place on a regular basis within the MSEA and EEAA, as well as to the concerned coastal governorates. During 2000/2001, the focus of the monitoring program was concerned with the establishment of procedures for further utilisation and dissemination of the collected data. To this end a website was constructed (www.eimp.net), where coastal water quality reports are available on a bi-monthly basis. Moreover, further progress has been accomplished with respect to integrating the coastal water quality database within the information management system of EEAA.

Along with these activities, and with the purpose of safeguarding Egypt's marine ecosystems from oil spills and other pollution accidents at sea, the National Oil Spill Contingency Plan aims at preventing and mitigating the adverse effects of such accidents and spills by setting the framework for the necessary response by various authorities. The management of the plan is based on a partnership between the concerned ministries and authorities such as EEAA, the coastal governorates and the Ministries of Petroleum, Maritime Transport, and Tourism. Its effectiveness relies on the clear allocation of the roles and responsibilities of the different involved bodies, as well as the development of functional working and reporting procedures and the identification of various strategies applicable for different scenarios. EEAA, where the Central Operations Room is located, plays a central role in this respect by coordinating the required intervention and mitigation activities. Within this framework, a number of cases of oil pollution were successfully combated during 2000/2001, as well as accidents involving hazardous substances, the most widely-known of which is the sinking of the Dhalia-S carrier in Abu Qir Bay with a cargo of concentrated nitric acid.

Within the context of the Plan, various activities are carried out on a continuous basis. Thus during 2000/2001, EEAA assisted different oil spill combat centres in upgrading their equipment, and local authorities were assisted in preparing local oil contingency response plans. Moreover, oil spill reports were assessed and assistance provided for the clean-up of damaged sites. This was supplemented with the production of guidelines on shoreline clean up, oily waste management and disposal, as well as procedures for approval of chemicals used to disperse oil spills in open waters. With the aim of maintaining and raising the preparedness for combating oil pollution in the sea, training activities are continuously carried out in cooperation with the Arab Academy of Science, Technology and Maritime Affairs, targeting the concerned workforce at the different competent ministries and authorities.

The plans for the coming year include an extension of the Oil Spill Contingency Plan to include responses to chemical spills and other kinds of accidental pollution incidents, both at sea and in fresh water. In this respect, one of the main priorities for the coming year is the protection of the River Nile and all fresh water bodies from oil pollution with a particular emphasis to pollution from river transport.

Type of accident	Number reported during 2000	From known sources	From unknown sources
Pollution with Oil	20	4	16
Pollution with Chemicals	4	4	--
Dead Animals	11	1	10
Total	35	9	26

Table 1. Marine Accidents Reported During 2000

Solid Waste Management

The collection and proper treatment and disposal of the increasing amounts of solid waste represents a daily challenge to governorates and municipalities. As uncontrolled disposal and burning of solid wastes constitutes a major environmental problem, the development of environmentally sound solid waste management systems throughout the country, is a high priority of the MSEA and its executive institution, EEAA. This challenge is being met by the development of strategic plans, operational programs, practical guidelines for integrated solid waste management, as well as the conduct of training programs, and the implementation of relevant demonstration projects in partnership with all stakeholders. In this respect, a number of important accomplishments have been achieved during 2000/2001.

A national program for the Integrated Solid Waste Management was initiated during 2000/2001. The program, relies on a close cooperation between the different concerned ministries and MSEA, both on the central and local government levels, and is based on a number of important principles. These comprise the “polluter pays” principle, the development of an enabling financial, institutional and legislative environment, to ensure the active participation of the private sector, a support to the decentralization of the management systems, the promotion of waste minimization and waste recycling and reuse, and building public awareness. The program addresses the different categories of solid wastes, entailing municipal, agricultural, healthcare, and construction and demolition wastes as a first priority, and industrial waste, waste generated from clearing of water and drainage canals, as well as municipal wastewater sludge, as second priority. This is carried out through 13 lines of actions composed of a fast track initiative for the clearing of solid waste accumulations, and long-term solutions addressing the roots of the challenges.

Within the framework of the national program for the Integrated Solid Waste Management , the National Strategy for Municipal Solid Waste, developed in 1999/2000 with support from the Egyptian Environmental Policy Program, was finalized in 2000/2001, and adopted by the Cabinet of Ministers. It sets the overall direction for municipal solid waste management in Egypt over a period of 10 years, laying down the principles for its operationalization.

Other accomplishments include the publication of a number of guidelines on waste management. The purpose of these guidelines is to keep governorates, municipalities, waste generators and other stakeholders updated about recent developments in various practical aspects of municipal solid waste management. The published material include an overview of the legal framework for solid waste management in Egypt, the most commonly used terms in waste management and their definitions, guidelines for siting of landfills, regulations and requirements for composting facilities and requirements for waste containers and other types of storage facilities. During the coming year, the guidelines will be disseminated among governorates, municipalities and other stakeholders and parties of interest in waste management.

The final disposal of solid wastes presents one of the important components of an effective management system. In this respect, EEAA has initiated a Landfill Siting Program, carried out in collaboration with the Life Program of the European Union. During 2000/2001, maps of proposed landfill sites in each of Egypt’s 26 governorates were produced, and are being reviewed by the respective governorates. The final selection of the appropriate sites is planned to be accomplished in the first half of 2002. Once the exact locations of these landfills have been decided within the proposed areas, in depth studies of soil and groundwater conditions and EIA studies will be carried out. Furthermore, a demonstration project for the rehabilitation of an existing dumpsite is planned for implementation.

Also on the governorate and local levels, and within the framework of the solid waste strategies for the Governorates of Sohag and Dakahliya, developed with assistance from the Support for Environmental Assessment and management initiative of the United Kingdom Department for International Cooperation, and being implemented in 2000/2001, a number demonstration projects are carried out. In Sohag, these projects entail the support of the privatization of the municipal solid waste services in Sohag City and Girga Markaz, as well as the development of segregation and safe disposal schemes for healthcare waste in Sohag City and Markaz. For 2001/2002 planned activities include the replication of support for the development of solid waste strategies and the implementation of demonstration projects in the Governorates of Qena and Damietta.

As for capacity building, several training courses and workshops on waste management were conducted during 2000/2001. These include three workshops on the incorporation of private sector contribution to solid waste management activities in Egypt, organized in collaboration with the United States based Institute for Public-Private Partnership (IP3), as well as one week training workshops for governorate and municipality staff members concerning the various aspects of landfilling as a final disposal option, within the context of the Egyptian Environmental Policy Program. Plans for 2001/2002, include conducting similar workshops in other governorates.

BOX 9

The National Integrated Solid Waste Management Program

During its first phase, 2001-2003, the program aims to accomplish the following:

- Implementation of integrated management projects for 9.3 million tons/year of municipal solid waste in the main cities of the Egyptian governorates.
- Reuse of 3 million tons /year of agriculture waste
- The safe disposal of 25 tons/year of healthcare waste
- The safe disposal of one million tons of construction and demolition waste

Activities in 2000/2001:

- Support and technical assistance were provided for the preparation of tender documents for the participation of the private sector for the nineteen governorates of Cairo, Giza, Fayoum, Gharbiya, Alexandria, Red Sea, Beheira, Aswan, Suez, Port Said, Ismailia, North Sinai, South Sinai, Dakahliya, Menoufiya, Sharkiya, Qaliubiya, Luxor, New Valley.
- The Governorate of Alexandria contracted an international specialized company for solid waste management to start from August 2001. During 2001/2002, this will be replicated in the six other governorates of Cairo, Giza, Qaliubiya, Suez, Luxor, and South Sinai.
- 10 million tons of accumulated solid waste have been removed from the governorates of Luxor, South Sinai, Cairo, Qaliubiya, Aswan, Gharbiya, Red Sea, Menoufiya and Fayoum.
- The rehabilitation of open dumpsites in the governorates of Qaliubiya, Menoufiya, Dakahliya and Gharbiya, has been initiated.
- Training of staff members responsible for monitoring and supervising integrated solid waste management contractors has been conducted in Alexandria Governorate, and is planned for Cairo and Suez Governorates, to be carried out during the second half of 2001. During 2002/2003 this will be replicated in other governorates.

Industrial solid waste constitutes an important contribution to the overall waste volumes in industrial zones. The implementation of a project aiming at the integrated management of industrial solid waste in 6th of October City is planned to start during the summer 2001, with support from the Life Program of the European Union. The project will focus on the active involvement of industrial waste generators in the reduction of waste volumes at source, and will also encourage private sector participation in solid waste management services, particularly collection and recycling. The project will be implemented in close collaboration with the Businessmen Association of 6th of October City and in coordination with the "Environmentally Friendly Industrial Cities Program".

Hazardous Substances and Wastes

Hazardous substances and hazardous wastes are those with inherent physical, chemical and biological properties rendering them harmful to human health and the environment if not properly managed. This is reflected in Law 4/1994 for the Environment and its Executive Regulations, where a full chapter is dedicated to regulations concerning the classification, labelling, handling, storage, transportation, treatment and disposal of hazardous substances and wastes.

During 2000/2001, the Information Management System for safe handling of hazardous substances, established with support from the Swiss Government, became operational. This is carried out in collaboration with six line ministries (Ministries of Agriculture, Electricity, Health, Industry, Interior, Petroleum), as stipulated in Law 4/1994, as well as the Customs Authority and the Civil Defence Authority. The primary aim of this system is the establishment of an on-line communication network between these ministries and authorities and EEAA, where required information concerning hazardous substances is available and can be obtained

instantaneously. Such information encompasses lists of hazardous substances classified as banned substances and substances requiring licensing for handling and use, as well as the licensing requirements of the different competent authorities. Moreover, the system includes a database of about 1800 hazardous substances with emergency response sheets detailing the risks associated with these substances together with the response guidelines in cases of accidents and the safety practices for packaging, labelling, storage and transport. In this respect, plans are under consideration for transforming this continuously-growing database to a web-based application with the aim of ensuring a wider accessibility to it. Furthermore, underway are efforts for the periodic update of the hazardous substances lists, as well as the expansion of the system to other ministries and authorities.

Preparations are underway for the extension of this system to a second phase, to commence in 2001/2002. This phase would encompass risk assessment for establishments handling hazardous substances, the development of emergency response plans for "on site" accidents involving hazardous substances, as well as the development of a National Strategy for Chemical Safety.

As for hazardous wastes, continuous dialogue with the six line ministries is maintained with the purpose of assisting them in officially endorsing the hazardous wastes lists prepared in 1999/2000. Such lists, once adopted will be used by all competent authorities for the better control and safe handling of these wastes. In conjunction with these efforts, and within the framework of the development of an integrated system for hazardous waste management, operational guidelines concerned with the safe temporary storage of hazardous waste were prepared in 2000/2001 to be published and disseminated in the second half of 2001. Further plans for the coming year encompass the development of guidelines for the permitting system for hazardous substances and wastes as well as hazardous waste characterization. Moreover the outline of a national plan for the protection from hazardous substances, wastes and other pollutants is under preparation in cooperation with the six line ministries, the Customs Authority, the Civil Defence Authority and other competent bodies.

An equally important component of the integrated system for hazardous waste management is safe disposal. To this end, a three year demonstration project, supported by the Government of Finland, has been initiated in 1999 in partnership with the Alexandria Governorate. Its aim is to establish a management system for the most important groups of inorganic industrial hazardous waste generated within this geographical area, with a construction of a treatment and final disposal facility. Within this context, all necessary studies and investigation have taken place during 2000/2001, encompassing an industrial hazardous waste survey, an institutional study for the set-up and operation of the management system with a focus on the treatment and disposal facility ownership and modes of operation, an Environmental Impact Assessment study for the suggested site of the facility, as well as an estimation of the cost required for the construction of the treatment plant and landfill. Underway are the detailed engineering plans of this facility, with the target of starting construction at the end of 2001, to be terminated during 2002.

One stream of hazardous waste requiring special management practices is infectious and other wastes generated from healthcare facilities. In this respect, EEAA, in partnership with the Ministry of Health and the Government of Denmark, has established a national program for the integrated management of healthcare waste. Within the scope of this program, and with the purpose of demonstrating the feasibility of incineration as a safe disposal technique for healthcare waste, a demonstration project involving the installation and proper operation of incinerators has been carried out at Cairo University Hospitals over the past years. October 2000 has witnessed the hand-over of these incinerators, servicing ten hospitals generating about 3 tons of healthcare waste per day. In conjunction with this, limits for the safe emissions from healthcare waste incinerators were issued by EEAA in 2000/2001, together with regulations for the sterilization of this stream of waste as an alternative method for its treatment prior to final disposal. In order to provide a common framework for addressing the particular challenges associated with healthcare waste, a national strategy for healthcare waste management was prepared by EEAA in collaboration with the Ministry of Health. Plans for 2001/2002, include issuing guidelines for safe management of healthcare waste.

Emissions	Maximum limit mg/m ³ (unless otherwise specified)	Period
Total Suspended Particles	10	Daily
	30	30 minutes
Total Organic Carbon	10	Daily
	20	30 minutes
Hydrochloric acid	10	Daily
	60	30 minutes
Hydrofluoric acid	2	Daily
	4	30 minutes
Sulphur dioxide	300	Daily
	50	30 minutes
Nitrogen Oxides	200	Daily
Carbon monoxide	100	Daily
Dioxins and Furans	0.1 nanogram/m ³	8 hours maximum limit
Heavy metals:		
Cadmium and compounds	0.1	8 hours maximum limit
Thalium and compounds	0.1	8 hours maximum limit
Mercury and compounds	0.1	8 hours maximum limit
Antimony and compounds	0.1	8 hours maximum limit
Arsenic and compounds	0.1	8 hours maximum limit
Lead and compounds	0.1	8 hours maximum limit
Chromium and compounds	0.1	8 hours maximum limit
Cobalt and compounds	0.1	8 hours maximum limit
Copper and compounds	0.1	8 hours maximum limit
Magnesium and compounds	0.1	8 hours maximum limit
Nickel and compounds	0.1	8 hours maximum limit
Vanadium and compounds	0.1	8 hours maximum limit
Tin and compounds	0.1	8 hours maximum limit
Total heavy metals and compounds	0.1	8 hours maximum limit
	0.5	8 hours maximum limit

Emissions Standards for Incinerators of Healthcare Facilities

Internationally, continuous efforts are taking place for the active participation in hazardous substances and hazardous wastes conventions comprising the implementation of the Basel Convention controlling the transboundary movement of hazardous wastes, the Rotterdam Convention (PIC) concerned with the international trade of a number of hazardous chemicals and pesticides, the International Forum for Chemical Safety, as well as the inter-governmental negotiations for a legally binding instrument concerned with a number of persistent organic pollutants (POP's), and leading to a convention opened for signature for a period of one year starting May 2001.

Greening Activities

The promotion of a greener environment is one priority area where the MSEA, through its executive institution, the EEAA, has been very actively involved. A number of tree-planting activities are fostered throughout the urban centers in Egypt, and continuous support to governmental organizations, local government, educational institutions, as well as the voluntary sector is provided with the aim of increasing the green area.

Within this framework, a total of 3 million L.E. were mobilized in 2000/2001 to support greening activities and the establishment of central nurseries at RBO's and different governorates with financial support amounting to 100,000 LE for each nursery. Areas of focus entailed the governorates of Assiut, Aswan, El Minya, Kafr El Sheikh, North Sinai, Qena, Sohag and Suez. Moreover, tree planting and beautification activities were carried out in a

number of cities and governorates, such as the cities of Fayoum and Shalateen, and the governorates of Kafr El Sheikh, Assiut, and Qena where the Mayyana drainage canal was covered and converted to a public garden of an area of 15,000 m².

Since the development of the necessary infrastructure for irrigation and water reuse is considered essential for ensuring the sustainability of any greening activities, continuous support has been provided for the operation and maintenance of the municipal wastewater treatment plant of the Cairo ring road, and the extension of its services to support different greening initiatives in the area, such as the establishment of a tree nursery, a children's garden, and the extension of the green belt.

The Million Trees Project, implemented under the auspices of H.E. Suzan Mubarak, is another initiative supported by the MSEA/EEAA through the allocation of 2 million L.E. to its activities.

Coastal Zone Management

The protection of the Egyptian coastlines, extending for more than 3000 km along the Mediterranean and the Red Sea is one of the main priorities of the Egyptian Government. The effective management of coastal zones requires partnership with a number of stakeholder ministries and authorities, as well as collaborative efforts with other environmental management schemes, such as protectorates management and environmental impact assessment.

The strategy for the effective management of coastal zones involves the combating of the environmental adverse impact on the marine and coastal resources, through the implementation of measures aiming at reducing air, water and soil pollution as well as monitoring the different coastal development activities and declaration of protected areas within the coastal zones.

One important milestone achieved in 2000/2001 was the activation of the National Committee of the Integrated coastal Zone Management, primarily composed of the various governmental bodies and authorities concerned with different aspects of coastal zones management, as well as representatives of academic institutions, the private sector, and NGO's. The committee identified four main priority areas for action, encompassing pollution prevention in the area of Gulf of Suez, urban development in the Red Sea region, biodiversity conservation in Gulf of Aqaba region and the combat of erosion along the Mediterranean coastline.

Future plans for integrated coastal zones management primarily rely on the implementation of an action plan entailing cooperation and smooth coordination between all concerned governmental bodies and authorities, on the basis of well defined roles and responsibilities for these different entities, with the aim of ensuring their effective contribution, each in its field of competence.

Nature Conservation

Egypt's natural heritage is rich with a wide diversity of ecosystems, rendering it unique worldwide. In this respect, and within the context of sustainable development, the Government of Egypt, through the MSEA, accords a particular importance to maintaining this heritage for future generations. This is carried out through the declaration and sustainable management of natural protected areas, in accordance to Law 102 for 1983. Currently, there exist 21 protected areas in Egypt, covering about 8% of the total national surface, with plans to have this extended further to 17% by 2017. With the objective of protecting, promoting and maintaining the natural heritage of Egypt, a large number of activities and initiatives are being carried out.

On the national level, a National Strategy and Action Plan for Biodiversity Conservation has been prepared, covering the period from 1997 till 2017. The strategy sets the main goals towards the protection of ecosystems and the management of natural resources and its various components. Moreover, a national system for protected areas is being developed, along with

investigations of the local economic values of these areas and their possible contribution to the national economy, particularly through eco-tourism. In this regard, and with the purpose of elevating the economic profile of conservation, the national protected areas of Egypt were included in the investment and land-use map of Egypt.

As for the immediate policy of the MSEA in the field of nature conservation, it includes actions aimed at the strengthening of the existing capacities for the implementation of the National Strategy and Action Plan for Biodiversity Conservation and a drive towards the self-financing of conservation projects in protected areas.

More specifically, a primary line of action entails the effective and sustainable management of the existing protected areas. In this respect, programs for 9 protected areas, covering 15000 km², have been carried out, and visitors centres established in 11 protected areas along with access roads, offices, and staff accommodation. Moreover, a world class visitor centre containing displays of cultural, historical and natural features of South Sinai, is under construction at Saint Catherine protected area, expected to be inaugurated in 2002. One crucial aspect of these management programs is financial sustainability. Accordingly, entrance fees have been introduced in a number of protected areas to raise revenue for their management.

Capacity building activities, having been recognized as a primary driving force to nature conservation, present a cornerstone of the strategy MSEA and EEAA in this regard. With support from the European Union, a focus area has been the South Sinai Governorate where 40% of its surface area is protected. Local Bedouin communities were introduced to conservation management activities, and sustainable development activities of associated urban areas were conducted particularly on issues targeting solid waste management, cleanup campaigns and urban landscaping. In addition, Sharm El Sheikh training centre, established in 2000, is playing a central role in the organization of national and international training programs.

Other activities include the ongoing implementation of a long-term monitoring program of coral reefs, investigating the influence of diving activities on the marine environment, as well as the initiation of a program for the restoration of Acacia trees, with an initial focus on South Sinai. In addition, within the framework of the GEF-supported Strategic Action Program for the Mediterranean Sea, initiatives are implemented, aiming at protecting wetlands along the Mediterranean coast in Egypt, focusing on the areas of Zaranik, Burullus, and Ommayed. In partnership with the Government of Italy, initiatives have been successfully implemented for the environmental management and development of the Siwa Oasis in the Western Desert, as well as the protected area of Wadi El Rayan. For Siwa Oasis, the initiatives encompass the conservation and sustainable use of the natural resources, as well as the protection of the cultural heritage of the oasis, with a focus on the participation of the local community. As for Wadi El Rayan, support for the development of the park infrastructure, management plan, and necessary competent personnel, present the principal lines of action, highlighted in 2000/2001 with the completion and official inauguration of the park's visitors center.

Plans underway include the establishment of a Natural History Museum, a National Gene Bank and a Captive Breeding Program for rare and endangered animals destined for re-introduction to their natural habitats.

Priorities during 2001/2002 include the establishment of a Marine Park along the coastal and marine area of the west coast of the Red Sea, within the context of the Egyptian Environmental Policy Program. Another initiative scheduled for 2001/2002 is concerned with the conservation and sustainable use of medicinal plants and development of local knowledge in this regard, to be supported through GEF.

Environmental Impact Assessment

Since its introduction in 1994, the Environmental Impact Assessment (EIA) system in Egypt has progressed significantly. Efforts by EEAA have led to steady improvements of all aspects of the EIA system, from preparation to review and decision making. Accordingly, the last two years have experienced a dramatic increase in the number of EIA studies passing through this system as well as an extension of the system to an increased number of local competent administrative authorities (CAA's), responsible for the application of the legislative requirements for the conduct of EIA studies for the different projects and initiatives falling within their jurisdiction.

In 2000/2001 more than 10,000 EIA studies were evaluated. During the same period, the update of the EIA classification system was carried out. It entailed some modifications to the division between the three categories A, B, and C, varying in the severity of possible environmental impacts, as well as the expansion of the lists of facilities in each category to include additional ones, with the purpose of minimizing errors in categorization. In this respect, and in line with the development of sectoral guidelines, the development of sector-specific EIA forms has taken place. In 2000/2001, specific B category forms were developed for the petroleum and tourism sectors.

Moreover, 2000/2001 has witnessed the publication of sectoral guidelines for the sectors of cement industries and land reclamation, as well as the finalization of the guidelines for petroleum industries, to be published during the second half of 2001. Other sectoral guidelines being developed are ones for the sectors of pharmaceuticals, urban development and power generation.

Year	Number of EIA's Reaching EEAA	Number of CAA's
1994	7	3
1995	26	4
1996	41	10
1997	87	13
1998	276	25
1999	11056	46
2000	10315	52

Table 2. Temporal Evolution of EIA's Reviewed by EEAA

Other 2000/2001 activities include the development of specifications for the construction of mobile telephone towers, in collaboration with the Ministries of Communication and Health as well as the telephone networks operators, with the purpose of preventing possible adverse environmental and health impacts. Capacity building was also carried out with a focus on CAA's staff members.

Priorities for 2001/2002 include the improvement of the efficiency of the system, and the investigation of the possibility of decentralizing the review of part of category B studies to the concerned RBO, based on the development of their capacities in this regard.

Sector	Total Number of EIA's	A Category EIA's	B Category EIA's	C Category EIA's
Industry	6873	167	6686	20
Services	2596	261	2335	----
Agriculture	403	6	397	----
Tourism	168	3	22	143
Energy/Petroleum (production, processing, transportation)	71	----	7	64
Communications	37	18	19	----
Infrastructure (roads, potable water, wastewater)	30	1	23	6
Health	25	----	25	----
Energy/Electricity	5	----	3	2
Housing and Reconstruction	2	----	2	----
Ports	1	----	----	1
Transportation	1	----	----	1
Others	103	24	79	----
Total	10315	480	9598	273

Table 3. Distribution of EIA's by Sector (Year 2000)

Abatement of Industrial Pollution

The MSEA, and its executive institution, the EEAA, recognize that effective pollution control resulting from the industrial sector is a prerequisite not only for improving environmental conditions and public health, but also for achieving sustainable industrial growth in the long term. In this respect, the abatement of industrial pollution is one of the top priorities of the MSEA and EEAA. This is primarily achieved through the enforcement of environmental laws and regulations, but also through promoting self-monitoring and assisting industrial establishments to comply through various support mechanisms.

Within this framework, industrial inspections, carried out during 2000/2001 by the Environmental Inspection Unit of EEAA in collaboration with the RBO's, were geographically based. Primary focus areas included the Mansoura Canal in Dakahliya Governorate, the Eskandar Canal in Qaliubiya Governorate, and the Difsha Canal in Beheira and Alexandria Governorates.

Throughout 2000/2001 training of inspectors, including those of the RBO's and governorate EMU's on inspection planning and reporting as well as on technical and legal aspects has taken place, with support from the Egyptian Environmental Policy Program, Danida, as well as the Environmental Pollution Abatement initiative of the Finnish Government. Within the framework of the assistance offered by the latter, the general industrial inspection guidelines were reviewed and updated, and sector-specific inspection guidelines for the paper, textile, metal and engineering industries, prepared to be finalized in 2001/2002. Furthermore, an industrial emissions inventory for the Alexandria and Suez governorates have been conducted in cooperation with the Environmental Quality Sector of EEAA.

The year 2000/2001 has also witnessed a continuous direct technical support to industrial establishments through the initiative for Industrial Pollution Abatement of the Finnish Government, resulting in the conduct of environmental audits, the review of tendering documents for pollution abatement investments, as well as the set up of self monitoring systems for a number of these establishments. With the objective of enhancing pollution

control management practices in industrial establishments, training programs for air pollution abatement were conducted in 2000/2001, targeting middle management in the sector.

In support to the implementation of the GEAP's in Sohag and Dakahliya, opportunities for cleaner production have been assessed and demonstration projects carried out in small and medium scale enterprises in the two governorates. The aim of these projects, carried out within the context of the Support for Environmental Assessment and Management initiative, of the United Kingdom Department for International Development, is to demonstrate how the proper application of relatively simple cleaner production and pollution control measures, can enhance efficiency, reduce pollution, yield financial savings and improve the environment for surrounding communities.

Plans for 2001/2002 include the finalization of the designing phase of the Industrial Pollution Information System (IPIS), and its initiation, as well as the investigation of the possibilities of linking it to other information systems within EEAA, such as those of the Environmental Impact Assessment and the Public Complaints. Furthermore, and with assistance from the Environmental Pollution Abatement initiative of the Finnish Government, the preparation of an industrial emission inventory for the governorates of Cairo and Qaliubiya will be initiated, as well as the finalization of sector specific inspection guidelines for a number of industrial sectors such as ceramics, fertilizers, chemicals and tanning. Inspection guidelines for the cross-cutting issues of industrial solid and hazardous wastes, industrial effluent treatment plants and energy production units will also be prepared, as well as a strategy on cleaner technology, carried out in cooperation with relevant departments and initiatives within MSEA and EEAA.

Finally, EEAA, in collaboration with the Danish Government, will participate in the implementation of a program to support the Federation of Egyptian Industries with the promotion and demonstration of cleaner technologies among the members of the Federation.

The Environmentally Friendly Industrial Cities Program

The Environmentally Friendly Industrial Cities Program is one leading initiative of the MSEA. The purpose of this program is to promote environmentally friendly industrial practices and sustainable investments in cleaner technology in the new industrial zones of Egypt. During 2000/2001, the program has expanded its scope to include a total of 12 cities, namely, 10th of Ramadan, El Sadat, 6th of October, Borg El Arab, Badr, New Damietta, El Saleheya, El Obour, New Beni Sueif, Abou Rawash, Mubarak and El Kawthar.

In these industrial cities, a number of projects on cleaner production and treatment of industrial emissions are conducted. The total investments in these projects amounts to approximately 406 million Egyptian pounds. Furthermore, investments were channelled to projects for the rehabilitation of sewage networks and central treatment plants for industrial wastewater in the twelve cities.

As part of the process of assessing the environmental status in each of the industrial cities, the environmental performance of 2016 small and medium scale industrial establishments was assessed. It was thus found that 82% of the establishments had taken immediate actions at low cost or no cost to comply with the environmental laws and regulation, with the remaining 18%, being currently involved in implementing pollution abatement projects to achieve compliance.

Industrial City/Zone	Number of Industrial Establishments	Percentage of Industrial Establishments in the Process of Compliance with Environmental Regulations	Total Expenditure on Environmental Projects (Million L.E.)
<i>Industrial Cities</i>			
10 th of Ramadan	711	94	341.6
6 th of October	525	80	66.7
El Sadat	168	85	252
El Obour	112	38.3	32
Badr	80	31	125
Borg El Arab	298	66	10
<i>Industrial Zones</i>			
Abou Rawash	55	53	70
NEW Damietta	96	17	24.8
New Beni Sueif	115	18.2	80.9
El Saleheya	57	58	59.5
El Kawthar	193	17	66.4
Mubarak	120	0.8	8.4
Overall	2,530	64 %	1,137.3

Table 4. Accomplishments of Industrial Cities and Zones in Compliance (July 2001)

Environmental Information Systems

Effective environmental management and protection rest on a sound decision-making process incorporating the formulation and implementation of policies, legislation, programs and projects based on the timely storage, retrieval, processing and analysis of the appropriate environmental information. In this respect, environmental information systems have come to present a primary tool within MSEA and its executive institution, the EEAA, for the planning and decision making processes, as well as the dissemination of environmental information.

Within this context, 2000/2001 has witnessed the operationalization of a functional version of the Environmental Common Information System (ECIS) of the Egyptian Environmental Information System, an initiative launched in 1997 in partnership with the Canadian Government, and the deployment of the ECIS to different users within MSEA and EEAA. This system, currently hosting a number of maps and environmental data, is gradually being expanded with the aim of eventually housing processed EEAA and MSEA data, and allowing on-line access to this data. Within the context of extending the ECIS to the area of nature conservation, the Saint Catherine protectorate has been provided with a linkage in 2000/2001, and plans are underway to further extend this to other Red Sea protectorates.

Moreover, during 2000/2001 a number of special applications have been initiated and supported within the scope of the Egyptian Environmental Information System. These include the New Development Zones Information System (NDZIS) supporting the activities of MSEA and EEAA in carrying out environmental assessment of new development zones, as well as the Environmental Contingency Plan Information System (ECPIS). The Industrial Pollution Information System (IPIS), is another application under development to be used as a management tool by the Environmental Inspection Unit for tracking information concerned with industrial compliance to environmental requirements and regulations. Furthermore, the

development of an Executive Environmental Information System has started in 2000/2001, designed to support decision makers at the executive level in MSEA and EEAA by providing an overview of key environmental information. In this context, an initial focus has been placed on air quality in Greater Cairo, with support provided from the Cairo Air Improvement monitoring network.

The production of digital maps for Egypt presents another line of activities. Different maps at various scales varying from 1:50,000 to 1:8 million have been produced over the past few years, and continued throughout 2000/2001. This was accompanied with the establishment of a database of all these maps. Standards for map making were also prepared and are currently available on the MSEA and EEAA internal information highway. Plans are underway to have these standards published in the second half of 2001.

Following the emphasis placed on capacity building and sustainability within the MSEA, a training program was initiated in August 2000, through which more than 150 MSEA and EEAA staff members have been trained on various aspects of information systems. A particular focus on mapping activities was developed with one-on-one training aiming at the complete transfer of skills, in this regard, to the concerned EEAA members.

Moreover, the linkage between the MSEA and EEAA and other ministries, authorities, organizations and the general public is continuously strengthened through dissemination of environmental information. In this regard, the MSEA and EEAA website (www.eeaa.gov.eg) is regularly updated with new information on the policies and activities of MSEA and EEAA, and a Public Complaints System, which is accessible by e-mail, has also been established and operationalized. With the aim of disseminating information about the biennial international conference and trade fair Environment 2001, held by MSEA and EEAA at the end of 2001, a special website has been developed for this purpose.

Furthermore, routine support is continuously provided to the different departments and units within EEAA. This entails support to the EIA database system, the Early Warning System for air quality in Greater Cairo, cement factories monitoring, the initiative concerned with the siting of municipal solid waste landfills in all Egyptian governorates, as well as the Egyptian Hazardous Substances Information Management System (EHSIMS), currently underway to be transformed into a web-based application. Moreover, and within the framework of this latter, the implementation of risk assessment models through the application of GIS, in cooperation with the Civil Defense Authority, is under consideration.

During the coming year, one line of action will be concerned with the incorporation of the NEAP data in the ECIS. Other planned activities comprise the establishment of the information network between the central level of MSEA and EEAA and the Regional Branch Offices, as well as further development of the capacities of MSEA and EEAA through an Environmental Information Strategic Plan with an implementation program identifying training requirements.

Environmental Education, Training and Awareness

Awareness is an important tool for the sensitisation of public opinion to environmental issues and challenges. In this respect, MSEA, together with its executive institution, the EEAA, regard this issue as a priority, realizing the significant role public awareness can play in promoting sound environmental practices. Moreover, putting principles of sound environmental management and protection into practice requires the presence of a solid base of capacities, both within the MSEA and EEAA, as well as within other governmental, academic, private and voluntary organizations. To this end, continuous support is provided to environmental training and awareness activities and initiatives.

During 2000/2001, the successful partnership between the MSEA and EEAA on one hand, and the Media on another was carried further. In this respect, programs targeting the general public were conducted, including the broadcasting of 13 environmental television programs and 35 radio programs, as well as a number of competitions. Moreover, 28 national newspapers and magazines are now engaged in environmental awareness, in close cooperation with the MSEA

and EEAA, featuring regular environmental pages. Various EEAA publications and brochures were prepared and disseminated through national and regional environmental exhibitions and events, such as the "Waste 2001" conference and trade fair held in Cairo, focusing on solid waste management technologies and practices, as well as the "Environment 2001" exhibition held in Abu Dhabi. Yearly public events also organized by the MSEA and EEAA during 2000/2001 include the International Ozone Day (16th September), Earth Day (22nd April), and the International, Arab and National Environment Days (5th June, 14th October, and 27th January, respectively).

Children present a primary target group for public awareness activities. One of the most significant of these initiatives is the Green Corner Libraries, launched as a pioneering initiative by H.E. Mrs. Suzan Mubarak in 1998 to promote environmental literacy and awareness among children. The pilot phase of the program was initiated in the Children's Museum and 6 libraries belonging to the Integrated Care Associations, all of which offer a green space to allow the interaction of children with nature. Currently, the program includes 62 libraries nationwide.

In accordance to the importance accorded to reaching youths, support was provided for the development and establishment of environmental groups in forty youth centers, as well as the establishment of an environmental youth camp on Lake Bardawil, Northern Sinai, under construction. Moreover, and with the objective of raising the awareness of youths to the dangers of smoking, an anti-smoking awareness campaign was organized in collaboration with the Ministry of Health.

In addition to the above, a wide range of other initiatives are carried out in partnerships with a large number of partners. These include the Ministries of Education, Youth, Health, and Communication, as well as the Integrated Care Association, universities, NGO's, Development Assistance Organizations, and the Private Sector. One of the largest of such initiatives is the "Friends of the Environment" Festival, an annual summer event held in low income urban and rural communities, and carrying out shows, competitions and environmental debates for children. Another initiative is the "Khadra campaign", where "Khadra", depicted as a special friend of the environment, represents the central character in the campaign. The campaign's focus during its first year is on solid waste management, in line with national needs, as expressed by the priorities of the MSEA.

As with regards to capacity building and environmental training activities, various training programs have been conducted during 2000/2001. One such program for youth focused on the linkage between health and environment. To date the program has outreached 2220 students and 200 health officials nationwide. Another training program was especially designed for developing environmental leadership skills for 885 young leaders, selected from youth centres and secondary schools in Egypt's 26 governorates.

Other activities were primarily targeting the workforce associated with environmental education, management and protection. In this respect, 17 training courses were conducted for governmental authorities and organizations in the fields of environmental education, media, solid waste management, healthcare waste management, and judicial impoundment. Moreover, and following the priority of the MSEA and EEAA in building their own capacities in order to best carry out their responsibilities, a number of training courses were held during 2000/2001 for staff members, in a wide variety of technical and administrative fields.

Capacity Building Activities

As for EEAA staff, 46 local training programs were delivered to 711 staff member, while a total of 44 staff member received overseas environmental training programs in Abou Dhabi, Canada, Denmark, Finland, France, Italy, Japan, Jordan, Lebanon, Netherlands, Saudi Arabia, South Africa, Sweden, Turkey, the United Kingdom, and the United States.

These training programs addressed different environmental issues including:

- Air Quality Control
- Wastewater Treatment Technology
- Environmental Monitoring
- Treatment and Recycling of Industrial Liquid Waste
- Environmental Management Systems -ISO 14000
- Management of Industrial Hazardous Waste
- Environmental Inspection on Industrial Establishments
- Solid Waste Management
- Biodiversity Information Systems
- Recycling of Industrial Solid Waste
- Environmental Management
- Management of Natural Areas in the Mediterranean Sea Basin

Environment 2001

In keeping with the tradition of organizing the largest environmental event of the Middle East and North Africa, started in 1997, the MSEA, together with its executive agency EEAA, have held the biennial international conference and trade fair on environmental management and technologies, Environment 2001, in October 2001, in Cairo.

The underlying theme of this year's event, hosted under the auspices of H.E. Mrs. Suzan Mubarak, Egypt's First Lady, was Public-Private Partnership. The primary objectives of the conference and trade fair entailed the promotion of the transfer of international know-how and experiences, the exploration of the latest technological innovations, and fostering partnerships in the fields of environmental management and technologies. The themes of Environment 2001 were:

- Private-Public Partnerships
- Environmental Management Systems
- Pollution Prevention
- Cleaner Technologies
- Environmental Legislation
- Air Pollution
- Solid Waste Management and Zero Waste
- Energy Conservation and Renewable Energy
- Environmental Information and Monitoring Systems
- Environmental Accounting
- Wastewater
- Environmental Awareness and Education
- Protection of Natural Resources
- Coastal Zones Management and Marine Pollution

In this respect 85 papers were presented during the conference, in addition to a number of workshops and special sessions. The workshops addressed the issues of Energy Conservation and Efficiency, Solid Waste management, Environmental Management Systems (EMS), and Cleaner Production in industry. As for the special sessions, they were concerned with a number of topics comprising the use of hydrogen as clean fuel, solid waste management, noise pollution, as well as cleaner production case studies in Egypt.

Annexes

Annex I: EEAA Board of Directors

HE Ms. Nadia Makram Ebeid, Chairperson

Minister of State for Environmental Affairs

Dr. Ibrahim Abdel Guelil, Deputy Chairperson

Chief Executive Officer of the Egyptian Environmental Affairs Agency

Counselor Ahmed Amin Hassan

Vice President of the State Council, Head of the Advisory Department for the State Presidency, and the Cabinet of Ministers

Mr. Salama Ahmed Salama

Chairman of the Society for Environmental and Developmental Writers

Dr. Abdel Azim El Hamady

Dean of the Environmental Research and Studies Institute, Ain Shams University

Dr. Abdel Latif El Sharkawi

General Secretary of the Supreme Council for Research Centers and Institutes

Dr. Ali Abdel Rehim Abu Sedeira

General Secretary of the Egyptian Environmental Affairs Agency

Eng. Ali Morsi Batt

Director of the Irrigation Authority

Gen. Abdel Aziz Mohamed Ali

Assistant to the Minister of Interior for Specialized Forces

Dr. Mohamed Abdel Fattah El Kassas

Professor Emeritus, Faculty of Science, Cairo University

Dr. Mohamed Abdel Aziz El Gendi

Chairman of the Friends of the Environment Association, Alexandria

Chem. Mohamed Adel El Danaf

Chairman of the Holding Company for Metallurgical Industries

Eng. Mohamed Adel El Mozy

Chairman of the Holding Company for Chemical Industries

Dr. Mahmoud Abul Nasr Rashid

First Undersecretary for Primary Healthcare and Preventive Affairs, Ministry of Health

Dr. Mohamed Abdel Hakim El Rifai

Representative for the Ministry of Industry and Technological Development

Dr. Mostafa Kamal Tolba

Director of the International Center for Environment and Development

Dr. Mamdouh Riyad

Head of the Central Department for Tree Planting and Environment, Ministry of Agriculture

Gen. Alaa Thabet

Head of the Environmental Unit, Ministry of Public Enterprise

Mr. Mohamed Ezzat Badawi

Advisor to the Minister of Transport, for the Affairs of the People's Assembly and the Shura Council

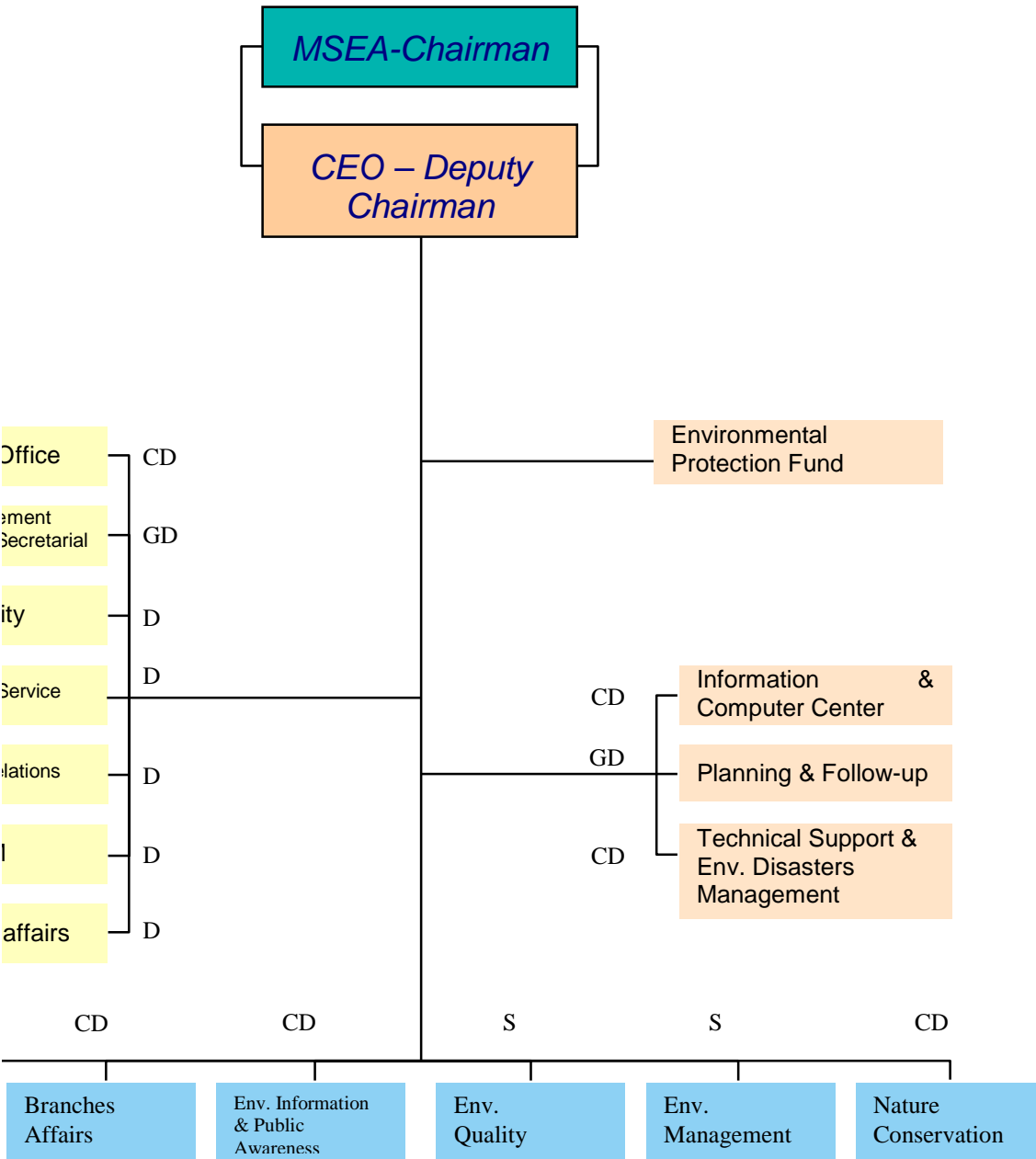
Ms. Amal Morad

Head of the Department for Environmental Affairs and Sustainable Development, Ministry of Foreign Affairs

Eng. Mohamed Mohamed El Samman

First Undersecretary of the Ministry of State for Environmental Affairs

Annex II: EEAA Organizational Chart



Sector – S
Central Department – CD
General Department – GD
Department - D