Acknowledgements

The first edition of this National Profile for the Management of Chemicals in Egypt was issued in January 1999, and it was updated in April, 2001 through the Egyptian Hazardous Substances Information and Management System Project. This enhanced and updated third edition is issued within the framework of the National Implementation Plan (NIP) Project as one of the main requirements within Step 2, as stated by Article (7) of Stockholm Convention for Persistent Organic Pollutants (POPs).

UNITAR Guidelines were followed during the Implementation and Up-dating of the National Chemical Profile.

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Introduction

Chemicals have become indispensable in many economic activities and are increasingly used in the industrial and agricultural consumer sectors of all societies. However, increasing evidence suggests that chemicals can contribute to health and environmental problems at various stages of their life cycle from production/import through disposal. Such problems include pollution generated during production processes, improper handling, storage, transport accidents, occupational accidents and diseases, as well as environmental contamination due to unsound disposal methods. The majority of such evidence is associated with the use and misuse of pesticides in the agricultural sector, but increasingly industrial and consumer chemicals are reported to cause severe health and environmental problems as countries develop from agricultural to industrial societies.

It is now widely recognized that chemicals need to be managed properly in order to achieve a sustainable level of agricultural and industrial development and a high level of environmental and human health protection. One important step in strengthening national systems for the management of chemicals is a comprehensive assessment of the national infrastructure relating to the legal, institutional, administrative and technical aspects of chemicals management along with an understanding of the nature and extent of chemical availability and use in the country.

In 1992, the United Nations Conference on Environment and Development - UNCED (Rio-de Janeiro Conference) marked an important event towards the goal of achieving sustainable economic development, which meets the needs of the present without compromising the needs of future generations. Heads of States or Governments from more than 150 member countries of the United Nations adopted " Agenda 21", a comprehensive document outlining responsibilities of States towards the achievement of sustainable development. The Commission on Sustainable Development (CSD) monitors implementation of the aims described in Agenda 21.

Chapter 19 of Agenda 21 is entitled “ Environmentally Sound Management of Toxic Chemicals including Prevention of Illegal International Traffic in Toxic and Dangerous Products” and it contains objectives for environmentally compatible handling of toxic chemicals including measures for the prevention of the illegal international trade in toxic and dangerous products. An essential part of chapter 19 concerns the coordination of international and regional activities as well as the intensification of international cooperation.

For the purpose of controlling compliance with Chapter 19 and its harmonized implementation, in April 1994 the United Nations Environment Program (UNEP), the Intentional Labor Organization (ILO) and the World Health Organization (WHO) held the Chemical Safety Conference in Stockholm. It was at this conference, which was attended by participants from 130 countries, that the Intergovernmental Forum on Chemical Safety (IFCS) was established. The IFCS elaborates recommendations for governments as well as for international and transnational organizations. Also through IFCS countries now regularly discuss their activities and priorities for the sound management of chemicals. The Stockholm conference, also marking the first meeting of the IFCS, adopted “a priorities for action plan to implement the recommendations of chapter 19 of Agenda 21.

As an important element in improving global cooperation in the field of chemicals safety, the IFCS recommends that, as a matter of urgency, the individual states should take stock of the national structures for chemicals management in the form of a so-called "National Profile" (NP) The aim of the National Profile is to provide relevant information on the areas of responsibility and procedures associated with chemical substances as well as to make statements on the effectiveness of the specific rules and regulations. In addition, the National Profiles from the industrialized nations can serve as a model for developing countries and countries undergoing economic change. Together with the IFCS secretariat, the United Nations Institute for Training and Research (UNITAR) has published a guidance document in 1955 which, by laying down a structure and providing useful advice on how to proceed, assists in the production of a NP and helps ensure international comparability.

Finally, in response to Stockholm Convention for Persistent Organic Pollutants (POPs) that entered into force on the 17th of May 2004. Egypt has adopted the convention in May 2001 and join the convention on the 2nd of May, 2003 after 90 days of the ratification date (13th of January, 2003). Article 7 of the convention invites Parties to develop a National Implementation Plan (NIP) and as stated by step 2 of the project that countries shall prepare National Profiles to assess the national infrastructure for the management of chemicals and to promote Sound Management of Chemicals. This effort is done in close co-operation with the Secretariat of UNIDO Organization.

The NP is intended to record the production, the import and export as well as the use of chemical substances and the treatment of chemical wastes. For example, areas such as industrial chemicals (existing and new chemical substances), plant protection products containing pesticides and fertilizers, pharmaceutical and medical products, dangerous drugs, food as well as cosmetics were envisaged. Relevant regulations and voluntary agreements, the participating authorities and the non-governmental organizations, the areas of competence and the dividing lines separating areas of competence as well as the available stocks of data are to be described in order to ensure that the stocktaking process is as comprehensive as possible.

Publication of the National Chemical Profile for Egypt is expected to have a number of positive effects, like:

- Increased effectiveness of the work performed by the government/ competent authorities through the provision of clear information on the management of chemicals
- Initiation or simplification of the information-exchange and dialogue procedures between authorities on the one hand and between authorities and non-governmental organizations on the other;
- Critical analysis of the procedural channels in order to avoid duplication of work;
- The provision of more comprehensive information to the general public and to industry

as a result of readily comprehensible description of areas of responsibility;

- The provision of practical information on ongoing programs and activities in the country which are concerned with the management of chemicals;
- The establishment of a process which can facilitate the exchange of information and dialogue among government Ministries concerned with the sound management of chemicals, and to assist Ministries in learning from each others experience as a basis for improved cooperation;
- The strengthening of the national decision-making capabilities related to the management of chemicals;
- To facilitate the exchange of information and dialogue between government and parties outside of government such as industry, labor and grass-roots organizations, and
- The establishments of an authoritative document, which can serve as a basis for further efforts to strengthen the national system for the management of chemicals through involvement of all concerned parties.
- The promotion of communication and exchange of information on the international level.

Further help, comments corrections and additions will be gratefully received.

Table of Contents

Chapter 1: National Background Information

1.1 Physical and Demographic Context

(Soures of data is statistical yearbook for June 2003 - CAPMAS)

- **Location**

Egypt enjoys a unique geographical location. It is an Arab African country, being situated on the northeastern corner of the African continent. It is also partly an Asian country, being linked to Asia by the Sinai Peninsula, which has always played a vital role over history as a crossing point between the continents of Asia, Africa and Europe. Due to its singular geographical situation, Egypt has always been a connecting link between the world continents. Although Egypt's position was affected following the discovery of the Cape of Good Hope route, the country later regained its vital role after the digging of the Suez Canal thus representing an ideal gateway to Europe, Africa , MENA region and the rest of the world . Egypt lies between latitudes 22" and 32" and between longitudes 24" and 37" to the east of Greenwich line.

- **Geographical Borders**

Egypt is bounded as follows:

- To the north, by the Mediterranean Sea with a 995 km long coast.
- To the east, by the Red Sea with a 1941 km long coast.
- To the northeast, by 265 km long borders with Palestine and Israel.
- To the west, by 1105 km long borders with Libya.
- To the south, by 1280 km long borders with Sudan.

- **Geography of Egypt**

The Nile Basin:

The River Nile, which is 6690 km long, is the second longest river in the world. It runs through the following countries:

- Tanzania
- Congo
- Burundi
- Rwanda
- Kenya
- Uganda
- Ethiopia
- Sudan
- Egypt

It may be divided into the following climatic regions: -

- ***The Equatorial Plateau, where the weather is hot and rainy the year round;***
- ***The Sudan Valley. Two seasons are distinguished: hot and rainy, and hot and dry;***
- ***The Nubian Desert and Upper Egypt (from Atbara to Cairo): hot and dry in summer; cold in winter;***
- ***Lower Egypt (from Cairo to the Mediterranean): hot and dry in summer; rainy in winter;***
- ***The Ethiopian Plateau: heavy rain in summer;***
- ***The Egyptian coasts have total length of approximately 2936 km, of which 995 km is on the Mediterranean and 1941 km is on the Red Sea.***

The Major Geographical Regions are: -

I. The Nile Valley

(4% area of A.R.E.) It begins southern form north of Wadi Halfa to Mediterranean Sea and it is divided into: -

1. Upper Egypt

(Form Wadi Halfa to south of Cairo):

The Nile Valley, south of Aswan is a desert region where the mountainous land on both sides of the valley is 1000 meters above sea level in the east and 800 meters in the west. This area is an extension of the Sahara Desert, and is the least fertile part of the Valley .The Nile runs from Aswan to Cairo through a valley, which is from 2 to 15 km wide. It is widest at Kom Umbou, where it is 15 km wide. On both sides of the Valley, there are chains of rock hills, which are 300 meter above level.

2. Lower Egypt

(*Extended from south of Cairo to Mediterranean coast in the north):*

Twenty-five km north of Cairo, the Nile forks into two main branches namely the Rosetta and Damietta branches between these two branches lays the Delta which is the most fertile land in the world.

II. The Suez Canal Zone:

This Zone extends from the Gulf of Suez to the Mediterranean Sea its length is about 160 km

III. The Eastern Desert:

(28% of area of Egypt.) It extends from Nile Valley to the Eastern Borders of Egypt at the Red Sea till Rafah & it is divided into: -

1. The Northern Zone (Sinai desert):

Sinai is veritable gateway to Egypt from the east. It is triangular in shape, and stretches for 400 km from north to south, and 200 km from east to west. It is generally hot during the summer, stormy and exposed to cold air currents during the winter.

Sinai is divided into:

i. ***The Northern Part: Includes the coastal strip, which extends from Rafah to Port-Said. Water is abundant in this area due to heavy rainfalls.***
ii. ***The Central Part: This is a steep rocky plateau 3000 feet above sea level. Water in this part is scarce.***
iii. ***The Southern Part: This is a steep rocky area 10000 feet above sea level, water are abundant due to heavy rainfall.***

2. The Southern Zone:

It extends from Southern of Cairo – Suez desert road till the boundaries of Egypt and Sudan. This is a sterile area characterized by a range of mountains 2000-meters high and stretches along the coast of the Red Sea. It is rich with minerals and quarries. Kusair, Ghardaka, Ras Gharb and Safaga are small Red Sea harbours.

IV. The Western Desert:

This desert extends from the Nile Valley in the east to the Egypt-Libyan boundaries in the north to the southern boundaries of Egypt. It represents two-thirds of the total land area of Egypt (680000sq km), its average altitude is 500 meters.

The Northern Zone: This is the northern plateau and the region of the Great Depressions, it includes Siwa Oasis, Qattara Depression, Wadi EI-Natroun and Baharia Oasis.

The Southern Zone: Includes the Farafra, Kharga, Dakhla and Owaynat Oasis.

- **Climate**

Climate is determined by many factors, chief of which are location, terrain and overall system of atmospheric pressure and water surface. Basically Egypt lies within the dry tropical region, except for the northern parts that lie within the warm moderate region, with a climate similar to the Mediterranean region, characterized by hot dry summers, and moderate winters with little rainfall, increasing along the coastal areas.

- **Water Resources**

Egypt depends, for its water supply on three fresh water sources namely: surface water from the River Nile, rain and storm water and subterranean water. While the Nile remains, for Egypt, as the main source of fresh water, there are additional, albeit limited resources consisting of the following:

- Recycling agricultural drainage water resulting from irrigating cultivated land, either used as such or mixed with fresh Nile water;
- ***Treated sanitary wastewater;***

Quantity of water available for use at present is 61.61 billion cubic meters per annum, broken down as follows;

- ***53.3 billion cubic meters of Nile water from the Aswan Dam reservoir, to irrigate cultivated land (old and newly reclaimed);***
- ***3.3 billion cubic meters of underground water, in the Delta, Upper Egypt and Sinai, for drinking purposes;***
- ***7.2 billion cubic meters of recycled agricultural drainage water, for non-consumer purposes;***

- **Area**

Egypt has a total area of about 1002000 Sq. kilometers, of which only 35189 Sq. kilometers, i.e.; 3.6% are populated.

- **Population**

- ***The earliest census in Egypt is dated to be in 3340 BC. In modem times, censuses began in 1800, when Egypt's population was 2.5 millions.***
- ***This estimate was followed by a mid-century 19th count of 4.5 millions.***
- ***In 1882, population in Egypt reached 6.7 millions.***
- ***In 1996 CAPMAS carried out the twelfth population, Housing and Establishment Census.***

- ***The final results of the 1996 Census indicated that, the total population inside Egypt reached 59.3 millions against 48.3 millions in 1986.***
- ***According to the 1996 Census, nearly 40% of the total urban population lived in Cairo and Alexandria. Cairo, the capital, had a population of nearly 6.8 millions and nearly 3.3 millions in Alexandria.***
- ***The population growth rate decreased from 2.8% in the period 1976-1986 to 2.1% in the period 1986-1996.***
- ***The estimates of population inside Egypt on 1st of January 2001 reached 64.7 millions and on 1st of July 2003 reached 67.5 millions***
- ***The estimates of annual population growth rate in 2001 reached 1.69%***
- ***The crude death rate declined from 6.7 per thousand in 1995 to become 6.4 per thousand in 2002.***
- ***Life expectancy at birth for males increased from 62.8 years in 1991 to 67.1 years in 2001 and from 66.4 years to 71.5 years for females.***
- ***The reported crude birth rate declined from 27.9 per thousand in 1995 to 27.4 per thousand in 2002 (Including Egyptian abroad).*** ((Statistical year book for year 2002))

The 1996 census by copmpeareson with 1986 census shows the following:

- Total number of population as of 1996, is 61492914 against 50405238 according to the 1986 Census, with an increase of 11087676.
- Males accounted (30.352million) for 51.2% of the population and females (28.961 million) for 48.8%, reflecting the same percentage of the 1986 census.
- The number of people residing within the country rose to 59312914 from 48254238 in 1986; Egyptian expatriates abroad, on temporary immigration basis fell to 2180000 against 2151000 in 1986, in addition to 720000 permanent Egyptian immigrant's abroad. According to United Nations' data, Egypt ranked, in terms of population, seventeenth among world countries.
- Population of Cairo Governorate rise to 6800992 in 1996, with an increase of 720784 at a percentage of 11.9% compared to the 1986 census. In terms of population, Cairo ranks the twenty first in the order of world cities. The labor force raised to 17795647 accounting for 35.4%of the total population, compared to 13,400,387 accounting for 34.4% of total population in 1986.
- Rate of immigration of population from rural to urban areas decreased by 1 %.

- Family size decreased to 4.7 persons compared to 4.9 persons according to the 1986 census.

Table 1-A: Population Growth Rate

Indicator	*Rate*	*Year*
Population Growth Rate	2.1%	1996-2000
Birth Rate/1000	27	1999
Mortality Rate /1000	6.4	1999
Total Fertility Rate	***3.4***	***1996-1998***

- **Capital**

Cairo, the capital of Egypt is a time-honored city with an outstanding position among world capitals. It has an estimated population of 67.3 ranking the seventeenth among world cities in order of population, and the largest in the Arab world and Africa.

- **Language**

Arabic is the official language of Egypt.

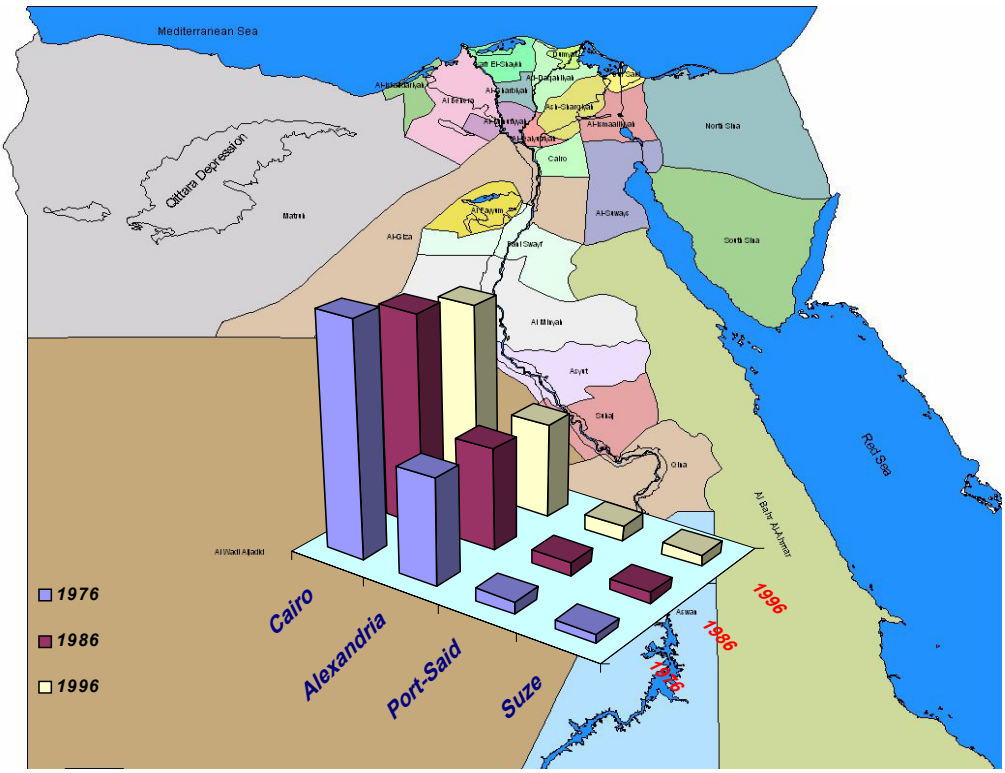
Table 1-B: Some Basic Information about Egypt by Census Years (1986 -1996).

Item	*Census Years*	
	1996	***1986***
Total population in (000) (excl. Egyptian abroad)	59313	48254
Major cities in urban governorates (Capitals)	4	4
Percentage of population in major cities	18.6	20.2
Number of towns in Lower Egypt (towns and capitals of governorates)	108	90
Number of towns in Upper Egypt (towns and capitals of governorates)	78	70
Percentage of urban population in Lower and Upper Egypt.	23.2	23.1
Number of villages in Lower Egypt.	2468	2467
Number of villages in Upper Egypt.	1664	166.2
Percentage of rural population in Lower and Upper Egypt.	56.8	55.5
Number of towns in frontier governorates	37	31
Percentage of rural population in Lower and Upper Egypt.	1.4	1.2
Total area of Egypt (in 000.sq.km)	***1002***	***1002***

Table 1-C: Percentage Distribution of Population by Governorate (1986 and 1996 Censuses)

Governorate	*1986*		*1996*	
	Order	***Percent to pop***	***Order***	***Percent to pop***
Cairo	1	12.58	1	11.50
Alexandria	6	6.06	7	5.60
Port-Said	20	0.83	20	0.90
Suze	21	0.68	21	0.68
Total Urban Gov.		***20.15***		***18.68***
Damietta	18	1.54	18	1.54
Dakahlia	3	7.22	4	7.10

Sharkia	4	7.08	3	7.20
Kalyoubia	9	5.21	9	5.60
Kafr Al-Sheikh	14	3.75	14	3.70
Al-Gharbia	7	5.98	6	5.70
Al-Monofia	12	4.60	12	4.70
Behera	5	6.73	5	6.73
Ismailia	19	1.13	19	1.20
Total Lower Gov.		***43.24***		***43.47***
Al-Giza	2	7.72	2	8.10
Al-Fayoum	15	3.22	15	3.40
Beni Swaif	16	3.00	16	3.10
Menya	8	5.48	8	5.60
Asyout	13	4.59	11	4.70
Sohag	10	5.07	10	5.30
Qena	11	4.10	13	4.10
Aswan	17	1.68	17	1.60
Luxur	22	0.60	22	0.60
Total Upper Egypt Gov.		***35.46***		***36.50***
Red Sea	25	0.20	25	0.30
Al-wadi Algdeed	26	0.20	26	0.20
Mersa Matrouh	24	0.30	24	0.40
North Sinai	23	0.40	23	0.40
South Sinai	27	0.10	27	0.10
Total Frontier Egypt Gov.		***1.20***		***1.40***



	Cairo	Alexandria	Port-Said	Suze
1976	13.85	6.33	0.72	0.53
1986	12.58	6.06	0.83	0.68
1996	11.5	5.6	0.9	0.68

Table 1-D: Urban/ Rural Population by Sex in Census Years (1886-1996)

Census Years	*Urban / Rural*	*Male*	*Female*	*Total*	*Urban to Rural*
1986	Urban	10909	10307	21216	44.0
	Rural	13800	13238	27038	56.0
	Total	***24709***	***23545***	***48254***	***100.0***
1996	Urban	12958	12328	25286	43.0
	Rural	17394	16633	34027	57.0
	Total	***30352***	***28961***	***59313***	***100.0***

Table 1-E: Growth Rates in Intercensal Periods

Period	*Average Growth Rates*
1897-1907	1.46
1907-1917	1.28
1917-1927	1.09
1927-1937	1.16
1937-1947	1.75
1947-1960	2.34
1960-1966	2.52
1966-1976	1.92
1976-1986	2.75
1986-1996	2.08

Table 1-F: Estimates of Population by Sex and Governorates, 1/1/2003 (in number)

Governorates	*Total*	*Female*	*Male*
Cairo	7283	3557	3726
Giza	5208	2517	2691
Sharkia	4691	2279	2412
Dakahlia	4570	2242	2328
Behera	4339	2128	2211
Menia	3687	1802	1885
Gharbia	3661	1810	1851
Kalyoubia	3584	1735	1849
Alexandria	3577	1750	1827
Suhag	3481	1700	1781
Asyout	3122	1520	1602
Menofia	2994	1453	1541
Qena	2697	1340	1357
Kafr-el-shiekh	2403	1195	1208
Fayoum	2208	1062	1146
Beni-Suef	2062	1009	1053
Aswan	1043	520	523
Damietta	995	486	509
Ismailia	789	386	403
Port Said	506	247	259
Suez	452	220	232

Luxor	392	191	201
North Sinai	280	134	146
Matrouh	240	114	126
Red Sea	172	74	98
El-Wadi El-Gidid	156	75	81
South Sini	60	23	37
Pop inside Egypt	***64652***	***31569***	***33083***
Egyptian's Abroad	***1900***		
Total population.	***66552***		

Table 1-G: Population Forecasts Broken Down by Sex and Specific Age Groups (1/1/2000)

Age group / ***Description***		***Population below 6***	***Education Age 6-24***	***Productivity Age (Working age) 15-64***	***Old Age 65+***
Population (in thousand)	***Male***	4598	13825	18939	1135
	Female	4366	12791	18336	1016
	Total	8964	26616	37275	2151
% of total population	***Male***	14.19	42.68	58.47	3.50
	Female	14.12	41.38	59.32	3.29
	Total	14.16	42.04	58.88	4.00

Table 1-H: Expectation of Life at Birth, by Sex

YEAR	***Female***	***Male***
1960	53.8	51.6
1976	57.7	52.7
1986	63.5	60.5
1991	66.4	62.8
1996	69.0	56.1
1999	70.5	66.3
2001	71.5	67.1
2006	73.6	69.2
2011	75.5	70.9
2016	77.2	72.5
2021	78.7	73.9

- Rate of immigration of population from rural to urban areas decreased by 1%.

- Family size decreased to 4.6 persons compared to 4.9 persons according to the 1986 census.

Education

- The following results have been achieved due to the efforts excreted in the field of education.
- Increasing number of general primary education classes by 5.5 % in 01 / 2002 compared with 94 / 95, and the percentage of AI-Azhar primary classes increased by 19.2 %.
- Increasing number of general preparatory classes by 22.8 % in 01/2020 compared with 94 / 95, and increased by 75.5 % in Al-Azhar.
- Increasing number of general secondary classes by 32.1 % in 01 / 2002 compared with 94 / 95, and increasing number of classes in AI-Azhar by 58.9 %.

(Soures of data is statistical yearbook for year 2002 - CAPMAS)

Rate of illiteracy dropped by 11%. According to the 1996 census, the number of illiterate persons at the age of ten and above was 17347745 representing, 38.6% of the total population, compared to 17147597 illiterates according to the 1986 Census, representing 49.6%.

Table 1-I : Population (10 Years and Over) by Educational Status and Sex in Urban/ Rural Areas (The final results of the 1996 census)

Educational Status	***Total***			***Rural***		***Urban***	
	Total	***Female***	***Male***	***Female***	***Male***	***Female***	***Male***
Illiterate	17646025	11005746	6640279	7721025	4616042	3284721	2024237
Read & Write	8399253	3209817	5189436	151740	2929775	1692677	2259661
Primary	4155224	1829547	2325677	915416	1291568	914131	1034109
Less than University. Certificates (1)	12069101	5026752	7042349	1932839	3397005	3093913	3645344
University	2547995	852998	1694997	121145	442895	731853	1252102
N.S.	13822	6067	7755	3949	4845	2118	2910
TOTAL	***44831420***	***21930927***	***22900493***	***12211514***	***12682130***	***9719413***	***10218363***
Percentage distribution							
Illiterate	39.36	50.18	29.00	63.23	36.40	33.80	19.81
Read & Write	18.74	14.64	22.66	12.42	23.10	17.42	22.11
Primary	9.27	8.34	10.16	7.50	10.18	9.41	10.12
Less than University. Certificates (1)	26.92	22.92	30.75	15.83	26.79	31.83	35.67
University	5.68	3.89	7.40	0.99	3.49	7.53	12.25
N.S.	0.03	0.03	0.30	0.03	0.04	0.02	0.03
TOTAL	***100.00***	***100.00***	***100.00***	***100.00***	***100.00***	***100.00***	***100.00***

(1) Excluding primary

1.2 Political/ Geographic Structure of the Country

(Soures of data is statistical year book for year 2002 - CAPMAS)

- **Country name:**

  Conventional long form: Arab Republic of Egypt
  conventional short form: Egypt
  local long form: Jumhuriyat Misr al-Arabiyah
  local short form: Misr
  former: United Arab Republic (with Syria)

- **Government type:**

  Republic

- **Capital:**

  Cairo, which is the seat of government and is the place where most diplomatic missions, have their offices.

- **Administrative divisions:**

  26 governorates (muhafazat, singular - muhafazah); Al Daqahliyah, Al Bahr al Ahmar, Al Buhayrah, Al Fayyum, Al Gharbiyah, Al Iskandariyah, Al Isma'iliyah, Al Jizah, Al Minufiyah, Al Minya, Al Qahirah, Al Qalyubiyah, Al Wadi al Jadid, Ash Sharqiyah, As Suways, Aswan, Asyut, Bani Suwayf, Bur Sa'id, Dumyat, Janub Sina', Kafr ash Shaykh, Matruh, Qina, Shamal Sina', Suhaj

- **Executive branch:**

  Chief of state:

  President Mohammed Hosni MUBARAK (since 14 October 1981) head of government: Prime Minister Atef OBEID (since 5 October 1999)

  Cabinet:

  Cabinet appointed by the president
  Elections**:**

  President nominated by the People's Assembly for a six-year term, the nomination must then be validated by a national, popular referendum; national referendum last held 26 September 1999 (next to be held NA October 2005); prime minister appointed by the president.

- **Legislative branch:**

  Bicameral system consists of the People's Assembly or Majlis al-Sha'b (454 seats; 444 elected by popular vote, 10 appointed by the president; members serve five-year terms) and the Advisory Council or Majlis al-Shura - which functions only in a consultative

role (264 seats; 176 elected by popular vote, 88 appointed by the president; members serve NA-year terms)

- **Elections**:

People's Assembly - three-phase voting - last held 19 October, 29 October, 8 November 2000 (next to be held NA November 2005); Advisory Council - last held 7 June 1995 (next to be held NA)

- **Election results:**

People's Assembly - percent of vote by party-NDP(National Democratic Party) 88%, independents 8%, opposition 4%; seats by party - NDP 398, NWP(New wafd party) 7, Tagammu 6, Nasserists 2, LSP(Socialist Liberal party) 1, independents 38, undecided 2; Advisory Council - percent of vote by party - NDP 99%, independents 1%; seats by party - NA

Table 1-J: Percentage of Population and Area by Governorates (1/1/2000):

(Soures of data is statistical yearbook for year 2000 – CAPMAS)

Provinces located at North Delta

Governorate	***Population (%)***		***Total area in (Km2)***	
Cairo	11.5	11.31	2142	19042
Alexandria	5.60	5.55	267936	167550
Al-Behera	6.70	6.72	1012948	694362
Kafr Al-Sheikh	3.80	3.73	343712	374825
Al-Gharbia	5.70	5.68	194221	1942411
Al-Monofia	4.70	4.63	153213	243593
Al-Kalubia	5.60	5.55	100109	107272
Al-Sharkia	7.20	7.24	417955	476428
Al-Dekhailia	7.10	7.08	34709	347100
Damietta	1.50	1.54	58917	66887

Provinces located at Upper Egypt

Governorate	***Population (%)***	***Total area in (Km2)***
Al-Giza	8.10	119100
Al-Fayoum	3.40	185600
Beni Swaif	3.10	136941
Menya	5.60	241165
Assiut	4.70	157400
Sohag	5.30	159392
Qena	4.70	174072
Aswan	1.60	100473
Luxur	0.61	22673

Provinces located at Suez Canal Area:

Governorate	***Population***	***Total area in (Km2)***

Port Said	0.79	132068
Ismailia	1.22	506696
Suez	0.70	900221

Provinces located at Sinai

Governorate	*Population*	*Total area in (Km2)*
North Sinai	0.43	405865
South Sinai	0.09	1679100

Provinces located at the Border of the country

Governorate	*Population*	*Total area in (Km2)*
Red Sea	0.27	7113
Mersa Matrouh	0.37	171641
Al-wadi Algdeed	0.24	108224

1.3 Industrial and Agricultural Sectors

(Soures of data is statistical year book for year 2000 & year 2002 - CAPMAS)

Industrial & Mining Sector:

Data in this section reflects some achievements in the field of industries. By comparing data of 00/ 2001 with 1995/1996 we can notice the following:

- ***Quantity of iron ore increased by 14 %***
- ***Quantity of hydrogenated oil increased by 28 %***
- ***Quantity of natural gas increased by 102 %***
- ***Quantity of tanned leather increased by 48 %***

Sources of data in this section are the Ministry of Industry and related authorities

The major industries in Egypt are:

- ***Textile and Cotton industry***
- ***Mining (Petrol oil, Natural gas, Phosphate, Manganese, Iron)***
- ***Fertilizers industries (Phosphate & Nitrogenous fertilizers)***
- ***Aluminum industry***
- ***Steel and iron industries***
- ***Cement industries***
- ***Carpet industries***

Agricultural Sector:

The agricultural sector plays a major role in the structure of the national economy of Egypt. Agricultural production is closely connected with the livelihood of the people. In addition, the agricultural exports represent a major part of the foreign trade of Egypt. Accordingly, the Government initiated programmes for a horizontal expansion in order to increase the area under cultivation, and a perpendicular expansion, which increases the yield of the cultivated areas.

The reclaimed area during the period 1952 to 00 /2001 reached 3199 thousand feddan. The total cultivated areas with winter crops, summer crops and Nile crops were 13188 compared to 12832 and 12000 in 1999 and, 1995 respectively. Moreover, the production of fish increased by 60% during the comparison period.

The use of agrochemical is decreased than before due to the restricted regulations and awareness of the public to the harmful impact of chemicals.

Table 1-K: Distributed Insecticides to be used in Agricultural Sector.

Governorate	Quantity (ton)		
	* 2002/01	2001/00	2000/99
Alexandria	1	1	5
Kalyoubia	40	24	18
Menoufia	204	148	112
Gharbia	141	69	52
Kafr- El- Sheikh	259	193	168
Sharkia	198	85	100
Ismailia	3	7	4
Dakahlia	157	72	110
Damietta	23	25	22
Behera	361	308	319

Giza	10	10	1
Fayoum	66	46	32
Beni-Suef	123	125	117
Menia	207	57	89
Asyout	41	34	120
Suhag	33	61	72
Qena	5	14	(1)
Aswan	2	14	4
Total	**1873**	**1292**	**1344**

(1) Less than one ton

Table 1-L: Overview of the Industrial and Agricultural Sector

Sector	***Number of Employees***	***Major Products in each Sector/Governmental***
Industrial/ Manufacturing Sector	729286	Textile, Cement, Iron & Steel, Chemicals, Wood, Food and Paper
Mining and Extraction	16018	Petroleum, Phosphate , Coke and Natural Gas
Agricultural Sector	6778000	Cotton, Rice,Wheat, Sugar-Cane, Vegetable and Fruits
Total	***7523304***	

Table 1-M: Structure of the Manufacturing/Agricultural Sector/Governmental

Sector	***Micro Farms Facilities[1]***	***Small Farms Facilities[2]***	***Medium Farms Facilities[3]***	***Big Farms Facilities[4]***
Industrial/ Manufacturing Sector	5455	22924	99301	620860
Agricultural Sector	658300	42000	25000	2000
Total	***663755***	***64924***	***124301***	***622860***

[1]: 1 to 10 employees (Industrial)/1 to 10 Acres (Agricultural)

[2]: 10 to 100 employees (Industrial)//10 to 20 Acres (Agricultural)

[3]: 100 to 500 employees (Industrial)/20 to 50 Acres (Agricultural)

[4]: More than 500 employees (Industrial)/More than 100 Acres (Agricultural).

Table 1-N: Services Rendered by the Agrarian Reform co-operative Societies, By Type of Service.

Item	*02/01*	*01/00*	*00/99*	*99/98*	*98/97*	*97/96*	*96/95*
Seeds	20185	23317	26838	32642	42642	38916	27390
Fertilizers	83724	73582	39967	52477	64180	85187	77192
Insecticides	*37566*	*26634*	*32778*	*30574*	*37697*	*48609*	*42043*
Total	***141475***	***123533***	***99583***	***1155693***	***144519***	***172712***	***146625***

Table 1-O : Breakdown of Agricultural Production by Region

Region	*Major Crops*	*Total Quantity Of Crops 1999*	*Size of Productive Areas(Feddans) 1999*
Delta	Cotton [1]	3076	539573
Delta&upper Egypt	Wheat [2]	6.3	1678651
Delta	Rice [2]	5.6	1501167
Upper Egypt	Sugar-Cane [2]	13.7	271218
Delta&upper Egypt	Vegetables [2]	15.2	613732
Delta&upper Egypt	Fruits [2]	7	429005

[1] Metric Qantar in thousands
[2] Ton in Million

Table 1-P: Breakdown of Industrial Production by Region (1997/1998 for public sector; 1998 for private sector):

Region	*No. of Establishments*		*Value of Production (in 1000 L.E.)*		*No. of Employees*	
	Public	*Private*	**Public**	*Private*	*Public*	*Private*
Cairo	262	2135	8241076	12462895	145662	115055
Alexandria	141	1101	9664807	9605785	99474	95036
Port Said	11	94	200477	702142	6352	8783
Suez	12	112	3864070	950853	10767	8287
Damietta	8	102	178696	128992	5366	2618
Dakahlia	34	375	636485	1431275	16607	11379
Sharkia	30	760	291065	10813166	10592	88475
Kalyubia	77	678	4915997	2698249	54458	48146
Kafr.El Sheik	24	153	209560	240423	950	4332
Harbia	44	587	2940081	1286259	58503	27435
Enaufia	17	276	549860	1255614	9049	15527
Behera	45	271	960266	244584	43302	7353
Ismailia	8	100	65033	492696	1365	6648

Giza	97	955	3241849	8447853	41326	98763
Beni Suef	14	144	394071	82164	3709	3184
Fayum	12	250	129572	380140	2798	5671
Menia	22	397	437960	117658	6056	6676
Asyut	20	94	2005343	118806	9797	2199
Suhag	10	159	497447	399409	5154	5179
Qena	7	104	2463124	275023	19220	2802
Aswan	14	56	631275	180020	9961	2461
Red Sea	7	13	493353	7265963	3913	6300
El-Wadi El-Gedid	1	14	5911	8218	45	621
Matruh	3	26	145559	1928874	357	2443
South Sinai	1	6	44654	18242	900	140
North Sinai	3	15	96641	3590548	819	3344
Luxur	1	10	8	2836	5	142

Table 1-Q: Some Petroleum Production by Product

(In thousand metric ton)

Product	***12/01***	***01/00***	***00/99***	***99/98***	***98/97***
Benzene	5205	2337	2300	2208	2030
Kerosene	928	998	1011	1072	1260
Jet Fuel	900	990	920	939	860
Gas Oil	5809	5552	5989	6007	5889
Fuel Oil	10242	10567	11785	12773	12700
Butane Gas	473	455	486	436	445
Natural Gas	19605	18304	14500	11872	10434
Asphalt	882	881	957	954	714

1.4 Industrial Employment by Major Economic Sectors.

(Soures of data is statistical year book for year 2000 - CAPMAS)

Table 1-R: Industrial Employment by Major Economic Sectors (Value in 1000 L.E)

ISIC Rev. 3	***Description***	***Total Employment***		***Output Value /Year***	
		Public 97/98	***Private 98***	***Public 97/98***	***Private 98***
15	Manufacture of food products	81414	141810	7730745	11970706
16	Manufacture of tobacco products	13662	3779	1913210	289179
17	Manufacture of textiles	169779	89180	3450389	5680221

18	Manufacture of meaning apparel	4165	58370	73429	225438
19	Tanning and dressing of leather	4207	7695	53573	217897
20	Manufacture of wood and products	4129	5848	103267	198838
21	Manufacture of paper and paper products	6557	11308	245191	119595
22	Publishing, printing and reproducts	1024	21864	18793	196774
23	Manufacture of coke refined	24751	24109	14073171	17867
24	Manufacture of chemicals and chemical products	56814	36291	3497915	821813
25	Manufacture of rubber and plastics	7236	19407	366477	150658
26	Manufacture of other non-metallic products	33179	54123	3238081	362313
27	Manufacture of basic metals	52328	16808	3859227	40428
28	Manufacture of fabricated metal products	21203	19856	607783	1117009
29	Manufacture of machinery and equipment	20490	24428	619324	296676
30	Manufacture of office accounting and computing	-----	597	-----	183309
31	Manufacture of electrical machinery and apparatus	4262	13647	234754	182994
32	Manufacture of radio television and communication	5428	4529	404910	62485
33	Manufacture of medical precisian and optical	5261	1101	93676	65052
34	Manufacture of motor vehicles and trailers	11127	9459	810753	249105
35	Manufacture of other transport equipment	13056	858	560036	36068
36	Manufacture of furniture	1520	11844	6869	69815
37	Recycling	-----	100	-----	1190

Chapter 2: Chemical Production, Import, Export and Use

2.1 Chemical Production, Import and Export

(Source of data is statistical yearbook for year June 2003- CAPMAS)

The production and import of chemicals for local use are considered to be high quantities compared to Export . Table 2.A: shows Chemical production ton/ year.

Table 2-A: Chemical Production, Import and Export in year 2000.

	Import		***Export***	
Chemical Category	***Quantity***	***Value***	***Quantity***	***Value***
Fertilizers	2770294	154717	638257	270784
Petroleum products	3600004	3579987	7461566	589534
Industrial (used in manufacturing/processing facilities)	Not available	Not available	Not available	Not available
Total	***3870298***	***3734704***	***8099823***	***860318***

Imports and Exports are for all sectors (Governmental, private investment)

Table 2-B: Some Chemical Industries Production, by product **(Source of data is statistical yearbook for year June 2003- CAPMAS)**

Product	***Unit***	***01/00***	***00/99***	***99/98***	***98/97***
Carbon Dioxide	1000 Ton	5	9	12	9
Tanned Leather	Mill. L.E.	943	868	874	898
Glue	1000 Ton	42	40	39	35
Ferro silicon (75%)	Ton	52923	54769	60655	56703
Tyres, outer	1000.Tyre	1250	1037	1426	1498
Tubes, inner	1000.Tube	1081	1626	2172	2004
Soap	1000 Ton	134	216	224	224
Glycerin	Ton	1493	2869	2884	2884
Detergents	1000 Ton	238	556	530	382
Caustic Soda	1000 Ton	73	44	58	68
Paper & Cartoon	1000 Ton	1874	1829	547	785
Super Phosphate	1000 Ton	1018	1151	1269	1373
Cigarettes	Milliard	65	62	59	57

Tobbacco Products	Ton	60900	56595	58283	54997

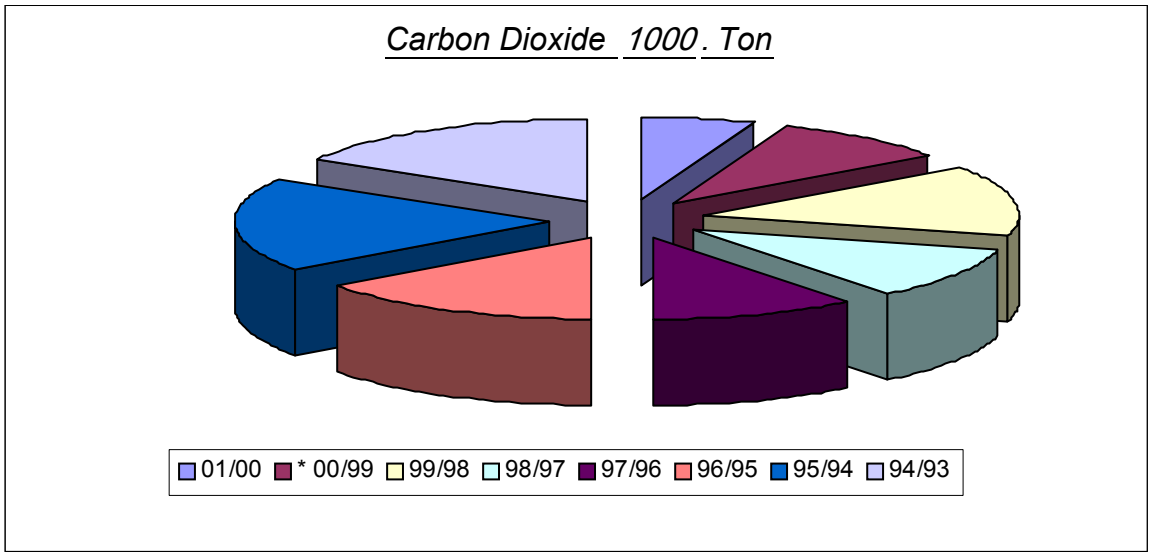


Table 2-C: Value of Some Industrial Production [(1)] (In mill. L.E.)

Sector	***01/00***	***00/99***	***99/98***	***98/97***	***97/96***
Food, Beverage & Tobacco Industries	23351	20434	18959	19140	18018
Mining & Quarries	320	320	360	344	325
Spinning & Weaving	7015	10095	8391	9421	7221
Wood Products	342	541	730	475	413
Paper & Chemicals	9844	9841	10787	10087	8285
Pharmaceutical, Drugs & Medical Supplies	4476	4257	3424	3425	3171
Refractories	6640	6247	6550	6198	5092
Metal products	9412	8771	7161	5796	5051
Engineering Industries	7782	7894	7459	7895	4977
Electrical Industries	2464	3313	3782	3161	2330
Total	71646	71713	67603	65942	54883

(1) Excludes governmental workshops, military factories, ginning and grinding industries, bakery, tea packing, press and publishing.

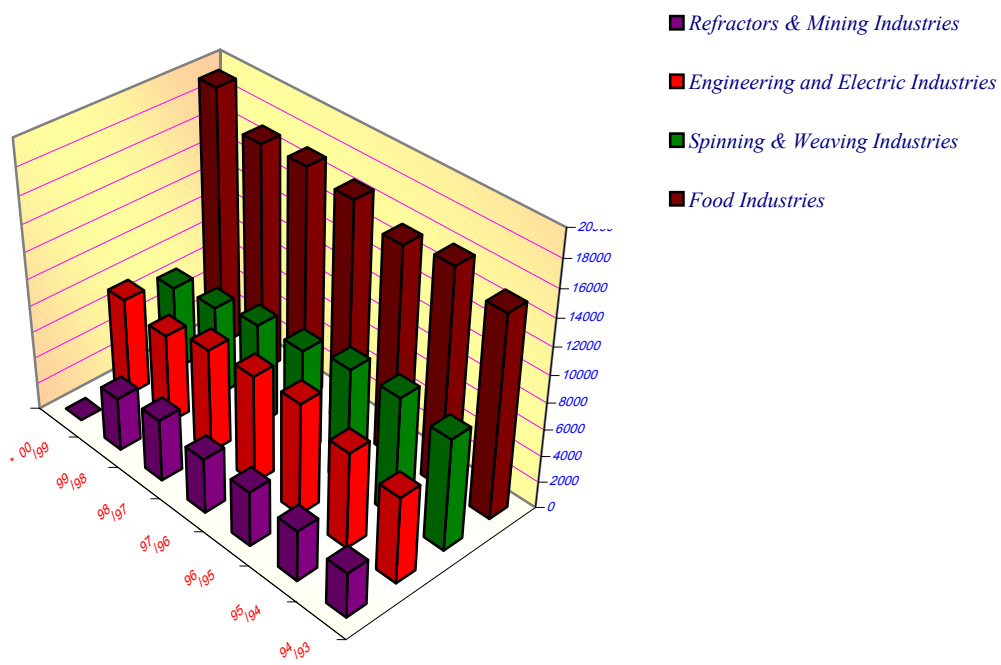


Table 2-D: Some Mining Production, by Type of Product

Product	***Unit***	***02/01***	***01/00***	***00/99***	***99/98***	***98/97***
Phosphate	1000 Ton	1641	1295	1177	1165	1059
Iron ore	1000 Ton	*2399	3226	2932	3002	3001
Salt (common)	1000 Ton	1381**	2578	1990	2588	2488
Kaolin	1000 Ton	125	226	205	314	286
Quartz	1000 Ton	103	69	63	103	94

- **Excluding North Sinai production**
- **Only public sector**

Table 2-E: Some Food Industries Production, by Product

Product	*Unit*	*01/00*	*00/99*	*99/98*	*98/97*
Glucose	1000 Ton	72	76	62	45
Chocolate	Ton	15613	29208	24629	23741
Vegetables Preserved	Ton	12311	15901	15437	16089
Tomato Paste (canned)	Ton	17909	18323	8056	6864
Yeast	Ton	22370	24380	29088	31126
Starch	1000 Ton	27	27	35	37
Cotton Seed Oil	1000 Ton	352	394	394	390
Molasses	1000 Ton	584	520	475	474
Cigarettes	Milliard	65	62	59	51
Tobacco Products	Ton	60900	56595	58283	54997
White Cheese	1000 Ton	312	287	289	281
Processed Cheese	1000 Ton	32	38	28	20
Pasteurized Milk	1000 Ton	58	53	22	24
Hydrogenated Oils	1000 Ton	309	342	261	268

Table 2-F: Some Spinning and Weaving Production, by Product

Product	*Unit*	*01/00*	*00/99*	*99/98*	*98/97*
Cotton Textiles	Mill. L.E.	1218	1559	1524	1559
Wool Yarn	1000 Ton	19	18	12	14
Wool Textiles	Mill.M	5	9	10	11
Textiles from Silk	Mill. L.E.	338	368	263	258
Jute Yarn	1000 Ton	1	5	10	15
Jute Textiles	1000 Ton	2	4	9	13

Blankets & Rugs	Mill. L.E.	419	1007	949	989

Table 2-G: Exports, by Items Exported (In thousand L.E.)

Item	*2002*	*2001*	*2000*	*1999*	*1998*
Fats, oils, and related products	66030	71145	82907	97374	24270
Prepared foodstuffs, beverages and tobacco	333088	267329	199839	120122	112776
Mineral products	7697812	6880248	7008325	4514877	3336353
Chemical products	1188230	1109409	1024192	781389	881817
Artificial resins and plastic materials, cellulose and rubber	416991	467699	296542	405156	156596
Raw hides, skins, furs and fur products	121917	100509	79186	46969	59231
Paper, paperboard, paper-making materials, and related articles	144664	147198	90368	80654	89447
Textiles and textile articles	3622866	2880882	3242643	3035427	3272047
Footwear, headgear, umbrellas, and artificial flowers	6019	6762	58924	30445	23071
Products of stone, cement, asbestos, and glass	1087239	387452	1375232	351373	260792
Pearls, precious semiprecious stones, costume jewelers, and coins	658263	42606	3353	2663	2240
Base metals and related products	1812416	1230390	1066077	790411	981252
Machinery and mechanical and electrical appliances	272049	192614	161866	124163	76680
Vehicle, aircraft, and related parts	30159	20754	16046	22448	77476
Optical, cinematographic, surgical instruments and watches	7987	8271	7118	6533	9466

Table 2-H: Imports by Items Imported
(In thousand. L.E.)

Item	*2002*	*2001*	*2000*	*1999*	*1998*
Fats, oils, and related products	817948	697237	1050461	1426197	1833244
Prepared foodstuffs, beverages and tobacco	3644604	3399587	2638041	2764893	2805049
Mineral products	2860544	3074660	4471032	4846896	4098470
Chemical products	5669388	4620392	3971241	4455873	4380969
Artificial resins and plastic materials, cellulose and rubber	2664929	2655644	2685415	2914790	2693460
Raw hides, skins, furs and fur products	76014	67645	51922	36129	22232
Paper, paperboard, paper-making materials, and related articles	1287110	1503572	1220052	1713164	1921246
Textiles and textile articles	1110529	1064770	992177	1461408	1733576
Footwear, headgear, umbrellas, and artificial flowers	139624	118417	127113	134573	82789
Products of stone, cement, asbestos, and glass	630511	525602	587269	570913	565885
Pearls, precious semiprecious stones, costume jewellary, and coins	13222	111397	58541	183211	242658
Base metals and related products	5238543	4910708	4136795	5249910	5857483
Machinery and mechanical and electrical appliances	9594046	9743296	10783751	11997856	12146812
Vehicle, aircraft, and related parts	1585027	1588406	1927221	2200790	2504229
Optical, cinematographic, surgical instruments and watches	1193520	10558999	952151	1065330	1208569

Table 2-I: Exports of most important, by Commodity
(In thousand L.E.)

Item	*2002*	*2001*	*2000*	*1999*	*1998*
Petroleum oil, crude	1425238	1178408	1208465	998709	550704
Cotton, raw	1490235	740756	672905	816086	537774
Cotton, yarn	485125	486364	515504	420837	766958
Cotton, fabrics	122259	145807	182533	118033	184468
Clothing, manufactured	936380	947367	1089181	947600	1133108
Petroleum shale oils other than crude	5314280	4971737	5393518	1608114	1314378
Sugar cane, refined	139	15546	29	18	615
Aluminum bars, rods, angle shapes, and sections	21238	63835	40285	13752	20007

Table 2-J: Imports of Most important, by Commodity
(In thousand. L.E.)

Item	*2002*	*2001*	*2000*	*1999*	*1998*
Sugar refined	252426	226865	28564	191906	331639
Organic and inorganic chemicals	1951579	1708616	1570875	1583216	1531870
Cement	49529	126472	282940	701039	462854

2.2 Chemical use and regulatory structure by categories

Pesticides are mostly imported as technical material and formulated in the country. Pesticides used in Egypt are regulated by Agricultural Law No. 53 that was issued in 1966, as well as the Ministerial Decrees issued after that an interagency Pesticides

Committee, under the umbrella of the Ministry of Agriculture has been formed which is responsible for pesticide registration and licensing of imports. Before registration a pesticide is evaluated for efficacy for three successive years. At the time of registration it is examined for chemical and physical properties The Central Agricultural Pesticides Laboratory (CAPL) regulates pesticides through its enforcement system and penalizes violators.

There is an "Association for Agrochemical Producers and Affiliates" in the country, but there is no NGO s involved with pesticides.

2.3 Chemical Waste

Large amounts of chemical waste are generated during manufacturing processes.
The main categories of waste generated in different industrial sectors are summarized in Table 2-K.

Table 2-K: Chemical Waste Generation types.

Nature of Industry	*Type of Chemical Waste*
Industrial Governmental Sector	Various due to verities of emission released as example : Mercury Lead Chromium Cadmium Copper
Paper Industries	Organic &Inks
Engineering Industries	Sludge
Mineral Industries	Sludge
Electroplating Industry	Grease and oil product Sludge
Pesticides Manufacturing	Volatile organic compounds Particulate matter Sludge Spent catalysts Container residues Cyanide and heavy metals
Pharmaceutical Industry	Sludge Spent catalysts Spent solvents Toxic organic
Dairy Industry	Dissolved sugars and proteins

	Residues of additives
Textiles Industry	Heavy metals Phthalates

Chapter 2: Chemical Production, Import, Export and Use

2.1 Chemical Production, Import and Export

(Source of data is statistical yearbook for year June 2003- CAPMAS)

The production and import of chemicals for local use are considered to be high quantities compared to Export . Table 2.A: shows Chemical production ton/ year.

Table 2-A: Chemical Production, Import and Export in year 2000.

	Import		***Export***	
Chemical Category	***Quantity***	***Value***	***Quantity***	***Value***
Fertilizers	2770294	154717	638257	270784
Petroleum products	3600004	3579987	7461566	589534
Industrial (used in manufacturing/processing facilities)	Not available	Not available	Not available	Not available
Total	***3870298***	***3734704***	***8099823***	***860318***

Imports and Exports are for all sectors (Governmental, private investment)

Table 2-B: Some Chemical Industries Production, by product **(Source of data is statistical yearbook for year June 2003- CAPMAS)**

Product	***Unit***	***01/00***	***00/99***	***99/98***	***98/97***
Carbon Dioxide	1000 Ton	5	9	12	9
Tanned Leather	Mill. L.E.	943	868	874	898
Glue	1000 Ton	42	40	39	35
Ferro silicon (75%)	Ton	52923	54769	60655	56703
Tyres, outer	1000.Tyre	1250	1037	1426	1498
Tubes, inner	1000.Tube	1081	1626	2172	2004

Soap	1000 Ton	134	216	224	224
Glycerin	Ton	1493	2869	2884	2884
Detergents	1000 Ton	238	556	530	382
Caustic Soda	1000 Ton	73	44	58	68
Paper & Cartoon	1000 Ton	1874	1829	547	785
Super Phosphate	1000 Ton	1018	1151	1269	1373
Cigarettes	Milliard	65	62	59	57
Tobbacco Products	Ton	60900	56595	58283	54997

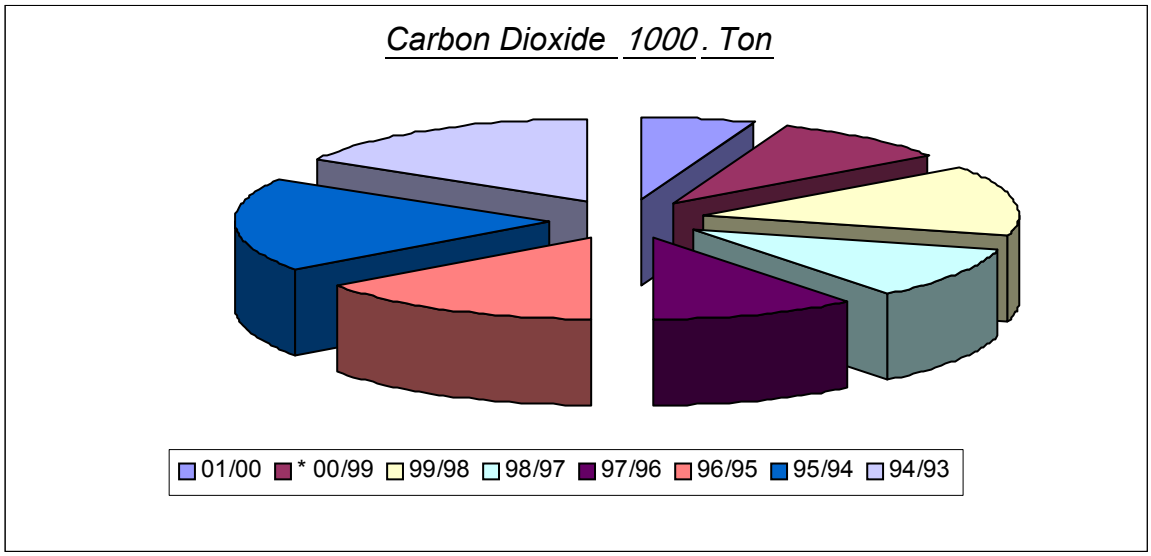


Table 2-C: Value of Some Industrial Production [1] (In mill. L.E.)

Sector	***01/00***	***00/99***	***99/98***	***98/97***	***97/96***
Food, Beverage & Tobacco Industries	23351	20434	18959	19140	18018
Mining & Quarries	320	320	360	344	325
Spinning & Weaving	7015	10095	8391	9421	7221
Wood Products	342	541	730	475	413
Paper & Chemicals	9844	9841	10787	10087	8285
Pharmaceutical,					

Drugs & Medical Supplies	4476	4257	3424	3425	3171
Refractories	6640	6247	6550	6198	5092
Metal products	9412	8771	7161	5796	5051
Engineering Industries	7782	7894	7459	7895	4977
Electrical Industries	2464	3313	3782	3161	2330
Total	71646	71713	67603	65942	54883

(2) Excludes governmental workshops, military factories, ginning and grinding industries, bakery, tea packing, press and publishing.

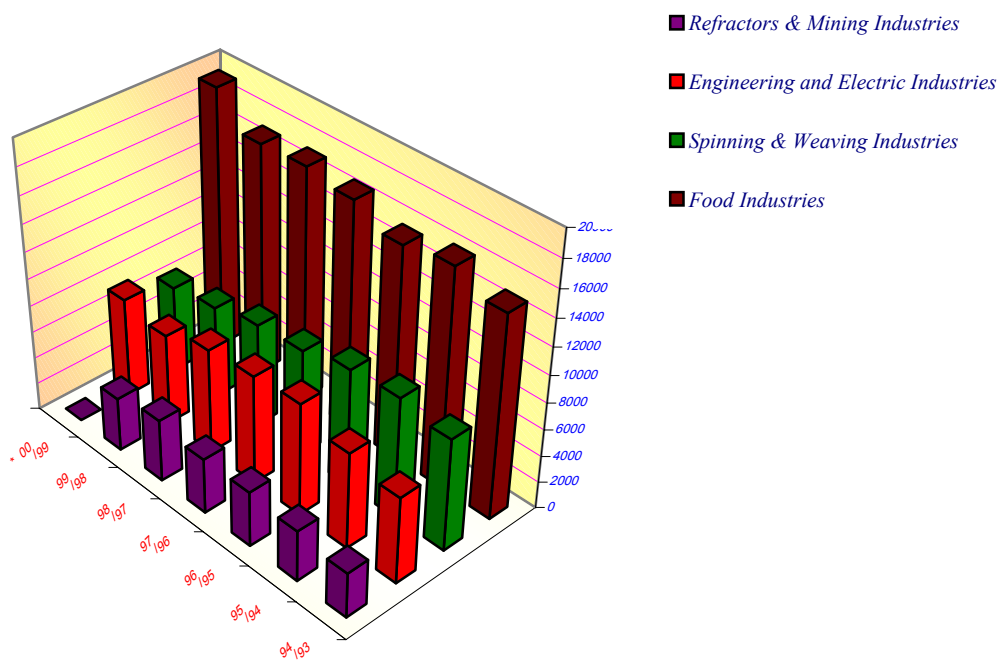


Table 2-D: Some Mining Production, by Type of Product

Product	***Unit***	***02/01***	***01/00***	***00/99***	***99/98***	***98/97***
Phosphate	1000 Ton	1641	1295	1177	1165	1059
Iron ore	1000 Ton	*2399	3226	2932	3002	3001
Salt (common)	1000 Ton	1381**	2578	1990	2588	2488
Kaolin	1000 Ton	125	226	205	314	286
Quartz	1000 Ton	103	69	63	103	94

- **Excluding North Sinai production**
- **Only public sector**

Table 2-E: Some Food Industries Production, by Product

Product	*Unit*	*01/00*	*00/99*	*99/98*	*98/97*
Glucose	1000 Ton	72	76	62	45
Chocolate	Ton	15613	29208	24629	23741
Vegetables Preserved	Ton	12311	15901	15437	16089
Tomato Paste (canned)	Ton	17909	18323	8056	6864
Yeast	Ton	22370	24380	29088	31126
Starch	1000 Ton	27	27	35	37
Cotton Seed Oil	1000 Ton	352	394	394	390
Molasses	1000 Ton	584	520	475	474
Cigarettes	Milliard	65	62	59	51
Tobacco Products	Ton	60900	56595	58283	54997
White Cheese	1000 Ton	312	287	289	281
Processed Cheese	1000 Ton	32	38	28	20
Pasteurized Milk	1000 Ton	58	53	22	24
Hydrogenated Oils	1000 Ton	309	342	261	268

Table 2-F: Some Spinning and Weaving Production, by Product

Product	*Unit*	*01/00*	*00/99*	*99/98*	*98/97*
Cotton Textiles	Mill. L.E.	1218	1559	1524	1559
Wool Yarn	1000 Ton	19	18	12	14
Wool Textiles	Mill.M	5	9	10	11
Textiles from Silk	Mill. L.E.	338	368	263	258
Jute Yarn	1000 Ton	1	5	10	15
Jute Textiles	1000 Ton	2	4	9	13

Blankets & Rugs	Mill. L.E.	419	1007	949	989

Table 2-G: Exports, by Items Exported (In thousand L.E.)

Item	*2002*	*2001*	*2000*	*1999*	*1998*
Fats, oils, and related products	66030	71145	82907	97374	24270
Prepared foodstuffs, beverages and tobacco	333088	267329	199839	120122	112776
Mineral products	7697812	6880248	7008325	4514877	3336353
Chemical products	1188230	1109409	1024192	781389	881817
Artificial resins and plastic materials, cellulose and rubber	416991	467699	296542	405156	156596
Raw hides, skins, furs and fur products	121917	100509	79186	46969	59231
Paper, paperboard, paper-making materials, and related articles	144664	147198	90368	80654	89447
Textiles and textile articles	3622866	2880882	3242643	3035427	3272047
Footwear, headgear, umbrellas, and artificial flowers	6019	6762	58924	30445	23071
Products of stone, cement, asbestos, and glass	1087239	387452	1375232	351373	260792
Pearls, precious semiprecious stones, costume jewelers, and coins	658263	42606	3353	2663	2240
Base metals and related products	1812416	1230390	1066077	790411	981252
Machinery and mechanical and electrical appliances	272049	192614	161866	124163	76680
Vehicle, aircraft, and related parts	30159	20754	16046	22448	77476
Optical, cinematographic, surgical instruments and watches	7987	8271	7118	6533	9466

Table 2-H: Imports by Items Imported
(In thousand. L.E.)

Item	*2002*	*2001*	*2000*	*1999*	*1998*
Fats, oils, and related products	817948	697237	1050461	1426197	1833244
Prepared foodstuffs, beverages and tobacco	3644604	3399587	2638041	2764893	2805049
Mineral products	2860544	3074660	4471032	4846896	4098470
Chemical products	5669388	4620392	3971241	4455873	4380969
Artificial resins and plastic materials, cellulose and rubber	2664929	2655644	2685415	2914790	2693460
Raw hides, skins, furs and fur products	76014	67645	51922	36129	22232
Paper, paperboard, paper-making materials, and related articles	1287110	1503572	1220052	1713164	1921246
Textiles and textile articles	1110529	1064770	992177	1461408	1733576
Footwear, headgear, umbrellas, and artificial flowers	139624	118417	127113	134573	82789
Products of stone, cement, asbestos, and glass	630511	525602	587269	570913	565885
Pearls, precious semiprecious stones, costume jewellary, and coins	13222	111397	58541	183211	242658
Base metals and related products	5238543	4910708	4136795	5249910	5857483
Machinery and mechanical and electrical appliances	9594046	9743296	10783751	11997856	12146812
Vehicle, aircraft, and related parts	1585027	1588406	1927221	2200790	2504229
Optical, cinematographic, surgical instruments and watches	1193520	10558999	952151	1065330	1208569

Table 2-I: Exports of most important, by Commodity
(In thousand L.E.)

Item	*2002*	*2001*	*2000*	*1999*	*1998*
Petroleum oil, crude	1425238	1178408	1208465	998709	550704
Cotton, raw	1490235	740756	672905	816086	537774
Cotton, yarn	485125	486364	515504	420837	766958
Cotton, fabrics	122259	145807	182533	118033	184468
Clothing, manufactured	936380	947367	1089181	947600	1133108
Petroleum shale oils other than crude	5314280	4971737	5393518	1608114	1314378
Sugar cane, refined	139	15546	29	18	615
Aluminum bars, rods, angle shapes, and sections	21238	63835	40285	13752	20007

Table 2-J: Imports of Most important, by Commodity
(In thousand. L.E.)

Item	*2002*	*2001*	*2000*	*1999*	*1998*
Sugar refined	252426	226865	28564	191906	331639
Organic and inorganic chemicals	1951579	1708616	1570875	1583216	1531870
Cement	49529	126472	282940	701039	462854

2.2 Chemical use and regulatory structure by categories

Pesticides are mostly imported as technical material and formulated in the country. Pesticides used in Egypt are regulated by Agricultural Law No. 53 that was issued in 1966, as well as the Ministerial Decrees issued after that an interagency Pesticides

Committee, under the umbrella of the Ministry of Agriculture has been formed which is responsible for pesticide registration and licensing of imports. Before registration a pesticide is evaluated for efficacy for three successive years. At the time of registration it is examined for chemical and physical properties The Central Agricultural Pesticides Laboratory (CAPL) regulates pesticides through its enforcement system and penalizes violators.

There is an "Association for Agrochemical Producers and Affiliates" in the country, but there is no NGO s involved with pesticides.

2.3 Chemical Waste

Large amounts of chemical waste are generated during manufacturing processes.
The main categories of waste generated in different industrial sectors are summarized in Table 2-K.

Table 2-K: Chemical Waste Generation types.

Nature of Industry	*Type of Chemical Waste*
Industrial Governmental Sector	Various due to verities of emission released as example : Mercury Lead Chromium Cadmium Copper
Paper Industries	Organic &Inks
Engineering Industries	Sludge
Mineral Industries	Sludge
Electroplating Industry	Grease and oil product Sludge
Pesticides Manufacturing	Volatile organic compounds Particulate matter Sludge Spent catalysts Container residues Cyanide and heavy metals
Pharmaceutical Industry	Sludge Spent catalysts Spent solvents Toxic organic
Dairy Industry	Dissolved sugars and proteins

	Residues of additives
Textiles Industry	Heavy metals Phthalates

Chapter 3: Priority Concerns Related to Chemical Production, Import, Export, and Use.

3.1 Priority Concerns Related to Chemical Production, Import, Export, and Use

Egypt is a rapidly economically growing country with extensive use of chemicals in a wide spectrum in several sectors. While there is a high population density in the cities, a significant proportion of the population lives in rural areas where agrochemicals are extensively used. Toxic chemicals are also widely used in a multitude of different industrial sectors, such as textiles, tanning and metal finishing; mining and processing manufacturing found in every town and urbanized areas throughout the country. A growing number of chemicals are also still used in homes and surrounding domestic environment.

Pharmaceutical industry which play an important role in heath care, is consider an important industrial sector; this sector is well controlled environmentally, either from efficacy or safety point of view. Also, variety of natural products is used in traditional products, e.g. coloring additives to food. The composition of such products is known, evaluation is continuously done by Ministry of Health and Population concerning health risks and controlling of the use of these products.

Ministry of Health and Population has established a unit for chemical safety; work has been initiated to survey exposure to chemicals and to prepare a registry of chemical products; to survey chemical incidents; and to develop public awareness on problems of chemicals. The Ministry of Agriculture has excellent laboratory facilities for analysis of chemical contaminants and pesticide residues in food. The use of pesticides in Egypt has been dramatically reduced through advanced integrated pest management programme (IPM). 80 types of pesticides were banned, including Arsenic, Cadmium and lead.

Moreover, in 1999, a Ministerial decree was issued by the Ministry of Industry which restricts the handling of 145 toxic substances without permission. A database on hazardous substances and toxic chemicals in industry was established. Also, the Ministry of Industry participated in preparing the work plan for a national strategy for dealing with hazardous wastes and toxic chemicals' and also participated in a workshop jointly with the WHO and other Ministries to discuss the national programme on the chemical safety.

Furthermore, a Ministerial decree was issued to ban the use of asbestos in any new industrial establishments or expansions of existing ones. The use and handling of asbestos is currently restricted and being substituted with other materials.

It should be mentioned that the infrastructure for dealing with chemical safety in Egypt is now moving forward. An integrated chemical safety programme implemented in a coordinated manner among different responsible authorities does exist. Existing control measures provide complete coverage for the country through good coordination among Ministries and Governmental Authorities.

3.1.1. Air Pollution:

Most sources of air pollution in Egypt are of anthropic origin. These are divided into two main types: stationary and mobile sources. Stationary sources of air pollution include industrial facilities, thermal power stations and some commercial and residential activities. Air pollutants also arise from open burning of garbage and agricultural residues. Mobile sources include cars, buses, trucks and motorcycles. Other pollutants include natural sources, such as sand. The main pollutants produced are sulfur dioxide, nitrogen oxides, carbon monoxide, and particulates, volatile organic compounds (VOCs) and lead.

Moreover, the ambient air quality published data through EEAA projects (EIMP1, CAIP2), MOHP3 and the National Research Center show clearly that poor air quality prevails in some urban and industrial centers of Egypt. Air pollution severely affects areas adjacent to industrial activities as well as around heavy traffic highways, as the Cairo-Alexandria Agricultural Road.

Medium and small industrial activities, such as foundries, secondary smelters, pottery workshops, the brick industry, mechanical workshops, lime crushers, charcoal

producers, etc. are scattered within and close to urban areas, especially Greater Cairo, Alexandria, Tanta and several other cities in Egypt. Often these activities are located in informal settlements, using very old technologies with few precautions for air pollution control. They use heavy oil, coal, wood, and rubber and even waste materials as fuel releasing harmful pollutants into the atmosphere.

Furthermore, Air-borne pollutants from vehicle emissions, electricity generation and industrial production frequently exceed levels considered safe for health. Depending on their size, particulates can influence visibility as well as human respiratory functions. The fifteen million Egyptians living in Cairo and Alexandria, for example, are exposed to levels of dust and smoke in which total suspended particulates (TSP) may exceed WHO standards.

Air-borne pollution particles may contain several toxic and carcinogenic chemicals combined with other pollutants, they can cause serious lung diseases. The most serious health effect of carbon monoxide is its ability to enter the blood stream by displacing oxygen carried to the cells. Carbon monoxide-laden blood can weaken heart contractions thereby decreasing the volume of blood being pumped and significantly reducing the normal performance of an otherwise healthy person.

Lead in the air has received particular attention because of its health impacts, particularly on children. Exposure to lead in childhood associates with retarded central nervous system functioning, which persists into adulthood. Attempts are being made to relocate lead smelters to more remote areas. Lead concentrations in the air from mobile sources have recently decreased considerably due to expansion in use of compressed natural gas (CNG) and the introduction of unleaded fuel. However, there are now debates on the health effects of additives to unleaded fuel.

The "SMOG" episodes that Cairo experienced in the falls of 1999 and 2000 resulted from high levels of air pollutants in the atmosphere of greater Cairo. Average annual wind speed in greater Cairo is only six knots and the frequency of inversions is high, especially at night during winter. This means that Cairo weather conditions will continue to facilitate such SMOG episodes if air quality is not improved.

In rural areas health damage from air-borne pollution is primarily associated with open-air incineration and proximity to industrial establishments, although the toxicity of paint fumes, adhesives and suchlike products also pose health risks. Significant percentages of reported cases of pneumonia disease were detected in rural areas.

On managing and controlling air pollution from existing large industrial facilities and electricity power stations, information and monitoring shows that Shoubra EI-kheima (Qalyubia), Helwan (Cairo), Kafr EI-Zayat (Gharbia), Ameria, Max and Abu-Qier (Alexandria), the industrial area in Suez.. .etc are huge industrial areas that emit pollutants that aggravate the problem of air pollution in Egypt. Few industries have done serious efforts to control this pollution. Furthermore, control and management programs established by different projects are now acting seriously to control emissions. Power stations are another major source responsible for emitting excessive amounts of pollution into the atmosphere. Emissions of pollutants from these power stations, are greatly reduced through the use of natural gas, and could be further reduced by greater 'use of cleaner fuel and technology. Also, inspection site visit for operating industrial activities aiming the assurance of the compliance with regulations and standard.

Also there is an increase in source monitoring to detect rates of pollution emitted from these huge industrial establishments. There is comprehensive database information about existing industrial areas, locations of the industries in all Governorates, new industrial areas in the satellite cities, such as 10th Ramadan, 6th October, Sadat City...etc, in addition to electricity power stations and fuel use in various areas. An environmental information system based on a GIS is acting now to follow-up the environmental compliance of the industries in these cities. However, there is a need to conduct environmental auditing and some risk assessment case studies for all existing industrial establishments and power stations. This will provide policy-makers and executing authorities with enough data on the real situation of pollution discharge points, air pollution control technologies, where they exist, industrial processes and technologies that need to be upgraded, research needs and other important items.

EEAA with other concerned Ministries, mainly the Ministry of Petroleum, have made efforts to control air pollution emitted from huge industrial establishments where:

a) Institutional: an agreement has been signed between the Ministry of Petroleum and the Ministry of Electricity stipulating that power plants will use natural gas as a fuel.
b) Economic and Financial Instruments: the proposed economic instruments for reducing and managing cement dust aim at supporting increased investments into environmentally friendly and eco-efficient technologies in

the cement industry. This encompasses a number of major activities mainly imposing a differential product charge on each produced ton of cement according to the environmental performance of each cement plant, applying tradable TSP emission permits for cement firms, tax breaks for cement firms investing in mitigation measures and soft loans to obtain cleaner technologies. The main outcome of this proposal would be improving the competitiveness of Egyptian cement in international markets through implementation of cost-effective PPMs.

c) Internationally: the Global Environmental Facility (GEF) is being approached to access the Clean Development Mechanism (CDM) to supply these industries with up-to date technologies to protect the atmosphere.

EEAA has an on-going program for establishing new environmentally friendly industrial cities; Egypt's has five cities currently enrolled as environmentally friendly industrial zone. These five cities are: Borg AI-Arab, AI-Sadat, AI-Obour, 10th of Ramadan and the 6th of October. More than 70 percent of industrial establishments in the five cities had complied with the required environmental standards, while ten percent of establishments are currently implementing pollution control projects [(2)].

Managing and controlling air pollution of existing large industrial facilities and electricity power stations is a program that aims at formulating management schemes for sustainable development in the existing and new industrial areas of the satellite cities, developing control programs and implementing control technologies to reduce pollution emissions from their sources, adopting new and renewable sources of energy to reduce the environmental degradation, and finally strengthening the air quality management programs for industrial areas.

The major activities of this program include developing and encouraging local industries to produce and use air pollution control technologies, submitting the EIA study as a requisite for both licensing new industries and choosing the location for power stations and industrial activities, developing buffer zones and use of cleaner technology as well as air pollution control measures according to the measures taken to protect air quality in the location and the region, and encouraging the use of solar energy and wind force for generating electricity. This will result in reducing the emissions of air pollutants from thermal power stations generating electricity.

3.1.2. Water Quality:

Water quality problems in Egypt vary among various water bodies depending on: flow, pattern of use, population density, extent of industrialization, availability of sanitation systems and the social and economic conditions. Discharge of untreated, or partially treated, industrial and domestic wastewater, leaching of pesticides and residues of fertilizer and navigation are often factors that affect the quality of water.
The Ministry of Irrigation and Water Resources is mandated to control and manage all fresh water resources in Egypt including the surface and subsurface water. In addition to construction, supervision, operation, and maintenance of all the irrigation structures and drainage networks, also it is responsible for providing all other sectors with their needs of good quality fresh water in due time.

The Environment Law No.4 of 1994 has been issued to protect the environment in Egypt. Law No.4 refers to Law 48 of 1982 for pollution abatement on the water resources in Egypt and mandates the Ministry of Irrigation and Water Resources to implement the law in collaboration with other concerned Ministries. Law 12, 1984 is the law governing the management and operation of the irrigation and drainage systems in Egypt.
Moreover, the Ministry of Irrigation and Water Resources has prepared a National Water Policy till the year 2017 including three main policy themes: a. optimal use of available water resources; b. Water quality protection and pollution abatement; c. Development of new water resources in cooperation with the Nile Basin riparian countries. Various interested or affected individuals, organizations, and government entities took parts in the policy development prior approval by the Miniseries Cabinet and people's assembly. Along the same line the Government completed Land Water Master Plan for the whole country including activities related to water and land use.

Furthermore, National Water Quality Monitoring Network Programs of water quality monitoring started early on both the Nile and agriculture drains. However, all these programs were not fully coordinated together to describe the overall water quality status. Additionally, irrigation canals and groundwater were not included. To remedy the situation, a jointly funded project National Water Quality and Availability Management Project (NWQAM) with Canadian International Development Agency (CIDA) is being conducted by the National

Water Research Center (NWRC) of MIWR for seven years period starting from 1998. The objective of the National Water Quality Monitoring component of this project is to rationalize water quality monitoring activities into a sustainable national monitoring program.

3.1.2.1. Pollution of inland Water:

Drainage water in Egypt may be polluted from three main sectors: agriculture, industry, and domestic. Contamination arises from both point and diffuse sources. Inadequate industrial and domestic wastewater treatment plants and the rapid increase of the population and industrial activities have created significant pollution problems with serious health implications.

The impact of pollution are many and diverse but the general picture is the deterioration in the ecological quality of aquatic systems such as phosphorus induced eutrophication and threats to human health and well-beings from nitrates, pathogens, pesticides and other hazardous substances. These pollutants also offset the planned reuse scheme by reducing the amount of drainage water available for reuse for reclamation projects in the future.

Currently the government is reusing around 5 billion cubic meters of agriculture drainage water and 0.5 BCM of treated wastewater. However, the government faces multidimensional challenges in sustaining the current reuse and promoting more drainage water reuse over the next decades. The challenge is to develop pollution control plans that are cost effective, compatible with the state of social and economic development and provide achievable benefits.

The policy theme is realized on preventive measures and long-term policies. The preventive measures are carried out through the regular assessment of the water quality status and suitability for various uses in addition to laws enforcement to protect water resources against pollution.

The Ministry of Irrigation and Water Resources established and operates a national program of water quality monitoring in the Nile, canals and drains and lake Nasser. The Central Laboratory carries out the substantial lab work for environmental quality management affiliated to National Water Research Center. The monitoring program includes 300 locations for surface water and 230 locations for groundwater. On the other hand, the long term policies to control pollution include: coverage of open conveyance system passing through urban system to closed conduits; coordination

committee with other concerned Ministries were formulated to put priorities for wastewater treatment plants due to budget limitation; and the introduction of environmentally safe weed control methods (mechanical, biological and manual) and banning the use of chemical herbicides. Subsidies on fertilizers and pesticides were removed and some long lasting effect agricultural chemicals were also banned. Public awareness programs are now taking place about the importance conserving Egypt's water resources in terms of quality and quantities.

On the other hand access to safe drinking water and sanitation expected to better protect the water resources from pollution. During the last 20 years, 220-wastewater treatment plants were established to increase the potentiality from 1 million m3/day to 8.2 million m3/day (25 lit/day/Person to 110 lit/ day/ person). With regard to drinking water, 1900 drinking water treatment stations were established to increase the potentiality from 5.8 million m3/day (120 lit/day/person) to 18 million m3/day (275 lit/day/person) covering 90% of the population.

3.1.2.2. Pollution of Ground Water:

The main source of ground water pollution is attributed to man made activities such as discharge of industrial wastes and drainage of agrochemicals. The Research Institute for Groundwater, as a representative of the MIWR, in cooperation with the Government of the Netherlands has established a Groundwater Quality Monitoring Network where, general trends and overall picture of the groundwater quality were withdrawn from the results of analyzing samples from the 230 wells constituting the network. High concentrations of total dissolved solids (TDS), sulphate, and nitrate have been observed in the reclaimed areas towards the fringes of the Nile Basin. The high salinity front from those areas shows a clear trend of moving towards the central parts of the old land. The central parts of the Nile Delta and Valley as well as the Deserts show better quality. Only few numbers of samples exceeded the WHO limits for drinking water. The main attribute of these areas is high formation-inherited iron and manganese concentrations resulting of highly reduced environment of the confined aquifer of the Nile Basin. The Western Desert shows the least exceeding of the quality standards. High salinity was the main quality problem for the groundwater of the Eastern Desert and Sinai.

3.1.2.3. Drinking Water Contamination:

Potable Water Supply

Despite the rapid population growth in Egypt, the percentage of the population with access to municipal water supply has increased over the past two decades due to large investments in the water sector. Based on the Statistical Year Book 1993-1992, an estimated 90 percent of households in urban areas and almost 72 percent of households in rural areas have access to piped water. In populous cities, such as Cairo, Alexandria, Port Said and Suez, 91.8 percent of households have access to piped water, whereas this is the case for 85.8 percent of urban households in Upper Egypt. Rural areas, and especially those of Upper Egypt, are the most inadequately served. Only 59.2 percent of households in rural Upper Egypt have access to piped water. The parts of the population that have no access to piped water obtain their water from public standpipes (often connected to groundwater wells), street vendors or directly from canals and the River Nile.

3.1.3.Soil Contamination

3.1.3.1. Soil Contamination:

According to published research [(2)], vehicle emissions affect the soil of the agricultural land around traffic roads. A strip of at least 40 m parallel to the Cairo-Alexandria Agricultural Road receives air pollutants, mainly lead, carbon monoxide, nitrogen oxides and sulfur dioxide. These pollutants fall on the plants as well as passing directly into the soil. Pollutants carried by irrigation water are also a major source of soil pollution. An estimated 50 percent loss of productivity of agricultural land was recorded at Helwan and Shoubra EI-Kheima. Severe damage to plants has been reported in areas close to the industry in Kafr EI-Zayat, Edfu, Abu Za'abal and others. Toxic heavy metals accumulate in the tissues of vegetation grown adjacent to sources of air pollution, such as lead smelters and near traffic roads.

It should be mentioned that pesticides is considered the main source for soil pollution Integrated pest management in agriculture (IPM) is a valuable component of a sustainable agricultural system, where the nationally policy is currently based on the reduction of dependence on agriculture pesticides and enhancement of cultural practices, combined with proved biological and alternative control technologies. A

plant protection-coordinating steering committee for the recognition and evaluation of IPM components was established in the Ministry of Agriculture.

The future national development strategy for IPM will focus on the efficient use of natural enemies, new innovative approaches through molecular biology in the critical identification of pest strains, development of induced resistance plant varieties through biotechnology, the establishment of computerized IPM website and the assessment of pesticide risks and benefits.

Moreover, the term 'soil degradation' refers to weakness of the capability of soil to Produce agricultural products. There are various forms of soil degradation:

a. Displacement of soil material by water and wind, which is significant in Egypt.
b. Chemical degradation of soil resulting from loss of nutrients or organic matter,
   Salinization and pollution.
c. Physical degradation of soil where the process that caused soil degradation is

Compaction, sealing and crusting, water logging, and subsidence of organic soils.

3.1.4. Hazardous Waste Treatment:

3.1.4.1. Industrial wastes:

Industry is the main source for hazardous wastes. The generation of hazardous wastes is not confined to large-scale industries. Small-scale industry, small workshops, garages and very small production units collectively produce large quantities of hazardous wastes. Their volume is usually difficult to monitor and quantify. Further more, transport services, hospitals, research laboratories and even household are sources sometimes of dangerous materials.

The types of hazardous wastes generated from industrial activities in Egypt are varied according to the industrial sector. The main industrial sectors are textiles, chemicals, pesticides, fertilizers, petrochemicals, pharmaceuticals, paper, pulp, steel, metallurgical and food. The chemical industry is by far the main source of hazardous wastes in the developed regions in Egypt. Recent estimates have indicated that about 50% of all industrial activities is concentrated in Greater Cairo and about 40% in Alexandria. The rest is in Delta and Upper Egypt, and New Cities.

The Ministry of Industry surveyed and documented the solid wastes from industrial activities of the public sector companies and disposal methods of those wastes including the hazardous wastes. Currently, a list of industrial hazardous wastes is being prepared in order to issue a Ministerial Decree to regulate the handling and disposal of those hazardous wastes according to Basel Convention. Industrial wastes (including hazardous wastes) are generated from about 24,518 establishments distributed nation-wide. Types and impacts of wastes differ according to the activity, technology uses and location of each establishment.

A study was conducted to establish a database on heavy metals in industrial wastewater. The study covered 70% of industrial establishments. Greater Cairo has more than 51 % of the total industrial activities, followed by Sharkeya Governorate, Alexandria Governorate then the rest of all other Governorates. It is expected that those three Governorates are the greatest generators of industrial wastes. However, due to lack of funding, the study was not completed.

The current and future activities of the Ministry of Industry include projects on collection and onsite separation of industrial wastes, relocation of lead smelters, tanneries and textiles from Cairo to new industrial zones, recycle, reuse, and safe landfill of industrial wastes.

Lacking the necessary treatment and disposal facilities, it has frequently been the case that hazardous industrial wastes generated by these industries has been disposed in the nearby desert areas or transported to public dump sites mixed with municipal waste. Scavengers at dumpsites are exposed to serious health hazards when scavenging hazardous substances searching for recycled waste products. The main obstacles impeding the implementation of most of the projects are the lack of funding and lack of trained workers in that field.

During 1999, Ministry of Environment initiated a 3-year demonstration project to establish a hazardous waste landfill in the Governorate of Alexandria. The project focuses on the construction of the landfill and mobilizing the participation of large quantity generators across the Governorate funded by Finida (Finish Government)

The completion of the draft national hazardous waste list during 1999 was one of the most significant initiatives implemented, where all competent authorities is now following this list for better control and safer handling of such wastes.

3.1.4.2 Healthcare wastes (HCW):

HCW disposed with other municipal wastes had created serious health and

environmental problems in Egypt. EEAA in cooperation with the Ministry of Health and Population and Cairo University had developed a pilot demonstration project for an integrated environmentally sound management of health care wastes.

The national programme for integrated healthcare waste management demonstrated safe incineration at Cairo University Hospitals. Limits for the safe emissions from HCW incinerators will be issued and reviewed within the modification of the executive regulation of law 4/94.

3.1.5. Occupational Health:

The non-adherence to rules requiring the use of appropriate protective clothing during use, handling and application of chemicals has been a major cause of problems. Where some of the legislation that supports such program includes:

1. Law 453/1954 is responsible for regulating industrial and commercial activities and is executed by the Ministry of Industry.
2. Labor Law 137/1981 and its executive regulations and the Ministerial Decree of the
3. Minister of Labor 55/1983 to protect the working environment.
4. Law 4/1994 for environmental protection regulates the activities causing pollution and degradation of the Egyptian environment. The Egyptian Environmental Affairs Agency (EEAA) is the key responsible part/for executing the aforementioned law and has the authority to monitor and implement it.
5. Moreover, Law 59/1960, which limits radioactive usage and is executed by the Ministry of Health and Law 3/1982 for the proper planning of industrial zones and is executed by the Ministry of Planning.
6. Other efforts have been done towards introducing public awareness campaigns through issuing booklets, seminars, and conferences. Furthermore, programs supported by the NGOs activities are now playing a positive role in these campaigns.

3.1.6.Chemical Accidents:

(EEAA) is now focusing on developing risk assessment programs through the cooperation of different authorities, these programs will be focusing on developing and improving hazard and risk assessment methods, promoting harmonization of

methods and terminology among different industrial sectors, encouraging mutual use and acceptance of assessment outcomes as a basis for risk management, and promoting international cooperation in assessing the risks of specific chemicals through different conventions. This program will be active in the areas where high environmental exposure of hazard does exist. Moreover, classification of substances of new industrial chemicals inorder to improved cooperation and information exchange on national level, monitoring data and assessment methodologies will also be conducted by developing voluntary measures to address the risk management of some existing chemicals. Furthermore, developing approaches that encourage industry to develop chemicals that are more environmentally friendly "green chemicals" or "environmentally sustainable chemicals" and establishing a network of experts at the national level that can be called upon at any time to share expertise and experience on environmental emergencies solutions is one of the main aim of risk assessment approaches. Ministry of Interior Affair – Civil Defense Authority is the main responsible body for controlling chemical accidents.

3.1.6.1. Industrial

Few industrial accidents are reported.

3.1.6.2. Transport

Most of the reported incidents have been associated with tankers carrying petroleum products, concentrated acids and chlorine .It should be mentioned that EEAA with the cooperation of the Egyptian Environmental Policy Program (EEPP) has developed a guidelines for the transportation of hazardous waste including permission for hazardous waste transportation (requirements, license, means of transportation), manifest system and labeling system.

3.1.7.Storage and Disposal of Obsolete Chemicals:

Obsolete pesticides constitute an immediate threat to the health of humans and livestock, particularly since they are often stored in populated areas, which may sooner or later leak into and contaminate groundwater and the environment in general. The absence of designated storage and disposal sites has contributed to indiscriminate dumping. Depending on the quantities being generated, some of the wastes are kept on the premises. The security at such storage sites is usually low, increasing the risk of scavenging of dangerous materials by scavengers. Although the use of existing stocks of pesticides has been restricted. Currently, there is a supreme committee for safe disposal and effectively management of obsolete stock pesticides, where MOE & MOA is the lead agencies for such committee'.

3.1.8. Nile River Contamination:

- **Nile River from Aswan to Cairo:**

Water quality is a term used to describe the overall water quality status along River Nile. Where monitoring conducted by Nile Research Institute (NRI) and reported in the National Environmental Action Plan 2002/2017, that the survey (detection) includes nine parameters (DO, pH, TS, BOD, $N0_3$, TSP, Turbidity, feacal coliform and temperature deviation). It has been proven that about 71 percent of the sampling sites along the River Nile during winter season show good quality of water, while the remaining sites indicate a medium quality of water. On the other hand the Water Quality Information (WQI) calculation during summer shows that only 43 percent of the sampling sites have good water quality while the rest of the sites have medium water quality, Moreover, the published results of monitoring the Nile and its branches according to the same report shows that organic pollution load, such as ammonia, nitrate and phosphate, in the Nile is within permissible limits and that E-coli bacteria are also below the law limits.

- ***The Damietta and Rosetta Branches:***

The Damietta Branch receives nutrients and organic loads, as a result of discharges from the Talkha fertilizer industry and agricultural drains especially near the Faraskour dam. The drainage at Meet AI-Kholei village also receives sewage water that population residing in this area disposes. This sewage water finally discharges in the Damietta branch, Rosetta branch starting from downstream Delta barrage up to Kafr EI-Zayat receives high concentrations of organic contaminants and nutrients, this is a result of the discharge of partially treated wastewater from Giza through Muheet and Rahawy drains. The industrial area at Kafr EI-Zayat city discharges some toxic chemicals. It is also worth mentioning that both branches receive huge amounts of raw or partly treated sewage disposed from sanitary drainage plants located in some cities and villages near the River Nile.

The Water Quality Information (WQI) for Damietta and Rosetta branches during winter and summer seasons of the year 2000 shows that during winter, water enters the Damietta branch from the Nile with good quality and then it deteriorates downstream the branch till it becomes in the medium condition. The extremely low flow condition, which occurs during low demand wintertime, in addition to discharging' wastes from different pollution source along the branch can explain changes in WQI along the branch. The same trend of water quality index occurs in Rosetta branch where the water deteriorates in the downstream and reaches the worst

condition at the site located 120 km downstream the branch. The branch at that receives pollutants from five drains (EI Rahawy, Sabel, EI-Tahreer, Zaweit EI-Bahr and Tala) as well as from industrial effluents.

3.1.9.Persistant Organic Pollutants (POPs):

Persistent Organic Pollutants (POPs) are chemicals that:

• Are extremely stable and persist in the environment,

• Bio-accumulate in organisms and food chains,

• Are toxic to humans and animals and have chronic effects such as disruption of Reproductive, immune and endocrine systems, as well as being carcinogenic, and,

• Are transported in the environment over long distances to places far from the points of release.

With the evidence that POPs are transported to regions where they have never been used or produced, the international community decided in 1997 to work towards the establishment of a convention that will serve as an international, legally binding instrument to reduce and/or eliminate releases of twelve POPs, as identified in the UNEP Governing Council Decision 19/13C. The initial list of POPs contains the nine pesticides and the decision also includes PCBs (mainly used in electrical equipment) and two combustion by-products, (dioxins and furans).

Pesticides now classified as POPs started to be used on a large scale after World War II in agriculture and for disease vector control. Crop protection and disease vector control strategies became dominated by the application of these pesticides. The control of disease vectors (such as malaria mosquitoes) by pesticides saved the lives of millions of people. The negative impact of pesticides on agro-ecosystems as well as on the environment and human health started, however, to become increasingly evident in the 1950s.

Stockholm Convention on Persistent Organic Pollutants (POPs)

This convention was adopted on May 22, 2001, and the Intergovernmental Negotiating Committee that developed it continues to meet annually to prepare for a "quick start" for the first meeting of the Conference of Parties following entry into force. The overall objective is to protect human health and the environment from POPs. Where, Parties are required to take action on a group of 12 specified chemicals

including intentionally produced pesticides and industrial chemicals (aldrin, chlordane, dieldrin, DDT, endrin, heptachlor, hexachlorobenzene, mirex, PCBs, toxaphene) and unintentionally produced by-products of industrial and combustion processes (dioxins, furans, hexachlorobenzene, PCBs). Specific goals are set for both types of POPs as well as for POPs present in stockpiles and wastes.

For intentionally produced POPs, the convention goal is elimination of production and use. Each Party must take action to eliminate or restrict production and use of each chemical, as specified in the convention, and restrict any related trade. Some exemptions are specified, many of which are time-limited and have reporting and other requirements. Parties having regulatory and assessment schemes for new industrial chemicals or pesticides must take regulatory measures to prevent the production or use of new POPs. Parties with assessment schemes for existing industrial chemicals or pesticides must use the convention's screening criteria to identify possible POPs as early as possible in their assessment programs.

The goal for unintentionally produced POPs is to reduce their total releases derived from anthropogenic sources, continuously minimizing and, where feasible, ultimately eliminating such releases. Parties must: develop an action plan within 2 years of entry into force of the convention to identify, characterize and address the release of these POPs; implement the action plan; promote the application of measures to achieve realistic and meaningful levels of release, reduction or source elimination; promote the development and, as appropriate, require the use of substitute or modified materials, products and processes to prevent the formation and release of these POPs; promote and, as appropriate, require the use of best available techniques (BAT) for new sources within 7 specified industrial source categories with comparatively high potential for POPs formation and release, and phase-in such requirements within 4 years of entry into force; promote the use of BAT for new sources within 13 specified industrial source categories with potential for POPs formation and release; promote the use of BAT for existing sources within all 20 specified industrial source categories; and promote the use of best environmental practices (BEP) for all new and existing sources within all 20 specified industrial source categories.

The third convention goal is to ensure the environmentally sound management of stockpiles of intentionally produced POPs, and of wastes and products and articles

upon becoming wastes that consist of, contain or are contaminated by intentionally or unintentionally produced POPs. Parties must: develop and implement strategies to identify stockpiles, products and articles in use, and wastes containing POPs; manage stockpiles in an environmentally sound manner until they are deemed to be wastes; manage wastes in an environmentally sound manner; dispose of wastes in a way that destroys the POP content, or otherwise in an environmentally sound manner; prohibit recovery, recycle, reclamation, direct reuse or alternative uses of POPs; require that transport of these materials across international boundaries take into account international rules, such as the Basel Convention; and develop strategies for identifying contaminated sites and while remediation is not required, if it is attempted, it must be done in an environmentally sound manner.

Parties must promote and facilitate public awareness and education, participate in research, development, monitoring and cooperation, and involve stakeholders in developing and implementing implementation plans. In the future, new POPs will be added to the convention by applying scientific criteria and a specified process for evaluating candidates proposed by Parties. The effectiveness of the convention will be evaluated using data on regional and global environmental transport of POPs and on their presence, levels and trends in environmental and biological media. The convention establishes a financial mechanism to assist developing countries and countries with economies in transition in meeting the incremental costs of implementing the convention obligations and specifies the GEF as the principal entity of the interim financial mechanism.

The current statues of POP's pesticides, industrial chemicals and unintended by-products on national level for Egypt are:

Name of Chemical	***Banned Year***
1. DDT	Banned in 1996
2. Aldrin	Banned in 1996
3. Dieldrin	Banned in 1996
4. Chlordane	Banned in 1996
5. Endrin	Banned in 1996
6. Heptachlor	Banned in 1996

7. Hexachlorabenzene	Restricted according to Ministerial Decree No. 88/1999 by Ministry of Industry and Banned in 1996 by Ministry of Agriculture for agricultural Use.
8. Mirex	Banned in 1996
9. Toxaphene	Banned in 1996
10. Polychlorinated Biphenyls (PCBs)	Banned by EEAA and the Ministry of Health
11. Polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD)/ (PCDF)	Banned by EEAA and the Ministry of Health

Table 3-A: **Priority Concerns Related to Chemicals**

Nature of problem	***Scale of problem***	***Level of problem***	***Ability to control problem***	***Availability of statistical Data***	***Specific chemical creating concerns***	***Priority ranking*** [(1)]
Air Pollution	National	High	Medium	Insufficient	SOx,NOx, CO,CO2, H.Metals, O3,H.C, Smoke,TSP	1
Pollution of Inland Waterways	National	High	Medium	Insufficient	H.C&Bect.,H.Metals, Pesticides,	2
Marine Pollution	National	Medium	Medium	Insufficient	Oil, H. metals & Bect.	3
Ground water Pollution	Regional	High	Medium	Sufficient	H.C&Bect, H.metals, Pesticides,	1
Soil Contamination	Local	Medium	Low	Insufficient	Acidity, H.metals, Pesticides	4

Chemical Residues in Food	National	High	High	Sufficient	Color, oxidizing & preserving agents	1
Drinking Water Contamination	National	High	High	Sufficient	Bect., H. Metals, Micro Organisms	1
Hazardous Waste Treatment/ Disposal	National	High	Medium	Insufficient	Hazardous Chemicals, Pesticides	3
Occupational Health (Agriculture)	Local	Low	Low	Not available	Pesticides	5
Occupational Health (Industrial)	National	High	Medium	Insufficient	Carcinogenic Toxic Chemicals & H.Metals	3
Public Health	National	High	High	Insufficient	Pb,Cd,Hg, Pesticides	1
Chemical Accidents: Industrial	National	Medium	Medium	Insufficient	Flammable Substances & Explosive Suspense	3
Chemical Accidents: Transport	National	High	Medium	Insufficient	Flammable Substances, Toxic gases & Vapors	3
Unknown Chemical Imports	National	Medium	Medium	Not available		4
Storage/ Disposal of Obsolete Pesticides	National	High	Medium	Not available	Hazard chemicals, Pesticides	4
Chemical Poisoning/ Suicides	Local	High	Low	Not available		4

Persistent Organic Pollutants	National	High	Medium	Insufficient	DDT, Aldrin, Chiorodane, Dieldrene, Endrin, Heptachlor, HCB, Mirex, Toxaphene, PCBc, PCDD/ PCDF	1

(1) ***Provide relative ranking from 1 to 5:***

1= most severe problem

2= second most severe problems

3= third most severe problems

4= fourth most severe problems

5= fifth most severe problems

Chapter 4: Legal Instruments and Non-Regulatory Mechanisms for Managing Chemicals

4.1 Overview of the National Legal Instruments, which Address the Management of Chemicals

The infrastructure for dealing with chemical safety in Egypt is now growing fast. An integrated chemical safety programme implemented in a coordinated manner among different responsible authorities does exist. Existing control measures are present and provide a complete coverage for the country. There is a very good coordination, between related ministries and authorities. For example, the Ministry of Health and Population has established a unit for chemical safety; work is going on to survey exposure to chemicals and to prepare a registry of chemical products; to survey chemical incidents; and to develop public awareness on problems of chemicals.

Thus, the need to control using of chemicals is one of the ways through which chemical risks to humans and the environment can be adequately managed. The control should be done through legislation's, regulations and guidelines. Legislations outline a broad environmental protection and provide principles, powers and rights creating an "umbrella" for environmentally sound management of POPs and other hazardous substances and wastes. Such legislation gives the government the power to enact specific rules and regulations to inspect and enforce, and to establish penalties for violations. *Table **4-A** aim to provide a list of all laws, regulations and standard and/or other legal instruments associated with chemical management and control. Moreover, the table focuses on the scope and objectives of each law, responsible Ministries and provided legal instruments.* **Table 4-A:**

References to Existing Legal Instruments, which address the Management of Chemicals

Legal Instrument (Type, Reference, Year)	***Responsible Ministries or Bodies***	***Chemical Use Categories Covered***	***Objectives of Legislation***	***Enforcement Ranking*** [(3)]
Law No.4 of 1994	MSEA	Industrial chemicals, Agricultural chemicals (pesticides – fertilizers), Pharmaceutical chemicals, Petroleum products, Explosive chemicals, radioactive materials, Consumer chemicals and Chemical waste.	Environmental Protection and Pollution Control in Egypt	(2)

Decree No. 338 of 1995	MSEA	Industrial chemicals, Agricultural chemicals (pesticides – fertilizers), Pharmaceutical chemicals, Explosive chemicals, radioactive materials, Petroleum products consumer chemicals and chemicals waste.	Executive Regulations for Law No.4/1994	(2)
Decree No.55 of 1983	MOMI	All chemicals used in the Industrial field	Regulate and control use, handling, and storage of chemicals and conditions required for industrial safety and health in the work places	(2)
Decree No.116 of 1991	MOMI	All chemicals used in the Industrial field	Strengthening the facilities with training for directors and workers	(2)
Decree No. 60 of 1986	MOA	Pesticides	Regulates & controls the using of restricted compounds	(2)
Decree No.258 of 1990	MOA	Fertilizers	Regulates and controls the importation of fertilizers	(2)
Decree No. 7330 of	MOIn	Explosives	Determination of	(2)

1994			substances that are considered as explosives	
Decree No. 18039 of 1995	MOIn	Explosives	Issue of license for import and use of explosives	(2)
Decree No. 499 of 1995	MOI	Poisonous and non poisonous substances in industry	Control of handling the poisonous & non-poisonous substances in industry	(2)
Labor Law No. 137/1981	MOMI	Industrial Chemicals	Labor and industrial safety protection of industrial Environment	(2)
Law No. 21/1958	MOI	Industrial Chemicals	Rules regulating industry and production, handling and importing of chemicals.	(2)
Decree No. 91/1959	MOI	Industrial Chemicals	Rules regulating industry and production, handling and importing of chemicals.	(2)
Decree No. 480/1971	MOHP	Industrial Chemicals	Air pollution criteria for industrial establishment	(2)
Agriculture Law No. 53/1966	MOA	Agricultural Chemicals	Rules regulate production, import, use of pesticides and fertilizers.	(2)
Decree No. 50/1967	MOA	Pesticides	Toxic properties of pesticides and procedures for recording it.	(2)
Decree No. 590/1984	MOA	Fertilizers	Rules regulate production, import, and use of fertilizers.	(2)
Decree No.	MOA	Veterinary	Regulates importing of	(2)

278/1988		Insecticides	veterinary insecticides.	
Decree No. 874/1996	MOA	Pesticides	Regulates importing, handling and using of pesticides.	(2)
Law No. 59/1960	MOHP	Ionized Radiation's	Regulates the work with Ionized radiation's and protection from their danger	(2)
Decree No. 630/1962	MOHP	Ionized Radiation's	Executive regulations for law No.59/1960	(2)
Decree No. 348/1996	MOHP	Banned Insecticides	A list of insecticides not allowed to be imported, produced or used	(2)
Decree No. 392/1964	MOHUUC	Explosives	Determinations for conditions for explosive warehousing	(2)
Decree No. 138/1958	MOI	Industrial Chemicals	Regulates importing, handling and using of industrial chemicals.	(2)
Decree No. 977/1989	MOI	Industrial Chemicals	Prohibition Of freogn in manufacturing of aerosols.	
Law No. 113/1962	MOHP	Pharmaceutical Chemicals	Regulates importing, manufacturing, and trade of pharmaceutical chemicals.	(2)
Decree No. 413/1996	MOHP	Hazardous Chemicals & Wastes	How to get license for handling of hazardous chemicals and wastes.	(2)
Decree No. 8/1990	MOHP	Natural and Artificial Colors	Determination of natural and artificial colors allowed to be used in food	(2)

			Industry	
Decree No. 673/1999	MOP	Petroleum Hazardous Chemicals	A list of hazardous chemicals for Ministry of Petroleum	(2)
Decree No. 82/1996	MOHP	Hazardous Chemicals (for Health)	A list of hazardous chemicals for Ministry of Health	(2)
Decree No. 55/1996	MOT	Banned Chemicals	A list of chemicals not allowed be importing, producing or using.	(2)
Decree No. 88/1999	MOI	Hazardous Industrial Chemicals	A list of hazardous chemicals for Ministry of Industry which can not be used without license	(2)

Effective (1), fair (2) or weak (3) enforcement

4.2 Description of Key Legal Instruments Relating to Chemicals

Environmental Law number 4/1994 and its Executive Regulations is consider the main legal framework that regulates and control hazardous substances and wastes management in Egypt. Of particular interest the Environmental Law No. (4) for year 1994 & its Executive Regulations issued in February 1995 include a full chapter of this Law (chapter 2) regulates the management of hazardous substances including chemicals.

A part from the law there is no specific legistelation, concerning management of industrial hazardous materials (especially hazardous wastes) arising from the production in industrial sector. Egypt has issued a large number of environmental legislations governing importing, manufacturing, trade, usage of chemicals covering different areas as indicated before (mentioned in table 4-A). In these, there is lack of specificity concerning Hazardous wastes (HW) and tendency to combine it with non- HW within the same context. Some of theses laws are Ministerial Decree 138 (1958) for organizing the import, handling and trading of toxic substances and its derivatives that are used in industrial processes, the Ministerial Decree 977 for year

1989 which stipulates the prohibition of freon gas use in manufacturing of aerosols, Ministerial Decree 91 (1959) specializing Law 21 for year 1958, which regulates the production, handling and importing of dangerous chemicals by setting the activities and conditions to be fulfilled by individuals/bodies permitted to undertake such activities; and conditions of the place of production and storage of these chemicals, which should be stored separately from other commodities. According to Law 4/1994 and its Executive Regulation, it is forbidden to deal with hazardous substances without authorization from the competent authorities. The competent Ministries, in cooperation with Ministry of State for Environmental Affairs and the Ministry of Health & Population have developed and promulgate lists of hazardous substances, these lists are controlled, revised and updated from time to time as appropriate, these lists are presented in ***ANNEX (2).***

The competent Ministries, after consulting with the EEAA, shall promulgate regulations establishing standards necessary to the protection of public health and the environment as mentioned in Article 25 of the Excusive Regulation, which states the following:

It is forbidden to displace and use hazardous substances and wastes without a license from the competent authority indicated for each as herein below:

1. Hazardous agricultural substances and wastes, including pesticides and fertilizers - Ministry of Agriculture.

2. Hazardous industrial substances and waste - Ministry of Industry.

3. Hazardous pharmaceutical, hospital and laboratory substances and wastes and domestic insecticides - Ministry of Health.

4. Hazardous petroleum substances and wastes - Ministry of Petroleum.

5. Hazardous substances and wastes from which ionizing radiation is emitted - Ministry of Electricity - Nuclear Energy Authority.

6. Hazardous inflammable and explosive substances and wastes - Ministry of Interior.

7. In respect of other hazardous substances and wastes, the respective bodies competent to issue a license for their displacement shall be designated by a decree of the Minister of State for Environmental Affairs on the basis of a proposal by the CEO of the EEAA.

The Ministers heading the Ministries mentioned in this Article shall, each within his scope of competence and in coordination with the Minister of Health and the EEAA, issue a table of hazardous substances and wastes specifying:

a. The types of hazardous substances and wastes falling within his Ministry scope of competence and their respective degrees of danger.

b. The constraints to be observed in the displacement of each.

c. The means of disposing of the empty containers of such substances after their displacement.

d. Any other constraints or conditions the Minister deems important to add.

Article (26) from the Executive Regulations of Law No. 4/1994 shows how to get the hazardous substances license where article stated: The applicant for a license shall submit his application in writing to the competent authority as defined in **Article (25)** of these Executive Regulations in accordance with the following procedures and conditions:

1. **Procedures for granting a license:**

The license to handle hazardous substances and waste shall have a maximum validity period of five years unless an event entailing its review occurs. The competent administrative authority may, pursuant to the provisions of Article (40) hereof, grant temporary licenses for short periods as necessity dictates.

The body or individual wishing to obtain a license for the displacement of hazardous substances or waste shall submit an application containing the following data:

1-Handler of hazardous substances and waste:

- Name of establishment
- Address and telephone No.
- Site and area of establishment
- Contour maps of the site
- Level of underground water
- Safety equipment in the establishment
- Information concerning insurance
- Programme for monitoring the environment in the area surrounding The establishment

2-Producer of hazardous substances and waste (full name, address, telephone and fax numbers).

3- A complete description of the hazardous substances and waste intended to be handled and the nature and concentration of the dangerous elements contained therein.

4- The amount of hazardous substances and waste intended to be handled annually and a description of the method of packing to be used (barrels - tanks - loose).

5- The means to be used in storing hazardous substances and waste and the storage period for each, as well as an undertaking to place a clear written description on the container indicating its contents, the degree of danger thereof and how to act in an emergency.

6- The available means of transport (by land - rail - sea - air - internal waterways), their routings and schedules.

7- A complete statement of the method intended to be used for the treatment and disposal of the hazardous substances and waste for the displacement of which a license is sought.

8- A commitment not to mix hazardous substances and waste with any other type of waste produced by social and production activities.

9- A commitment to keep registers containing detailed accounts of the sources, quantities and types of hazardous substances and waste, the rates and periods of their collection and storage and the means of their transport and treatment, to furnish such data on request, and not to destroy the registers for a period of five years running from the date they are first opened.

10- A commitment to take all procedures as are necessary to ensure the proper packing of hazardous substances and waste during the collection, transportation and storage phases.

11- A detailed description of the emergency plan for confronting all unforeseen circumstances which guarantees the protection of human beings and the environment.

12- A certificate of previous experience in the field of handling hazardous substances and waste.

13- A declaration of the veracity of data stated in such document.

2. <u>Conditions for granting a license:</u>

1- Completion of all required data.
2- Availability of personnel trained in the handling of hazardous substances and waste.
3- Availability of means, resources and systems required for the safe handling of these substances.
4- Availability of requirements to confront the risks which may result from accidents occurring during the handling of these substances.
5- That no harmful effects to the environment and public health shall result from the activity for which a license is sought.

The Period of License for Handling Hazardous Substances or Wastes and Revoking or Suspending Cases is mentioned in **Article (27)** of the Executive Regulation where it stated:

1. The licenses period:

The license to handle hazardous substances and waste shall be issued in consideration of a cash payment to be determined by a decree from the competent minister. The license shall be valid for a maximum period of five years subject to renewal.

2. Revoking or Suspending Cases:

The licensing authority may revoke the license or suspend the activity by a reasoned decision in the following cases:

1- If the license was issued as a result (of the submission) of incorrect data.
2- If the license violates the conditions of the license.
3- If the performance of the activity results in dangerous environmental effects which were unforeseen at the time the license was issued.
4- The emergence of sophisticated technology, which may, with minor modifications, be applied, and the use of which would lead to a marked improvement in the environment and the health of the workers.
5- If the EEAA concludes that it is unsafe to handle any of the substances and wastes.

3. The other necessary conditions to ensure the safe handling of these substances:

The licensing authority in coordination with the EEAA and the Ministry of Health may request the applicant to fulfill such other conditions as it deems necessary to ensure the safe handling of these substances,. In all cases, the applicant for a license

may not handle hazardous substances and waste before obtaining the license made out on the relevant form, which must be kept by the person in charge of the handling to be presented on request.

Article (33) of Law 4/1994 and Article (31) form its Executive Regulations declared the required precautions **in Producing or Handling the Hazardous Substances where Article (33) of Law stated:**

Those engaged in the production or circulation of hazardous Substances, either in gas, liquid or solid form, are held to take all precautions to ensure that no environmental damage shall occur. The owner of an establishment whose activities produce hazardous waste pursuant to the provisions of this Law shall be held to keep a register of such waste indicating the method of disposing thereof, and the agencies contracted with to receive the hazardous waste. The executive regulations shall determine the data to be recorded in the said register and the EEAA shall be responsible for following up the register to ensure its conformity with the facts.

And Article (31) form its Executive Regulations stated:

Those in charge of the production or displacement of hazardous substances, whether in their gaseous, liquid or solid states, shall take all due precautions to ensure the non occurrence of any environmental damage, and shall be held in particular to observe the following:

(A) That the site on which such substances are to be produced or stored is selected with due regard to the conditions prescribed according to the type and quantity of those substances.

(B) That the design of the buildings inside which hazardous substances are to be produced or stored conforms to the engineering standards to be observed for each type of such substances, as determined by a decree to be issued by the Minister of Housing after consulting the EEAA. The said buildings shall be subject to periodic inspections by the licensing administrative body.

(C) That the conditions prescribed in respect of the means of transport or the storage sites of such substances are provided so as to guarantee that no harm shall come to the environment or to the health of employees or citizens.

(D) That the technology and equipment used in the production of such substances shall not result in damage to the establishment, the environment or harm to the staff.

(E) That buildings shall be adequately fitted out with safety, alarm, protection, combat, fire-fighting and first aid systems and equipment, in the numbers and quantities determined by the Minister of Labour and Manpower after consulting the EEAA, the Ministry of Health and the Civil Defense Department in coordination with the competent administrative authority.

(F) That an emergency plan is in place to confront any potential accidents which may occur during the production, storage, transportation or handling of such substances, provided the plan is reviewed and approved by the licensing authority after consulting the EEAA and the Civil Defense Department.

(G) That staff in these establishments are subjected to periodic medical checkups and that they are treated for any vocational diseases at the expense of the establishment by which they are employed.

(H) That establishments producing hazardous substances insure their workers for the amounts to be determined by a decree from the Minister of Manpower in coordination with the Ministry of Insurance and Social Affairs, after consulting the EEAA and the Ministry of Health, provided the amounts of the insurance take into account the degree of danger to which each category of workers is exposed inside each productive unit.

(I) That workers handling such substances are informed of the dangers involved and of the necessary precautions to be taken when handling them, that they are fully aware of all this information and that they have received adequate training in this regard.

(J) That the inhabitants of the regions surrounding the sites where hazardous substances are produced or handled are informed of the possible dangers of these substances and the method of facing such dangers, and that they are familiar with the alarm systems to be used in case of an accident and with the procedures to be followed on its occurrence.

(K) Establishments producing and handling hazardous substances are held to compensate citizens injured in the locations surrounding the production or storage sites for injuries caused by accidents resulting from these activities or from harmful emissions or leakages therefrom. Those assigned to the

production and handling of hazardous substances shall submit an annual report on the extent of their commitment in implementing the necessary precautions.

Article (32) from the Executive Regulations declared that establishments engaged in the production or importation of hazardous substances shall observe certain conditions, where the article states:

Container specifications:

(A) The type of container in which these substances are placed must be suitable for the type of substance therein, tightly closed and difficult to damage.

(B) The capacity of the container must be easy to lift or transportation without exposing it to damage or harm.

(C) The inner lining of the container must be made of a material that is not affected by storage throughout the period when the substances contained therein are active.

Container information:

(A) Contents of container, their active substance, and the degree of its concentration.

(B) Total and net weight.

(C) Name of producer, date of production and production number.

(D) Nature of danger and symptoms of toxicity.

(E) First aid procedures to be taken in case of exposure.

(F) Safe method of opening, emptying and using container.

(G) Safe storage method.

(H) Methods of disposal of empty containers.

All the information shall be written in Arabic in a style that is easy for an ordinary person to read and understand, and the words must be legible and prominently displayed on the container. They must be accompanied by diagrams indicating the method of opening, emptying, storing and disposing of the containers as well as by the international symbols for danger and toxicity.

Moreover, environmental law 4/1994 and its executive regulation setup the legislations relative to hazardous wastes, which define environmental impairment, hazardous materials, wastes, and hazardous wastes. Thus articles that are mainly concerned with POPs, as a category of hazardous wastes, should be included/

modified; currently EEAA is taking the step forwarded for updating the executive summary for the Environmental Law 4/1999. Where Finida through the Egyptian Pollution Abatement Project (EPAP) is taking the main responsibility for such modifications.

Articles concerning hazardous waste are fully mentioned below.

Article (28)

The management of hazardous wastes shall be subject to the following rules and procedures

1-Engendering Hazardous Waste:

The establishment, which engenders hazardous waste, shall be held to do the following:

A-Try hard to reduce the rate at which such waste is produced, both quantitatively and qualitatively, by developing the technology used, employing clean technology and selecting alternatives for the primary product or the raw material which are less harmful to the environment and public health.

B-Categorize the wastes produced, in terms of both quantity and quality, and register it.

C-Establish and operate units to treat waste at source, provided the EEAA approves the treatment system as well as the technical specifications of these units and their operational programmes. In case of difficulty of treatment or disposal of hazardous waste at source, the establishment producing such waste shall be held to collect and transport it to the disposal sites determined by the local authorities and the competent administrative and environmental bodies. The displacement of such waste shall be subject to all the conditions and provisions prescribed in this respect by these Executive Regulations.

2-Stage of Collecting and Storing Hazardous Waste:

A-Determine specific locations for the storage of hazardous waste meeting safety conditions to prevent the occurrence of any harm to the public or to those persons exposed to such waste.

B-Store hazardous waste in special containers made of a solid, non-porous, leak-proof material. These containers are to be hermetically sealed and their capacity must be commensurate with the quantity of hazardous waste stored therein or conform to the standards set for the storage of such waste according to type.

C-Place a clear sign on the hazardous waste containers indicating their contents and warning of the dangers, which may result from handling them imprudently.

D-Lay downs a schedule for the collection of hazardous waste so that it is not left for long periods in the storage containers.

E-Producers of hazardous waste shall be held to provide the above-mentioned containers, wash them after each use and not place them in public places.

3-Stage of Transporting Hazardous Waste:

A-It is prohibited to transport hazardous waste by other than the means of transport run by the establishments licensed to manage hazardous waste. Those means of transport must meet the following conditions:

1-Transport trucks shall be fitted with all safety equipment and shall be in good working condition.

2-The capacity of such trucks and their shift schedule shall be commensurate with the quantities of hazardous waste.

3-They shall be driven by trained drivers capable of taking independent initiatives, particularly in emergencies.

4-They shall bear clear signs indicating the dangerous nature of their cargo and the best manner of dealing with emergencies.

B-Routing of trucks transporting hazardous waste shall be determined and civil defense bodies shall be immediately notified of any changes therein, so as to enable them to act rapidly and decisively in emergencies.

C-Trucks transporting hazardous waste shall be prohibited from passing through residential and other populated areas and through the city centre during daytime.

D-The address of the garages where hazardous waste trucks are parked, as well as the number and date of their license must be notified to the competent authority.

E-Trucks transporting hazardous waste must be washed and sterilized after each use in accordance with the directives issued by the Ministry of Health in coordination with the competent administrative body designated in Article (40) of these Executive Regulations.

4-The following must be observed when authorizing the passage of ships carrying hazardous waste:

A-Prior notification is a requisite. The competent administrative body shall be entitled to withhold authorization if there is a risk of environmental pollution.

B-In case of authorization, all necessary precautions as prescribed in international conventions must be taken, and the ship must have the guarantee certificate referred to in Law No. 4 of 1994.

5-Stage of Treatment and Disposal of Hazardous Waste:

A-The sites selected to house utilities for the treatment and disposal of hazardous waste shall lie at a distance of at least three kilometers from populated and residential areas, and shall be held to meet the conditions and provide the equipment and installations set forth below:

1-The area of the site must be proportionate to the quantity of hazardous waste so that such waste does not remain in storage for extended periods.

2-The site shall be encircled with a brick wall standing at least 2.5 meters high.

3-The site shall be provided with more than one gate of suitable width, allowing the easy entry of trucks transporting hazardous waste.

4-The site shall be provided with a water source and W.C. facilities.

5-The site shall be provided with all the protection and safety requirements prescribed in labour and vocational health laws, as well as with a telephone line.

6-The site shall be provided with all the mechanical equipment, which can facilitate the work process.

7-The site shall be provided with warehouses equipped to preserve hazardous waste pending its treatment and disposal. Equipment shall differ according to the type of hazardous waste received by each utility.

8-The utility shall be provided with an incinerator for burning certain type of hazardous waste.

9-The utility shall be provided with the necessary equipment and installations for sorting and classifying certain types of hazardous waste with the intention of reutilizing and recycling them.

10-The site shall have a sanitary ditch of an adequate capacity for burying the incinerated remains.

B-Processes for the treatment of hazardous waste, which may be reused and recycled, shall be carried out within the following framework:

1-Reutilization of some hazardous waste as fuel to generate energy.

2-Recovery of organic solvents and their reutilization in extraction processes.

3-Recycling and reusing some organic substances from hazardous waste.

4-Reusing ferrous and non-ferrous metals and their compounds.

5-Recycling and reusing certain non-organic substances from hazardous waste.

6-Recovery and recycling of acids or alkalines.

7-Recovery of substances used in reducing pollution.

8-Recovery of certain components of ancillary elements.

9-Recovery of used oil and reutilizing it after its refinement, with due consideration to the relationship between environmental and economic returns.

C-Processes for the treatment of hazardous waste, which cannot be reutilized and recycled, shall be carried out within the following framework:

1-Injecting hazardous waste amenable to pumping into salt mines, wells and natural reservoirs in areas far from residential and populated areas.

2-Burying hazardous waste in pits specially prepared for this purpose and isolated from the other components of the environmental system.

3-types of living micro-organisms to bring about its decomposition.

4-Treating hazardous waste physically or chemically by evaporation, dilution, calcification, assimilation, sedimentation, etc.

5-Incineration in special incinerators designed to prevent the emission of gases and fumes into the surrounding environment.

6-Permanent storage (such as placing hazardous waste containers inside a mine).

D-Taking all procedures which guarantee limiting and reducing the production of hazardous waste through:

1-Developing and generalizing the use of clean technology.

2-Developing suitable systems for the management of hazardous waste.

3-Expanding the reutilization and recycling of hazardous waste after treatment whenever possible.

E-Setting a periodic programme to monitor the various components of the environmental system (organic and non-organic) in the sites of utilities and their surroundings for the treatment and disposal of hazardous waste. Licenses shall be withdrawn and work in the utility suspended upon the appearance of any indications of damage to the eco-systems surrounding the utility.

F-Establishments licensed to handle and manage hazardous substances and waste shall be responsible for any damage caused to third parties as a result of non-compliance with the provisions of these Executive Regulations.

The EEAA shall be competent to review the hazardous waste schedules, which are subject to the provisions of the Law, with the cooperation of the ministries concerned in regard to the schedules issued by them in this connection.

Article (29)

It is prohibited to construct any establishment for the purpose of treating hazardous waste except with a license issued by the competent governorate after consulting the EEAA, the Ministry of Health, the Ministry of Labour and Manpower, and the ministry concerned with the type of waste according to the provisions of Article (25) of these Executive Regulations, after ensuring that such establishment satisfies all the conditions which guarantee the safety of the environment and the staff employed thereat.

Disposal of hazardous waste shall be effected in accordance with the conditions and criteria prescribed in Article (28) of these Executive Regulations.

The Minister of Housing, after consulting the ministries of Health and Industry and the EEAA, shall determine the locations and conditions for the disposal of hazardous waste.

Article (30)

It is prohibited to import hazardous waste or to allow its entry into or passage through the territory of the Arab Republic of Egypt.

It is prohibited, without a license from the competent administrative department in the Ministry of Maritime Transport or in the Suez Canal Authority, each within the scope of its competence, to allow the passage of ships carrying hazardous waste, in the Territorial Sea or the Exclusive Economic Zone of the Arab Republic of Egypt, provided the EEAA is notified withal.

Article (33)

The owner of an establishment whose activity results in hazardous waste pursuant to the provisions of these Executive Regulations shall be held to keep a register of such waste and the method of its disposal, as well as of the names of the parties contracted with to receive the said waste, as follows:

1) Name and address of the establishment.
2) Name and job title of the person responsible for filling in the register.

3) The period covered by the current data.

4) The special conditions issued for the establishment by the EEAA.

5) A list of the types and quantities of hazardous waste resulting from the establishment activity.

6) Method of disposal thereof.

7) The parties contracted with to receive the hazardous waste.

8) Date on which the form is filled.

9) Signature of the officer in charge.

The EEAA shall follow up the information in the register to ensure its conformity with reality.

The Crimes in Law No. 4 of 1994 Concerning the Environment Protection (which is related with handling the hazardous substances):

Articles No. 29, 30,31,32,33 and 47 shows the violations concerning handling the hazardous substances. The articles 85, 88, 95 and 101 are the imposed penalties on those who commit these crimes as shown in the following tables:

Table 4 -B The Felonies in Law No. 4 of 1994 Concerning Environmental Protectiont which is Related to Handling Hazardous Substances

S	*Violation*	*The Penalty*	*Article No.*
1	Handling the hazardous substances with no permit from the competent authority (article 25 - Executive Regulation) *The executive Regulation shows the procedures and conditions for granting the license (article 26, 27 - Executive Regulation). *Tables of hazardous substances and waste are issued by specialist Minister in coordination with the minister of Health (article 25 – Executive Regulation)	Imprisonment from 5: 15 years and a fine of 20.000 to 40.000 Egyptian pounds.	Article (29) And Article (88)
2	The importation of hazardous waste or allowing its introduction in to or its passage through Egyptian territories. The passage of ships carrying hazardous waste in territorial seas or in the exclusive maritime economic zone of the ARE without a permit from the competent authority (article 30 - Executive Regulation)	Imprisonment from 5 : 15 years and a fine of 20.000 to 40.000 Egyptian pounds. + Held to re-export the hazardous wastes subject of the crime on the criminal own expense	Article 32/1,32/2 And Article (88)
3	Exceeding the level of radioactivity or concentration of radioactivity substances in the air (as issued by the competent authorities)	Imprisonment from 5 : 15 years and a fine of 20.000 to 40.000 Egyptian pounds.	Article (47) And Article (88)
4	Violating the provisions of this law causing a permanent incurable disability to an individual *if the violation results in causing this infirmity to three or more persons *if the violation results in a death of a person *if the violation results in a death of three or more persons	Imprisonment not more than 10 years Imprisonment from 3 :15 years Temporary hard labour from 3: 15 years Permanent hard labour No prejudice to the imposition of any more sever penalty prescribed in another law	Article 95/1 Article 95/2 Article 95/2 Article 95/2 And Article 101 Article (95) compared with Article (88)

Table 4-C: -The Misdemeanor in Law No. 4 of 1994 concerning Environmental Protection, Which is related To Handling Hazardous, Substances

S	*Violation*	*The Penalty*	*Article No.*
1	Violating the rules and procedures of management the hazardous wastes in the executive regulation (article 30 – Executive Regulation)	Imprisonment for a period of not less than one year and /or a fine of ten thousands to twenty thousands Egyptian pounds.	Article (30) And Article (85)
2	The constructor of any establishment for the treatment of hazardous wastes without a license issued by the competent administrative authority (article 29 - Executive Regulation)		Article (31) And Article (85)
3	The disposal of hazardous wastes by violating the conditions and criteria issued by the executive regulation. (The Minister of Housing shall, after consulting with the Ministries of Health and Industry and the EEAA, designate the disposal sites and determine the conditions of the license to dispose of hazardous wastes)		Article (31) And Article (85)
4	Not taking the precautions in producing and circulating hazardous wastes (either in gas, liquid or solid form) so as not to damage the environment. (articles 31,32 - Executive Regulation)	Imprisonment for a period of not less than one year and /or a fine of ten thousands to twenty thousands Egyptian pounds.	Article (33) And Article (85)
5	When the owner of an establishment whose activities produce hazardous wastes doesn't keep a register of such wastes indicating the method of disposing and the agencies contracted with to receive the hazardous wastes (article 33 - Executive Regulation)		Article (33) And Article (85)

Egyptian Laws and Regulations for Managing Chemicals

1. Environmental Law No. 4/ 1994:

Article 29

It is forbidden, without a license from the competent administrative authority, to handle hazardous substances and wastes. The Executive Regulations of this Law explain the procedures and the conditions for granting such a license.

The Ministries, each in its field of competence, shall issue, in coordination with the Minister of Health and EEAA, a list of the hazardous substances and wastes as aforementioned in paragraph one of this article.

Article 30

Management of hazardous wastes shall be subject to procedures and regulations stated in the Executive Regulations of this Law. The Executive Regulations designate the competent authority, which, after consulting EEAA, will issue the tables of dangerous wastes to which the provisions of this Law shall apply.

Article 31

Without a license issued by the competent administrative authority after consulting the EEAA. Disposal of hazardous waste shall be in accordance with the conditions and criteria set forth in the executive regulations of this Law. The Minister of Housing shall, after consulting with the Ministries of Health and Industry and the EEAA, designate the disposal sites and determine the conditions of the license to dispose of hazardous waste.

Article 32

It is forbidden to import dangerous wastes or to allow its entrance into or passage through Egyptian territories. It is forbidden, without permit from the competent authority, to allow the passage of ships carrying hazardous wastes through territorial seas or the exclusive economic zone of the ARE.

Article 33

Those engaged in the production or circulation of hazardous materials, either in gas, liquid or solid form, are held to take all precautions to ensure that no environmental damage shall occur

The owner of an establishment whose activities produce hazardous waste pursuant to the provisions of this Law shall be held to keep a register of such waste indicating the method of disposing thereof, and the agencies contracted with to receive the hazardous waste. The executive regulations shall determine the data to be recorded in the said register and the EEAA shall be responsible for following up the register to ensure its conformity with the facts.

Article 37:

It is prohibited to throw, treat **or burn garbage** and solid waste except in special sites designated for such purpose which are far from residential, industrial or agricultural areas as well as from water-ways. The executive regulations of this Law shall determine the specifications and conditions of such sites and their minimum distance from the areas referred to hereinabove.

Local units shall, in agreement with the EEAA, designate the sites for burning, throwing or treating garbage and solid waste according to the provisions of this article.

Article 47:

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

Article 85:

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

Article 88:

Any person who violates the provisions of articles 29, 32, and 47 of the present law shall be punished by imprisonment for a term of not less than five years and a fine of twenty thousand Egyptian Pounds to forty thousand Egyptian Pounds. Whoever violates the provisions of Article 32 shall be held to re-export the hazardous wastes subject of the crime at his own expense.

Article 95:

Whoever intentionally violates the provisions of this Law shall be punished by imprisonment for a term of not more than 10 years if such violation results in causing a permanent incurable disability to an individual. The penalty shall be imprisonment if the violation results in causing this infirmity to three or more persons.

If the violation results in the death of a person, the penalty shall be temporary hard labour, and if it results in the death of three persons or more the penalty shall be permanent hard labour.

Article 101:

The imposition of the penalties stipulated in this Law shall be without prejudice to the imposition of any more severe penalty prescribed in another law.

Moreover, law 4/1994 and it executive regulation has set in Annex 6 the **PERMISSIBLE LIMITS OF AIR POLLUTANTS IN EMISSIONS** emitted by different activities, which are gaseous, solid, liquid or steam pollutants emitted by various establishments within given periods and likely to impact adversely on public health, animals, plants, material. Furthermore, Annex 8 of the law 4/1994 has set the **MAXIMUM LIMITS OF AIR POLLUTANTS INSIDE THE WORK PLACE ACCORDING TO TYPE OF INDUSTRY** tables are illustrated in ***Annex (3).***

2. Other laws and Regulations:

A. Regulations Governing Handling Of Industrial Chemicals:

Law No. 499/1995:

Stated that the Ministry of Industry is the responsible agency for handling of poisonous and non-poisonous chemicals used in Industry. The Ministry of Industry issued the rules and regulations for importation and trade of these chemicals.

Decree No. 471/1995:

The Ministry of Industry must be informed of any activity concerning trade in poisonous or non-poisonous substances including the name of the shop owner, the number of this license and the kind of trade.

Decree No. 138/1958, Amended by Decree No. 91/1959:

1. For trading in poisonous or non-poisonous chemical used in industry, a license must be issued from the Industrial Control Authority (ICA).
2. It is prohibited to have such a license together with ownership of any pharmaceutical enterprise.
3. This license is personal and cannot be transferred or inherited.
4. Poisonous materials should be kept in suitable packages with a label showing the name of the material, the supplying factory, the quantity contained. The word poisonous should be written in Arabic and one foreign language in red and in a clear place.
5. The owner of the shop or store must keep a logbook with its pages serially numbered and stamped by the ICA. Any supply or selling should be indicated in this book.

Decree No. 342/1962:

Added the following to MD 138/1958:

The non-poisonous materials, which are imported or bought by the factories for manufacturing, their products are to be excluded from the license mentioned in MD 138/1958.

[Law No. 21/1958 concerning Organization and Development of Industry:

Chapter 2, articles 14, 15 authorize the Ministry of Industry to put specifications for raw materials and industrial products. The Minister of Industry issued the rules to be strictly followed in the production of more than 150 commodities.

Law No. 21/1957 Concerning the Egyptian Organization for Standardization and Quality:

The organization issued specifications for chemicals and household commodities such as: Red lead oxide primer, Matches, paint solvents, fuel, pigments, dyes, food additives, perfumes, soap detergents, clothes and blankets.

B .Regulations Governing Pesticides Use:

Agricultural Law no. 53/1966 concerning specification of pesticides to be used in Egypt, procedures, for their registration and conditions for use.

Article 78

Agricultural pesticides are those chemicals and formulations used to control plant diseases, pest insects, rodents, and weeds, other organisms detrimental to plants, animal insects and parasites.

Article 79

Pesticide Committee is to be formed by a ministerial decree from the Minister of Agriculture. The task of the Committee is to specify pesticides to be used in country, determine their specifications, procedure of their registration and condition for use.

Article 80

Based on the recommendations of the Committee, the Minister of Agriculture issues ministerial decree that put the articles of the agricultural law into action particularly those concerning:

1. Kinds of pesticides to be imported for local use, their specifications, conditions of importation and handling.
2. Conditions and procedures of licensing for pesticides importation and trade.
3. Procedures of pesticides registration, registration renewal, registration fees.
4. Methods of pesticides sampling and analysis, ways of disapprobation by the producers on results of chemical analysis, procedures to be followed in considering approbation and judging its validity, and the fees to be paid for such approbation.

Article 82

Advertising or distribution of information on pesticides should comply with its specification and conditions for handling and registration and also with the recommendations of the Ministry of Agriculture for their use.

Decree No.874 for the year 1996

Ministry of Agriculture's decree No.874 for the year 1996

- Panning testing, importing, handling, use, formulation of pesticides:
- Legal requirements for handling hazardous substances & wastes
- Record keeping practices that accurately identify the quantities of such hazardous substances, constituents which are significant in quantity or in potential harm to human health or the environment
- Use of appropriate containers for such hazardous substances
- Labeling practices for the identification of any containers used for storage, transport of such hazardous substances
- Furnishing of information on such hazardous substances to persons transporting storing, or using it
- Use of a manifest system and any other reasonable means to assure that all such hazardous substances are handling in the proper way

- Contingency plans for effective action to minimize unanticipated damage from any hazardous substances accident
- Panning importation trading, production and use of specific hazardous commodities.

Ministerial decree No. 3209 for year 2003

Issues by Minster of agriculture concerning agriculture pesticides with regards to restriction of the production, importing and handling of agriculture pesticides before registration according to rules set-b Ministry of Agriculture in this decisions (all substances used in controlling the agriculture pesticides) according to definitions issued from the Organization of Food and Agriculture (FAO).

Annexes for concerning the Ministerial Decree 3209 for year 2003 concerning agricultural pesticides.

Annex (1): requirements for registering the pesticides:

Model A: request for registering the agricultural pesticides with the normal / regular system or METOO system.

Model B: request for conducting laboratory experiments for registering the agricultural pesticides.

Model C: request for conducting Laboratory analysis for Agricultural Pesticides.

Model D: recommendations notice for pesticides.

Annex (2): pesticides registration certificate:

Identification card for pesticides

Annex (3): A request model for the approval of importing the agricultural pesticides:

Import approval of model.

Request for special use, import approval.

Import approval for agricultural pesticides concerning auxiliary agent/ material.

Annex (4):

License request model, or reviewing the license for operating the production of pesticide factory

Annex (5):

Methods for testing the efficiency /effectiveness of pesticides packages and comparing it to measurable standards. (As international standards):

Annex (6):

License request model for trading of agriculture pesticides.

License model for trading in agricultural pesticides.

Conditions that should be available in the storage area for agricultural pesticides.

Annex (7):

Methods and procedures for taking samples from pesticides for analysis purpose.

Annex (8):

Inspection investigation form, and taking a sample of agricultural pesticides from imported goods.

Inspection investigation form for free zones and customs authorities.

Inspection and samples taking of agricultural pesticides from stock production prepared locally, within Egyptian production factories for pesticides manufacturing.

Inspection test for taking samples of agricultural pesticides for the stored pesticides to check the validity / expiry date.

Annex (9):

Analysis certificate model

Assurance certificate form

Expiry date of agricultural pesticides

Licenses for clearance of pesticides formula

Clearance license on ingredients pesticides materials

Clearance license on auxiliary's materials or solvents for preparing agriculture pesticides

Clearance license on pesticide order for personal use.

Ministerial decree No. 173 for year 2004

For modification of the 5th item of the ministerial decree 3209 for year 2003, concerning deleting the items of experimenting/trial on registering pesticides with the METOO system according to what is followed by Environmental Protection Agency (EPA).

Ministerial Decree NO. 874, year 1996

Restricting the experimentation or import or dealing with pesticides whatever they are raw material or other ingredients in any form declared in the attached tables of this decree and classification as group " B " that could be human carcinogenic either through trading or for personal use. According to the classification of US EPA agency, also the classification of IARC/ WHO.

Group B	**Type of pesticides**
Propargite	Pesticides
Mancozeb	Fungicide
Maneb	Fungicide
Chlorothalonil	Fungicide
Folpet	Fungicide
Procymidone	Fungicide
Iprodione	Fungicide
Captan	Fungicide
Cyproconazole	Fungicide
Alachlor	Fungicide
Propoxur	Fungicide
Group C	
Dimethoate	Insecticides
Cypermethrin	Insecticides

Permethrin	Insecticides
Carbaryl	Insecticides
Tetrachlorovinphos	Insecticides
Etofenprox	Insecticides
Dicofol	Pesticides
Clofentezine	Pesticides
Fosetyl - Aluminium	Fungicide
Propiconazole	Fungicide
Triadimenol	Fungicide
Benomyl	Fungicide
Hexaconazole	Fungicide
Oxadixyl	Fungicide
Teboconazole	Fungicide
Triadimefon	Fungicide
Terbutryn	Insecticides
Atrazine	Insecticides
Trifluoralin	Insecticides
Bromacil	Insecticides
Metolachlor	Insecticides

Oxyfluorfen	Insecticides
Oxadiazon	Insecticides
Bromoxynil	Insecticides
Linuron	Insecticides
Simazine	Insecticides
Pendimethaline	Insecticides
Dichlobenil	Insecticides

C. Regulations Governing Handling of Pharmaceutical and Chemicals in Consumer Goods of Ministry of Health:

Law No. 127/1955 (Pharmacy Practicing)

It regulates pharmaceutical affairs including establishments, personnel, products and ingredients. According to this law the ministry of the health applies full control over dosage forms of drugs, cosmetics, household insecticides and disinfectants, biological preparations and diagnostics, and medical devices.

Law No. 183/1960 concerning Narcotics Control:

It sets regulations for handling and control of narcotics.

Ministerial Decree No. 429/1969

It sets conditions for storage and licensing procedure concerning narcotic substances.

Presidential Decree No. 450/1980

Concerning establishment of the national council for addiction control.

Ministerial Decree No. 487/1985 Deals with psychoactive substances and its preparations. It annexes three tables dealing with three different levels and categories.

Law No. 367/1954 Chapter 2, 3, 4.

It regulates medical diagnostic laboratories, scientific research lab. And biological preparations laboratories.

Law No. 10/1966 and its Amendments

Concerns food control.

Ministerial Decree No. 163/1967

It controls importation of food additives.

Decree No. 798/1957 and Ministerial Decree No. 679/1983

Deal with the requirements to be fulfilled in cooking ware containers and packages used for food processing and packaging.

Ministerial Decree No. 178/1975 and its Amendments

Concerning coloring additives permitted in foods.

Ministerial Decree No. 16/1964 and its Amendments

Regulates the use of food preservatives.

Law No. 53/1966

Authorizes the Minister of Agriculture to regulate and organize investigation of food products of animal origin and the freeze foodstuff.

Ministerial Decree No. 10/1957

Concerning licensing of household insecticides.

Law No. 118/1979

Concerning import and export of pharmaceutical and chemicals in consumer goods section 5, chapter 1, and Article 73 defines the role of the general organization for control of imports and exports. Under this law it is prohibited to import or export any commodity not fulfilling the specifications laid down by this organization (GOCIE). The minister of economy issued more than decrees dealing with control of many goods and commodities.

Ministerial Decree No. 315/1993

Prohibits the importation of blue asbestos among a list comprising six other chemicals. Occupational health and safety legislation is a principal instrument for regulating the conditions under which work is carried out. According to the law No.137 of 1981 by Ministry of Manpower and Immigration and its DecreeNo.55 of 1983 is a comprehensive Act on the work environment, which constitutes a frame work for the most important occupational health and safety principals and which provides the bases for more details lower level provisions or adjacent legislation.

4.3 Existing Legislation by Use Category Addressing Various Stages of Chemicals from Production/ Import to Disposal

Table 4-D: Overview of Legal Instruments To Manage Chemicals by Use Category

Category of Chemical	*Import*	*Production*	*Storage*	*Transport*	*Distributin/ Marketing*	*Use/ Handling*	*Disposal*
Pesticides (agricultural, public health and consumer use)	✓	✓	✓	✓	✓	✓	✓
Fertilizers	✓	✓	✓	✓	✓	✓	✓
Ind. Chemicals (used in manufacturing/ Processing facilities)	✓	✓	✓	✓	✓	✓	✓
Petroleum Products	✓	✓	✓	✓	✓	✓	✓
Consumer Chemicals	✓	✓	✓	✓	✓	✓	✓

Chemical Wastes	✓	☐	☐	✓	☐	☐	✓

☐ Not Available
✓ Available

4.4 International conventions and Obligations:

The Egyptian Environmental Affairs Agency (EEAA) is the focal point for International Conventions concerning managing of chemicals and wastes. Moreover, EEAA formulated national committee to plan, advice, follow-up and monitor all activities related to the three Conventions (Stockholm, Basel, PIC) with a define scope of work in order to ensure a high level of coordination, cooperation, harmonization and coherence of the activities for proper manage of hazardous substances and wastes (including expired, out specifications/ banned chemicals and empty containers of hazardous chemicals).

a. Stockholm Convention:

The Stockholm Convention for Persistent Organic Pollutants (POPs) that entered into force on the 17th of May 2004. Egypt has adopted the convention in May 2001 and joins the convention on the 2nd of May, 2003 after 90 days of the ratification date (13th of January, 2003). The Convention will enter into force on the ninetieth day after the date of deposit of the fiftieth instrument of ratification, acceptance, approval or accession, where it will become legally binding on the 17th may 2004.

The objective of the convention, as stated in article 1, "is to protect human health and the environment from persistent organic pollutants (POPs)". The Convention obliges Parties to:

1. Take measures to reduce or eliminate releases from intentional production and use, unintentional production, and from stockpiles and wastes of 12 POPs (articles 3, 5 and 6);
2. Eliminate production and use of nine intentionally produced POPs, subject to certain time-limited and general exemptions (annex A: aldrin, chlordane, dieldrin, endrin, heptachlor, Hexachlorobenzene (HCB), mirex, toxaphene, and Polychlorinated biphenyls (PCBs), article 3.1.a)
3. Take measures to restrict the production and use of one intentionally produced POP (Annex B: DDT); article 3.1.b)
4. Reduce the total releases of unintentionally produced POPs with the goal of their continuing minimization and, where feasible, ultimate elimination

(Annex C: polychlorinated dibenzo-p-dioxins and dibenzofurans, HCB, PCBs); article 5)

5. Take appropriate measures so that waste POPs, including products and articles upon becoming wastes, are handled, collected, transported and stored in an environmentally sound manner, and are disposed of in such a way that the POPs content is destroyed or irreversibly transformed so that they do not exhibit the characteristics of POPs, or otherwise disposed of in an environmentally sound manner when destruction or irreversible transformation does not represent the environmentally preferable option or the POPs content is low (article 6.1.d.i,ii)
6. Not to permit POPs waste to be subjected to disposal operations that may lead to recovery, recycling, reclamation, direct reuse or alternative uses of POPs

(Article 6.1 .d .iii)

7. Encourage the implementation of national regulations to prevent development of new chemicals with POPs characteristics by promoting changes in industrial materials, processes, and products that can create POPs; and,
8. Article 6.2 of the Stockholm Convention concerning measures to reduce or eliminate releases from stockpiles and wastes left open a number of definitional issues. It required the Conference of Parties (COP) to cooperate closely with the appropriate bodies of the Basel Convention in addressing these, in particular to establish appropriate levels of destruction and irreversible transformation for POPs wastes; to determine what methods would constitute environmentally sound disposal; and to establish as appropriate the concentration levels that would define the low POPs content..

b. <u>Basel Convention:</u>

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was adopted on 22nd of March 1989 in response to widespread concern about the dumping of hazardous wastes in developing countries by companies of developed

countries. The convention entered into force on May 1992 and by December 2002 there were 153 Parties to the Basel Convention. Egypt has ratified the Convention on 1993.

Basel Declaration adopted by the fifth meeting of the Conference of the Parties (COP5) on December 1999 states that: "*The fundamental aims of the Basel Convention [are] the reduction of transboundary movements of hazardous wastes and other wastes subject to the Basel Convention, the prevention and minimisation of their generation, the environmentally sound management of such wastes and the active promotion of the transfer and use of cleaner technologies"*

As wastes, all of the POPs currently listed in the Stockholm Convention are classified as hazardous wastes in Annex VIII of the Basel Convention (under A1180, A3180, A4030, A4110 and A4140). Article 2, paragraph 8 of the convention defines 'Environmentally Sound Management (ESM)' as taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes. The notification and consent procedures of the convention require that any transboundary movement (export/import/transit) is only permitted when the movement itself and the ultimate disposal of the concerned hazardous wastes are

Environmentally sound. The Importing Party must consent to the import in writing. In addition, articles 4.2(c), 4.2(g), and 4.8, in particular, provide obligations regarding the ESM of wastes subject to the Basel Convention.

Annex IV of the Convention contains the list of disposal operations. It identifies a list of operations that occur in practice that trigger the prior written informed consent procedure. Once the competent authority receives a notification, the obligations in Article 4 (2)(e), which require that the transboundary movement of hazardous wastes be 'managed' in an environmentally sound manner, are triggered. 'Management" is defined in the convention as "the collection, transport and disposal of hazardous wastes or other wastes, including after-care of disposal sites" (Art.2.2). **Annex (4) (list Article 2, 4 and Annex VIII of Basel Convention).**

Moreover, the obligations in the Basel Convention as well as the supportive technical guidelines adopted by the COP pursuant to article 4(8) provide a set of internationally accepted guidance for the environmentally sound management of POPs as wastes. In the preparation of technical guidelines, the parties have given due consideration to the specific situation of developing countries, in particular to those countries that do not have the technical capacity, the necessary facilities or suitable disposal sites to dispose of these wastes in an environmentally sound manner or for which locally affordable and sound solutions do not exist for certain waste streams (e.g. used oils, contaminated soil). In addition, because new technologies are being developed to dispose of POPs as wastes, the Parties retain the possibility to adjust to technology changes through the preparation of new or expanded technical guidelines for the ESM of these wastes as required under the Basel Convention.

During the sixth meeting of the conference of the parties (COP6) of the Basel Convention in December 2002 adopted decisions encouraging the Open-Ended Working Group (OEWG) to complete the preparation of the technical guidelines on the environmentally sound management of POPs as wastes in 2003 for eventual adoption by the seventh meeting of the Conference of the Parties (COP7). It also requested the OEWG to continue to reinforce its cooperation with the appropriate subsidiary body (ies) of the Stockholm Convention on POPs to ensure consistency in implementation and mutual support between the Basel and the Stockholm Conventions.

Basel and Stockholm Conventions Interrelationship:

Some of the key interrelationships between the Basel and the Stockholm convention concerning POPs are:

1. All of the POPs currently listed in the Stockholm Convention are also classified as hazardous wastes under the Basel Convention;
2. Both conventions require POPs wastes to be managed in accordance with ESM practices, but the Stockholm Convention does not allow POPs wastes to be recovered, recycled or reused;
3. The COP to the Basel Convention has adopted several sets of technical guidelines prepared by its technical working group that concern, or are related to, POPs as wastes including technical guidelines on certain disposal operations and technical guidelines on PCBs; and

4. Article 6.2 of the Stockholm Convention states that the COP shall cooperate closely with the appropriate bodies of the Basel Convention, interalia, to establish appropriate levels of destruction and irreversible transformation, determine methods that constitute environmentally sound disposal, and establish concentration levels of chemicals to define "low POPs content" for the purposes of article 6.1 of the convention.

C. The Rotterdam Convention on the Prior Informed Consent (PIC) procedure for Certain Hazardous Chemicals and Pesticides in International Trade

The objective of these convention is to promote shared responsibility and cooperative efforts among parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm and to contribute to their environmentally sound use, by facilitating information exchange about their characteristics, by providing for a national decision-making process on their import and export and by disseminating these decisions to parties.

There are 73 parties has signed the convention and 58 has ratified. Egypt didn't sign the convention. The convention has been adopted in 1998 entered into force on the 24th of February 2004.

The convention creates legally binding obligations for the implementation of the Prior Informed Consent (PIC) procedure based on the existing voluntary PIC procedure, operated by UNEP and FAO since 1989.

a. The convention scope is applied to:

(1) Banned or severely restricted chemicals; and

(2) Severely hazardous pesticide formulations.

b. This Convention does not apply to:

(1) Narcotic drugs and psychotropic substances;

(2) Radioactive materials;

(3) Wastes;

(4) Chemical weapons;

(5) Pharmaceuticals, including human and veterinary drugs;

(6) Chemicals used as food additives;

(7) Food;

(8) Chemicals in quantities not likely to affect human health or the environment provided they are imported:

(a) For the purpose of research or analysis; or

(b) By an individual for his or her own personal use in quantities reasonable for such use.

Obligations of Egypt on Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade:

a. Each Party shall designate one or more national authorities that shall be authorized to act on its behalf in the performance of the administrative functions required by this convention.

b. Each Party shall seek to ensure that such authority or authorities have sufficient resources to perform their tasks effectively.

c. Each Party shall, no later than the date of the entry into force of this convention for it, notify the name and address of such authority or authorities to the Secretariat. It shall forthwith notify the Secretariat of any changes in the name and address of such authority or authorities.

d- Each Party shall transmit to the Secretariat, as soon as possible, and in any event no later than nine months after the date of dispatch of the decision guidance document referred to in paragraph 3 of article 7, a response concerning the future import of the chemicals listed in Annex III.

e- National authorities shall notify competent authorities of the final regulatory actions (appropriate legislative or administrative measures) with respect to the import of chemicals listed in annex III.

f- The Parties shall, with respect to regional expert cooperate with the convention secretariat in promoting technical assistance and information exchange.

g-Each party shall, ensure the prohibition of the production and use of chemicals that are restricted during imports for reasons that have mentioned by the convention.

h- Each Party shall ensure that chemicals listed in annex III are not exported from its territory to any importing Party that has transmitted an interim response to restrict such chemicals. **Annex (5) (list article 7 and annex III of Rotterdam Convention (PIC)).**

4.5Comments / Analysis

This chapter covers in detail the various legislative and regulatory aspects pertaining to the management of chemicals. Various Laws and Decrees are compiled in table 4.A. In essence and through the Environmental Law No.4 of 1994 and its Executive Regulations (ER) of 1995, the MSEA undertakes the national coordinating regulatory function for environmental protection and pollution control. The Law has a specific comprehensive chapter regulating the management of hazardous substances including chemicals.

In addition other Ministries and Agencies have issued much other legislation governing import, manufacture, trade and use of chemicals covering different areas as:

1-The Ministry of Industry has issued laws and regulations governing importing, manufacturing, trading, and handling of chemicals used in industry.

2-The Ministry of Agriculture has issued laws and regulations governing importing, manufacturing, trading, and handling of chemicals used in Agriculture.

3-The Ministry of Petroleum has issued laws and regulations governing importing, manufacturing, trading, and handling of chemicals used in petroleum.

4-The Ministry of Health and Population has issued laws and regulations governing importing, manufacturing, trading, handling and usage of pharmaceuticals, radioactive substances and insecticides.

5-The Ministry of Interior has issued laws and regulations governing importing, manufacturing, trading, and processing and usage of explosives.

6-Regulations governing operation of nuclear reactors, atomic energy activities, monitoring of radiation levels and disposal of radioactive wastes are the responsibility of Atomic Energy Authority affiliated to the Ministry of Electricity and Energy.

Analysis of the present situation and in view of previous working experience tends to indicate that the present regulatory infrastructure is to an extent compatible with international trends. Perhaps it may need some adjustments, reinforcement and ultimately

unification to meet fully the national and international mandates. The most important aspect however, would indulge proper enforcement coupled with educated general and technical awareness.

It should be mentioned that in order to support the implementation of the Environmental Law and other related Laws and Decrees, a strategy for management of hazardous substances and wastes is being drafted as a part of the national environmental strategy. According to this strategy, a clear scope of policies and the definition of institutional responsibilities and capacity building of institutions to be involved in hazardous substances and wastes management should be an immediate priority in order to get an efficient administrative control system in place.

Chapter 5: Ministries, Agencies and other Institutions Managing Chemicals

5.1 Responsibilities of Different Government Ministries, Agencies and other Institutions

Laws, regulations, and guidelines set the responsibilities of different Ministries and concerned Agencies. Key Ministries and Agencies responsibilities are outlined in Table 5-A.

Table 5-A: Responsibilities of Government Ministries, Agencies and other Institutions

Stage of Life Cycle /Ministry Concerned	*Importation*	*Production*	*Storage*	*Transpo-rt*	*Distribution/ Mark-eting*	*Use/ Handl-ing*	*Disposal*
Environment	✓	✓	✓	✓	☐	✓	✓
Health	✓	✓	✓	✓	✓	✓	✓
Agriculture	✓	✓	✓	✓	✓	✓	✓
Labor	☐	✓	✓	✓	☐	✓	✓
Foreign Trade	✓	☐	☐	✓	☐	☐	☐
Industry	✓	✓	✓	✓	✓	✓	✓
Finance	✓	☐	☐	☐	☐	☐	✓
Transport	☐	☐	☐	✓	☐	☐	☐
Interior/Civil Defense	✓	✓	✓	✓	✓	✓	✓
Justice	✓	✓	✓	✓	✓	✓	✓
Petroleum	✓	✓	✓	✓	✓	✓	✓
Electricity	✓	☐	✓	✓	✓	✓	✓

☐ Not Available
✓ Available

5.2 Description of Principal Ministerial Authorities and Mandates related to the Management of Chemical Substances.

- ***Ministry of State for Environmental Affairs /Egyptian Environmental Affairs Agency (EEAA):***

  - The Agency shall be the National Authority responsible for strengthening environmental relations between Egypt and other countries and regional and international organizations. The Agency shall recommend taking the necessary legal procedures to adhere to regional and international conventions related to the environment and prepare the necessary draft laws and decrees required for the implementation of such conventions.

  - The main Objective of the MSEA & EEAA is to:

1. Prepare draft laws and decrees related to the fulfillment of its objects and express its opinion on proposed legislation related to the protection of the environment.
2. Prepare studies on the state of the environment, formulate the national plan with the projects included for the protection of the environment, prepare the estimated budgets for each as well as environmental maps of urban areas and areas to be developed and lay down the criteria to be observed when planning and developing new areas as well as the criteria targeted for old areas.
3. Lay down the criteria and conditions, which owners of projects and establishments must observe before the start of construction and during the operation of these projects.
4. Draw up a comprehensive list of national institutions and organizations as well as of qualified individuals who could contribute in the preparation and execution of environmental protection programmes and could be made use of in preparing and implementing the projects and studies undertaken by the Agency.
5. Conduct field follow-up of compliance with the criteria and conditions that are binding to agencies and establishments and take the procedures prescribed by law against those who violate such criteria and conditions.
6. Lay down and follow up the rates and percentages necessary to ensure that permissible levels of pollutants are not exceeded.
7. Gather national and international information on the environmental situation and the changes affecting it on a periodical basis in cooperation with the information centers of other agencies, publish such information and evaluate and utilize it in environmental management and planning.
8. Lay down the principles and procedures for assessing the environmental effects of projects.

9. Prepare an environmental contingency plan in the manner stated in article 25 of this Law and coordinate with the competent bodies in the preparation of programmes to face environmental disasters.
10. Lay down a plan for environmental training and supervise its implementation.
11. Participate in the preparation and implementation of the national programme for environmental monitoring and make use of the data provided thereby.
12. Compile and publish periodic reports on the main environmental indicators.
13. Prepare programmes for the environmental education of the public and assist in their implementation.
14. Coordinate with other competent authorities in connection with regulating and setting safety standards for the conveyance of hazardous materials.
15. Administer and supervise natural protectorates.
16. Prepare the draft budgets required for the protection and promotion of the environment.
17. Follow up the implementation of international and regional conventions related to the environment.
18. Propose economic mechanisms to encourage different activities and procedures for the prevention of pollution.
19. Implement pilot projects for the preservation of natural resources and the protection of the environment from pollution.
20. Coordinate with the Ministry for International Cooperation to ensure that projects funded by donor organizations and countries are in line with environmental safety considerations.
21. Participate in laying down a plan to protect the country from leakages of hazardous substances and wastes causing environmental pollution.
22. Participate in the preparation of an integrated national plan for the administration of coastal areas on the Mediterranean Sea and the Red Sea in coordination with the authorities and ministries concerned.
23. EEAA shall formulate standards and regulations regarding the protection of the ozone layer from an environmental conservation point of view.
24. Participate with the Ministry of Education in the preparation of training programmes for the protection of the environment within the scope of the various curricula in the basic education stage.
25. Prepare an annual report on the environmental situation to be submitted to the President of the Republic and the Cabinet, a copy of which shall be deposited at the People's Assembly.

- As for hazardous substances MSEA & EEAA; set the national policy for chemical management including:

1. Control hazardous substances at the various stages of their life cycle to be regulated by adequate legal instruments;
2. Chemical risk communication necessitates harmonized classification and labeling of chemicals.
3. Preparation of an inventory in Egypt.
4. National plan for prevention of illegally imported HS.
5. Environmentally safe and sound methods for reduction and control of chemical risks including possible development of non-toxic alternatives.

Ministry of Health and Population

- MOHP through its directorates and centers is involved in chemical safety. The General Directorate of Occupational Health has a unit for chemical safety and keeps a register of hazardous chemicals used in Egypt. Occupational health Department "Chemical Safety Unit" ***Aim is:*** Safe handling of chemicals throughout the whole process (importation, transportation, storage, use and waste management.)

Function:

a. It supervises chemical safety in work places and keeps record of cases of chemical intoxication that are treated in the MOHP hospitals.
b. Also, It has national chemical register to register all used chemicals (imported or manufactured locally.
c. Evaluating these substances and cases, putting preventive measures to the whole process and reporting to the authorized agencies to avoid exposure of Egyptian citizens to these hazards.
d. Technical supervision and assistance for 5 poisons information and management centers at 5 governorates, which serve other neighbor governorates which mange cases of chemical poisoning.
e. Raise public awareness by different means.
f. Carry out researches.
g. Training.
h. Implementation of toxic vigilance program (related to chemical safety with WHO)

i. The Directorate of Emergency Medical care: responsible for ambulance and the immediate care for the cases of chemical intoxication.

The General Directorate of Environmental Health supervises hazardous, materials and hazardous wastes generated by health establishments and license clinical waste disposal. The Directorate runs the air-monitoring network, does water analyses as appropriate and approves chemicals used for water treatment. The MOHP sets standards and specifications for water used for drinking, household purposes and for recreation. The General Directorate of Food Control sets limits for food additives and food contaminants inspects and analyses imported and locally produced foods and those on the market for safety and investigate food poisoning outbreaks. The Directorate of Central Laboratories does laboratory analyses for water, food and biological fluids to help implement various legislation of the MOHP and other agencies .It does regular analyses required for the implementation of law no. 48/1981 concerning the protection of the water of the Nile River and waterways from pollution. The Research Institute of Medical Entomology carries out laboratory and field research to examine the efficacy of pesticides and provide information important for registration of pesticides used for public health and household purposes. This information is used by the Drug Policies and Planning Center, which gives approval for registration of these pesticides as well as pharmaceutical chemicals to the Central Directorate of Pharmacy, for registration, which is its responsibility. The General Organization for Health Insurance carries out Periodic medical examinations for workers exposed to hazardous chemicals.

Moreover, the MOHP regulates matters related to control of poisonous and deleterious substances, matters related to regulations of production, import, use or handling of chemical substances which may damage human health and also, matters related to regulations of household pesticides containing hazardous substances.

Ministry of Manpower and Immigration

This Ministry is responsible for the administration and enforcement of Law No.137 of 1981 and its related decrees concerning labor and industrial safety protection of industrial working environment. The Factories Inspectorate Department has a specialized wing on Occupational Safety and Health, acting to enforce this law. This legislation is aimed at protecting workers against occupational accidents and diseases. The department carries out systematic inspections of all premises covered by the factories act, i.e., factories, construction sites, and general engineering construction workers, The inspectors assess the risks of the exposure to workers from chemicals and physical hazards and also biological, physiological, mechanical and psychological hazards. Also, it regulates matters related to ensure standard and measures to prevent health impairments to worker (working environment) due to chemical substances.

Ministry of Agriculture:

The Ministry of Agriculture provides services to farmers in animal and crops producers and, also administers the fertilizers and pesticides, to control the importation and use of fertilizers and pesticides through different departments to prevent plant diseases and pests from inside and outside the country. The Ministry of Agriculture regulates pesticides through the Supreme Committee for Pesticides. Also this department test and control services administer to general animal health and diseases monitoring and control. Specialized departments provide services through contact with farmers. It acts to prevent the introduction of plant pests and diseases from inside and outside the country. The department of Veterinary and Taste Control Services administers the taste act, in addition to general animal health and disease monitoring and control.

Furthermore, it regulates establishment of standards for withholding registration and the usage restrictions on agricultural chemicals from an environmental conservation view. Also, it setup regulations and standards regarding the prevention of soil contamination.

Ministry of Industry:

The Ministry of Industry has the responsibility for:

1. Registration of projects after review of all aspects including the chemical used especially for chemical projects.
2. Issuing permits for import, manufacturing, trade and marketing of chemicals.
3. Issuing permits for importing hazardous substances for industrial firms according to registered capacity and for commercial firms serving these industries.
4. Analysis of industrial products for ingredients and standards.
5. Issuing standards for chemicals and chemical products.
6. Preparing lists of imported hazardous substances.
7. Issuing permits for chemical stores and their inspection.
8. The Minister of Industry in consultation with the Ministers of health and Environment defines places and methods of hazardous industrial waste disposal.

9. Also, MOI ensures the enforcement of the Law concerning the evaluation of chemical substances and regulations of their manufacture, etc.
10. Furthermore, MOI conduct researches related to the risk assessment of chemical substances.

***Ministry of Foreign Trade*:**

This Ministry monitors and controls the importation and exportation of goods to ensure that only registered products are imported into country. In addition, a Sub-Committee on Trade and Environment affiliated to the National Committee on enforcement of the WTO agreements, chaired by the Ministry of Economy and Foreign Trade was established in early 1995. The Sub-Committee is in charge of following-up and feeding back the working group on trade and environment, under the WTO, and of communicating with the Egyptian authorities concerned in this respect. Furthermore, it regulates matters related to the promotion, improvement and coordination of import/export, production, distribution and consumption of chemical substances and products, etc.

Ministry of Business Sector:

It observes environmental safety in industries under its authority.

Ministry of Housing Utilities and Urban Communities

MOHUUC issues standards and-safe procedures for industrial, commercial and other work places, which are implemented by the inspectors of the Ministry of Manpower. Also, it regulates matters related to controlling the disposal and treatment of domestic waste water and matters related to the formulation of standards and regulations regarding the maintenance and management of the sewage system's back-end treatment plants as well as the implementation of such regulations from an environmental conservation point of view.

Ministry of Water Resources:

The Ministry of Water Resources and Irrigation MOWR is mandated to control and manage all fresh water resources in Egypt including the surface and subsurface water. In addition to construction, supervision, operation, and maintenance of all the irrigation structures and drainage networks, the Ministry is also responsible for providing all other sectors with their needs of good quality fresh water in due time.

Where, it implements legislation to protect the Nile River and waterways from

pollution with all kinds of wastes. Law 4/1994 refers to Law 48 of 1982 for pollution abatement on the water resources in Egypt in collaboration with other concerned Ministries. Law 12, 1984 is the law governing the management and operation of the irrigation and drainage systems in Egypt. Permits may be issued for the disposal of treated liquid wastes provided certain standards are observed.

The Minister of Water Resources issues standards after consultation with the Minister of Health. Regular inspections of the wastes disposed of in the waterways are carried out with the assistance from the Surface Water Police and the MOHP in order to control the disposal and correct treatment of industrial wastewater. Furthermore, it formulates standards and regulations regarding groundwater contamination aiming to prevent its contamination.

Ministry Of Petroleum:

MOP implements chemical safety precautions in petroleum companies and has its own emergency plan for dealing with oil spills.

Civil Defense Authority

It design of the buildings inside which hazardous substances are to be produced or stored conforms to the engineering standards to be observed for each type of such substances, as determined by a decree to be issued by the Minister of Housing after consulting the EEAA. Where, these buildings are subject to periodic inspections. Also, transport or the storage sites of such substances are predescribed to guarantee that no harm shall come the environment or to the health of employees or citizens. Furthermore, it set-up emergency plan in place to confront any potential accidents which may occur during the production, storage, transportation or handling of such substances, provided the plan is reviewed and approved by the licensing authority after consulting the EEAA.

***Ministry of Interior**:*

MOIn set and approve plans for emergency actions, trains personnel, inspects sites suspected to have a potential risk and co-operates with other agencies in case of emergency. Also it regulates matters related to treatment of explosive wastes, also it

is responsible for issuing licenses required for the production, transportation, handling and usage of explosives substances. Moreover, MOIn issued a list of hazardous substances that are under its controlled.

- ***Customs Authority and the General Organization for Control of Export and Import:***

They make sure that all imported chemicals comply with specifications and that restricted chemicals are not permitted. They cooperate with agencies for which these chemicals are imported.

- ***General Organization for Investment and Free Zones:***

It observes safety procedures in establishments that are set under the Investment regulations. Moreover, General Organization for investment is taking the necessary steps to set-up its own hazardous substances list.

Chapter 6: Relevant Activities of Industry, Public Interest Groups and the Research Sector

This chapter aims to describe the activities of industrial organizations and entities, non- governmental organizations (NGO's) and labor and trade unions. It is of a great value to identify such organizations and industries within the country that are playing or expected to have a strong potential to play a role in the management of chemicals especially POPs. The Non-Governmental Organization (NGO's) especially those operating in the field of environmental chemical management are considered to be an essential component in enhancing the cooperation between governmental bodies and members of the society in this field, some of relevant examples are listed below.

6.1 Description of Organizations/ Programs and NGO's

6.1.1 Industrial Organizations and Entities:

General Organization for Industrialization (GOFI)

Address:	6 Khalil Agha St. Garden City
Contact:	Eng. Imam Abd El Monem
Tel:	(202) 7944640 (202) 7957005
Fax:	(202) 7944984

Federation of Egyptian industries (FEI)

Address:	28 Cornish El Neil St. Cairo
Contact:	Mr. Abd El Moniem Seuodi ,Chairman
Tel:	(202) 5796590 (202) 5796591
Fax:	(202) 39228075

Association of Enterprises for Environment Conservation (AEEC)

Address:	86 Moohy El Din Aboul Ezz Street, 122411. Dokki, Guiza, Egypt
Contact:	Eng. Ismail Osman – Chairman
Tel:	(202) 3943239 (202) 3925480
Fax:	(202) 3925728

Association for the Protection of the Environment (A.P.E):

Address:	Hakim Attallah st. El Zabbalin Area, El Mokkatam
Contact:	The Chairman
Tel:	(202) 5102723
Fax:	(202) 5100149

Industrial Technical Support Project Regional Center for Research and Development

Address:	9, El Zaher St., Mansoura.
Contact:	Mr. Mohamed Oweida, Project manager
Tel:	(050) 350 431
Fax:	(050) 350 431

Industrial Control Agency

Address:	Continue of Ramsis st, infront of Civil Defense Authority- Nasr City, Cairo.
Contact:	Mr. Ali abd- El Nabi
Tel:	(202) 3420203 (202) 3420263 (202) 3420264
Fax:	(202) 3420305

USAID

Global Technology Network (GTN)

Address: 106 Kasr El Aini St., 6th floor, Garden city, Cairo.

Contact: Dr. Alaa Ezz

Tel: (202) 336 7016

Fax: (202) 336 7017

- ***Organization for Standardization & Quality Control.***

Address: 16 tadrib el mtadribeen- Amiria.

Contact: Dr./ Eng. Mahmoud Eissa

Tel: (202) 6031367
(202) 259347

Fax: (202) 2593481

6.1.2 The Labor and Trade Unions:

- ***Egyptian Labor Union***

Address: Extension of Ramsis Street, Cairo

Contact: Mr. El Sayed Rashed - The Chairman

Tel: (202) 4023873

- ***Federation of Commerical Chambers***

Address: 4 El Falki Sq. downtown ,Cairo

Contact: Mr. Mahmoud El Araby- Chairman of the Board of Directors

Tel: (202) 3551136
(202) 3551813

Fax: (202) 3557940

- ***Union Committee of Employee in Gravite Company***

Address: Extension of Ramsis Street, Cairo

Contact: The Chairman

Tel: (202) 4023873

- ***Union Committee of Employee in Arabic Company of Drugs***

Address: 5,El Massanee Street - El Amiria, Cairo

Contact: The Chairman

Tel: (202) 2572491
(202) 2575294

- ***Union Committee of Employee in Hochest Company of Drugs***

Address: El Massanee Street - El -Amiria

Contact: The Chairman

- ***Union Committee of Employee in Trade & Chemical General Company***

Address: 26 Sheriff Street, Cairo

Contact: The Chairman

Tel: (202) 3935767

- ***Union Committee of Employee in Painting & Chemical Industries Company***

Address: El Massanee Street- El -Amiria, Cairo

Contact: The Chairman

Tel: (202) 2578980
(202) 2596198

- ***Union Committee of Employee in Miser Company for Chemical Industry***

Address: El -Max. Street, Alexandria

Contact: The Chairman

Tel: (203) 4454389
(203) 4458420

- ***Union Committee of Employee in National Paper Company***

Address: El Tabia Street- Rashed line, Alexandria

Contact: The Chairman

Tel: (203) 5601810

- ***Union Committee of Employee in the Egyptian Plastics & Electricity Company***

Address: Mostafa Kamel Street, Alexandria

Contact: The Chairman

Union Committee of Employee in the Nile Company for Matches

Address: Qena Street El- Mahmodia, Alexandria

Contact: The Chairman

Tel: (203) 4223885
(203) 4207224

Union Committee of Employee in Abo-Zaabal Company for Fertilizers & Chemical Industries

Address: El Moaada Road, Abo-Zaabal El kaliobia

Contact: The Chairman

Tel: (202) 698682
(202) 698082

Union Committee of Employee in the Privet Plastic Company

Address: Nady El Plastic Road, El kaliopia

Contact: The Chairman

Tel: (202) 2202504

Union Committee of Employee in Middle East Company for Paper

Address: 2 Bahteem Street- Mostoroad, El kaliobia

Contact: The Chairman

Tel: (202) 2205740

Union Committee of Employee in Kema Company

Address: Kema, 3D flat, Aswan

Contact: The Chairman

Tel: (2097) 303867

Union Committee of Employee in Development Company for Chemical Industries

Address: Osman Moharem Street - Talbia, Giza

Contact: The Chairman

Tel: (202) 5850922

Union Committee of Employee in Maser Company for Artificial Silk

Address: Kafr- El dawar, Behera

Contact: The Chairman

Tel: (2045) 4013408

6.1.3 NGO's working in the field of Environment

a. Alexandria

Nervana Association for Community Development

Address: 2 Mohammed Massoud St., - PO 641 Alexandria 21131 Alexandria

Tel: 03-4255001

Fax: 03-4255002

El Horia Society for Social Development and Environment

Address: 11 Soliman Yosry St. Kom El Dika - El Atareen Alexandria

Tel: 03-3930070/03-3930079/03-4956957 03-3930079

Fax: 03-3930079

Friends of the Environment Association

Address: 22 Ahmed Bek Gharbou St., Zizenia, Alexandria

Tel: 03-5845759

Fax: 03-5845759

Egyptian Back to Nature

Address: 50 Edfo St., Kamp Shizar, Alexandria

Tel: 035912269/ 03-5909851

Fax: 03-5912269

Environment Protection Association

Address: Employees Residence by Absy Railway Station, Absy Alexandria

Tel: 03-5061357/03-5061242

Fax: -

Arab Society for Biotechnology

Address:	Faculty of Agriculture - El Shatby - Alexandria
Tel:	03-5921960/ 03-5921862
Fax:	03-5922780

Environment Promoters Association

Address:	Block 4 Building 2 - Masaken El Haramein - El Montazah
Tel:	03-3235234 / 0105130918
Fax:	03-3235234

Young Women Christian Association

Address:	19 Dr Abdel Hamid Badawi St. El Azarita
Tel:	03-4863669 / 03-486805
Fax:	03-4873214

Omar Ibn El Khatab Association for Community Development and Environment Protection

Address:	76 Teraet EI Montazah St., Rami, Bakous Mail 21616
Tel:	03-5023771
Fax:	03-5023771

Scientific Association for Food Industries

Address:	Faculty of Agriculture - Aflaton St., - El Shatby - 21545
Tel:	03-5909364
Fax:	03-5922780

Alexandria Businessmen Association - Environmental Committee

Address:	52 El Horeia St. Alexandria
Tel:	03- 4848978 03-4848979
Fax:	03- 4872411 03—4872206

b. Assuit

Community Development Association Sahel Selim

Address:	33 July St. Sahil Salim, Assiut

Tel: 088-630434

Fax: 088-630434

Community Development Association – Mosha

Address: sCommercial Unit – Mosha - Assiut

Tel: 088-540519

Fax: 088-540519

Christian Youth Association

Address: Assiut Address: Salah El Din El Ayoubi St., East District Assiut

Tel: 088-313118 / 088- 323218 / 088-303018

Fax: 088-311050

Young Women Christian Association YWCA

Address: El Mawaleh Square, El Nile Buildings - No.1,Assiut

Tel: *088-322934 / 088-309472 / 088-330632*

Fax: *088-322934*

Environment Protection Association

Address: Gole Gamal St. Governorate Building, East District, Assiut

Tel: 088-323508/088-411534

Fax: 088-331384/088-323699

Local and Regional Scientific Society for Integrated Development (LARCSID)

Address: Rural Social Section- Faculty of Agriculture West District Assiut

Tel: 088-347298/088-411541

Fax: 088-347298

Muslim Youth Association - Manfalout

Address: El Gomhoria St., El Kalaa Square - Assiut

Tel: 088- 700483

Fax: 088- 700483

c. Aswan

Egyptian women association

Address: Micheal al Saraf st.- AbbasFraid , Aswan

Tel: 097-312465

Fax: 097-312465

Egyptian Association for Community Development - Aswan

Address: 82 Abtal El Tahrir st., Misr Insurance Building, Aswan

Tel: 097-318100/ 097-301525

Fax: 097-301525

Community Development Association – Draw

Address: Safia Zaghloul St., opposite the New National Bank - Naga El Sheikh – Aswan.

Tel: 097-732989

Fax: 097-732989

Community Development Association - El Hakroub

Address: 58 Badawy St., El Simad St. - El Hakroub- Aswan

Tel: 097-252461

Fax: 097-252461

Muslim Youth Association – Aswan

Address: Korneish El Nil St.- Kasr El Hagar -Aswan

Tel: 097-302255

Fax: 097-302255

Community Development Association - Selim Gouda District

Address: Selim Gouda District - El Hagz Bahary - Edfou - Aswan

Tel: 097-688292 *I* 097-688256

Fax: 097-688292 *I* 097-688256

d. Bani Sweif

Muslim Women Youth Association at Beba

Address: Mooled El Naby Square - Beba - Bani Sweif

Tel: 082-400691/ 082-403825

Fax: 082-401490

Community Development Association - El Zarabi

Address: El Zaraby - Bani Sweif 62755

Tel: 0101674609

Fax: 082-332980

Regional Enterprises Development Center

Address: 19 Port Said St., - El Horia Tower Bani Sweif

Tel: 0101006570/ 082-343131

Fax: 082-329135

Community Development Association - Bani Sweif

Address: El Shaikh Metwaly El Sharawy St., Bani Sweif

Tel: 082-323653

Fax: 082-323653

e. Beheira

Community Development & Environment Conservation Association

Address: Port Said St. Talat Harb - Kafr El Dawar - Beheira

Tel: 045-233424/045-213939

Fax: 045-233424

Community Development Association - Sidi Shehata

Address: Sour,EI Sherka St. Sidi Shehata - Beheira

Tel: 045-213789

Fax: 045-213789

Future Youth Association

Address: El Nashar St., in front of 10 St., - El Helal Square - Damanhour - El Beheira- Beheira

Tel: 045-314833/0124618064

Fax: 045-323272

El Beheira Women Association for Sustainable Development

Address: Diwan Magles El Mohamadia - Beheira

Tel: 0123924040

Fax: 0123924040

f. Cairo

Bent El Nil Association

Address: 44 Ashour Sokar St. Helwan Gezeret Dar El Salam –

	Helwan- Cairo
Tel:	0101281435
Fax:	0105060776

El Mahaba Orthodox Coptic Association

Address:	22 Hamdy St.- El Zaher - El Waily Cairo
Tel:	5882464
Fax:	5882464

Social Services Assciation - AI Azhar Agriculture

Address:	Agriculture Faculty - AI Azhar University - Nasr City - Cairo.
Tel:	4024132 / 2634002
Fax:	4015481

Friends of the Environment & Development Association (FEDA)

Address:	88 Qasr El Aini St. - Cairo
Tel:	7957637 - 7953346
Fax:	7957637

El- Gharbia Society for Development

Address:	Economic Buildings - Block 72 - Opposite El Rahma Mosque – Helwan-Cairo
Tel:	5559090 / 7953680
Fax:	7953680/ 0123374651

Cairo SPCA

Address:	1 Abo Wafia - AI Shorabia -Cairo
Tel:	2352098
Fax:	2310062

Local Society Development Association - El Walda Village

Address:	29 Mahmoud Mustafa St., - El Walda Village – Helwan - Cairo
Tel:	3707805 - 3722461
Fax:	3707805 - 3722461

Albelqeiny.Association for Society Development

Address:	51 Bin el Sayareg St., Bab El Shearia Cairo
Tel:	5888200 – 5884040
Fax:	5888200 – 5884040

Rotary Club Heliopolise East

Address:	17 El Hassan.St. - El Mosheer Ahmed Ismail St.Heliopolis - El Nozha- Cairo
Tel:	2670905 - 4535606
Fax:	2588100

The Egyptian Society of Solid State science and Applications

Address:	33 Abd El Khaleq Tharwat St. - Abdeen - Cairo
Tel:	3925997
Fax:	3925997

Egyptian Society for Toxicology, Env. Legislation

Address:	Pharmacology Section Faculty of Medicine El Azhar Univ. - Nasr City – Cairo
Tel:	4034052/ 2981453/ 2981511
Fax:	4020184/ 2981453

Zahret El Madaln Charity Association

Address:	17 El Aziz Bellah St.- El Zaitoon- Cairo
Tel:	4518603/ 0122921617
Fax:	4551835 / 4547862

Association of Protecting the Environment - El Mokatam.

Address:	5 Hakim Attallah Street - Mansheyat Naser El Zabalin District- cairo
Tel:	5102723
Fax:	5100149

Development & Environment Conservation Association

Address:	7 El Daer El Bahari - Helwan El Balad - Cairo
Tel:	5540680 / 0127365391
Fax:	5540680 / 0127365391

Association Business Inst. Management for Protecting the Env

Address:	86 Mohieldin Abu El Ezz Street Mohandessin - Giza
Tel:	3367016
Fax:	3367017

Egyptian Solar Energy Society

Address: 3 Borg el Mohandessin -- 28th Floor - Flat no.3 – Maadi - Cairo

Tel: 5266038

Fax: 3041651

Forum of Dialogue and Partnership for Development - FDPD

Address: 31 Lebanon S.t., Mohandessin - Giza

Tel: 3450252

Fax: 3021573

18.Maadi Environmental Rangers

Address: 2 Orabi St. - Maadi -Cairo

Tel: 3595706 - 5194358

Fax: 5194358

CARITAS - EGYPT

Address: 1 AI Shahid Mahmoud Sedky - Shubra - Cairo

Tel: 4310201 - 4310208

Fax: 4310213

The Egyptian Association for Medical and Env. Legislation

Address: 13 El Mamalik Street – Roxy – Heliopolis – Cairo

Tel: 2585999 - 2569427

Fax: 2588100

The Egyptian Society of Occupational and Environmental medicine

Address: Faculty of Medicine - Ain Shams University - El Abasseia - Ciro

Tel: 4837888/ 6853276

Fax: 4837888

Tree lovers Association

Address: PO 592 Maadi - Cairo

Tel: 5195240 - 3592078 - 3806868

Fax: 5163756 - 3588210

National Institute for Oceanography & Fisheries

Address: 101 El Kasr El Aini St.,- Scientific Research Academy – Seas science Institute

Tel: 7921342/ 7921340

Fax: 7921341

Association of Protecting the Environment

Address:	5 Hakim Atala St., - Mansheyet Naser - El Mokatam - cairo
Tel:	5102723
Fax:	3553896

Egypt Environmental Engineering Society EEES

Address:	Faculty of Engineering - Cairo University - Giza
Tel:	5722145
Fax:	5722145

Promoting Nirko City Association

Address:	40 El Mazraa st. - New Nirko City -Cairo
Tel:	3537000 - 3536000
Fax:	5251399

General Association for Internal Immigration and Development

Address:	26 Street 6, El Maadi - Cairo
Tel:	3782729
Fax:	3782659

The Egyptian Association for Developing local Societies

Address:	El Hadaba El Wosta - El Mokatam - cairo
Tel:	5083942 (Association) / 7950616 - 7945138 (Head of the Association)
Fax:	

Egyptian Psychopathological Society

Address:	Faculty of Agriculture – Psychopathological Department Cairo university - Giza
Tel:	5724107/ 5724966
Fax:	5717355

The Egyptian Botanical Society

Address:	Faculty of Science - Cairo University - The Plant Department - Giza
Tel:	5676648/ 5715885
Fax:	5715885

Habi Center for Environmental Rights

Address:	El Zawia El Hamra Buildings-Entrance 1- Block 174 El Zawia El Hamra - cairo

Tel: 4232743

Fax: 4232743

Arab Office for Youth &. Environment

Address: 3 Zahraa El Maadi - Emarat Misr lel Taamir Cairo

Tel: 5161519 - 5161245

Fax: 5162961 - 5167431

Egyptian Association for Comprehensive Development

Address: 7 El Saraya St" - Manial El Roda - First Floor - Flat no. 4 - Cairo

Tel: 3652135

Fax: 3652135

Environmental Research and Studies Institute

Address: Cairo University - Giza

Tel: 5728532 - 5728623 - 5687696

Fax: 5736601 - 5727009

nstitute of Cultural Affairs

Address: 79 St., no. 48 - Maadi el Sarayat - first floor - Cairo

Tel: 7530059 / 0101014820

Fax: 7530059

EQI - Environment Quality Institution

Address: 18 El Mansoor Mohamed St., - Zamalek –Giza

Tel: 7351924 - 7358628 - 7353797

Fax: 7355489

CID - Community and Institutional Development

Address: 11 El Gabalaya St., - 3rd floor - 9th flat – Zamalek – Cairo

Tel: 7380832 – 7380752

Fax: 7352660

Eco Con Serve

Address: 10 El Kamel Mohammed St" Zamalek - Cairo

Tel: 7359078

Fax: 7365397

Environics

Address: Address: 6 El Dokki St., - 12th floor - Cairo

Tel: 3360599 - 7495685 – 7495696

Fax: 7492472 – 3360599

CDS

Address: 5 Ahmed Basha St., Sixth floor, - Garden City – Cairo

Tel: 7957558

Fax: 7947278

Developing the Society Association

Address: 28 Kornish El Nile Buildings - Rod El Farag - Flat no. 1 Cairo

Tel: 4580276

Fax: 4580276

Friends of Nature Association

Address: Faculty of Agriculture - El Azhar University - Nasr City - Cairo

Tel: 6358979 - 6377741 - 0101555326

Fax: 4010711

Qena Association for Development and Social Services

Address: 53 Tereet el Khashab St., - El Maasara – Helwan - Cairo

Tel: 3729490 - 3726913 - 3718628

Fax: 3729490 - 3726913 - 3718628

Developing the Society Association – Helwan

Address: 3 Haider Street – Helwan - Cairo

Tel: 5575520 - 5010170 - 5257744

Fax: 5540232

EL Saied Association for Development

Address: 65 El Kebisy Street, El Zaher - Cairo

Tel: 5898364 - 5889634

Fax: 5889635

Coptic Evangelic Organization for Social Services – CEOSS

Address: Block 1331 - Ahmed Zaki St., - El Nozha El Gedida – Cairo

Tel: 2975901 - 2942270

Fax: 2959141 - 2975878

Central Association for Nomads and Faith for Development and Environment Protection

Address: 59 Tanta St., - El Agouza – Giza

Tel: 3466419 - 3464503

Fax: 3026717

Environment and Development Book Association

Address: Emarat Maarouf - No. B. - Floor No. 11 - El Ahram Foundation - Cairo

Tel: 7957558

Fax: 7947278

Egyptian Forum for Environment and Sustainable Development

Address: 16 Hassan El Emama St., - First Zone - Nasr City - Cairo

Tel: 0122156090

Fax: 2603880

Khodra Association ,for Environment Protection and Development

Address: El Fagala - Cairo

Tel: 5900411 - 5900892

Fax: 5928560

African Association for Studying the Nile Basin

Address: El Tahrir St" National Research Institute – Dokki - Giza

Tel: 3371499 - 3371433 - 3669950

Fax: 3370937

Egyptian Association for Industries Medicine

Address: Faculty *of* Medicine - Ain Shams University- Abbasia- Cairo

Tel: 7361199

Fax: 841088

Misr El Mahrousa Center for Environment Protection

Address: 9 Abd el Aziz Khalil St., .. District 2 - Floor 4 - Cairo

Tel: 2481662

Fax: 2494635

Move Forward Association

Address: 25 El Sadd El Aly St., .. Finni Square – Dokki - Giza

Tel: 3381084 – 3381085

Fax: 3381084 – 3381085

International Rotary Association

Address: 21 Hassan Sabry St" - First Floor – Zamalek – Cairo

Tel: 3418602 – 3404347

Fax: 3411582

Environment Protection Association - Sharkeia

Address: PO 262 Maadi 11728 - Cairo

Tel: 5197009

Fax: 5196949

Urban Development Association for Islamic Cairo

Address: 36 El Moaz le Din Allah - El Ghoreya - Cairo

Tel: 3758807 - 3754733

Fax: 3751187 - 3751374

Tree Friends Association

Address: 130 Misr and Sudan St" - Hadayek El Kobba – Cairo

Tel: 2843368

Fax: 2843368

EL Safwa El Akhyar Central Association

Address: 61 El Eallam Buildings - El Agouza - Cairo

Tel: 3059078 - 3026717

Fax: 3059078 - 3026717

Egyptian Association for Social and Technological Researches for Society Development

Address: 1 - Egyptian Cultural Club - Ozaris St" - Garden City - Cairo

Tel: 3575300 - 2613390

Fax: 3557565

g. EL-Fayoum

The Social Organization for Environment Protection in Fayoum SOEP

Address: El Hawatem Buildings - Building No. 1 - Entrance A - El Fayoum

Tel: 084-341774

Fax: 084-341774

h. EL-Minia

Street Food Vendors Organization

Address:	El Matahen Tower, Misr Aswan Agricultural Road. 4 Hoda Shaarawy St., EI-Minia
Tel:	086-344360
Fax:	086-344360

Local Community Development Association - Matay el Balad

Address:	Dayer El Nahia St., Matay El Balad – EL-Minia
Tel:	086-921233
Fax:	086-921233

Local Community Development Association - Haridi Village

Address:	Haridi Village - El Sawi - El-Minia
Tel:	086-984353 / 086-550905
Fax:	086-984353 / 086-550905

The Coptic Evangelic Organization for Social Services - CEOSS

Address:	Ard Soltan - El Nasr St.,- El Minia
Tel:	086-347792 / 086-343295
Fax:	086-347793/086-366373

i. Gharbia

Egyptian Association for Services & Environment Conservation

Address:	Shoubra El Namla - Tanta – Gharbia
Tel:	040-3101114
Fax:	040-3101114

El Hamad Charity Association

Address:	1 El Geish St.- Tanta - Gharbia
Tel:	040-3341644
Fax:	040-3341644

Community Development Association at Damanhour El Wahsh

Address:	Damanhour El Wahsh - Zefta - Gharbia
Tel:	040-638135
Fax:	040-638135

j. Ismailia

Environment and Development Association

Address:	El Enshaa we El Taamir Buildings - Building no. 6 - Flat no. 1 – Ismailia
Tel:	064-370878 / 064-344585
Fax:	064-344585

The Association for Renewable Energy and Environment Protection of Ismailia

Address:	El Shaikh Zayed - Commercial St.,- Ismailia
Tel:	064-335955/ 064-321071/ 064-321075/ 064-321076
Fax:	064-321080

k. Kafr ELsheikh

Social Care Association – Biala

Address:	BOa - El Yarmook St., El Mahata District - Kafr El Sheikh
Tel:	047-605032
Fax:	047-605032

Social Services Association – Bila

Address: El Thawra St., In front of the Culture House - Kafr El Sheikh

Tel: 047-608014

Fax: 047-608014

l. Luxor

Local Community Development Association

Address: El Zanaqta St. The Airport District - El Zanaqta – Luxor

Tel: 095-321090 (Head of the Association)

Fax: 095-321090 (Head of the Association)

Association of Social Rehabilitation of Disabled – Luxor

Address: East district – Luxor

Tel: 095-365766

Fax: 095-365766

Noor El Islam Association – Luxor

Address: East Railways - East District - Luxor

Tel: 095-371905

Fax: 095-365766

m. Matrouh

Local Community Development Association

Address: El Wehda El Sahraweia Building - El Dabaa - Matrouh

Tel: 046-4670857/0101736509

Fax: 046-4670857

n. Menoufia

Local Community Development Association - Quesna

Address: Ahmed Maher St. Quesna - Menoufia

Tel: 048-574002

Fax: 048-574002

Local Society and Development Community – Talia

Address: Talia - Ashmoun - Menoufia

Tel: 048-450472 / 048-450055

Fax: 048-450472 / 048-450055

Community Development Association - Sentrees

Address: Sentrees - Ashmoun - Menoufia

Tel: 048-407230

Fax: 048-407230

Social Services Association - Sers El Laian

Address: Port Said St" El Bahr Road - Sers El Laian - Menoufia

Tel: 048-350428

Fax: 048-350428

Community Development Association – Srohite

Address: Srohite Village - Monouf - The Agricultural Road - Menoufia

Tel: 048-354681

Fax: 048-354681

Community Development Association - Fisha El Kobra

Address: Menouf - Fisha El Kobra - Menoufia

Tel: 048-433018

Fax: 048-433018

Environment Service & Conservation Association

Address: Abo Aamir District- El Hay El Qebly - Shebin El Kom - Menoufia

Tel: 048-238460

Fax: 048-238460

o. New Valley

Egyptian Youth Association for Environment & Development

Address: Gamal Abdel Naser St. - Youth Center of El Kharga City -New Valley

Tel: 092-921650

Fax: 092-921711

Environment Service Association

Address: El Sabt & El Hessa - El Nabawy El Mohandess St., - Behind El Kharga Sports Club - El Kharga- New Valley

Tel: - - -

Fax: - - -

Environment Service Association - Abdallah Adam District

Address: Felestine St., - Abdallah Adam District - El Kharga- New Valley

Tel: 092-927692

Fax: 092-927692

p. Qalioubia

Prophet Family Association for Development - Qaliub

Address: El Wehda El Zeraaia St. Bahari El Seca El Hadid – Qalioub – Qalioubia

Tel: 2157064 / 2155381.

Fax: 2157064 / 2155381.

Environment Protection Association - El Khanka City

Address: Sodone St. from El Gomhoria St., – Qalioubia

Tel: 4695065 / 4690950 / 4683410

Fax: 4696546

Community Development and Environment Services – El Abadla.

Address: El Abadla Village - Toukh – Qalioubia

Tel: 451885

Fax: 451885

q. Qena

Community Capacity Development & Environment Protection Association

Address: 5 El Salam St. Houd 10 - Qena

Tel: 096-331350/ 096-335810

Fax: 096-331350/ 096-335810

Community Development Association - Sharabela

Address: El Sharabela - Abu Deiab - West - Dishna - Qena

Tel: 096-333153/ 012365398

Fax: 096-333153/ 012365398

Family and Environment Development Association - FEDA

Address: El Qua El Amla Street, Construction and Housing Buildings - Qena

Tel: 096-210415 / 096-213106

Fax: 096-210415

Social Care Charity Association - Armant El Wabourat

Address:	El Berka Street, Dr. Ismail Mohammed Selim Building - Armant el Wabo,urat - Qena
Tel:	095-624670
Fax:	095-624670

r. Red Sea & North Sinai

Social Development Association at Ras Ghareb

Address:	AI Ezaah St. El Wehdi El Sahrawia Building - Ras Ghareb – Red Sea
Tel:	065-626361
Fax:	065-626361

Omar Ibn El Khatab Association for Developing Society

Address:	Military Affairs District - Safaga - Red Sea
Tel:	065-252645
Fax:	065-252645

Quseir Environment Protection Society

Address:	Toshky Buildings - Building No. 2 - 2nd Floor - Flat 4 - El Quseir - Red Sea
Tel:	065-330924 / 0123440005
Fax:	065-332495

Red Sea Diving Association

Address:	Sheraton Road - In front of Marriott Hotel - Hurghada - Red Sea
Tel:	065-444802
Fax:	065-444801

Local Community Development Association - Abo Tawila

Address:	Abo Tawila - El Shaikh Zewaid – North Sinai
Tel:	068-502364
Fax:	068-502364

Youth Population, Resources and Environment Association

Address:	El Arish - Mogamaa El Masaleh - 3rd Floor – North Sinai
Tel:	068-354519/068-320921
Fax:	068-320774

Islamic Charity Association-Bir El Abd

Address:	El Tameir District, Building No 18 - Entrance A - Bir El Abd – North Sinai

Tel: 068-540407/068-540770

Fax: 068540771

8.Women Association for Local Community Development – North Sinai

Address: General Governorate Building - North Sinai

Tel: 068-320569 / 068-320568 / 068-358418

Fax: 068-320800

Local Society Development Association-Abou Sakal

Address: Prince Badre St. sub.26th July St., Abou Sakal - El Arish – North Sinai

Tel: 324634

Fax: 324634

Environment Protection and Development Association - Bir El Abd

Address: El Tamer District - Building No. 18 - Entrance A - In front of the Industrial Technical Institute – North Sinai

Tel: 068-540852

Fax: 068-541448

Hurghada Environmental Protection & Conservation Association - HEPCA

Address: Hosni Hamad St., - 144 Hurghada - Red Sea

Tel: 065-446674

Fax: 065-445035

National Association for Environment Protection

Address: El Arish - Mogamaa El Masaleh - 26th July Street - 3rd Floor – North Sinai

Tel: 068-354519/068-320921

Fax: 068-321774

s. Sharkia

Environment Protection Association - El Basaisa

Address: El Basaisa El Tebeia - El Zakazik -Sharkia

Tel: 055 - 2672651

Fax: 02 - 7975904

Society Development Association - El Basaisa

Address: El Basaisa El Tebeia - El Zakazik -Sharkia

Tel: 055-2672651 / 055-2672883

Fax: 055-2672651 / 055-2672883

Comprehensive Rural Technological Center for Training and Production

Address: El Basaisa El Tebeia - El Zakazik -Sharkia

Tel: 055-2672651 / 055-2672883

Fax: 055-2672651 / 055-2672883

t. Sohag

Sohag Environmental Protection and Development Association

Address: Faculty of Science - Sohag

Tel: 093-601949 .

Fax: 093-601159

Muslim Youth Association - El Manshaah

Address: Seif El Nasr St. - El-Nanshaah - Sohag

Tel: 093-400501

Fax: - - -

Community Development Association - Gerga

Address: Abo Asem El Basri St. El Abadeia – Gerga - Sohag

Tel: 093-674886

Fax: 093-674886

Social Services Association - El Ghaiathia

Address: El Gergawia El Sharki St., - Sohag

Tel: 093-333543

Fax: 093-333543

u. South Sinai

Basata Village - Neweiba - South Sinai

Address: Basata Village - Neweiba - South Sinai

Tel: 069-500430

Fax: 069-500430

Kenooz Sinai Association for Economic Development

Address: Ras Sedr - El Basaisa El Gedida - South Sinai

Tel: - - -

Fax: - - -

v. Suez

El Shabat El Moslemat Society

Address: Port Tawfic Road - El Suez Center for Languages and Computers - Suez

Tel: 062 - 340618 / 062 - 226169

Fax: 062 - 340618

6.1.4 Other Private Sector research laboratories and consulting companies:

Table: 6- A summery of some of the available private laboratories and consulting companies:

	Name/ Description of Laboratory	***Location***	***Equipment/ Analytical Capabilities Available***	***Purpose***
1.	Chemonics Egypt, Ahmad Gaber and Associates	6 Dokki St., Giza. Tel: 3360559 – 7600764 - 335186 Fax: 7492472	Air Pollution Control Equipment, Industrial Wastewater Monitoring and Analysis Equipment, Solid Waste Management Equipment, Water Monitoring and Analysis Equipment, Domestic Water Treatment Equipment.	Solid Waste Management Services, Feasibility Studies, Training Services in Environmental Management Systems, General Environmental Training Services, Environmental Consulting Services.
2.	Commandos for Contractors and Industrial Services	16 Salaby St., Manshayat El-Sader, Hadayek El Kobba, Cairo, Egypt. Tel: 6429346 – 4823483 – 012-2429614 Fax: 4823483	Noise Monitoring and Measurement Equipment	Noise Monitoring and Measurement Services
3.	Commerce – Mostafa El-Kady & Co.	19 El-Nozha St., Golf Area, Helioplis, Cairo, Egypt. Tel: 4170022 – 4173350 Fax: 2914480 Email: commerce@eis.egnet.net	Air Measurement and Analysis Equipment, Air Pollution Control Equipment, Water Monitoring and Analysis Equipment.	Air, Water Monitoring & Analsis.
4.	Consulting Unit in Benha, High Institute of	Benha El-Gedida, P.O. Box 13512, Benha, Egypt	Industrial/ Municipal Wastewater Equipment, Solid Waste Management	Environmental Consulting Services, Industrial

	Technology	Tel: 013-229264 – 229263 – 230297 Fax: 013-230297	Equipment, Domestic Water Treatment Equipment, Industrial Water Treatment Equipment	Wastewater Analysis Services, Feasibility Studies, General Environmental Training Services, Certifying Organizations, Air Measurement and Analysis Services, Water Analysis Services, Solid Waste Management Services, Training Services in Environmental Management Systems.
5.	Danilei & CSPA – Represented by Danieli Egtpt Rep. Office Egypt	37 Mohamed Farid St., Helioplis, Cairo, Egypt. Tel: 6379229 Fax: 6379525 Email: danegypt@intouch.com	Air Measurement and Analysis Equipment, Air Pollution Control Equipment, Hazardous Waste Management Equipment, Industrial Wastewater Monitoring and Analysis Equipment, Industrial/ Municipal Wastewater Equipment, Solid Waste Management Equipment, Water Monitoring and Analysis Equipment, Industrial Water Treatment Equipment.	Feasibility Studies, Air Measurement and Analysis Services, Training Services in Environmental Management Systems, Solid Waste Management Services, Industrial Wastewater Analysis Services, Environmental Consulting Services, Water Analysis Services.
6.	Dominant Water Technology (a.s.e)	43 Abbas El-Akkad St., Nasr City, Cairo, Egypt. Tel: 4012280 Fax: 4032971 Email: dominant@gega.net	Air Pollution Control Equipment, Industrial/ Municipal Wastewater Equipment, Solid Waste Management Equipment, Domestic Water Treatment Equipment, Industrial Water Treatment Equipment.	Environmental Consulting Services, Training Services in Environmental Management Systems, Air Measurement and Analysis Services, Industrial Wastewater Analysis Services, General Environmental Training Services, Water Analysis Services.
7.	Egypt for	72 Gameat Al-	Air Pollution Control Equipment,	Training Services in

	Information and Technology (EGYFIT)	Dowal Al Arabia St., Mohandessen, Giza, Egypt – 4th Floor Tel: 3389151-2-3-4-8 Fax: 3368308 - 3389158 Email: vgouda@egyfit.com.eg	Hazardous Waste Management Equipment, Industrial Wastewater Monitoring and Analysis Equipment, Industrial/ Municipal Wastewater Equipment, Solid Waste Management Equipment, Domestic Water Treatment Equipment, Industrial Water Treatment Equipment.	Environmental Management Systems, Environmental Consulting Services, Solid Waste Management Services, Feasibility Studies, General Environmental Training Services.
8.	Egyptian Association for Science and Technology Services (EASTS)	4 Street 9, Mukattam, Cairo, Egypt. Tel: 5072712 – 5077694 Fax: 5072712	Air Pollution Control Equipment, Hazardous Waste Management Equipment, Industrial/ Municipal Wastewater Equipment, Solid Waste Management Equipment, Water Monitoring and Analysis Equipment, Domestic Water Treatment Equipment, Industrial Water Treatment Equipment.	Air Measurement and Analysis Services, Certifying Organizations, Water Analysis Services, Solid Waste Management Services, Feasibility Studies, General Training Services, Industrial Wastewater Analysis Services, Environmental Consulting Services.
9.	Engineering for the Petroleum and Process Industries (ENPPI)	1A Ahmed El-Zomor St., 8th District, Nasr City, Cairo, Egypt. Tel: 2748115 – 2762214 – 2762220 Fax: 2744981 – 2744382 Email: gmail@enppi.com	Air Measurement and Analysis Equipment, Air Pollution Control Equipment, Hazardous Waste Management Equipment, Industrial/ Municipal Wastewater Equipment, Solid Waste Management Equipment, Water Monitoring and Analysis Equipment, Domestic Water Treatment Equipment, Industrial Water Treatment Equipment.	Environmental Consulting Services, General Environmental Training Services, Feasibility Studies, Training Services in Environmental Management Systems.
10.	Environmental Resources (ER)	12 Omar Ibn El-Khatab St., Ramo Gardens Building, Nasr City, Cairo, Egypt. Tel: 4193624 –		Water Analysis Services, Training Services in Environmental Management Systems, Feasibility

		4197117 (012) 2117597 Fax: 4193624 - 4197117 Email: envirors@ritsecl.com.eg		Studies, Certifying Organizations, General Environmental Training Services, Solid Waste Management Services, Environmental Consulting Services.
11.	Lab Sector of EGSMA	1 Ahmed El-Zayat St., Dokki, Giza, Egypt. Tel: 3370551 Fax: 3371168 Email: egsma@link.net		Air Measurement and Analysis Services, General Environmental Training Services, Water Analysis Services, Certifying Organizations, Industrial Wastewater Analysis Services, Training Services in Environmental Management Systems, Feasibility Studies, Solid Waste Management Services.
12.	Medcopharma	8C Ali Adham St., Sheraton, Heliopolis, Cairo, Egypt. Tel: 2676422 Fax: 2663732 Email: Nkmedeg@gega.net	Air Measurement and Analysis Equipment, Air Pollution Control Equipment, Hazardous Waste Management Equipment, Industrial/ Municipal Wastewater Equipment, Solid Waste Management Equipment, Water Monitoring and Analysis Equipment, Domestic Water Treatment Equipment, Industrial Water Treatment Equipment.	Industrial Wastewater Analysis Services, Feasibility Studies, Solid Waste Management Services, Training Services in Environmental Management Systems, General Environmental Training Services.
13.	Medical Equipment Center (MEC)	123 Zahra'a, Nasr City, Cairo, Egypt. Tel: 2752402 - 4097714 Fax: 7605615 Email: sherinef@link.net		Water Analysis Services, Air Measurement and Analysis Services, Solid Waste Management Services, Training Services in Environmental Management Systems, General Environmental

				Training Services, Environmental Consulting Services.
14.	National Environment, Petroleum & Consultancy "NEPSCCO"	16 Gamal El Shayal St., 7th Sector, Nasr City, Cairo, Egypt. Tel: 202-4033983 – 4045811 – 012-2119498 – 3597 Fax: 202-2618159 Email: helewa@etsent.com.eg / asccoeg@yahoo.com		Industrial Wastewater Analysis Services, Air Measurement and Analysis Services,. Environmental Consulting Services.
15.	The Academic Center of Scientific & Environmental Consultation	20 Nagui Farid St., (from Mohie El-Din Abu El-Eaz), El-Mohandessen, Cairo, Egypt. Tel: 5739855 – 5678546 – 5678495 Fax: 5739855 Email: abouarab@alphal-eng.cairo.eun.eg		Industrial Wastewater Analysis Services, Environmental Consulting Services, Air Measurement and Analysis Services.

6.2: Summary of Available Specialized Knowledge (Expertise) Outside the Government

Table 6-B: Summary of Expertise Available Outside of Government

Field of Expertise	***Research Institutes***	***Universities***	***Industry***	***Environnement/ Consumer Groups***	***Labor Union***	***Professional Organ-ization***	***Other (Specify)***
Data Collection	✓	✓	✓	✓	✓	✓	
Testing of Chemicals	✓	✓	✓	☐	☐	✓	Ministry of Industry, Ministry of Agriculture
Risk Assessment	✓	✓	✓	✓	☐	☐	Ministry of Agriculture , Ministry of

							Health & population
Risk Reduction	✓	✓	☐	✓	☐	✓	Ministries of Agriculture, Industry & Health
Policy Analysis	✓	✓	☐	✓	☐	✓	
Training and Education	✓	✓	✓	✓	✓	✓	
Research on Alternatives	✓	✓	✓	✓	☐	☐	Ministries of Agriculture, Public Works &Industry
Monitoring	✓	✓	✓	✓	☐	☐	Ministries of Agriculture, Interior &Industry
Enforcement	☐	☐	☐	✓	☐	☐	Ministry of State for Environmental Affairs, EEAA, Ministry of Manpower & Emigration Ministry of Interior
Information to Public	☐	✓	☐	☐	☐	☐	Ministry of State for Environmental Affairs, Ministry of Information and Syndicates (Science &Engineering)

☐ Not Available
✓ Available

Chapter 7: Inter-Ministerial Commissions and Coordinating Mechanisms

7.1 Inter-Ministerial Commissions and Coordinating Mechanisms

The aim of this chapter is to describe and provide the existing mechanisms, which facilitate coordination and cooperation amongst ministries, agencies and other relevant governmental and non-governmental bodies in particular, areas responsible of chemicals management. Thus, it is very important to identify such commissions and mechanisms that are related to chemicals management (or other fields) that are relevant to, or have potential to be built upon for, POPs management. Furthermore, relevant entities that can serve as, long-term commissions, coordinating mechanisms or points of contact on POPs management issues including multistakeholder chemicals-related committee are also mentioned.

Table 7.A provides an overview of any relevant mechanisms for coordinating activities among relevant institutions, chemicals-related focal points and / or other national-level inter-agency supervisory or coordination bodies. Table 7-A: Overview of Inter-Ministerial Commissions and Coordinating Mechanism

Name of Mechanism	***Responsi-bilities***	***Secrétariat***	***Members***	***Legislative Mandate/ Objective***
1-Country Protective Committee against leakage of hazardous substances and wastes causing environmental pollution	Protection of the country against leakage of hazardous substances and wastes	Hazardous Substances Department Egyptian Environmental Affairs Agency (EEAA)-(MSEA)	Egyptian Environmental Affairs Agency (EEAA), Ministry of Health, Ministry of Industry, National Security Agency, Ministry of Interior, Civil Defense, Ministry of Agriculture, Ministry of Petroleum, Ministry of Electricity and Customs Authority	Laying down a plan to secure the country against any leakage of hazardous substances and wastes causing environmental pollution
2-Hazardous Substances and Wastes Committee	Handling of hazardous substances and wastes in MOH	Ministry of Health	Ministry of Health, Egyptian Environmental Affairs Agency (EEAA), Ministry of Agriculture and Ministry of Industry	Agreeing on exporting, producing or handling hazardous substances and wastes in the Ministry of Health

3- Hazardous Substances and Wastes committee responsible for international conventions (Basel, PIC , POPs) management	Management of hazardous substances and waste, and following –up the obligations and requirements of international conventions Secretariats	Egyptian Environmental Affairs Agency (EEAA)-(MSEA)	Egyptian Environmental Affair Agency (EEAA), Ministry of Health, Ministry of Industry, National Security Agency, Ministry of Interior, Civil Defense, Ministry of Agriculture, Ministry of Petroleum, Ministry of Electricity and Customs Authority	Main scope is to coordinate between governmental organizations and ministries in field of chemicals management. Furthermore, following –up obligations required by international conventions secretariat.
4- Hazardous substances and wastes supreme committee	Setting up mandates and exchanging of experiences	Arab league	Representatives of Ministries of Environment in Arab Countries	The main scope of the committee is exchange information's and experiences among Arab Countries. Also, it setup strategies and mandates related to environmental issues across regional level.
5-Committee for the safe disposal of Obsolete stock pesticides	Set-up procedures for safe disposal of obsolete pesticides and identifies alternative solutions rather than landfilling	Coordination between Ministry of State for Environmental Affairs and Ministry of Agriculture	Egyptian Environmental Affairs Agency (EEAA), Ministry of Health, Ministry of Industry, National Security Agency, Ministry of Interior, Civil Defense, Ministry of Agriculture, Ministry of Petroleum, Ministry of Electricity and Customs Authority	The main scope is to identify methods required for safe disposal of obsolete stock pesticides in cement kilns (for non- organo- chlorine pesticides)
6-Committee for assessment, evaluation and integration of petrochemical sector in El Amria zone – Alexandria	Evaluation of environmental hazards associated with chemicals usage (risk assessment)	Egyptian Environmental Affair Agency (EEAA)-(MSEA)	Egyptian Environmental Affairs Agency (EEAA), with cooperation with petrochemical facilities in El Amria industrial zone-Alexandria Governorate	Main scope is to conduct risk assessment for El Amria zone in relation to chemicals and production

7-Committee for occupational health and safety (Inter-Ministerial committee on indoor Air Pollutants)	Setting –up requirements for occupational health and safety for workers	Ministry of Manpower (MOMI)	Egyptian Environmental Affair Agency (EEAA) In coordination with Ministry of Manpower and Ministry of Health and Population	Main scope is to setup guidelines and limits for chemicals management and indoor air pollution regarding industrial process, health and safety for workers and, exchanging information on effects on human health and activities by international organizations.
8-Committee for Standardization & Quality Control	Setting- up required standard for industrial facilities	The Egyptian Organization for standardization and Quality Control (EOS)-(MOI)	Egyptian Environmental Affair Agency (EEAA) In coordination with Egyptian Organization for Standardization & Quality control – Ministry of Industry	Main scope is to set-up limits and standards for industrial facilities for products specifications, industrial operation, raw material concentrations…etc
9-Committee for preparation of hazardous substances lists	Setting –up lists for hazardous substances used in industrial facilities in Investment and free zones	General Organization for Investment and Free Zones	Environmental Affair Agency (EEAA) In coordination with Egyptian General Organization for Investment and Free Zones	Main scope is to conduct hazardous substances lists for industrial facilities in investment and free zones in Egypt
10- Inter-Ministerial Committee on IFCS (Inter-Governmental Forum for Chemical Safety)	Exchanging Information Regarding Matters related To IFCS among Relevant Ministries and Agencies, as Well as Promoting Communication/ Coordination Among them if Necessary.	Ministry of State for Environmental affairs (MSEA)	Egyptian Environmental Affairs Agency (EEAA), Ministry of Health, Ministry of Industry, Civil Defense, Ministry of Agriculture,	Main objective is to bringup organizations and ministries in charge of matters related to chemical safety of chemical substances. Moreover, exchange information, communication/ coordination

11- Inter-Ministerial Committee for Stockholm Convention on Persistent Organic Pollutants (NIP Project steering committee)	Developing Egyptian National Implementation Plan based on the POPs Convention and promoting communication/ coordination among relevant Ministries and Agencies to review the progress and to promote an effective implementation of the Convention.	Ministry of States for Environment	Egyptian Environmental Affair Agency (EEAA), Ministry of Health, Ministry of Industry, National Security Agency, Civil Defense, Ministry of Agriculture, Ministry of Petroleum, Ministry of Electricity and Customs Authority	Main objective is to conduct the mandates and ensure fulfillment of the obligation of Stockholm Convention especially article (7) of the Convention especially for National Implementation Plan (NIP) .
12-Inter-Ministerial Committee on Strategic Approach for International Chemical Management (SAICM)	Set-up an international strategy by recognizing recent issues regarding chemical substances require in order to promote various measures regarding management of chemical substances effectively and efficiently.	Ministry of States for Environment	Egyptian Environmental Affairs Agency (EEAA), Ministry of Health, Ministry of Industry, National Security Agency, Civil Defense, Ministry of Agriculture, Ministry of Petroleum, Ministry of Electricity and Customs Authority	Main objective is to coordinate and conducts information system among Ministries and related Authorities for setting-up international strategy for chemicals management

7.2 A list of Relevant Non- Governmental Organizations

Chapter (6) includes a full details ***list of relevant NGO's working in the field of Environment.***

Chapter 8: Data Access and Use

The aim of this chapter is to provide an overview of the *availability* of data for chemicals management and related infrastructure. Also, to analyze how information is used for national and local-level risk reduction actions. Moreover, the chapter addresses quality, quantity, and location of data, procedures for collecting and disseminating national/local data, the availability of international literature and databases; and national information exchange systems.

8.1 Availability of Data for National Chemicals Management

Adequate Information is the basic problem tool for decision-making .The quality of the decision depends on the quality of Information, which depends on the relevancy, precision, and the speed of access. Information must be continuously reanalyzed and renewed. It becomes volatile if it is not registered, indexed and updated. While data relate to facts, information refers to a series of data analyzed and processed to provide a decision.

Being complex and multi-disciplinary in nature, the management of chemicals often requires inputs from a wide range of stakeholders. Potential contribution includes data, expertise, financial inputs and physical facilities. In order to cooperate in a coherent, cost-effective manner, it is clear that a guiding framework is needed to focus stakeholder contribution on common goals.

The development of national guidelines for the safe storage, transport and packaging of hazardous substances, as well as the development of a national labeling system in Egypt involve a collection of data sets and information that have some relevance for the study and/or monitoring and/or exploration of the environment which will lead as well to a collection of socio-economic indicators; a contact list of consultants or a list of chemicals that are used in the life cycle. It can be a set of data files, or a highly integrated information system; a standalone system, running on a

personal computer or a sophisticated system, based on super-computers. It can rely on proven technology - such as database management system based on the latest hot technology (currently the www, world wide web). Its scale can be as wide as the globe, national, local, or it might not relate to any geographical scale.

In recognition of the importance of establishing an information and management system for the identification, registration, categorization and management of chemicals, EEAA through a national coordinated effort developed a comprehensive database for hazardous substances including chemicals. Efforts were directed towards the collection of data from different sources, which include producers, users, importers and distributors of chemicals. Categorization and specifications of these substances will follow the international codes, this is referred to as:

- ***The Egyptian Hazardous Substances Information & Management System (EHSIMS)***, which is considered one of the best practices in the field of environmental information systems.

- **Objective:**

The objective of this project is to initiate a management system for hazardous substances in Egypt, through providing basic guidelines and information for the purpose of ensuring sound and safe handling of such substances and through disseminating such information through an information network.

- **The Management System**

The project aims to set up a hazardous substances management system to enable EEAA to fulfill, its mandate as specified in Law 4/1994, hereafter designated as the Law, concerning the coordination of the management of hazardous substances in use in Egypt. This includes both imported and locally produced hazardous substances. The project streamlines the functioning of the six line Ministries that implement the management of hazardous substances.

The management system is equally instrumental in assessing existing legislation and administrative rules and procedures concerning,

hazardous chemicals, and proposes to amend them and draft new legislation where deficiencies exist. Another role for the EEAA in connection with hazardous substances management concerns capacity building, including education, training and awareness campaigns for different levels of managers, and users of hazardous substances.

The project ensures ways of improving interdepartmental cooperation and the exchange of information so that information on hazardous substances may be smoothly shared between governmental departments.

- **The Information System**

The information development component comprises the development of national guidelines for the safe storage, transport and packaging of hazardous substances, as well as the development of a national labeling system.

This system and guidelines would be based on already existing international ones, adapted to the Egyptian needs and conditions. This component would also address the permitting procedures as detailed by Law 4/1994, and article 26 of its Executive Regulation, coordinating between the concerned authorities (six line Ministries) with the purpose of developing one common format to be used for permitting issuing. Moreover, it would provide information concerning the properties of hazardous substances and methods of handling them in case of accidents.

The Information dissemination component comprises the installation of a computerized network between EEAA and the partner authorities, composed of the six line Ministries, as well as the Customs Authority and Civil Defense Authority. The network encompasses a center placed in EEAA, and focal points in each of the partner authorities. It would

support a continuous flow of information between the center and the focal points (and vice versa), thus insuring wide and easy access to it. This information would be composed of:

- ***The guidelines for safe handling.***
- ***Format and information concerning the permitting procedures.***
- ***Information database of hazardous substances.***
- ***The computerized tables and lists of hazardous substances and wastes.***

The project management is carried out through a steering committee composed of the concerned EEAA departments, as well as a working group from the partner Ministries and Agencies

- *roject Main Activities*

- Production of Guidelines:

  Identification of the groups of hazardous substances.

  Definition of the initial focus of the guidelines (storage, labeling, transporting and packaging).

  Collect and retrieve international guidelines.

  Adaptation of international guidelines to be suited for Egyptian needs.

  Translation and publishing of finalized guidelines.

  Computerization of the guidelines.

  Production of a CD catalogue.

  Development of the system web sit/www.ehsims.org

- Computerization of the Permitting Procedures:

  1. Establishment of the network (EEAA - 6 Ministries / Customs Authority, Civil Defense).
  2. Retrieve different formats used for permission.
  3. Develop a common format for permission.
  4. Computerize the common format for permission.
  5. Workshop & training.

- Computerization of tables & lists of hazardous substances:

1. Computerize the tables and lists.
2. Training EEAA staff to use the computerized lists.
3. Training EEAA staff to handle queries regarding hazardous substances.

- Setting up of the Information Network:
  1. Design & define technical specification for the network equipment.
  2. Purchase the equipment.
  3. Customize the software (database for lists and permission procedure).
  4. Install the system.
  5. Training for the system users.

The **EHSIMS** became the sole provider of hazardous substances information in Egypt; an assigned research and development team keeps tuned to the updates in the field of hazardous substances.

The services and products are aimed to guide and save time for people dealing, searching and seeking information about hazardous substances in Egypt and trying to comply with Law No. 4/1994.

Target audience: Manufacturers, suppliers or importers who are dealing with hazardous substances in Egypt.

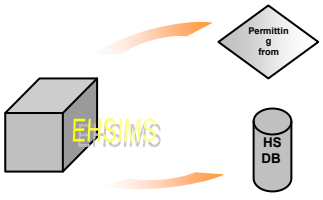
Main Achievements:

- Phase1 Achievements:

1. Database:

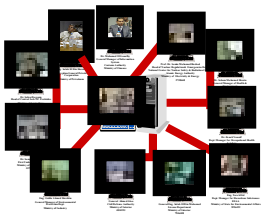
A database has been build, which contains 3 small databases as follows:

- *First Database*: Contains 5400 chemical substances and compounds including all features, characteristics and information related to these substances and compounds.
- *Second Database*: Contains a sample on the unified permitting forms that include information and data on the establishments as well as the required data for issuing the permitting form.



- *Third Database*: This database is specified for the decision makers. Information can be taken out of these databases to make the required reports in every Ministry.

2. Information Network:



This network connects between EEAA and the concerned Ministries (Ministries of Agriculture, Industry, Electricity and Energy, Health, Petroleum) in addition to the Customs Authority and Civil Defense. The Network can also afford any new numbers of Ministries might join to the system in the future.

3. Hazardous Substances Lists:

These lists have been issued by the concerned Ministries and it contain:

- List (A): *Substances which are forbidden to enter the country (banned chemicals)*
- List (B): *Substances which need a permit from the concerned Ministry to enter the country*
- List (C): *Substances which can enter the country without any permits*

4. Emergency Response Sheets (ERS):

It can be considered as a brief and portable database on every substance, which helps all dealers with the hazardous substances at any stage of the substance life cycle. The ERS contains names of the substance in English and Arabic, CAS. No., UN No., dangers of the substance, the hazards that might occur on public health in case of a fire or explosion, how to deal with emergencies in case of fire or leak, first aid, treatment and disposal and finally emergency centers telephone numbers.

5. Internet Website:

The projects website is: www.ehsims.org. *This website contains every information and data on the system as well as on the hazardous substances lists, the required procedures for issuing permitting form and the responsible authority in each Ministry, Hazardous Substances database found in list (B) as well as the international database.*

6. Sample of the Unified Permitting Form:

This is considered as a database that is connected to Hazardous Substances database, it contains every data on the company in addition to the required

information to identify and investigate the substance in order to facilitate the permitting procedures.

7. CD:

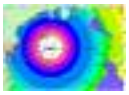
So as the private sector can know the achievements done by the EHSIMS, a CD has been issued that contains all the necessary information on the system, the environmental law no.4/1994, a list of the international databases, the required procedures for the environmental impact assessment and classification of hazardous substances…. etc.

8. System User Guide:

As the system works in various authorities which have their own management structure and which can be submitted to any change, it was important to issue a detailed system user guide to help the new employees in using the system.

9. Importers Database:

One of the systems aims was to establish a database for the importers as well as to locate their warehousing places using the GIS system in order to increase the safe handling of HS awareness.



10.Hazardous Substances Classification:

There are 2 different kinds of classification for hazardous substances as follows

First Classification: UN Classification:

According to this classification, the hazardous substances are divided into nine major ranks:

Rank 1: Explosives

Rank 2: Gases

Rank 3: Flammable liquid substances

Rank 4: Solid substances

Rank 5: Oxidizing substances

Rank 6: Toxic and contagious substances

Rank 7: Radioactive substances

Rank 8: Corrosive substances

Rank 9: Various hazardous substances

Each rank also contains number of branches according to the hazard characteristics.

Second Classification: EU Classification:

This classification does not depend on the physical state of the substances, but rather depends on the hazard characteristics, in addition the safety and danger phrases have been added to it.

11.Container Data:

A design has been made for the different models of the information required to be put on the hazardous substances containers including all the points in section 22 of the executive regulation of the environmental law No. 4/1994.

- **Phase2 / Stage1 Achievements:**

1.Building Emergency Response Plan:

As a result of what the hazardous substances contain from the embedded dangers that causes a lot of major accidents in the local and international level, it was a necessity to establish an emergency response plan to limit these kinds of accidents as well as to increase awareness for the people dealing with HS.

This plan includes:

1. *Methodology to build the plan*

2. *Legal frame for the plan*
3. *Plan procedures*
4. *Planning for emergencies inside the establishment:*
    - *Alarm systems*
    - *Defining roles and responsibilities*
    - *Emergency center*
    - *Movement inside the building*
    - *Closing procedures*
    - *Experimenting the plan*
    - *Evaluating and modifying the plan*
    - *Required samples for the plan*

5. *Kinds and results of the major industrial hazards*
6. *Dangerous establishments*
7. *The required procedures to be followed to prevent the major hazards*
8. *Training*

2.Guidelines for the Required Procedures and Conditions for the Safe Handling and Warehousing of Hazardous Substances:

As a result of the increasing usage of hazardous substances and what this requires from storing tones of these substances that varies in their dangers which increase when they are found altogether- whether they are same type of substances or different types- in one place, this guide has been issued as one of the components of the management system of hazardous substances which is connected with the safe warehousing.

This guide aims at defining the principals of safe handling and warehousing of hazardous substances from the different technical and legal aspects as well as addressing those who are interested and dealing with the hazardous substances.

The guide contains four major parts, which are:

- *Introduction and brief on the system*
- *Classification of hazardous substances*
- *Dangers of the substances and the legal frame*
- *Guidelines for the safe warehousing of hazardous substances.*

3.Connecting the System Data Network with the Internet (Web-Base Application):

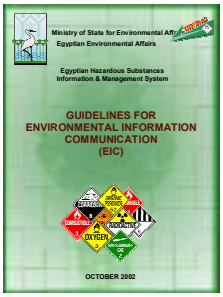
In order to increase awareness on the national level for those who are dealing with hazardous substances, the system data network has been connected with the internet in which any information on hazardous substances is available, further more data on hazardous substances found on the database of the system can be printed.

Phase2 / Stage2 Achievements:

1. Building Community Awareness:

Building community awareness about chemical risks and safe handling of hazardous substances by:

- *Holding workshops*
- *Issuing newsletters*
- *Website*
- *Brochures*
- *Awareness campaign for community*
- *Planning, issuing and executing awareness programs for increasing awareness towards chemical risks among workers and public*



2. Developing Guidelines for Information Communication:

Environmental Information Communication (EIC) is the planned and strategic use of communication process and media products to support effective policy-making, public participation and project implementation geared towards environmental sustainability.

3. Guidelines for Issuing Awareness Campaign (Planning, Implementing and Monitoring):

Carefully planned and focused public participation programs like awareness campaigns are a crucial key to create and maintain community awareness about chemical risks and safe handling of hazardous substances for a better environment.

4. Preparation of an Inventory of Chemicals in Egypt:

Surveying, planning and issuing of an inventory of chemicals in Egypt to minimize the risks among the workers and the public.

5. Enhancement of the Existing Database:

The enhancement of the database is divided into several sub-activities as follows:

a. **Permitting form modification:**

Permitting form enhancement to establish the ease of use.

b. **Alternative hazardous substances optimizing cost & environmental impact:**

Adding the hazardous substances alternatives to the system concerning the price and the environmental impact.

c. **Linking stores & roads database to GIS:**

Linking the hazardous substances stores and roads database to the Geographic Information System (GIS)

d. **Linking importers and exporters database to the hazardous substances database**

e. **Development of simple DSS:**

Designing an output reports using the decision support system tools to get a specific statistics about the Ministries, the companies and the umber of permitting forms for each year.

f. **Developing the help menu on the system screens:**

Adding the users manual to the hazardous substances system so that the user may click a button to fetch the assistant of using the system.

6 . Issuing a series of booklets as a guidelines to increase awareness of public and workers to minimize the risk of HS. These safe handling booklets of HS contain:

1-Potential Hazards 2- Emergency Response 3- Storage 4- Handling & Transportation

5- first Aid 6- Disposal & Treatment 7- Compatible & Incompatible

8- Stability

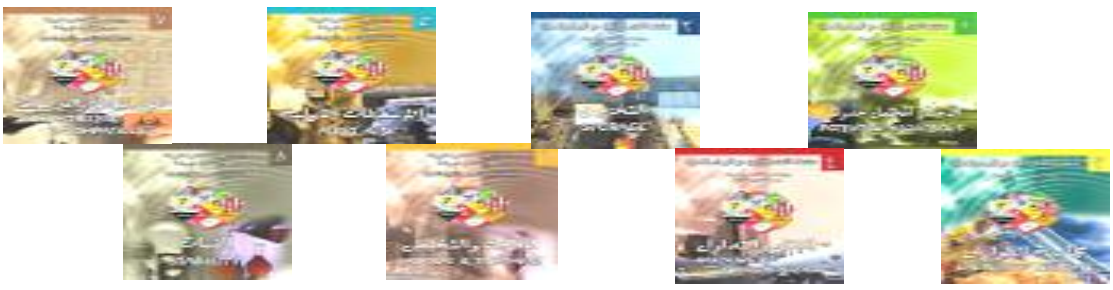


Table 8-A: An Overview Current status of EHSIMS information System

Data needed for/to:	*Industrial chemicals*	*Pesticides*	*Consumer chemicals*	*Chemical wastes*

Priority setting	Limited	Available	Available	Available
Assess Chemicals Impact	Available	Available	Available	Available
Risk assessment (environment/health)	Available	Available	Available	Available
Classification/labelling	Available	Available	Available	Available
Registration	Available	Available	Available	Limited
Licensing	Available	Available	Available	Limited
Permitting	Available	Available	Available	Limited
Risk reduction decisions	Nil	Nil	Nil	Nil
Accident preparedness/response	Available	Available	Available	Available
Poisoning control	Limited	Limited	Available	Available
Emissions inventories	Nil	Nil	Nil	Nil
Inspections & audits (environment/health)	Limited	Limited	Limited	Limited
Information to workers	Limited	Limited	Limited	Limited
Information to the public	Limited	Limited	Limited	Limited

8.2 Location of National Data

There is a good statistical system; all the items listed in the table are available in Egypt. However, most of data are owned and controlled by different departments, and governmental information bodies mainly control management technologies. Advanced management technology, i.e. special agency and computer network management, are being adopted to facilitate full and effective utilization of data, so as to better serve the work of chemicals management. Table 8.B gives the location of national data.

Table 8-B: Location of National Data

Type of data	Location(s)	Data source	Who can access?	How to gain	Formats
Production statistics	Various production departments , CAPMAS	Production enterprises, statistical bodies at various levels	People concerned, the public	Information services, publications, computer network	Documents, computer data
Import statistics	CAPMAS	Customs at various levels	People concerned, the public	Information services, publications, computer network	Documents, computer data
Export statistics	CAPMAS	Customs at various levels	People concerned, the public	Information services, publications, computer network	Documents, computer data

Chemical use statistics	CAPMAS	Departments in charge of petroleum and chemical industry as well as agriculture at various levels	People concerned	Information services	Documents
Industrial accident reports	MOHP, MOMI	Industrial departments at various levels	People concerned	Information services	Documents
Transport accident reports	MOT, Civil Defense	Departments in charge of communications at various levels	People concerned	Information services	Documents
Occupational health data (agricultural)	MOHP, MOMI, MOA		People concerned	Information services	Documents
Occupational health data (industrial)	MOHP, MOMI	Health and industrial departments at various levels	People concerned	Information services	Documents
Poisoning statistics	MOHP	Health and epidemic prevention stations at various levels	People concerned	Information services	Documents
Pollutant release and transfer register	EEAA	Environmental protection agencies at various levels	The public	Information services	Documents
Hazardous waste data	EEAA	Environmental protection agencies at various levels	The public	Information services	Documents
Register of pesticides	MOA	Various producers and importers	People concerned	Information services	Documents
Register of toxic chemicals	MOA, MOHP	Various importers and exporters	People concerned	Information services	Documents

Register of first imports	Involved Ministries	Various importer	People concerned	Information services	Documents
Register of producers	MOI, MOFT	Various production enterprises	People concerned	Information services, publications, computer network	Documents

PIC decisions			People concerned	Information services	Documents
Information & Decision Support Center (IDSC)	Information Center of all Miniseries and for Cabinet of Ministers	All national data	People concerned and some public researcher	Information services, publications and computer network	Documents and computer data

8.3 Procedures for Collecting and Disseminating National/Local Data

Chemical registration includes toxic chemicals import/export register, first import of chemical register, register of pesticides and register of the producers of toxic chemicals. Those who intend to import/export chemicals on the List of Toxic Chemicals Banned or Strictly Restricted (List A and B) in Egypt must apply to permitting from one of the six line Ministries. The related registration data are under the management and care of the EHSIMS. Data concerning the chemical properties, toxicology, effect, residue, impact on environment and labeling of the pesticides should be furnished with the permitting form application. Such data are under the management and care of the EHSIMS.

8.4 Availability of International Literature

International literature on chemicals safety is available mainly at such organizations as Research Institutes, EEAA, WHO, ILO, and UNEP international literature is sent to these organizations by international organizations or purchased from abroad. Due to changes in the institutions and personnel possessing international data, loose contact or lack of contact with international organizations, some international literature is out of date or incomplete in Egypt, affecting its utilization. Language is another problem significantly affecting the direct use of international literature. The public gains access to international literature mainly through books, magazines, information services or the Internet.

Sources of international scientific information:

1. The International Program on Chemical Safety (IPCS):

The IPCS is a joint venture of UNEP, ILO, and who. Its objectives are to establish the scientific bases for assessment of the risk to human health and the environment from exposure to chemicals, through international peer review processes, as a

prerequisite for the promotion of chemical safety, and to provide technical assistance in strengthening national capacities for the sound management of chemicals. The Environmental Health Criteria (EHCs) and Concise International Chemical Assessment Documents (Cl CADs) series as well as the International Chemical Safety Cards (ICSCs) are among the information packages disseminated by 'PCS. www.who.int/pcs

2. The International Agency for Research on Cancer (IARC):

IARC conducts a program of research concentrating particularly on the epidemiology of cancer and the study of potential carcinogens in the human environment. The publications of the Agency are intended to contribute to the dissemination of authoritative information on different aspects of cancer research. www.iarc.fr/

3. International Organizations

World Health Organization (WHO): WHO is the international body that created to take all possible actions to prevent and control diseases globally. The web site *the* WHO contains lots *of* document and reports beside the library, which considered as the richest source *of* health related information. www.who.int

4. International Forum on Chemical Safety (IFCS):

IFCS is a unique, over-arching mechanism to develop and promote strategies and partnerships among national governments, Intergovernmental and non-governmental organizations. Developed and suggested strategies and plans on chemical safety may be discussed or obtained through IFCS site. www. who. Int/ifcs

5. Foods and Agriculture Organization (FAO):

FAO was founded in 1945 with a mandate to raise levels of nutrition and standards of living, to improve agriculture productivity, and to better the condition of rural populations. FAO and its library disseminate a whole lot of information covering all aspects of agricultural activities and development. www.fao.org

6. The Joint Meeting on Pesticide Residues (JMPR):

JMPR serves as a scientific advisory body to FAO, WHO, their member governments, and to the Codex Alimentarius Commission. It performs a vital function in providing a reliable source of advice, and some countries use information from JMPR in formulating their own regulatory programs. www.who/pcs/jmpr

7.Regional and Multilateral Organizations

Organization for Economic Co-operation and Development (OECD): The OECD groups 30 countries sharing a commitment to democratic government and the market economy. Best known for its publications and its statistics, its work covers economic and social issues from macroeconomics, to trade, education, development and science and innovation. www.oecd.org

8-The European Chemical Bureau (ECB):

The ECB provides scientific and technical support for the conception, development, implementation and monitoring of EU policies related to dangerous chemicals. It co-ordinates the EU risk assessment programs covering the risks posed by existing and new substances to the humans and the environment The ECB is the focal point for collecting information on new and existing chemicals. www.ecb.irc.it

9- The Inter-Organization Program for the Sound Management of Chemicals (IOMC):

IOMC was established in 1995 as a joint venture of UNEP, lLD, FAO, WHO, the UN Industrial Development Organization, and the Organization for Economic Co-operation and Development (OECD) IOMC is to promote coordination of the policies and activities pursued by the Participating Organizations to achieve the sound management of chemicals in relation to human health and the environment. It provides an Internet Guide to the activities and programs of the PO. www.who.int/iomc

10-The European Union (EU):

EU web site provides a whole lot of information covering many subjects and activities ranging from agriculture, energy, economy, food safety and public health, to foreign and security policy. www.europa.eu.int

11-Scientific and Industrial Associations

The Chemical Industry Institute of Toxicology (CIIT): CIIT conducts biochemical research studies and provides training programs with the hope to advance the quality of science used to address environmental and public health issues. www.ciit.org

12- Crop Life International:

Crop Life International is a global network representing the plant science industry. Its commitment is to contribute in promoting sustainable agriculture. www.gcpf.org

13-US Government Agencies

EPA Office of Pesticide Programs: Responsible for overall pesticide regulation with special programs on agricultural workers, and pesticide applicators. Specific programs include the promotion of the reduction of pesticide use, establishment of tolerance levels for food, and investigation of pesticide releases and exposure events. www. epa.gov/pesticides

14-EPA/OPP Certification and Worker Protection Branch:

Within the office of pesticide programs, the Certification and Worker Protection Branch deals with worker-related pesticide issues and pesticide applicator certification activities. Special emphasis is placed on the adequate training of farm workers, pesticide applicators, and health care providers various training materials in several languages area available. www.epa.gov/pesticides/safety

15- The Japanese National Institute of Health Sciences (JNIHS):

JNIHS is responsible for conducting basic research to insure the quality, efficacy and safety of a wide range of products that directly and indirectly affect the populace. It provides information services on foods, drugs and chemicals. At the JNIHS, Prof. Sekizawa has created a database on chemical risk assessment that can be exchanged. http://www.nihs.go.jp/

16-US Environmental Protection Agency (EPA):

EPA is responsible for registration and regulation aspects of industrial and pesticidal chemicals. EPA produces wide range of highly important documents and publications covering all aspects of environmental and health effects of chemicals and risk assessment. www. epa.gov

17-Occupational Safety and Health Administration (OSHA):

More than 100 million workers and 6.5 million employers are covered under the Occupational Safety and Health Act, which cover workers in pesticide manufacturing. OSHA sets protective workplace standards, and offers employers and employees technical assistance and consultation programs. http://www.osha.gov/

18- USDA Extension Service:

USDA's Extension Service works with its university partners, the state-land grant systems, to provide farmers and ranchers information to reduce and prevent agriculture-related incidents. The Pesticide Applicators Training program trains applicators in the safe use of pesticides and coordinates pesticide-related safety training programs. http://www.usda.qov/

19-US National Institute of Environmental Health Sciences (NIEHS):

The NIHES has a long history of basic and practical research on a wide range of topics of importance to environmental and public health, both through its intramural research and external grant programs. The National Toxicology Program (NTP) is one of them. Many interesting documents, reports, and information resources may be downloaded looked at in the web pages of NIEHS including the Environmental Health Perspectives. www.niehs.nih.gov

20-Agency for Toxic Substances Disease Registry (A TSDR):

ATSDR prepares toxicological profiles for hazardous substances, including pesticides that pose the most significant potential threat to human health as determined collaboratively with the USEPA. ATSDR also produces several other important publications and training materials focusing on health and managing hazardous substances incidents. www.atsdr.cdc.gov

21-US National Institute of Health (NIH):

NIH provides information on health and research grants and funding opportunities. www.nih.gov

22-US Centers for Disease Control and Preventions (CDC):

CDC serves as the national focus for developing and applying disease prevention and control, environmental health, and health promotion and education activities designed to improve the health of US citizens. www.cdc.gov

23-National Center for Environmental Health (NCEH):

NCEH Provides environmental pesticide case surveillance and disease outbreak investigations. www.cdc.gov/nceh/ncehhome.htm

24-National Institute for Occupational Safety and Health (NIOSH):

NIOSH is the US federal agency responsible for conducting research on occupational disease and injury. NIOSH may investigate potentially hazardous working conditions upon request, makes recommendations on preventing workplace disease and injury, and provides training to occupational safety and health professionals. It produces several important documents and publications in these fields. www.cdc.gov/niosh/homepage.html

25-Consortium for International Earth Science Information Network (CIESIN):

CIESIN is a not for profit organization funded by grants from several US and International agencies. The CIESIN goals are to provide access to and enhance the use of information worldwide, advancing understanding of human interactions in the environment and serving the needs of science and public and private decision-making.www.ciesin.org

26-The US National Library of Medicine (NLM):

NLM is the world's largest medical library and creator of MEDLINE/PubMed. Through NLM you can search for health information using MEDLINE/PubMed and other resources.

www.nlm.nih.gov

www.locatorplus.gov

27-US Food and Drug Administration (FDA):

FOA library on the web provides very valuable information on nutritional and food products and additives as well as pharmaceuticals. www.fda.gov

28-Some Useful Library Catalogs

ICOPAC: Copac is a union catalogue. It is funded by JISC to provide free access to the merged online catalogues of 22 of the largest university research libraries in the UK and Ireland plus the British Library. www.copac.ac.uk

29-California Digital Library (CDL):

The COL is a "co-library" of the UC campuses, with a focus on digital materials and services. It is responsible for the design, creation, and implementation of system that support the shared collections of the University of California. www.lpai.ccop.edu

30-The British Library (BL):

The BL is one of the world great knowledge institutions hold over 150 million items from every age of global civilization historical documents to the latest information for business and research. The BL catalogue is search able and some of the treasures, which open free in London, may be viewed all the time. www.bl.uk

Chapter 9: Technical Infrastructure

9.1 Overview of Governmental Scientific Research institutions and Laboratory Infrastructure Concerning Environmental Monitoring in Egypt.

The aim of this chapter is to provide an overview of the available technical infrastructure in Egypt at the national level concerning chemicals management, laboratory facilities, computer capabilities and technical training and the available education programmers, with high strengths capacity. Furthermore, these technical infrastructures can be applied to POPs management actions are identified in this chapter.

First: Ministry of State for Scientific Research related institutes:

Name of Organization: (1) Academy of Scientific Research and Technology

Ministry	: Ministry of State for Scientific Research
Address	: 101 Kasr EI-Aini Str., Cairo
Tel.	: 7921286- 7921287
Fax	: 7921270
Head of Institute	: Prof. Dr. Fawzy Abdel Kader El –Refai

Main Responsibilities

- Promoting the progress of science and technology.
- Strengthening linkages between S&T bodies.
- Integrating the S&T with the fabric of the Egyptian society.

Types of Activities

Sectorial Research Projects - Technology Development - Local and Regional Development - Fostering the Infrastructure of Scientific and Technological Research - Scientific and Technological Services Popularization of Science and Technology - International Cooperation in Science and Technology

Major Functions

- To support scientific research directed towards solving problems of national interest or priority,
- To encourage the application of modern technology in areas included in the national programs of economic and social development,
- To formulate policies that ensure strong linkages at the national level between scientific and technological organizations, within the framework of the principal trends of the scientific and technological research which serve the national development plans,
- To coordinate the major research projects affecting the national economic and social plans,
- To participate in the study of the scientific and technological aspects of the major development projects and when necessary, recommend the establishment of new research institutes,
- To encourage basic research as a means of training and developing human research resources, and to support research units working in modern fields of science.
- To disseminate information concerning the potentialities of international modern technologies,
- To participate in the development of science curricula,
- To organize scientific' publishing and the popularization of science,
- To increase excellency through different venues of motivation,
- To support scientific societies and encourage and participate, in convening scientific conferences, and
- To develop international relations in the fields of science and techno1ogy

Main Achievements

- Augmenting the S&T infrastructure.
- Supporting basic and applied scientific research.
- Enhancing end- users oriented research.
- Technology development.
- Fostering local and regional development.

- Contributing to science and technology services.
- Popularization of S&T culture.
- Fostering international cooperation in science and technology

012 Name of Institution: (2) National Research Center

Ministry : Ministry of Scientific Research

Address : Tahrir Street - Dokki - Cairo

Tel : 3371828/3371211

Fax : 3370931 - 3601877

Head of Institution : Prof. Dr.Nabil Abd EI-Megid Saleh

Starting Date : : 1956

Introduction:

The NRC is by far the largest multi-disciplinary R & D center devoted to both basic and applied research within the major fields of interest. The NRC is headed by a President with a ministerial status and is assisted by two Vice Presidents, one for research and the second for technical affairs. The NRC is governed by a board of directors headed by the president of the NRC. Board members are the two vice president, five experienced members in scientific affairs appointed by the Minister of State for Scientific Research should he/her attend. The following institutes developed from departments at the NRC to separate institutes: Petroleum Research Institute, Theodore Bilharz Reassert Institute, Central Metallurgical Research Institute, Ophthalmology Institute and Electronics Research Institute. Since its establishment in 1956, the NRC passed through 3 stages: The first stage, 1956 - 1968, concentrated on basic sciences and staff development. The second stage, 1968 - 1973, was characterized by a growing interaction with the production and services sector.The customer oriented research, 1973 to the president, features plans for research activity that serves specific needs of the end users.

The NRC consists of the following 13-research division including 62 departments:

1.Pharmaceutical Industries:

Pharmaceuticals, Therapeutical Chemistry, Natural and Microbial Products.

2. Chemical Industries:

Paper and Cellulose, Taining. Materials and Protein Chemistry, Polymers and

Pigments, Chemistry of Pesticides, Glass, Refractories, Building Materials and Ceramics.

3. Textile Industries:

Dyeing, Printing and Textile Auxiliaries, Spinning and Weaving, Pretreatment and Finishing of Cellulosic Fibers, Protein and Synthetic Fibers.

4. Food Industries and Nutrition:

Food Technology and Dairing, Fats and oils, Food Science and Nutrition.

5. Genetic Engineering and Biotechnology:

Cellular Biology, Human Genetics, Molecular Biology, Plant Cell and
Tissue Culture, Microbial Biotechnology, Microbial Genetics.

6. Engineering:

Mechanical Engineering, Solar Energy, Chemical Engineering and Pilot Plant, Information and Systems.

7. Applied Organic Chemistry:

Organic Chemistry, Biochemistry, Chemistry of Flavoring Agents Related Substances.

8. Applied Inorganic Chemistry:

Physical Chemistry, Inorganic Chemistry.

9. Medical Sciences:

Basic Medical Sciences, Pharmacology, Child Health, Community Medicine, Hormones, Clinical Medical Sciences.

10. Environmental Sciences:

Water Pollution, Air Pollution, Occupational Health and Industrial Medicine.

11. Physics:

Solid State, Spectroscopy, Microwave, Theoretical Physics, Electron Microscopy and Thin Films, Advanced Materials.

12. Basic Sciences:

Microbial Chemistry, Cytology and Genetics, Earth Sciences, Photochemistry, Plant Systematic and Egyptian Flora.

13. Agriculture and Biology;

Botany, Pest and Plant Protection, Soil and water Use, Animal Production, Animal and Poultry Nutrition, Parasites and Animal Diseases, Agricultural Economy, Plant Diseases, Agricultural Microbiology, Fields Crops, Horticulture.

Research and Development Projects Office.

l. Focal point for in-house projects, starting from applications, evaluation through specialized committees and monitoring.

2.Evaluation of applied projects with promising end-users in collaboration with marketing and feasibility Studies Office, for application.

3.Consultancy informing research teams in areas of multidisciplinary projects for local and foreign end-users.

4.Monitoring local and International research projects. .

5.Focal point for applications for M.Sc. and Ph.D. degrees.

The Marketing and Feasibility Studies Office.

l. Identifying the needs of the local market for services and new products.

2.Marketing of all services offered by the NRC.

3.Feasibility studies for promising applied projects before marketing.

4.Consultancy for marketing, Feasibility studies and preparing patents.

The International Relations Office.

l. Identifying priorities, in accordance with the NRC policy, as a guide for bilateral agreements.

2.Consultancy and 'coordination of activities for research projects with principal investigators and international funding agencies.

3.Establishment of a Data Base of International Opportunities such as research and training grants.

The Information Center.

l. Establishing a Data Base for researchers, research publications, final projects reports, M.Sc. and Ph.D. theses.

2.Issuing booklets on research departments, scientific bulletin, newsletter, collective volumes on publications, M.Sc. and Ph.D. theses and annual report.

3.Supervision of reports to mass media.

The Central Secretarial Office.

l. Assisting the R&D management offices in performing their responsibilities (secretarial, book keeping, filing and presentations).

2.It is planned that special calipers of the secretarial staff will be trained to help in the technical assignments of the offices.

Services Conducted.

A- Services Conducted Through Research and Development and Technology Transfer projects.. R&D and TT projects are carried out according to their different

financial sources. The main users of this kind of the R&D and TT projects activity, are the industrial, agricultural, environmental and medical sectors represented in:

a. Large governmental and public sector enterprises.
b. Private sector, medium and small enterprises.

They can be enumerated as follows:

1. In-House Research Contracts.

In-house research projects are those projects, which fall within major program areas as determined by NRC Top Management and the governing body of the NRC. These projects are financed from the NRC governmental budget. In recent years, the NRC is trying to get the users involved in this kind of R&D activity. A new three years research projects plan started in July 1995. It includes the so-called priority projects, which are tailored to satisfy the needs of specific end users or clients themselves who are encouraged to participate in the projects' implementation.

2. Local Contracts.

2.1 These are R&D contracts and agreements between the NRC and the ASRT : This kind of activity started in the NRC in 1973 to either strengthen R&D capabilities at the NRC; or they are devoted to assist production and service sector, mainly big industries in public sector.

2.2 Contracts with various public and private industrial, commercial, and service enterprises in Egypt. These projects are primarily financed by . the clients, and thus designed to fulfill their needs.

3- Foreign Contracts

3.1 These are contracts and agreements with foreign agencies such as United States Environmental Protection Agency (EP A), German Agency for Technical Cooperation (GTZ), USAID, WHO ...etc. Within these contracts, joint research work is implemented by the NRC various research teams together with equivalent researchers from different parts of the world, mainly in developed countries. These projects are further subdivided into two categories, the nature of the first is to strengthen the NRC capabilities and carry out research, while the second is to assist the NRC to collaborate with end users.

3.2 These are contracts with the Egyptian-US program, science and technology corporation (STC). This program is entirely designed to establish working relations

between Egyptian R.&D institutions and their industrial clients.

3.3 These are contracts with foreign clients and / or customers in which R&D and TT services are offered against full payment. This type of activity is considered very promising and needs further exploration and exploitation. To encourage this type of activity, contracts were signed with the University of Jordan and the Agricultural Research Council of South Africa to implement projects in the region of Africa.

B- Training

The training center affiliated to NRC organizes an annual program of training courses in various scientific and technological areas and at different levels. The program is mainly concerned with the transfer of specially tailored experience to those who work in sectors of industry, production and services in Egypt, Arab world and African continent. The experience attained by those trainees is essentially as a basis to keep up with the fast moving developments of science. Joint training courses with foreign and international organization are often organized in some areas. R&D management training courses are offered as well to researchers and administrators in universities, ministries and public sectors.

C- General Services

NRC has t4 units with specialized status, the activity of which serve production and service sectors. They operate as special units, with a separate financial system. These are:

1. Central analytical and services laboratory.
2. Textile industries.
3. Chemical and pharmaceutical industries.
4. Food and dairy industry.
5. Medical services.
6. Consultations and Engineering developments.
7. Agricultural experimental research stations.
8. Agricultural services and consultations.
9. Technical services.
10. Consultant unit for wastewater management and environmental studies.
l1. Aquatic environmental consultation unit.
12.Consultant unit for air pollution.

13.0ccupationaI health and industrial medicine consultations.

14.Technical consultancy and project development.

(3) Mubarak City for Scientific Research & Technological Applications (parts Under Construction)

Objectives.

- Development of modern technologies.
- Establishment of technology development units.
- Training on modern technologies.
- Cooperation with national and international organizations in the field of technology transfer.

Institutions

1- Genetic Engineering and Biotechnology Research Institute.

2- Informatics Research Institute.

Technology Centers

- Center for Development of Scientific and Technological Abilities.
- Center for Development of Small Industries.
- Center for Development of Engineering Industries.
- Center for Development of Pharmaceutical and Fermentation Industries.

Name of the institution:(4) Genetic Engineering and Biotechnology research Institute

- Ministry: Ministry of Scientific Research
- Address: New Borg AI Arab, Alexandria
- . Tel: (03) 4341367,4341368,4322251
- Fax: (03) 4341365
- Head of Institution: Hassan Moawad Abdela'al
- Starting Date: 1/7/1997

Main Responsibility

- GEBRI will be a leader in modern biotechnology' applications of undisputed value to' the advancement of genetic engineering and biotechnology by national, regional and international standards.

Major Fields

- Protein Research, Nucleic Acid Research, Biomedical Research,

Bioremediation Research and Biotechnology Product Development. Programs,

Facilities

- GEBRI is pyramid shape structure with 14 standard Molecular biology Laboratories and several central service laboratories. GEBRI also includes mammalian cell culture and multipurpose pilot plant. All labs are equipped with the up-to-date equipments necessary for serving the major field of GEBRI research plan.

Future plans

- In the next five-year GEBRI will be involved in a diversity of R&D projects addressing specific problems related to the institute major fields in the area of advanced biotechnology.

Foreign Cooperation

- To strengthen the relation with international research institutions GEBRI already has international collaboration with the following institutions: Georgia State University, and University of Tennessee, USA. Several other universities in Germany are hosting 13 Ph.D. graduate students through German exchange program (DAAD). Three Egyptian expatriates with outstanding world experience in biotechnology were appointed as adjunct professors at GEBRI they are working closely with the Egyptian staff at GEBRI to put the solid foundation for establishing a center of excellence in
- Biotechnology by world standards. Through their help several GEBRI staff and graduate students are offered high quality training genetic engineering and biotechnology.

Main Expertise

- Production of the thermostable alkaline protease.
- Closing of Taq DNA polymerase gene and production of strain suitable for bioprocessing technology.
- Overproduction of alpha- amylase using Genetically modified Pseudomonas spp.
- Production of DNA modifying enzymes. .
- Production of gluconic acid from lactose by genetically modified

Gluconohacter oxidants.

- Bioprocess cultivation of aerobic microorganisms in airlift bioreactor for large- scale production of valuable proteins. .
- Design and performance of the whole immobilized fluidized bed bioreactor for the production of valuable protein. .
- Production of a high molecular-weight extracellular xanthan gum. .
- Using microorganisms for recovery of the metals' and pollutants degradation from the environment.
- Characterization and studying the regulatory mechanism and molecular genetic basis underlying the bacterial resistance to heavy metals. .
- Molecular bases of the biology of stress tolerance. .
- Design of biological systems from aquatic plants and their associative bacteria for bioremediation of environmental pollutants.
- Improving nitrogen fixation using genetically modified rhizobia.
- Development of serological and molecular techniques for early virus detection in sugar beat.
- DNA fingerprinting of Egyptian cotton varieties.
- Isolation, cloning and sequencing of lignin degradation gene.
- Isolation and manipulation of salt tolerant genes for different uses.
- Application of the molecular technique to design recombinant antigens for production of virus detection kits for Rubella virus.
- Production of medical diagnostic kits for prevalent diseases.
- Study the rheumatic heart disease (RHD) factors and devising protocols to interrupt and/or prevent these factors.

Name of the institution:(5) national Institute for Oceanography and Fisheries

Ministry: Ministry of Scientific Research

Address: 101 Kasr EI Einy St. Cairo

Tel: 3556785

Fax : 3551381

Head of Institution: Prof. Dr. Bussien Kamel Badawy

Starting Date: 1920

Main Responsibility

- Conservation of the marine environment and its living and non living resources and its preservation and development as an environment suitable for marine living organisms
- Development of aquaculture.

Types of Activities

Research and Consultancy.

Major Fields

Biological - Environmental - Genetic Engineering.

Facilities

Laboratories - Measurement instruments - Water Station

Future Plans

-Research development in order to cope with modern research trends especially in the Genetic Engineering and Cellular Science.

-Widening the scientific cooperation scale with foreign organizations. -Working in specific. Subjects that have their influence on development (Reuse of River Nile water, expansion in the research concerning aquaculture and hatching…etc.).

Main specializations:

Biology of Fisheries - Marine Chemistry - Oceanography - Marine Invertebrates - Hydrobiology - Aquaculture Octiology - Liminology - Geology - Artificial Hatching - Pollution Control.

Foreign Cooperation

Conferences, seminars abroad, joint research work and joint research Cruises.

Main Expertise

- Pollution of marine environment.
- Developing aquaculture.
- Preservation of coasts and combating gelly fish.
- Reuse of wastewater in irrigation and aquaculture.
- Studying Egyptian resource of living marine wealth.
- Proposing laws that organize the marine environment protection.

- Preparing the required studies to develop the aquaculture.
- Giving technical advise for different research and commercial projects. . Follow up with the international scientific progress and transferring what serves the development of aquaculture in Egypt.
- Possibility of using the severe saline seawater in cultivating some types of plants.
- Participation in spreading scientific culture in the fields of the activities of the institute.

Name of the institution:(6) Egyptian Petroleum Research Institute

Ministry of Scientific Research

Address: Ahmed Ramez Street - 8th Sector. Nasr , City - Cairo

Tel: 2747847 - 2747917

Fax: 2747433

Head of Institution Starting Date: Prof. Dr. Mohamed Farouk Ezzat.

Starting date: 1976

Main Responsibility

- Technical and Applied studies and research in the different petroleum fields.
- Consultancy for the petroleum sector.
- Analysis and services for petroleum sector.
- Production of specialized chemicals for drilling & refining.

Type of Activities

Research and Development - Engineering Design - Technoeconomical Studies - Consultancy" -Training - Tests - Analyses and Small Scale Production.

Major Fields Exploration - Production - Refining - Petrochemicals - Pollution Fighting Quality Assurance - Energy Conservation.

Facilities

Statistics Unit - Library - Specialized Centers in the fields of services for petroleum tanks, production, asphalt and other materials preparation Measuring Instruments.

Future plans

- Replacement of the instruments for evaluation and analysis of petroleum and natural gases.

- Sending delegations abroad to help transfer advanced technologies to Egypt. .
- Developing some of the instruments and equipment in the labs.
- Developing the oil production department with all of its specializations.
- Expand in building of advanced services centers.

Main Specializations

Oil production, petrochemical, oil analysis and evaluation.

Foreign Cooperation

Cooperation with France, Russia, Korea, Poland, and Mexico - Germany U.K- USA is amongst others.

Main Expertise

Exploration - Production - Analysis and Evaluation - Refining - Petroleum application - Petrochemicals - Operations Development – Energy Conservation - New and Renewable Energy.

Pollution Control - Producing chemicals required for petroleum sector services.

Name of the institution:(7) National Institute for standards

Ministry: Ministry of Scientific Research

Address: Tersa St. - Haram - Giza

Tel: 3867451

Fax: 3867451

Head of Institution: Prof. Dr. Mohamed El Fikki

Starting Date: 1963

Main Responsibility:

The institute is the official reference of the National standards for physical measurement equipment.

Types of Activities

Research - Technological Development - Consultancy_ - Training Tests and Measurements - Quality Assurance.

Major Fields

Industrial - Construction - and Physical Measurements.

Facilities

- Information center- Statistics Unit.
- Textile Lab- Safety Testing Lab- Ultrasonic Lab – Optical Measurements Lab Mechanical Measurements Lab - Photometry Lab Rubber Testing Lab- Radiation Measurement Lab- Power Measurement and Material Testing Lab - Time Measurement and Frequency Lab, Thermometry lab.- Mass lab.- Acoustic lab.

Future Plans

- It is expected that the institute will be the head of a national system for quality assurances and increasing the productivity.
- Expanding the service scale for consultancy, training and standardization.

Foreign Cooperation:

The institute has relations with similar institutes in many foreign countries such as Germany - France. Italy and the United States. This cooperation is funded by many organizations such as the African Development Bank.

Main Expertise:

- Conceiving and constructing primary standards for measurement.
- Control of measuring equipment in industry and services.
- Representing Egypt in international agreements in the fields of measurement and standardization.

Name of the institution :(8) National Authority for remote sensing & space science (NARSS).

Ministry: Ministry of Scientific Research.

Address: 23 Joussef Street, Prostito, EI-Nozha EI-Gedida- Cairo.

Tel: 2964387/2964386.

Fax: 2964385

Head of Institution: Prof. Dr. Mohamed Adel Yehia

Starting Date: 1971

Main Responsibility

- Aerial photography and using satellite imagery.
- Conducting studies for surveying and management of natural resources.
- Training of specialists.

- Proposing pertinent laws.

Types of Activities:

Research - Technology Development - Consultancies - Training - Tests, Laboratory Analyses and Measurements - Information systems.

Major Fields:

Exploring and managing natural resources.

Future Plans

- Construction of a satellite and satellite receiving station.
- Expanding services & Training.

Main Specializations

Geology - Engineering - Agriculture -Chemistry.

Foreign Cooperation:

The authority has many scientific relations with international authorities and institutes.

Main Expertise

- Scanning & Monitoring natural resources, agricultural resources, pollution and construction development.
- Monitoring of natural disasters.
- Training
- Processing and interpretation of remotely sensed data and geographic Information system

Name of the institution: (9) Central Metallurgical Research & Development Institute (CMRDI)

Ministry Address: Ministry of Scientific Research

Address: P.O.Box 87 - Helwan

Tel.: 5010640/1/2/3 - 5010094/5

Fax : 5010639

Head of Institution: Prof. Dr. Adel A. Nofal

Starting Date: 1984

Mission:

- To participate in the national economic growth by enhancing material

competitiveness in the industrial sector. To fulfill this mission, the institute will keep abreast of technological development.

Goals:

The improvement of the quality of products and processes or the development of new products and new processes.

Types of Activities:

- Optimum exploitation of indigenous ores to replace imported materials.
- Technology transfer in the fields of mineral processing and metallurgy.
- Development of materials and processes through pilot plant runs and prototype units.
- Improvement of products quality and reducing production costs.
- Troubleshooting and solving technical problems.
- Preliminary techno-economic feasibility studies.
- Technical consultancy, testing, laboratory analysis and measurements.
- Training engineers of industrial institutions in modem metallurgical technologies on local and regional basis.

Major Fields:

Ore evaluation - Ore dressing - Hydrometallurgy - Pyrometellurgy - Electrometallurgy - Iron making - Steel making & Ferroalloys - Industrial wastes '. Melting & Casting- Heat treatment - Steel alloy - Non-Ferrous alloys - Corrosion. Metal protection and coating- metal forming- Powder metallurgy- Welding technology- Non-destructive testing - Consumable materials in welding.

Future Plans

Process design & engineering - Material testing and central services Simulation and mathematical moulding - Techno- Information center for metallurgical industries- Technology incubators- Marketing of Research products – Development of international scientific relations.

Main Specializations:

- Ore evaluation and beneficiation - Extractive metallurgy - Metal forming - Welding.

Foreign Cooperation:

CMRDI maintains good relations with international research and technology organizations as well as funding organizations in many countries such as Japan, USA,

Sweden, the Netherland, U.K., Canada, Germany, France, etc.

Name of the institution: (10) The Technical & Technological Consulting, Studies & Research fund.

Ministry Address: Ministry of State for Scientific Research

Address: 101 Kasr EI Aini St. - Cairo

Tel: 5941282 - 5941283

Fax: 5941280

Head of Institution: Prof. Dr. Mofid Shehab - Minister and Chair of the board.

Starting Date: 1988

Vision

The Technical and Technological Consulting, Studies and Research Fund (TTCSRF) - known hereinafter as the "Fund" - will be a recognized leading multifaceted consulting institution in Egypt. It will excel in providing quality technical and technological services backed by the strength of the national S&T system. It will be an instrumental mechanism in contributing to building up the local technological capabilities through availing practical opportunities for training and on-the-job practice. Fund niches will encompass working linkages between the S&T community and its end-users, commercialization of R&D results, technology transfer, feasibility studies, environmental impact assessment and engineering.

The Need & Mission

A technical liaison and extension mechanism was deemed necessary to strengthen linkages between the national R&D system and its end-users in the production and service sectors. Such a mechanism would constitute a viable intermediary in service of both supply and demand of the S&T system, thus satisfying a very perceptible need.

The technical and technological consulting studies and research fund (TTCSRF) was accordingly designed and established in 1988 to fulfill this mandate. It is a general S&T - based consulting and extension institutions that aims at solving technical problems, provides feasibility and technical studies, and technological services for clients on a contract basis.

Main Responsibility, and Approach

To solve problems and provide technological services for clients on contractual basis. It is a self-funded multifaceted technical, financial and managerial system that undertakes diagnosis and formulation of client problems and needs in terms of clearly-defined projects; recruits and organizes the necessary manpower and facilities from its own core staff, as well as from the national pool of science and technology expertise (further, resort can be. made to specialized foreign skills whenever needed to fill specific gaps) and closely controls progress of work toward completion and fulfillment of desired ends.

Types of Activities

- Consulting and extension services
- Market research
- Pre-investment studies
- Project evaluation
- Technology assessment and selection
- Environmental Impact Assessment Engineering
- Development of technology packages
- Environmental systems
- Safety and loss prevention schemes
- Training

Main Specializations:

Engineering - and Economics

Foreign. Cooperation:

Some initial contracts and memoranda of understanding, signed with a number of foreign technical and consulting organization

Main Expertise:

1. Consultancy (multifaceted).
2. Pre-investment techno-economic studies.
3. Environmental impact assessment Environmental Technologies
4. Engineering Design, and full project management.

Sample Achievement:

- Local Design and Manufacture of:

-Two full-scale compost plants, 10 others are on the way.

- Hospital waste incinerators.
- Reverse osmosis desalination plant.
- A number of prototype units in the field of water and wastewater treatment systems.
-Sanitary sewage and compost systems for rural areas.

Technical Studies

- Over 40 environmental audits and industrial wastewater management studies.
- A large number of solid waste management studies
- Several techno-economic feasibility studies.
- A number of full-fledged environmental impact and risk assessment studies.

Future Plans:

- Enhanced development through technological services, transfer and application of best of "shelf' know-how and practices.
- Focusing on and excelling in:
  1. Feasibility studies, Environmental Impact Assessment, Design; Environmental technologies; Transfer and acquisition of technology.
  2. Establishment of out reaches extension units, technology incubators and technological improvement & innovation network.

Second: Ministry Of Agricultural and Land Reclamation

Name of the institution: (1) The Central Laboratory of Residue Analysis of Pesticides and Heavy Metals in Food.

The Laboratory is the main output of the project Quality Control of Agricultural Products" The project is a model for successful Collaboration Between Finland "Ministry of foreign Affairs" and Egypt "Ministry of Agriculture" The Central Laboratory of Residue Analysis of Pesticides and Heavy Metals in Food was established in 1995 according to the Ministerial Decree no. 680 in year 1995. As the official laboratory of the Ministry of Agriculture in its filled of analysis. The central Laboratory of Residue Analysis of Pesticides and Heavy Metals in Food is only the Accredited Laboratory in Egypt since 1996 on all its analysis.

The Laboratory got its Accreditation Certificate from the Finnish branch (FINAS) of the European Accreditation Center of Laboratories (EAL) on basis of ISO 17025.

Address: 7 Nabil El- Said St, Dokki, Giza EGYPT.
Telephone : (202) 7601395 – (202) 7611355
Fax: (202) 7611216 – (202) 7611106.
Email: qcap@intouch.com
Head of the Lab.: Prof. Dr. Mohamed El- Elamy

- **The Laboratory Activities:**

1- Analysis of Chemical and biological contaminants:

* Pesticide Residues (89 pesticides)
* Heavy Metals; mercury, Cadmium, Copper, Lead & Tin
* Alfatoxins
* Dioxins and PCBs
* 16 microbes hazardous to the human health
* Nitrates

2- Analyzing Samples from shipments of agricultural products prior to export and issuing Accredited Certificates with Results.

3- Analyzing samples from certain imported food & agriculture products in order to prevent food not complying with the standers of contaminants to enter the country for consumption.

4- Monitoring status of chemical and biological contamination in food and agriculture production the local markets through the national Monitoring Program in the laboratory.

5- Collaboration with the different research institutes in the national sectors i.e. Environment, Irrigation, Health, Universities, Agricultural Research Projects, Organic Agriculture, and International Inspection Offices, Export and Import companies, Farmers and Consumers.

6- Implementation & participating in Training Programs on Analysis and sampling methods nationally and internationally where a training center is established in the lab. To hold those programs.

7- Risk assessment on pesticides in residues is studied in the laboratory under authorization of the Ministerial decree no. 663 for years 1998.

8- Development of the methods of analysis of the laboratory and renovating new methods for new contaminants.

9- Training programs for colleagues from Arab countries in the Region on the sampling and analysis methods adopted in the laboratory.
10- Training of the Inspectors from plant Quarantine on the methods of the sampling.
11- Expanding the scope and the number of chemical and biological contaminants analyzed in the Laboratory and adding new methods to be proposed for accreditation.

Name of the institution: (2) Horticulture Research Institute HRI.

Ministry: Ministry of Agriculture and Land Reclamation

Address: 9 EI Gamaa St., Orman – Giza

Tel: 5720617

Fax: 5721628

Head of Institution: Dr. Khalifa Attiya Okasha

Starting Date: 1911

Main Responsibility

Horticulture and field production improvement

Types of Activities

Research - Training - Laboratories Experiments and Extension Service Laboratory Analysis.

Major Fields

- Horticulture improvement: Fruits - Vegetables - Medicinal and Aromatic Plants - Ornaments and Forestry.
- Extension services.
- Training programs
- Production of sapling, seeds and cuttings.

Facilities

- Chemical Laboratories.
- Various equipment.
- Measurement of fruit quality.

Future Plans

- Continuing development and improvement of horticulture to meet the local

market needs and exportation. .

- Introducing recent technologies.
- Design breeding programs to produce resistant varieties.
- Establishment of a genes bank.

Main Specializations

Fruit - Vegetable - Aromatic Plants- Medicinal Plants - Land – Forestry and Flora.

Foreign Cooperation

- Potato and sweet potato seed production in cooperation with Holland.
- California University.
- High quality seed production project with Japan.
- Nontraditional horticulture projects with FAO
- United States Agency for International Development USAID.

Main Expertise

- Improvement of horticulture.
- Seed production, sapling and cutting
- Extension services.
- Training programs.

Name of the institution: (3) Plant Protection Research Institute.

Ministry: Ministry of Agricultural and Land Reclamation

Address: 7, Elseid Club Street, Dokki, Cairo

Tel: 3372193, 3486163

Fax: 716176 - 716175

Head of Institution: Prof. Dr. Galal Mahmoud Moawad .

Starting Date: 1983

Main Responsibility

- Plant protection from harmful animals, pets and their control.
- Beekeeping establishment - rearing different kinds of bees and control their pests.
- Silkworm rearing and cocoon production.

Types of activities

- Studies and research on agricultural pests and their control.

- Cotton, field, horticulture, vegetables, medical and aromatic plants, pests and acarine.
- Useful insects as bees, silkworms, parasites and harmful animals and insects.
- Survey and classification of pests and spray technology.

Major Fields

Research - Technical and economical studies on agricultural pests, consultations, training and infestation predictions.

Facilities

Laboratories - Statistical Unit - Library - Computer unit and extension unit.

Future Plans

- Following-up the technological development of other countries in the Protection Field, this involves developing the control strategies improving applications of techniques.
- Studying local problems of field pests and the suitable methods control.
- Conducting training and extension services.

Main Specializations:

Entomology - Insecticides - plant protection

Foreign Cooperation:

- British Overseas Science Institute.
- American Universities.
- United States Agency for International Development (USAID)/NARP.
- European Union (EU).
- The German agency for technical cooperation (Gesellschaft for technishe Zusammenarbiet) (GTZ).

Main Expertise

- Information prediction of agricultural pests.
- Extension services for plant protection.
- Integrated pest management.
- Beekeeping establishment and combating bee diseases.
- Silkworm rearing.

Name of the institution: (4) Field Crop Research Institute.

Ministry: Ministry of Agriculture and Land Reclamation

Address: 9 EI Gamaa St. Giza - Cairo

Tel: 5726127

Fax: 5738425

Head Of Institute: Dr. Rashad Ahmed Abu EI Enien

Starting Date: 1903

Main Responsibility

- Selection and breeding of high production varieties of field crops resistant to pests and unsuitable conditions in the reclaimed lands.
- Seed production.

Types of Activities:

Research - Consultations- Training - Analyses.

Major Field:

Seed Production

Main Specializations:

Crops - Chemistry - Genetics - Horticulture - Physiology - Plant breeding 'mal production - Plant Pathology - Insecticides-Agricultural production-Entomology Microbiology- Agricultural Science - Agriculture Mechanization - Agriculture Extension - Economy - Food Processing.

Main Expertise

- Improvement of Agricultural Production.
- Determination of suitable crops and hybrids for different soils
- Determination of the Agricultural cycles suitable for weather and soils.
- Breeding and production of field crops.

Name of the institution: (5) Soil, Water and Environmental Research Institute.

Ministry: Ministry of Agriculture and Land Reclamation

Address: 9 Gamaa St. 12619, Giza, Egypt

Tel: 5720608 - 5725549

Fax: 5720608

Head of Institution: Dr. Nabil Mohamed EI Mowelhi

Starting Date: 1903

Main Responsibility:

The SWRI is responsible for basic and applied research projects, aimed at the conservation and improvement of Egypt's soil and resources.

Types of Activities

Research- Service Activities and Technology - Design and Training.

Major Fields

Environment - Irrigation and Drainage- Plant Nutrition and Soil Fertility.

Documentation and Information - Remote Sensing.

Facilities

- Laboratories and specialized equipment.
- General Chemical laboratory
- Computer Unit.
- Specialized Biogas laboratory
- Library

Future Plans

- Design and evaluation of various irrigation and drainage networks.
- Soil Fertility and Fertilizer requirements.
- Extending activities on the recycling and bioconversion of agricultural wastes in the form of energy.

Main Specializations

Sandy and Calcareous soils - Field Drainage-Environment-Soil Physics and Chemistry - Agricultural Microbiology - Saline and alkaline Soils -Improvement and Conservation. of Cultivated Soils - Soil Fertility and Plant Nutrition Water Requirements and Field Irrigation - Soil Survey and Classification.

Foreign Cooperation

- Canada International Development Agency (CIDA) .
- The European Economic Community (EEC)
- The Food and Agriculture Organization (FAO)

- The Japan International Cooperative Association JICA.
- The USAID.

Main Expertise

- Conservation and improvement of Egypt's soil and water resources.
- Sensing maps.
- Helping formulate agricultural policy.

Name of the institution: (6) Agriculture Extension and Rural Development Research Institute.

Ministry: Ministry of Agriculture and Land Reclamation

Address: 8 EI Gamaa St., Giza

Tel: 5716301 - 5716302

Fax: 5716303

Head of Institution: Dr. Mohamed Shafie Sallam

Starting Date: 1977

Main Responsibility

To develop the Agricultural Extension Services, Considered to be the cornerstone for promoting agricultural productivity.

Types of Activities

Research - Training - Publications.

Major Fields

The development of agricultural extension programs dealing with:

- Decentralizing planning and implementation of extension programs, of rural development of field crops, horticulture and the production of animals, poultry and fish.
- Recognizing and quantifying the social changes that occur in rural as a result of agricultural sector development.
- Developing centers for women, studying rural families at home and community for raising the standard of living and developing healthy and happy families.

Facilities

Library - An Extension - Information Unit (under establishment)

Future Plans:

Continuing exploration and improvement of the linkages between research scientists, Universities, extensionists, rural communities and individual farmers.

Main Specializations:

Rural communities, rural women, extension programs and teaching methods and aids.

Foreign Cooperation

- Training courses with different American Universities through NARP.
- The Afro-Asian Institute for Rural Development.
- Population Activities UN Fund.

Main Expertise

- Conducting research of extension teaching methods, economics integrating women into agriculture and home.
- Analyzing and developing extension training for extension staff.

Name of the institution: (7) Agriculture Engineering Research Institute.

Ministry: Ministry of Agriculture and Land Reclamation.

Address: Nadi EI-Seid St. Dokki - Giza

Tel: 3487212

Fax: 716867

Head of Institute: Dr. Abdel Ghany M. EI Gendy

Starting Date: 1983

Main responstlity

To assist in increasing agricultural production by introducing appropriate, mechanization technologies to end users with special focus on small and medium sized farms.

Types of Activities

Research, Technological development - Technoeconomical studies-Consultation - Training - Analyses and Measurements.

Major Fields

- Conducting applied researches to encourage mechanized farm operations
- Transferring appropriate mechanization technologies to farmers.
- Conducting on-farm irrigation research to optimize water use

- Providing, technical advice and consultancies to farmers and machinery manufacturers.

Facilities

Computer center - Statistical unit - Library -(Agricultural machinery and tractors) - Experiment station at Sabakhba - (for Agricultural Machinery and Tractors) - Agricultural laboratory for rice research.

Future Plans

- Solving field problems faced by farmers and assisting local manufacturers in initiating and improving new machinery in Egypt. .
- Using alternative sources of energy for drying and processing operations.

Foreign Cooperation

-AID

- JlCA

-GTZ

- China, Thailand and Italy.

Main Expertise

- Developing appropriate mechanization technologies and machines for local conditions.
- Design and application of Modern irrigation techniques.
- Laser techniques for precision land level.

Name of the institution: (8) Central Agriculture Pesticides Laboratory

Ministry: Ministry of Agriculture and Land Reclamation

Address: Nadi EI-Seid St. Dokki - Giza

Tel: 3602209 - 3373860

Fax: 3602209

Head of Institute: Dr. Saied Omara

Starting Date: 1970

Main Responsibility

Analyzing and evaluating imported and local pesticides.

Types of Activities

Research - Technoeconomic studies - Consultations - Training, Analysis and Measurements.

Major Fields

- Pesticide residue analysis and environmental pollution.
- Pesticide formulation.
- Mammalian toxicology.
- Insecticide bioassay.
- Photo toxicity of insecticides.
- Pest rearing.
- Resistance to insecticides in agricultural pests.

Facilities:

Different labs - Library

Future Plans

Technological development of different departments.

Main Expertise

- Pesticide analysis and evaluation.
- Environmental pollution caused by pesticides.
- Resistance to insecticides in agricultural pests.

Name of the institution: (9) Central Laboratory for Design and statistical Analyses Research – CLDSAR.

Ministry: Ministry of Agriculture and Land Reclamation

Address: 9 EI Gamaa St. Giza - Cairo - Egypt

Tel: 5729469

Fax:

Head of Institution: Dr. Ahmed Aly Abd El-Halim

Starting Date: 1958

Main responsibility:

The main objective of CLDSAR is to increase the efficiency of agricultural experimental design and statistical analysis at the ARC to insure valid information.

Types of Activities

Research – Technoeconomic studies – Consultations for the ARC- training.

Major Fields:

- The lab conducts applied statistical research in collaboration with different ARC institutes to increase the efficiency of the experiments
- The lab deals with designing on-farm trials including verification test factors, package and extension treatments.
- CLDSAR provides training courses for research staff, agronomists and trainees from other institutes and developing countries. I
- CLDSAR offers consultations and technical assistance to the Ministry Agriculture institutes and some other countries.

Facilities:

Statistical unit and library.

Future Plans

Designing Crop breeding programs for the production of high yield and quality, cultivates.

Main Expertis:

Experimental design and preparation of computer programs.

Name of the institution: (10) Central Laboratory for Agriculture Expert System

Ministry: Ministry of Agriculture and Land Reclamation

Address: EI Thawra St. Dokki - Giza

Tel: 3611477

Fax: 2604727

Head of Institution: Dr. Ahmed Rafea

Starting Date: 1991

Main Responsibility

The CLAES is helping farmers to optimize the use of resources and' maximize the production of food.

Types of Activities

Search - Technological development - Technoeconomical studies consultations – Training.

Major Fields.

- Developing agricultural expert systems for commodities and disciplines

economically important to Egypt.

- Enhancing the performance of the agricultural extension personnel.
- Help to increase food production per unit area.

Facilities

Computer system - Library

Future Plans

Updating and improving the efficiency of developed expert systems and designing an agricultural experts system for each agricultural strategic crop.

Main Specializations:

Expert systems - Computer.

Foreign Cooperation:

Relations with USA Universities

Main Expertise:

Agricultural production systems.

Name of the institution: (11) Central Administration for Expert and Research stations

Ministry: Ministry of Agriculture and Land Reclamation

Address: 9 EI Gamaa St. Giza - Cairo

Tel: 5721207

Fax: 5721.207

Head of Institution: Dr. Abd EI Maaboud Abd EI Shafi Ali

Starting Date

Main Responsibility

- Conducting research programs for field crops and horticulture.
- Growing seeds of selected varieties.
- Helping farmers to solve technical problems.

Types of Activities

Research - Technological Development - Consultation - Training a Laboratory Analyses.

Facilities:

Field and lab research - genetic engineering.

Future Plans

- Contribution in agricultural development.
- Solving the problems facing scientific plans.

Main Specializations

Engineering - Commerce - Animal Production - Crops Agriculture Engineering Cultivation Technology-Plant Production. Budget:

Foreign Cooperation

Sending scientific missions abroad.

Main Expertise

- Production of improved new varieties of field crops and horticulture.
- Solving scientific problems in production schemes.

Name of the institution: (12) Central Laboratory for Alkaline and Saline Soils

Ministry: Ministry of Agriculture and Land Reclamation

Address: Bakkus - 21616 Alexandria

Tel: 5704441 - 5704443

Head of Institution: Dr. Salwa Ibrahim Ghouweil

Main Responsibility:

Conducting scientific and applied research on saline and alkaline affected soil.

Types of Activities

Research - Consultations - Training - Analysis and Measurements.

Major Fields:

- Identifying factors responsible for soil salinity and proper methods for its development.
- Recommendations for treatment of saline soils.

Facilities:

Labs - Library

Future Plans

Cooperating with the Soil and Water Research Institute. .

Main Specializations: Soil Sciences

Foreign Cooperation: mission to USA through NARP

Main Expertise:

Scientific and applied research of saline soils and treatment

- Salinity resistant plants.

Name of the institution: (13) Desert research center

Ministry: Ministry of Agriculture and Land Reclamation

Address: 1 Mathaf EI-Mataria St.

Tel: 2435449 - 2435519 - 2430759

Fax: 2457858

Head of Institution: Prof. Dr. Nabil EI-Moelhy

Starting Date: 1927

Main Responsibility

1. Investigating desert potential for agricultural development

2. Carrying out studies on behalf of governmental institutions, societies and small landholders.

3.Preparing postgraduate research assistants and scholars for higher degree study in the field of scientific research

Types of Activities

- Exploring and evaluating groundwater aquifers in desert regions.
- Drilling and testing productive and test water wells.
- Surveying and evaluating surface water in coastal regions.
- Monitoring groundwater in desert and newly reclaimed areas.
- Managing desert and newly reclaimed soils with respect to their agricultural use and development.
- Surveying and evaluating natural vegetation' as a source of grazing and medical desert plants.
- Increasing the productivity of leguminous and cereal plants under desert soil conditions through biofertilization methods.
- Protecting and improving range forage resource.
- Increasing the productivity of animals in desert conditions, by implementing measures to overcome food shortages during the dry season, heat stress, water salinity and desert diseases.
- Monitoring and analyzing desertification solutions to stop or minimize desertification processes with the aid of space maps taken by the DRC's

Satellite Receiving Station.

- Establishing green belts around newly constructed cities, roads and factories.
- Monitoring and recording sand dune movement and using various techniques to stabilize sand dunes.
- Conducting socioeconomic studies in the fields of marketing, cooperatives, settlement and labor.
- Providing proper help and advice to target groups whether local Bedouins or investors, to best. Utilize available resources. .
- Studying environmental pollution of soil and water in extension areas.
- Investigating the performance of. Some species and cultivars of agricultural field crops, fodder, vegetables, and fruit crops, formulating proper agriculture practices, and defining cropping systems and farming types under different desert conditions.

Facilities:

1. Tissue Culture Lab
2. Geographical Information Systems (GIS)
3. Satellite Receiving Station
4. Private Service Unit (PSU)
5. Library

Future Plans

- Simulating soil erosion with wind tunnels to study such processes as the relationship between wind velocity and soil loss, the aerodynamic properties of windbreaks, and sand dune movement relative to dust storm emergence.
- *Carrying out extensive geophysical exploration studies and drilling several new water wells in east Oweinat area and later extending the study to the southern region of the New Valley.*
- Conducting research on watershed management, catchment modeling, and water harvesting potentials in South Sinai and in Eastern Desert.
- Increasing wheat productivity under rain-fed conditions at the northwestern coastal zone by using different management and water harvesting systems.
- Creating rural settlements around new cities being built in desert areas.
- Screening, evaluating, and mapping of the natural plant cover and conserving a plant collection to be exhibited at the DR. herarium.

- Groundwater assessment and management of some coastal areas under development, such as Sheikh Zuweid, Nuwebia, and the Tin Plain, and some desert depressions, such as Siwa Oasis and groundwater exploration in the central portion of Sinai.

Foreign Cooperation

- Middle Eastern Radioisotope Center for Arab Countries.
- Arab Center for Studies of Arid and Desert Lands (ACSAD).
- European Union
- Organization of African Union.
- Sahara and Sahel Observatory (SSO), Paris
- United States Agency for International Development (USAID)
- American universities, including Boston, Maryland, New Mexico, and
- Arizona
- United Sates Department of Agriculture (USDA).
- International Atomic Energy Agency.
- Food and Agriculture Organization.
- United Nations Development Program
- United Nations Environmental Program

Main Expertise

- Conducting socioeconomic studies in the new lands for different groups of farmers. Identifying problems faced by people in the desert governorates from the point of view of inhabitants and officials.
- Conducting economic assessments of water use in desert lands.
- Conducting policy studies to help establish an export system for high return horticultural products in desert areas.
- Evaluating cooperatives, national firms, individual private farms, and the tenure systems to identify optimal investment potential.
- Investigation of viable desert as a prerequisite to agricultural development.
- Studies directed toward identifying new land reclamation sites, and setting socioeconomic indicators for desert areas.

Third: Ministry of public works & Water Resources

Name of the institution: (1) The National Center for Water Research

Ministry : Ministry of Public Works & Water Resources

Address : Fom Terat EI Ismaileya - Shoubra EI Kheima

: 13411 , P.O.Box 74

Tel : 2213532 - 2227351 - 2227350

Fax : 2208219

Head of Institution : Prof. Dr. Mahmoud Abdel Halim Abou Zied .

Starting Date : 1975

Main Responsibility

Ensuring and developing water resources and protecting them from pollution.

Types of Activities

Research - Technology Development - Engineering Design Technoeconomic studies - Training - Tests, Laboratory Analyses and Measurements - Quality Assurance.

Major Fields

- Irrigation and subsoil water.
- Renewable energy.
- Protection of water conduits.

Facilities

- Central laboratories.
- Laboratories for soil and material testing, supervision and quality control.
- Laboratories for fish used in the biological combating of grass.
- Computers Unit.
- Strategic studies unit.
- Data Base and information system.

Future Plans

Concentrating on the best use of water resources available, protecting them from pollution, upgrading irrigation systems in order to afford enough water for future expansions

Foreign Cooperation

- The Center has many scientific relations with international institutes, such as:
- International Water Resources Authority (IWRA) - USA.

- The International Authority for Irrigation (ICID) - India.
- International Irrigation Management Institute (IIMI) - Serilanka .
- Food & Agriculture Organization (FAO) - Italy.
- USAID
- Canadian Institute for Development (CID) - Canada.
- Canadian International Development Authority (CIDA).
- UNESCO.

Main Expertise

- Planning Strategies and policies on short and long term basis for management of water resources.
- Designing irrigation projects.
- Protection of the Nile water from pollutants.
- Reuse of effluent water.

Fourth: Ministry of Health & Population

Name of the institution: (1) National Organization for Drug Control & Research

Ministry : Ministry of Health and Population

Address : 6 Abu Hazem Street - EI- Haram

Tel : 5850005 - 3496077

Fax : 5855582 - 3379445

Head of Institution : Prof. Dr. Ahmed Shawky-Geneidy

Starting Date : 1976

Main Responsibility

Assurance of drug effectiveness & expiration dates in Egypt.

Types of Activities

Research - Technology development - Studies - Consultancy - Training Quality assurance.

Major Fields: Medical Drugs

Facilities

Information center - Statistical unit - Library - Animal testing - Implanting tissues & Biotechnology unit, Drug Research magazine (international)

Future Plans

Developing research institutes affiliated to the organization.

Constructing specialized institutes in pharmacology - Science and Organic Biology.

Main Specializations:

Pharmacology - Organic chemistry - Biology - Chemistry – Pharmaceutical - Medical plants.

Foreign Cooperation

Scientific relations with WHO and a number of American drug & nutrition organizations.

Main Expertise

Drug control quality assurance - guarantee effectiveness of all drug in Egypt (local imported).

Name of the institution: (2) Nutrition Institute

Ministry: Ministry of Health and Population

Address : 16 El Kasr El Einy Street

Tel : 3643522 - 3646413

Fax : 3647476

Head of Institution : Prof. Dr. Wafaa Moussa

Starting Date : 1955

Main Responsibility

Raising the health levels through correct nutrition schemes

Types of Activities

Research - Studies - training - laboratory - analyses & measurements nutrition.

Major Fields

Nutrition

Facilities

Clinic - 6 large laboratories

Main Specializations:

General Health - Preventative Medicine - Pharmacology – Chemistry-Agricultural Science -Nutrition -Food Science

Foreign Cooperation

Scientific, relations with UNICEF, FAO, WHO, International Union for Nutrition

Science, and the International Consultancy Group for Vitamin A

Main Expertise

- Treatment of disease caused by malnutrition
- Examining & registering food imports.
- National Strategy for formulating and upgrading the level of nutrition and health in Egypt.

Name of Institution: (3) Research Institute of Medical Entomology

Ministry : Ministry of Health and Population

Address : 1 El Mathaf EIZe,rai St. - Dokki

Tel : 3355570

Fax :

Head of Institution : Prof. Dr. Kamilya Ali Mahmoud

Starting Date : 1961

Main Responsibility

Study insects transmitting diseases, and means of combating.

Types of Activities

Research - Consultancies - Training - Tests and Laboratory Analyses.

Major Fields

Parasites and insects transmitting diseases.

Facilities

- Library.
- Different Laboratories.
- Equipped Cars for Field tests.

Future Plans

Continuing research and studies for maintaining up to date techniques in the field of insects transmitting diseases.

Main Specializations:

Medicine - Agriculture - Parasites - Insects - Insecticides.

Foreign Cooperation

Exchanging publications and periodic' via the WHO

Main Expertise.

- Planning insects transmitting diseases combating programs.
- Training personnel working in the field of combating insects.
- Analyzing and testing of insecticides.

Name of Institution: (4) Field and Applied Research Institute

Ministry : Ministry of Health and Population

Address : 10th of Ramadan Street - Qalyub - Qalubia

Tel : 02 - 2156433

Head of Institution : Prof. Dr. Mostafa Abd EI Fattah Habib

Starting Date : 1954

Main Responsibility: Field & applied research in the field of health

Type of Activities

Research - Technological Development - Studies - Training - Laboratory: Analyses & Measurements - Quality Assurance - Technology Transfer - Biostatistics.

Major Fields: Medical (Epidemiology)

Facilities

Information Center- Statistical Unit - Library - Specialized Laboratory (Mainly for Schistosomiasis, Diarrhea and Chemical Pathology) .

Future Plans

- Establishing a center for disease control in Egypt
- Establishing a food & drug administration in Egypt.
- Establishing rapid mobile Epidomology teams to face epidemics and other catastrophes.

Foreign Cooperation

Strong scientific relations with scientific American institutes such as CD (Center For Disease Control), Tulane University, University of Texas Maryland University, Nashville & Yale University.

Main Expertise,

- Field & applied research in the health & pestilence fields.
- Computer use in the pestilence fields.

Name of Institution: (5) Cairo Demographic Center

Parent Organization: Minister of Population Family Planning

Address: 78 Street 4- EI Hadaba EI Alia - EI Mokkatam

Tel: 5060950 - 5060485

Fax: 5062797

Head of Institution: Prof. Dr. Hesham Hassan Mokhlouf (Director).

Starting Date: 1963

Main Responsibility

- Applying scientific methods in the field of population studies.
- CDC award academic degrees (Ph.D./M.S/Diplomas)

Type of Activities.

Research -Consultancy - Training – Education

Major Fields: Demography - Statistics - Computers

Future Plans

- Increasing academic & training services.
- Increasing studies & applied research.
- Increasing relations with other countries.

Main specializations:

Demography - Computer Science - Statistics - Sociology – Economic Development

Foreign Cooperation

Scientific relations between the center & UNFP A , ESCW A , Harvard University .

Main Expertise

- Research & demographic surveys.
- Offering statistics & demographic consultancy.
- Preparing training courses in computers and various applications.

Name of Institution: (6) Environmental Monitoring and Occupational Health and Safety (E. M. O H. S)

Address: 1 Tayar Fekry Street -Embaba

Telefax: (202) 3119694

***Head of Institution*:** Pharmacist / Wafaa Mohamed Shalaby

Main Responsibility:-

Nile Water Monitoring- Waste Water Analysis- Industrial Waste Water Analysis- Air Pollution Monitoring- Residual Pesticides- Environmental Researche Studies

Types of Activities: - Monitoring - Research – Training- Field and Applied Research in the Environmental Issues

Facilities: - Well Equipped Labs.- Modern Instruments as : Atomic Absorption – G.C (G.CMAS)- Ion Chromatograph

The Central Directorate Of Environmental Affairs Includes Four General Directorates.

1- The General Directorate Of Occupational Health

2- The General Directorate Of Environmental Health

3- The General Directorate Of Food Control

4- The Environmental Monitoring and Occupational Health Studies Center (E.M.O.H.S.C.). Each of Them Has Specific Responsibilities:

1. The E.M.O.H.C. Runs the National air Pollutant Monitoring Network and also It Directs and Operates The National Net Work For Nile water pollutant Monitoring.
2. The Center is also achieving Environmental Evaluation Studies for Some governorates; Lakes; Shore …etc.
3. The center also is applying indoors and out door air analysis for some factories and evaluate their waste water treatment plants by analyzing waste water before and after treatment which are done through will trained teams
4. The Center includes pesticide analysis Lab which is responsible for, testing pesticides in food; air; water.. etc
5. Using modern high quality portable and lab equipments.

Fifth: Ministry of Public Enterprise:

Name of Institution: (1) Industrial Designs Development Center

Ministry: Ministry of Public Enterprise

Address: 203 EI Ahram St.- EI Taawon - Giza

Tel: 3865530 - 3866542 *I* 550

Fax: 3867466

Head of Institution: Dr. Fawzi Mohamed Zein EI Din EI Ahwagy

Starting Date: 1968

Main Responsibility:

Designing and manufacturing of products and production equipment, and establishing production management and quality control systems.

Types of Activities

Engineering Design - Consultancies - Training.

Major Fields

Production and Production management.

Facilities

- Information Center.
- Library.
- Different Workshops (Manufacturing of Moulds - Thermal Treatment Welding - Pottery - Electroplating).
- Training Unit.

Future Plans

Increasing the amount of services for different industrial companies.

Main Specializations:

Engineering - Science - Commerce - Literature - Law.

Main Expertise:

Serving and solving the problems concerning production in industrial companies.

Name of Institution: (2) Egyptian Fertilizer Development Center

Ministry: Ministry of PUBLIC INTERPRISE - Chemicals Holding Company

Address: Egypt - Dakahlia - Mansura – Talkha - SEMADCO (EFDC) P.O Box 35619

Tel.: (050) 521950 - 526810

Fax: (050) 525695

Telex: SEMADCO 92609

Head of Institution: Eng. Mohamed Fathy

Starting Date: 1988

Main Responsibility:

- Supporting Studies for the new production of different formulas of NPK fertilizers through the pilot plant.
- Anticaking - Slow Release Urea. .
- Developing Solid NPK, NP Fertilizers, Liquid NPK, Fertilizers APP.

Maior Fields

Chemistry - Engineering - Agriculture – Marketing

Facilities

Information Center - Statistical Unit - Library - Pilot Plant Unit - Nitrogen Research Unit - Physical, Prob. Lab. - Chemical Lab. - Agriculture Research Unit.

Future Plans

The Center after achieving its main objectives will represent a source of experience which then would be available to other countries in the region to cover both technical & economic, marketing aspects. I

Main Specialization:

Chemistry - Engineering - Agriculture

Foreign Cooperation

1. International fertilizer development center (IFDC), USA for technical assistance and training.

2. National fertilizer 'development center (NFDC) Pakistan for economic, marketing assistance.

3. Communication channels with International fertilizer companies such as: Norsk Hydro, Udhe, Topsoe, and M.W. Kellogg

4. Arab Fertilizer association (AFA) & International Fertilizer Association (IF A) for Data Exchange. .

5. Subscription of International Circulars, magazines periodics such as: fertecon, fertilizer week, finds chemical engineering.

6. Procurement of research papers and reprints from different sources such as: IFDC. TVA, UNIDO.

Main Expertise

1. Executing feasibility studies for fertilizer projects depending on the data available about fertilizer on the domestic level and the international level through the specific weekly and monthly periodic around fertilizer production consumption, prices and new projects. .

2. The Center is equipped to develop NP, NPK plus micronutrients in liquid and solid states reasonable for the future coming needs and suitable for fertilization Systems and Modern agriculture techniques.

3. Excluding physical chemical analysis for liquid and solid fertilizers according to the international standard specifications.

4. Evaluating anti - caking material before being applied on a commercial scale.

5.The center is capable of editing a fertilizer situation monthly report around production, distribution, EX - Factory and Local market places prices and international prices, when the net consumption and inventory is available the center can monthly correct the yearly supply *I* demand balance and district the reasonable quantity time of export if any.

Name of Institution: (3) Plastic Industry Development Center

Ministry: Ministry of Public Enterprise (Chemical. Industries Holding Company).

Address: Infront of 25 Zaki Attallah street, EI Saa Victoria - Alexandria.

Tel: 03/5705356

Fax: 03/5715516

Head of Institution: Dr. Eng.1 Hassan Saeed Mohamed

Starting Date: 1980

Main responsibility: Developing the plastic industry

Type of Activities Tests- training - plastics' application in agriculture.

Major Fields

- Quality control of the plastics' products and materials.
- Processing of plastics. .
- Agricultural applications.

Facilities

- Laboratory testing equipment.
- Plastics processing machines.

Main Specializations:

Chemical engineering- mechanical engineering science- electrical engineering – Science – agriculture.

Main Expertise:

1. Scientific expertise in polymers and plastics' technology.

2. Scientific expertise in the field of laboratory tests.

3. Solving the problems of the plastic factories.

4. Training.

6. Plastics applications in agriculture and construction.

Sixth: Ministry of Industry and Mineral Wealth

Name of Institution: (1) Tebbin Institute for Metallurgical studies

Ministry	: Ministry of Industry and Mineral Resources.
Address	: Tebbin, Helwan, P.O.Box 109
Tel	: 5010171 - 5010172 - 5010176
Fax	: 5010170
Head of Institution	: Prof. Dr. Said Ezz El Din
Starting Date	: 1968

Main Responsibility.

Preparing specialists from engineers and university graduates in the fields of Metallurgical Coke, Chemicals, and Heat Industries.

Types of Activities

Educational - Research - Development -Engineering - Technoeconomic Studies- Consultancies - Laboratory Tests & Measurements - Training.

Major Fields

Environmental Protection- Energy Conservation - Casting /Welding - Heat Treatment - Automatic Control - Corrosion of Metals.

Facilities

Library - Conference hall.

Chemical Laboratories - Mechanical workshop- Mechanical equipment lab - Electrical Engineering labs - The Central lab for Industrial Pollution studies - Air Analysis lab- Analytical chemistry and Microbiology lab Energy Rationalization in Industry lab - Heat Transfer and Industrial Furnaces lab - Metals lab - Mining labs -

Welding and Heat Treatment lab - Computer lab.

Future Plans

The institute can be a specialized center in developing the technologies of energy rationalization, environmental protection and small-scale industries. It can also be an information center that serves the industrial field in Egypt and its development.

Main Specializations:

Metallurgy - Automatic Control- Ovens - Cast Molding - Chemistry.

Foreign Cooperation

Scientific relations with German, Russian and British Universities.

Main Expertise

Preparing specialized technicians in the field of Metallurgy, Energy and Environment.

Name of Institution: (2) The Egyptian Geological survey and Mining Authority.

Ministry : Ministry of Industry and Mineral Resources.

Address : 3 Salah Salem st., - Abbaseya - Cairo.

Telephone : 839652 - 4829662

Telefax : 4820128

Head of Institution: Geologist/ Gaber Mahmoud Naim

Starting Date: 1896

Main Responsibility

- Geological mapping of Egypt.
- Evaluation of mineral resources and suggesting their best use.
- Providing technical expertise to various sectors and major projects.

Types of Activities

Research - Technoeconomic Studies - Consultancies - Training - Tests, Laboratory Analysis and Measurements.

Major Fields: Geological Research - Metallurgy - Subsoil Water.

Facilities: Information Center - Library.

Future Plans: Development and continuing the existing plans.

Major specializations: Geology - Physics – chemistry - Zoology

Foreign Cooperation:

There are scientific relations with a number of universities and scientific institutes such as Berlin, Hidelburg, Washington, and Turonto Universities, as well as the ITC Dutch institute.

Main Expertise

- Preparing and publishing specialized geological maps.
- Investigating material resources and evaluating them.
- Investigating subsoil water.

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Name of Institution: (3) Admistration of Chemistry

Ministry: Ministry of Industry and Mineral Resources.
Address: 12 Ramsis St., Cairo - 11522
Telephone: 5743433 - 5743214
Telefax: 5740750
Head of Institution: Chemist I Ahmed Rashed El Dafrawy
Starting Date: 1898

Main Responsibility

A supervising authority on the Egyptian market, especially industrial and food products, ensuring compliance with Egyptian standards, determining the appropriate custom duties and combating industrial and -commercial fraud.

Types of Activities

Research - Technology Development - Training - Testing, Laboratory. Analysis and Measurements - Quality Assurance.

Major Fields: Different fields of chemistry.

Facilities

Information center - Statistical Unit - Library - Laboratories.

Future Plans

Continuing to update the laboratories.

Increasing fees for analysis to cover the increase in chemicals; equipment and maintenance prices.

Major specializations:

Chemistry - Physics - Geology - Plants - Animal

Foreign Cooperation: Attending seminars & conferences abroad.

Main Expertise

- Defining and implementing Egyptian standards.
- Training chemists and engineers.

Name of Institution: (4) Egyptian Organization for Standardization & Quality control

Ministry: Ministry of Industry & Mineral Resources.

Address: 2 Latin America St., Garden City, and Cairo

Tel: 3549720

Fax: 3557841

Head of Institution: Dr. Abd El Basset El Sebai Mohamed.

Starting Date: 1957

Main Responsibility

Establishing standards, quality assurance & control for the different products.

Types of Activities

Research- Technoeconomic Studies- Consultancies- Training - Tests, Laboratory Analyses and Measurements- Quality Assurance

Major Fields

Quality control and quality assurance.

Facilities: Specialized Laboratories.

Future Plans

- Upgrading of quality control services.
- Upgrading of quality assurance and management systems.

Main Specializations:

Physics -Chemistry - Engineering – Agriculture

Foreign Cooperation

There are cooperative relations between the organization and other Arab, African and European authorities for standardization.

Main Expertise

- Establishing Egyptian standards.
- Offering technical advises to institutes and industrial companies in the field of

products quality.

- Supervising and testing products and services.

Seventh: Ministry Of Manpower

Name of Institution: (1) The National Institute of Occupational Safety and Health

Ministry: The institute is under the-"Supervision of-H.E -the Minister of Manpower and Employment

Address: 156 El Hegaz St. - El Nozha - Heliopolise

Tel: 2424355 - 2452630 - 2443995

Fax: 2424355

Head of Institution: Dr. Mostafa Fahmy Gaber

Starting Date: 1969

Main Responsibility

- Conducting research and studies.
- Offering technical and field consultancy services.
- Preparation of training courses.

Types of Activities

Research - Carrying out advisory services for industry in the field of occupational safety and health - Training - Analyses and measurements.

Major Fields: Occupational Safety and Health

Facilities: Information Center - Library - Laboratories - Mobile Laboratory Unit and Portable & stable equipment.

Future Plans

Covering research and applicable studies as required by different organizations in Egypt- Africa and the Arab World.

Major Specializations:

Chemistry - Medicine - Pharmacology - Engineering.

Foreign Cooperation

The institute has many scientific relations with different international organizations such as:

The International Social Security Association (ISSA) in Geneva -The International Information Center (CIS) - and the International Research Center (INRES) in France -

in Geneva.

The institute cooperates with the International Labor Organization (ILO) World Health Organization (WHO) and others.

Main Expertise

- Upgrading the level of occupational safety and health on the National level.

Other Ministries

A- ministry of Electricity and Energy

1. Egyptian Atomic Energy Authority.
2. Nuclear Material Authority.
3. Egyptian Renewable Energy Development Organization (EREDO).
4. Electricity Authority of Egypt – High Voltage Research Center.

B- Ministry of Housing, Utilities and new Communities

1. Housing, Building and planning research center.
2. National Organization for Potable Water and Sewage.
3. Organization for Research & Reconstruction Studies.

C-Ministry of Transport, Transportation and Civil Aviation

1. National Institute of transport.
2. Research& Consultancies Center for the Marine Transportation Sector.
3. The National Authority for Roads and Bridges.
4. The Meteorological Authority.

Other Governmental Universities & Research Institutes:

Table 9-A: Overview of Laboratory Infrastructure for Regulatory Chemical Analysis:

	Name/ Description of Laboratory	***Location***	***Equipment/ Analytical Capabilities Available***	***Purpose***
1.	Agricultural Studies and	Faculty of Agriculture, Ain	Industrial Wastewater Monitoring and	Environmental Consulting Services,

	Consultancy Center	Shams University, P.O. Box 68, Hadayek Shoubra, 11241, Cairo, Egypt. Tel: 4448816-4441454 Fax: 4444460 Email: mansour@asunet.eun.eg	Analysis Equipment, Industrial/ Municipal Wastewater Equipment, Water Monitoring and Analysis Equipment, Domestic Water Treatment Equipment, Industrial Water Treatment Equipment	Water Analysis Services, Industrial Wastewater Analysis Services, Training Services in Environmental Management Systems, Solid Waste Management Services, General Environmental Training Services.
2.	Center for Environmental Sciences Technologies-Tanta University	El- Geish St., Tanta, Egypt Tel: 040-3312498 – 3317928 Fax: 040-3312498 Email: env-stce@decl.tanta.eun.eg	Air Pollution Control Equipment, Hazardous Waste Management Equipment, Industrial/ Municipal Wastewater Equipment, Solid Waste Management Equipment, Domestic Water Treatment Equipment, Industrial Water Treatment Equipment.	General Environmental Training Services, Certifying Organizations, Training Services in Environmental Management Systems, Environmental Consulting Services, Water Analysis Services, Industrial Wastewater Analysis Services, Solid Waste Management Services.
3.	Center of Studies & Designs for Water Project (CWP)	Irrigation & Hydraulics Department, Faculty of Engineering, Cairo University, Cairo, Egypt. Tel: 5732949	Industrial Wastewater Monitoring and Analysis Equipment, Industrial/ Municipal Wastewater Equipment, Solid Waste Management Equipment, Water	Feasibility Studies, Training Services in Environmental Management Systems, Water Analysis Services, General Environmental Training Services,

		Fax: 5732948 Email: ghanem_ashraf@hotmail.com	Monitoring and Analysis Equipment, Domestic Water Treatment Equipment, Industrial Water Treatment Equipment	Environmental Consulting Services, Solid Waste Management Services, Industrial Wastewater Analysis Services.
4.	Central Chemical Labs – Egyptian Electricity Holding Co.	Shanan St., Saptia, Cairo, Egypt. Tel: 5768250-5770269 Fax: 5778268		Air Measurement and Analysis Services, Industrial Wastewater Analysis Services, General Environmental Training Services, Water Analysis Services.
5.	Central Lab	Faculty of Agriculture, Ain Shams University, Shoubra El Khemia, Cairo, Egypt. Tel: 4441172 – 4441711 Fax: 4444460	Industrial Wastewater Monitoring and Analysis Equipment, Industrial/ Municipal Wastewater Equipment, Water Monitoring and Analysis Equipment, Domestic Water Treatment Equipment, Industrial Water Treatment Equipment	Air Measurement and Analysis Services, Water Analysis Services, Certifying Organizations, Industrial Wastewater Analysis Services, Solid Waste Management Services, Training Services in Environmental Management Systems, General Environmental Training Services,
6.	Fermentation Biotechnology and Applied Microbiology	Al-Azher University, adjacent to Faculty of Science		Feasibility Studies, Air Measurement and Analysis Services, General Environmental

	(Ferm – BAM) Center - Faculty	Building (of Boys), Nasr City, Cairo, Egypt. Tel: 4042166 - 4044802 Fax: 2629356 Email:A-Mokhtaroo@hotmail.com		Training Services, Water Analysis Services, Training Services in Environmental Management Systems, Solid Waste Management Services.
7.	Unit for EIA and Environmental Audit Center for Environmental Consultation	Ain Shams University, Institute of Environmental Studies and Research, Cairo, Egypt. Tel: 6370327 – 2434259. Fax: 6370327.	Air Pollution Control Equipment, Industrial/ Municipal Wastewater Equipment, Solid Waste Management Equipment, Industrial Water Treatment Equipment.	General Environmental Training Services, Solid Waste Management Services, Water Analysis Services, Air Measurement and Analysis Services, Industrial Wastewater Analysis Services, Training Services in Environmental Management Systems, Certifying Organizations, Feasibility Studies, Environmental Consulting Services.

9.2 Overview of Government Information Systems / Computer Capabilities

- Information & Decision Support Center (IDSC) (www.idsc.gov.eg)
- Information Center of all Miniseries (Industry, Agriculture, Irrigation & Water Resources, Health & Population, Manpower & Emigration, Transportation, Foreign Trade, Interior, Petroleum and Electricity & Energy…etc.
- Central Agency for Public Mobilization and Statistics (CAPMAS)

N.B: It should be mentioned that Table 8-B in Chapter (8) explain in details the location of national data in Egypt

Chapter 10: International Linkages

10.1 Co-operation and Involvement with International Organizations, Bodies and Agreements

The linkages with international organizations, especially those concerned with chemicals management, has benefited the country in many ways such as:

- Receiving international support through UN agencies, such as UNEP/IRPTC, FAO, UNITAR, as well as from other countries to address issues relating to chemicals;
- Receiving international information/literature from other countries relating to chemicals management, including measures or actions taken with respect to specific chemicals, such as PIC chemicals
- Receiving information on legislation and technologies used to reduce risks at the local level, through documents from US-EPA, and other countries.

Table 10-A: Membership in International Organizations, Programs and Bodies

International Organization/ Body/ Activity	***International Organization Office in Egypt***
Intergovernmental Forum on Chemical Safety (IFCS)	Name : Intergovernmental Forum on Chemical Safety - EGYPT Add. : 30 Misr- Helwan St., El-Maddi, Cairo, Egypt Tel. : 5256452 Fax : 202 – 5256790 E mail: hzwaste@eeaa.gov.eg
UNEP – IRPTC National correspondent IE PAC - cleaner production center	Name :United Nations Environmental Program Add. : 28 Adly St. – Cairo – Egypt Tel. : 3929733 – 3905996 – 3934046 Fax : 202 – 3950119 E mail: unep-allo@link.net Web site: www.unep.org Operating since : 1991

FAO	Name : Food & Agriculture Organization Add. : Agrarian Reform Bldg.– 11 Eslah Zerai Dokki Egypt Tel. : 3375182 Fax : 202 – 3378563 E mail: fao-egy@fao.org Web site: www.fao.org Operating since : 1945
WHO	Name :World Health Organization Rep. office Add. :Magles El-Shaab St. – MOHP – Egypt Tel. : 7953708 Fax : 202 – 7953756 E mail: wregypt@link.net Web site: www.who.scl.eg Operating since : 1989
	Name :World Health Organization Eastern Mediterranean office Add. :Abd El-Razek El-Sanhoury St. – Nasr City – Egypt Tel. : 6702535 Fax : 202 – 6702492 E mail: wregypt@intouch.com Web site: www..emro.who.eg Operating since : 1948
UNIDO	Name : United Nations Industrial Development Add. :5 Latin America St. c/o Ministry of Industry – Egypt Tel. : 7921184 Fax : 202 – 7921199 E mail: mgarzelli@unido.org Web site: www.unido.org Operating since : 1997
ILO	Name : International Labour Organization Add. :9 Taha Hussien St. – Zamalek – Egypt Tel. : 3412358 Fax : 202 – 3410889

	E mail: bodossian@ilo.org Web site: www.ilo.org Operating since : 1996
WB	Name : World Bank Add. :1191 Corniche El Nil St. World Trade Center – Cairo Tel. : 5741670 Fax : 202 – 5741676 E mail: Web site: www.worldbank.org Operating since: 1992

Egypt has several international programmes regarding chemical management, some of these international programmes are:

1-Food and Agriculture Organization (FAO) and United Nations Environment Programme (UNEP)

2- Safety in the Use of Asbestos

3- Safety in the Use of Chemicals at Work

4-Prevention of Major Industrial Accidents

5-Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, and Related Protocol

6-Stockholm Convention on Persistent Organic Pollutants (POPs)

7-Intergovernmental Forum On Chemical Safety (IFCS)

8-The Awareness and Preparedness for Emergencies at the Local Level (APELL)

9- The Cleaner Production Program

10-The Ozone Action program

11-International Action on Mercury and its Compounds

Table 10-B: Participation in International Agreements / Procedures Related to Environmental Protection and Chemicals Management

International Agreements and Conventions
Register of International Conventions and Agreements in the filed
Of the Environment to which Egypt is a signatory

Category	Name of Convention/Agreement	Date of Ratification (R) / entry into force (E) / Signature (S)
Air and Noise Pollution	1. Convention concerning the protection of workers against occupational hazards in the working environment due to air pollution, noise and vibration.	4 May 1988 (R)
Biodiversity	2. Convention on wetlands of international importance especially as waterfowl habitat (RAMSAR)	9 September 1988 (R) 9 September 1988 (E)
	3. Convention on the preservation of Flora and Fauna in their natural State	21 February 1935 (R) 14 January 1936 (E) 18 September 1981 (E)
	4. International convention for the regulation of whaling	19 February 1951 (R)
	5. Agreement for the establishment of a general fisheries council for the Mediterranean	22 July 1953 (R)
	6. International plant protection convention	16 March 1972 (R)
	7. African Convention on the conservation of nature and natural resources	9 September 1988 (R)
	8. Protocol to amend the convention on wetlands of international importance especially as waterfowl habitat	4 January 1978 (R) 4 April 1978 (E)
	9. Convention on international trade in endangered species of wild Flora and Fauna (CITES).	11 February 1982 (R) 1 November 1983 (E)
	10. Convention on the conservation of migratory species of wild animals (Bonn)	2 June 1994 (R)
	11. Convention on Biological Diversity	
	12. Agreement on the establishment of Near East plant protection organization	

	13. Protocol concerning specially protected areas and biological diversity in the Mediterranean	13 April 1995 (R)
	14. Protocol concerning Mediterranean specially protected areas	20 August 1990 (E) 10 June 1995 (S) 8 July 1983 (R)
Climate Change	15. United Nations framework convention on Climate Change	5 December 1994 (R)
	16. Kyoto Protocol	15 March 1999 (S)
Cultural Heritage	17. Convention concerning the protection of the world cultural and natural heritage	7 February 1974 (R)
Desertification	18. United Nations convention to combat desertification in those countries experiencing serious drought and/or desertification, particularly in Africa	7 July 1995 (R)
Law of the Sea	19. United Nations convention on the law of the Sea	26 August 1983 (R)
	20. Agreement relating to the implementation of Part XI of the United Nations convention on the law of the sea of 10 December 1982	22 March 1995 (S)
	21. Agreement on the implementation of the provisions of the United Nations convention on the law of the sea of 10 December 1982 relating to the conservation and management of straddling fish stocks and highly migratory fish stocks	5 December 1985 (S)
	22. United Nations convention on conditions for registration of ships	9 January 1992 (R)
Marine Oil Pollution	23. International convention on the prevention of pollution of the sea by oil	22 July 1963 (E)
	24. International convention relating to intervention on the high seas in cases of oil pollution casualties	3 February 1989 (R) 4 May 1989 (E)
	25. Protocol concerning cooperation in combating pollution of the Mediterranean sea by oil and other substances in cases of emergency	24 August 1978 (R) 23 September 1978 (E)
Marine Pollution	26. Protocol relating to intervention on the high seas in cases of Marine pollution by substances other than oil	3 February 1989 (R) 4 May 1989 (E)
	27. Convention on the prevention of marine pollution by dumping of wastes and other matter	30 July 1992 (R)
	28. 1996 protocol relating to the convention on the prevention of Marine pollution by dumping of wastes and other matter, 1972	1996 (S)

	29. Protocol of 1978 relating to the international convention for the prevention of pollution from ships, 1973	7 November 1986 (E)
	30. Convention on the protection of the Mediterranean sea against pollution (Barcelona)	
	31. Amendment to the convention for the protection of the Mediterranean sea against pollution	24 August 1978 (R) 23 September 1978 (E)
	32. Protocol for the prevention of pollution of the Mediterranean sea by dumping from ships and aircraft	10 June 1995 (S)
	33. Amendment to the protocol for the prevention of pollution of the Mediterranean sea by dumping from ships and aircraft	24 August 1978 (R) 23 September 1978 (E)
	34. Protocol of the protection of the Mediterranean sea against pollution from land-based sources	10 June 1995 (S)
	35. Amendment to the protocol for the protection of the Mediterranean sea against pollution from land-based sources	18 May 1983 (E) 17 June 1983 (E)
	36. Regional convention for the conservation of the Red Sea and Gulf of Aden environment (Jeddah)	7 March 1996 (S)
		23 March 1986 (E)
Nuclear Energy and Hazardous Substances and Waste	37. Convention on early notification of a nuclear accident	6 July 1988 (R) 6 August 1988 (E)
	38. Convention concerning prevention and control of occupational hazards caused by carcinogenic substances and agents	25 March 1982 (R)
	39. Convention on the prohibition of the development, production and stock-piling of bacteriological (Biological) and toxin weapons, and on their destruction	10 April 1972 (S)
	40. Protocol on the prevention of pollution of the Mediterranean sea by Transboundary movements of hazardous wastes and their disposal	1 October 1996 (S)
	41. Basel convention on the control of Transboundary movements of hazardous wastes and their disposal	8 January 1993 (R)
	42. Amendment on the Basel convention on the control of Transboundary movements of hazardous wastes and	

	their disposal	22 September 1995 (S)
	43. Bamako convention on the ban of the import into Africa and the control of transboundary movement and management of hazardous wastes within Africa	30 January 1991 (S)
	44. Convention on assistance in the case of a nuclear accident or radiological emergency	17 October 1988 (R)
	45. Joint protocol relating to the application of the Vienna convention (on civil liability for nuclear damage) and the Paris convention on (Third-party liability in the field of nuclear energy)	17 November 1988 (E) 10 August 1989 (R) 27 April 1992 (E)
	46. Convention on nuclear safety	
	47. Convention concerning the protection of workers against Ionizing radiation	20 September 1994 (S)
	48. Vienna convention on civil liability for oil pollution damage	18 March 1964 (R)
	49. Treaty banning nuclear weapon tests in the atmosphere, in outer space and under water	5 November 1965 (R) 12 November 1977 (E)
	50. International convention on civil liability for oil pollution damage	10 January 1964 (R)
	51. Protocol of 1992 to amend the international convention on civil liability for oil pollution damage, 1969	3 November 1989 (R) 4 May 1989 (E)
	52. Protocol concerning regional cooperation in combating pollution by oil and other harmful substances in cases of emergency	21 April 1995 (R)
	53. International convention on oil pollution preparedness, response and cooperation	20 August 1990 (E)
	54. International convention on salvage	14 March 1991 (R)
	55. Treaty establishing the African economic community	14 July 1996 (E)
	56. Agreement for the establishment of a commission for controlling the desert Locust in the Near East	14 March 1991 (R) 14 July 1996 (E)
	57. Convention on prohibition of military or any other hostile use of environmental modification techniques	26 January 1993 (R)
	58. Treaty on principles governing the activities of states in the exploration and use of outer space including	6 July 1967 (R) 21 April 1969 (E)

	the Moon and other celestial bodies	
	59. International tropical timber agreement	1 April 1982 (R) 1 April 1982 (E)
	60. International tropical timber agreement, 1994	10 October 1967 (R)
	61. Vienna Convention on the protection of the Ozone Layer	09/00/1995 (R)
	62. Montreal protocol on substances that deplete the Ozone Layer	8 November 1994 (S)
	63. (London) Amendment to the Montreal protocol on substances that deplete the Ozone Layer	9 May 1988 (R)
	64. (Copenhagen) Amendment to the Montreal protocol on substances that deplete the Ozone Layer	2 August 1988 (R)
	65. Stockholm Convention for Persistent Organic Pollutants.	13 January 1993 (R)
	66. Rotterdam Convention On The Prior Informed Consent.	28 June 1994 (R) 17/5/2002 (S) 13/1/2003 (R) 17/5/2004 (E) 24/2/2004 (E)

10.2 Participation in Relevant Technical Assistance Projects

Table 10-C: Participation in Relevant Technical Assistance Projects

Name of project	*International/ Bilateral Donor Agency Involved*	*National Contract Point*	*Relevant Activities*
EHSIMS	SDC	EEAA	The objective of this project is to initiate a management system for Hazardous Substances in Egypt, through providing basic guidelines and information for the purpose of ensuring safe handling of such substances and through disseminating such information through an information network.
(SEAM II)	DFID	EEAA	SEAM aims at Environmental Management amelioration and protection in an integrated fashion in the Governorates of Dakahleya, Sohag, Qena and Damietta. Its main outputs are represented in fully functional environmental management and planning systems in Sohag and Dakahleya (these systems to be replicated in Qeana and Damietta by EEAA), poverty alleviation in the four Governorate, and enhanced communication participation and awareness.
Regional Laboratories Network The Project for Supply of Equipment for Regional Laboratories Network (Japanese Grant Aid) 1st phase, 2nd phase, 3rd phase	JICA	EEAA	The project aims at equipping the EEAA RBOs in the Governorate with different needed supplies and equipment's.

Environmental Monitoring and Training Project	JICA	EEAA	The project aims at equipping the Environmental Central Lab in Cairo and the Laboratories Network of the EEAA RBOs in other Governorates with different needed supplies and equipment's. Further more, it provides training programmes to the laboratories staff on using these equipments for the target of tracing the compliance of various entities with the ratios and standards of the law.
(ESPS)	DANIDA	EEAA	ESPS immediate objectives basically are to enable EEAA to carry out its functions at the local level and effectively service-decentralized institutions involved in environmental management. Besides, it supports developing environmental management capacity in Aswan and Beni Suef governorates. In addition, ESPS aims at assisting the Egyptian industry to improve compliance with the environmental law. It also supports NGOs and Community Development Associations to be more participating and involved in the quality of life issues.
(EIMP)	DANIDA	EEAA	EIMP affords data and information about sources of pollution and their environmental impact on air and water quality, through establishing environmental monitoring network for air ambient and coastal water.
(EEPP II)	USAID	EEAA	EEPP supports policy, institutional, & regulatory reforms to reduce generation of air pollution and to manage natural resources for environmental sustainability. Policy reforms will be supported to overcome selected crosscutting economic, financial, and institutional constraints to improved environmental management.
(CAIP)	USAID	EEAA	The basic aim is the preparation and implementation of a plan of decreasing the emissions of the led smelters in Greater Cairo, plus transferring the public buses to operate with natural gas. Also it aims at

			monitoring the air quality in Cairo city to trace the project results.
(EEIS)	CIDA	EEAA	EEIS assists GOE decision-makers in the formulation and timely implementation of appropriate policies, legislation, programs and projects affecting water and land resources in Egypt. Major activities are: to increase the capacity and capability of EEAA to make sound decisions regarding environmental protection and management through implementation of an environmental information system; to increase and enhance the availability and accessibility of environmental data and information to EEAA from national government organizations, institutes and academic institutions; and to establish a sustainable linkage between EEAA and other organizations involved with the environment (Ministries, Departments, Institutes, other international donor-funded projects, non-governmental organizations, and academic centers).
(EEIF)	CIDA	EEAA	EEIF promotes the management and conservation of Egypt's natural resources, particularly soil and water, by the Egyptian private and voluntary sector. This is mainly achieved through strengthening the capacity of small and medium enterprises (SMEs) to improve environmental efficiency of their production process, enhancing the capacity of the NGOs and CADs to deliver local environmental initiatives, and supporting private sector in "green" business.
(NEAP)	UNDP	EEAA	Updating the National Environmental Action Plan is the milestone. Also, NEAP supports the process of preparing the Egyptian Environmental Sector programme that EEAA carries out in close coordination with the concerned ministries, governorates, NGOs, local authorities and related

			donors activities and projects. The main activities are Problem definition, goal articulation, developing alternatives, evaluation of options, and recommendation of future actions.
(EPAP)	WB + European Bank for Investment + GO Finland	EEAA	EPAP provides technical and financial assistance to different industries reaching the aim of their compliance with the environmental laws. EPAP has a technical and financial component, institutional component, and awareness one.
Environmental Protection Fund for Public Sector Industries	KFW	EEAA	The project mainly aims at financing the needed investments to implement Public Sector industries in the field of industrial waste treatment.
Hazardous Waste Management Project in Alexandria	FINNIDA	EEAA	A pilot project to build a nucleus for the hazardous industrial waste, starting from the factories, through transportation, collection, temporary storage and disposal, ending with burring, treating and withdrawal.
Conservation of Wetlands Project	GEF	EEAA	It mainly seeks the conservation of the wetlands, biodiversity and ecological systems of the Mediterranean shores
Lake Manzala Engineered Wetlands	GEF	EEAA	The project encourages the sustainable development through raising the environmental and economic opportunities locally and internationally. Its main output is establishing and operating a pilot station able to treat 25-50 thousand m3/day from Bahr El-Baquar drainage water before being discharged in Lake Manzala.
Sitting Safe Landfill for Solid Waste Study	EU	EEAA	The project main output is the preparation of a study of management and treatment of the industrial hazardous waste in Greater Cairo.

Egyptian – Italian Environmental Cooperation 1) Siwa Environmental Amelioration Project	Italian Government	EEAA	Development of sustainable agriculture through environmentally friendly practices, firm establishment of a self-sustaining micro-credit mechanism managed by a local NGO in the Oasis, declaration of Siwa Oasis Protected Area, and development of the Siwa region as a leading eco-tourism, cultural heritage-handicraft site in the Western Desert are all the milestones of Siwa component.
2) Wady El-Rayan Protected Area			The project aims mainly at ensuring the sustainability of Wady El-Rayan Protected Area management unit and promoting WRPA as leading site for environmental education and communication on biodiversity and sustainable development issues.
3) Gabal Elba Protected Area			The main output of the project would be a detailed management plan for Gabal Elba protected area ready for implementation
4) Fayoum Oasis Project			The project specific objective is to add value to natural and cultural resources through a cooperation strategy between EEAA and Supreme Council of Antiquities, concluding with the creation of "cultural district" in the Fayoum region.
5) Solid Waste Management Project in El-Minya Governorate			The project specific aim is to guarantee the essential framework, as well as clear engineering, administrative, and investment guidance for the execution of the field actions necessary to raise up to an adequate level of service the SWM practices in El-Minya Governorate.

6) Decision Support System for Water Resources Planning			DSS specific objectives are to refine and disseminate the methodology developed for the integration of environmental and socioeconomic aspects in the analysis of water resources scenarios and development measures, and to contribute to the capacity building of high level and technical staff of National Water Resources Center and of the end-users (EEAA and Ministry of Water Resources and Irrigation)
7) Cultural Heritage Conservation in Sakkara Area Project (Phase I)			
Integrated Industrial Waste Management	EU	EEAA	
Oil Spill Combating Centers (Sharm El-Sheikh and Neweiba)	EU	EEAA	The main objective of the project is to establish a center for prompt-response in the emergency cases, and to set procedures and mechanisms for oil spill combating in Gulf of Aqaba.
Gulf of Aqaba Protectorates Development Program	EU	EEAA	Protection and development of the natural resources and ecological system of the Gulf of Aqaba as an essential base for supporting touristic development in South Sinai is the main target of the project. Additionally, it aims at building the EEAA capacity in the Nature Protection Sector.
St. Katherine National Park	EU	EEAA	Natural, religious and historical heritage protection in St. Katherine National Park and conservation of the ecological systems and natural resources of the area is the project immediate goal. Furthermore, it aims at the urban planning and the rational management of the natural resources of the protectorate.

Building National Capacity in the field of Climate Change (Phase II)	GEF	EEAA	This initiative is a continuation of the previous GEF-assisted Capacity Building Project aimed at institutionalizing climate change issues on the national level. This second phase focuses on assessing technology needs for adaptation measures for coastal zones, agriculture, and water resources. Other activities include studying impacts on coral reefs and human health, and assessing technology needs to alleviate negative effects.
Technology Cooperation Agreement Pilot Project (TCAPP)	UNCSP (U.S. Countries Studies Programme)	EEAA	The TCAPP is charactered to develop consensus among key Egyptian organizations on a set of high priority, climate friendly, and technology issues aimed at successful commercialization. Results are expected to produce candidate technology transfer areas for consideration under the guidance of the National Climate Change Committee. Market development plans for selected technologies are currently underway.
Fuel Cell Bus Demonstration Project	GEF + UNDP	EEAA	The overall objective is reducing the Green House Gases (GHG) emissions and other pollutants. The demonstration in Cairo features eight fuel cell buses with associated hydrogen production and supply facilities. With a focus on technology transfer, Egypt hopes to expand the success of this demonstration in its transportation fleet.
Natural Gas Motorcycles	Industry Canada	EEAA	The project aims at reducing the emission of GHG by converting two stroke engines used in motorcycles to compressed natural gas (CNG). The project is implemented in three phases: identification of capabilities and barriers, demonstration of the technology, and a hand-over and transition to the local market.
(CDM)	World Bank + Embassy of	EEAA	The study aims at identifying institutional national prerequisites for CDM, preparing a pipeline of

	Switzerland in Cairo		projects for implementation under the CDM, and studying the international market for GHG emissions reductions for CDM projects. The scope of this study concentrates on the potential sectors for CDM projects in Egypt, including energy, industry, transportation, waste management and agriculture.
National Implementation Plan Project of POPs convention (NIP)	GEF with the technical Cooperation of the UNIDO	EEAA	The objective of the project is to develop and formulate a National Implementation Plan (NIP) and thereby strengthen national capacity and enhance knowledge and understanding amongst decision makers, managers, the industry, agriculture and the public at large on POPs. By achieving this objective Egypt will be prepared and able to meet its obligations under the Stockholm Convention on POPs according to Article (7) of the convention.

Chapter 11: Awareness /Understanding of Workers and the Public

The aim of this chapter is to provide an overview of the mechanisms mainly legal instruments, programmes, policies and related activities, which are available to provide information to the public concerning the potential risks associated with all stages of the chemical life cycle. The understanding by the workers and the public, of the characteristics of the substances that they deal with on a day to day basis is one of the important ways by which accidents may be forestalled. Workers knowledge of the likelihood of adverse effects that may result form handling the chemical substances brings out the sense of alertness. However, with time and experience disregard for full operational procedures may lead to accidents. To establish working environment standards for each industry, legal provisions have been made to ensure uniformity or adherence.

11.1 Legal information of the Awareness /Understanding of Workers and the Public

First: Law No. 38 of 1967 for public cleanliness

Full title & no. Of the regulation

Law No. 38 of 1967 Concerning Public Cleanliness

Published in the Official Gazette, issue No. 77 on the 31st of August 1967.

Objective and scope of regulation

The main objective of this law and its executive Regulation is to keep cities and villages clean inorder to protect public health, well organized and beautiful, and erase all violations to this effect. The law also aims at simplifying procedures and

granting local councils more authority within the framework of decentralization. This would lead to effective protection of the environment, protection against diseases and preventing their spreading in order to enhance public health.

The scope of the law encompasses prohibiting disposal of garbage and waste in locations other than those dedicated for their disposal. The law also obligates all institutions and individuals to store garbage and waste in special containers and regulates the processes of collecting and transportation of garbage, wastes and dirt, in addition to regulating their disposal. The law also regulates methods of sanitary drainage in locations lacking sewerage networks, setting rules for sanitary waste collection and burning, or draining of sanitary drainage tanks. The law also provides that owners of vacant land pieces should surround them with walls (to prevent their use as sites for throwing garbage).

Relation and dependency of other regulation for protection of public health Law No. 38 integrates with its executive regulation issued by the Minister of Housing Decree no. 134 of 1968 Said Regulation depends on the Law for its existence. Law No. 38 of 1967 integrates with Law No. 4 of 1994 concerning environment protection. Law No. 38 integrates also with Law no. 93 of 1992 and its Executive Regulation concerning discharging of liquid waste and with Law no. 48 for year 1982 concerning the protection of river Nile and waterways from pollution.

Second: Labour Law no. 137 for the year 1981

Full title & no. of the regulation

Law No. 137/1981 Promulgating Labour Law As amended by Law No. 33/1982 and Law No. 119/1982.

Objective and scope of regulation

The objective of Law No. 137 of the year 1981 is to organize employment relations, clarify the duties and rights of the employment agreement's parties and ensure safety and vocational health. The scope of the law is regulating the work relation between the organization and its employees. Moreover, it protects employee's health during working. This Law does not apply to Civil Servants employed by the government or employees of local units or public authorities, except for the provisions concerning vocational health and safety. This law does not apply to household servants and family members who are direct dependants of the employer.

Relevant paragraphs

Paragraphs of Law No. 137/ 1981 dealing with HCW are found in articles: 110, 115, 116, 117, 118 and 120.

Objective and scope of relevant paragraphs

The above-mentioned paragraphs dealt with HCW as shown below

Article No. 110, which stipulates:

On choosing and constructing work sites the terms stipulated in laws granting licenses No. 453. 1954 for industrial and commercial and other stores and No, 371/3956 in respect of the public stores and No. 372/1956 regarding places of entertainment to which are specified by a resolution of the Minister of State for housing after the approval of the ministers of State for Health and Labour force and Training and Interior shall be observed.

Article No. 115, which stipulates:

The firm shall provide the professional health and safety measurements in the places of work in a manner as will guarantee protection against work dangers and damages the following in particular.

a) Mechanical dangers i.e. anything arising from collision or connection between the body of the worker and a solid body such as the dangers of building and construction and the dangers of equipment and machines and the hangers of the means of transport. and circulation including the dangers of collapse.

b) Physical dangers i.e. everything that affects the safety and health of the worker as a result of dangerous factors or damages of nature such as heat, humidity cold, electricity lighting, noise, dangerous radiations, vibration or decrease or increase in the pressure of the atmosphere where work is being performed including the danger of explosion.

(c) Chemical dangers i. e. those dangers arising from the effect of chemical materials used in or leaking to the work atmosphere as the gases, vapours or dust and the liquids existing in the atmosphere of the work including the danger of fire.

Article 116, which stipulates:

The firm shall carry preliminary medical inspection of the worker before joining his job to assert that he is safe and medically fit according to the type of work be shall be entrusted with.

Such an inspection shall be carried by the General Authority for Health Insurance against a due to be charged and specified in a resolution issued by the Minister of State for Labour Force and Training in agreement with the social. Insurance Minister and with a maximum of LE. 2 for each worker to be borne by the firm.

The concerned Minister shall issue a resolution detailing the standards of fitness and health safety on; basis of which the preliminary medical inspection shall be carried.

Article No. 117, which stipulates:

The Firm shall, before appointing a worker inform him of the danger of not abiding with the protection measures stated for his job and provide all personal protection methods while training him how to use them.

Article No. 118, which stipulates:

The Worker shall make use of the protection methods and undertake to take care of those articles in his custody to this-effect and shall more over carry out the instruction set forth to keep healthy and protect him against labour accidents and he shall not commit any act or make any change intended to refrain from the execution of such instructions, misuse, damage or hurt the precaution measures set forth to safeguard and protect his follow-workers.

Without prejudice to the implementation of sanctions by force of other laws a worker shall on violation of such obligations as above shall be subject to the penal responsibility.

Article No. 120, which stipulates:

The competent administrative authority shall, in ease the firm shall fail to carryout the requirements stipulated by the preceding provisions and the regulative decisions there to on the dates specified by that Authority or in case of a sudden danger to the health or safety of the workers, order the firm to be totally or partially closed or one or more machines to be stopped till such time when the danger causes are removed.

Year/date of implementation

The Law was issued in the 6th of August 1981, and published in the Official Gazette at the 13th of August 1981. It was enforced on the 14th of August 1981

Law No. 137 aimed at securing the work environment. Accordingly the law

provided for selecting a work location that suits the institutions activity. The Law also provided for making the vocational health and safety means available at work places to ensure protection against work hazards. The category of workers includes those working in Health Care Institutions. The institutions should ensure the safety and health of the employee through performing a medical inspection for them before their employment. The worker should be informed beforehand about the risks or not adhering to the protection means set for his profession. The Law obligates the worker to use means of protection. The concerned administrative authority in case of prompt significant hazard to the health or safety of employees, could totally or partially close down the institution. The closing or activity stoppage decision would be enforced through administrative way. The concerned administrative authority could remove reasons of the risk directly at the institutions expense.

Responsible authorities for implementation, enforcement and monitoring The Authority responsible for implementation, enforcement and monitoring ***of this Law is mainly the Ministry of Labour and Immigration, assisted by the Ministries of Social Affairs and Health.***

Relation and dependency of other regulation

Law No. 137 for the year 1981 integrates with other laws dealing with HCWM for it charges the authorities responsible for implementing all the other concerned laws in the responsibility of inspecting the suitability of the institutions site to its activity and to inspect its degree of compliance to the standards and terms of vocational health and safety.

Thirdly: law NO. 79/1975 concerning social insurance.

Law No. 79 concerning social insurance published in the official gazNo.35rep.On August 28th 1975 and came into force on September 9th 1975. The objective of law is the insurance of caducity, disability, death, work injuries, illness, unemployment and the insurance of social care for the retired employees.

The scope of law is the civilian employees in the state administrative agency, public bodies, public foundation, and economic units subordinate to public business sector and the employees who are

subject to the law of labour and the workers of domestic service.

The relation and dependency of law No.79/ 1975 to other regulations

LawNo.79/1975 has integrated relation with the decrees of its implementation.

Law of labour No.173/1981.

Law No.47/1978

Forth: The minister of manpower and training decree No.116/1991 concernin2 the definition of the establishments. Safety equipment. Vocational health and trainin2 departments.

The decree No.116/1991 issued on August 20th1991 published in Al Wakae El Masria No. 196rep on September 1 st 1991 and came into force on September 2nd 1991.

The objective of the decree No. 116/1991 is the definition of the establishment, the standard of safety equipment and vocational health. The decree regulates the training for safety and vocational health.

The scope of the decree 116/1961 is the industrial and unindustrialized establishments which employee 50 workers or more in one site. The decree lays down a table determines the establishment, which subject to its provisions including the establishments of service sector such as cleanliness, medical establishment, utilities and public bodies and sanitary drainage.

The Ministerial decrees No.116 of 1991(MOMI) of determines the establishments, Occupational Health and Safety organizations and the authorities responsible for training in the field of Occupational Health and Safety (OHS). This includes training programs at the Industrial Safety Institute (ISI) by MOMI and National Institute of Occupational Health and Safety (NIOHS) for all industrial facilities. Safety instructions are given to all relevant workers; safety posters are rendered at appropriate intervals through the monthly meeting of safety committee, information provided by management to workers and the information, which is passed between colleagues.

The provisions of extension facilities by OHS general department and inspectors, by ministries of MOMI and MOHP seems to increase awareness, however most of the extension services do not include enough information relating to the

chemical hazards and most of the workers are not well aware of the fact that they use chemicals, or that these chemicals are potentially harmful. Courses have been organized for training between OHS department and EEAA for selected target groups.

The articles in the decree No.116/1991

Article2

The establishment which is mentioned in the previous article should set up special department for safety and vocational health adequate to its responsibility, the kind of activity and the number of the employees.

Article 3

The establishment shall be held to fulfill adequate measuring equipment for the dangers, which the employees face as a result of the activity of the establishment

Article 4

The responsibility of the department of safety and vocational health of the establishment is as the following:

A- the department of safety and vocational health should participate with the Specialists in designing and carrying out the construction or the expanding of the establishments taking into the conditions the safety and vocational health of the site as well as the discharging of the industrial waste and this according to laws and its implementation decrees.
It should be taken into consideration all the neighbours of such establishment.

B- laying down annual plan for the programs of safety and vocational health of the establishment to raise its standard.
The following should be taken into consideration:
1-periodical inspection for all work places
-Laying down means of precautions from work dangers and harms
-Doing required measuring by using the adequate equipment to determine such dangers and register it in special registers to be a reference to be followed up according to the system of work.

2- The establishment should notify its department of safety and vocational health before doing any activity cause any danger to the employees or work environment to

insure this activity and give a permission for it on a from prepared by the department of the safety and vocational health in the establishment

In all cases the department of safety and vocational health should inform the owner of the work or the responsible manger or the competent bodies as soon as finding out any danger to avoid it immediately.

- The Environmental Law No. 4/1994 and its Executive Regulation have some articles which: -
- Provide information to workers to protect their health and safety from the risks of chemicals
- Provide information to the public concerning the risks to the environment, health and safety from chemicals, and actions which should be taken in order to protect themselves from chronic or acute exposure to hazardous chemicals, and …
- Raise awareness and educate the public for effective participation in national environmental management initiatives as stated in Agenda 21.

Article 5: in the Environmental Law No. 4/1994 about EEAA responsibilities states:

- Prepare programmes for the environmental education of the public and assist in their implementation.
- Participate with the Ministry of Education in the preparation of training programmes for the protection of the environment within the scope of the various curricula in the basic education stage.

Article 31: in the Executive Regulations of Law No. 4/1994 states:

- Those in charge of the production or displacement of hazardous substances, whether in their gaseous, liquid or solid states, shall take all due precautions to ensure the non occurrence of any environmental damage, and shall be held in particular to observe the following:

    1. Those workers handling such substances are informed of the dangers involved and of the necessary precautions to be taken when handling them,

that they are fully aware of all this information and that they have received adequate training in this regard.

2. That the inhabitants of the regions surrounding the sites where hazardous substances are produced or handled are informed of the possible dangers of these substances and the method of facing such dangers, and that they are familiar with the alarm systems to be used in case of an accident and with the procedures to be followed on its occurrence.

11.2 Related Activities to Provide Information to Workers and the Public

The Ministry of State for the Environment and the Egyptian Environmental Affairs Agency (EEAA) has been working very hard since it was established, to raise the public awareness concerning various environmental aspects.

For this sake, Central Department for Information and Environmental Awareness was specially established, through which different activities were conducted. Not only several Seminars and Workshops were held to raise the public awareness for all the society sectors; but also a number of scientists and journalists were dedicated to come up with creative and interesting TV and Radio programs to serve the purpose of maintaining and leading an environmentally sound life. Competitions on environment were held to increase the country children environmental laws awareness, and attractive awards were made for this purpose. Also, quite a good part in a number of daily newspapers was assigned to serve the idea of environmental orientation through newsletters that provide information and continuous updates on different environmental activities and events.

EEAA endeavored also, in coordination with the Ministry of Education, to include the environmental and chemical awareness in their curricula education.

- Related Activities of EEAA:

Objectives of the Central Department of Information and Environmental Awareness: -

- Increase the environmental awareness among the public;
- Provide environmental education;
- Improve education in the environmental field;
- Provide training and improve capabilities of the employees working in the environmental field; and

- Develop the vital role of the Non-Governmental Organizations (NGOs) as well as the national associations who are working in the environmental field.

- Objectives of the Training and Human Resources Development Department:
  - Supervise the different training sessions given by the different projects (e.g. EPAP, OSP) for the employees in the different departments;
  - Prepare training sessions for the Egyptian Labor Union and for Women and Childhood Affairs;
  - Prepare training sessions for the governmental agencies and authorities in different fields including the safe management of hazardous wastes;
  - Prepare training sessions for the Liberians in the field of environmental awareness as well as in increasing their awareness with the environmental laws;
  - Prepare training sessions for the employees in EEAA and its branches on the way of handling the hazardous chemicals as well as managing the hazardous wastes; and
  - Prepare training sessions for the young media representatives

- Objectives of the Public Awareness Department:
  - Support the environmental papers in the different magazines and papers (in 26 magazine and paper);
  - Issuing a set of newsletters in order to increase the public awareness with the local environmental problems;
  - Issuing a special newsletter for the Egyptian Environmental Affair Agency (EEAA);
  - Organizing a monthly youth competition about the environmental awareness;
  - Preparing and organizing environmental competition programs in the radio and television channels among which is a weekly environmental episode in Good Morning Egypt on the Main Channel;
  - Producing cartoon movies among the educational programs to increase environmental awareness;
  - Preparing on field programs and activities for the schools and faculties;

- Producing video films, documentary movies and CDs dealing with different environmental problems such as the solid wastes, pollution of the River Nile and food pollution; and
- Preparing programs for environmental awareness for the different agencies and non-governmental organizations (NGOs).

- **Objectives of the Student awareness and Media Department:**
  - Preparing seminars and competitions for increasing the environmental education and awareness among the university and school students; and
  - Preparing training sessions for environmental awareness for the environmental committees and the community specialists.

- **Objectives of the Environmental Educational Department:**
  - Preparing a plan to establish the green corner in every Governorate in Egypt;
  - Organizing several fairs for Green Corner in the different Governorates;
  - Preparing several competitions dealing with environmental awareness for the children and youth; and
  - Participating in the environment friends festival.

- **<u>Related Activities of different projects at EEAA:</u>**

Awareness programs for EHSIMS includes:

- Awareness Posters and brochures for hazardous substances (HS) like
  - Material Safety Data Sheet (MSDS) for HS
  - Emergency Response Sheet (ERS)
  - Posters about classification of hazardous substances
- Production of CDs about EHSIMS
  - These CDs are used as awareness raising tools for different partners; also the CDs were distillated to Arab League for dissemination to Arab Countries to promote the project (EHSIMS) among them.
- Field visits to: -
  - Federation of Egyptian Industries
  - National Institute of Occupational Safety &Health (NIOSH)
  - Numerous Egyptian companies from public and private sectors

- For the purpose of increasing the awareness of workers about HS. and the importance of Risk Management and Risk Assessment.
  - Issuing guidelines like:
    - Handily and Storage guidelines for safe storage of H.S.
  - Holding workshops with:-
    - ILO (regarding hazardous substances handling, labeling and storage.
    - Donors (Danida, Finida, UNEP)
    - Civil Defense: for the Arab Civil Defense Officers.
    - Arab League.
    - Industrial facilities.
- The focus of these workshops is to increase awareness among all people of the community to hazardous that may exist during the handling of HS. In addition, one of the workshop objectives is to support industrial facilities in developing their on-

site emergency response plans. Also the workshops aim to help the Civil Defense Authority to be better prepared for emergencies resulting from industrial accidents that threaten to an extend beyond the fence- line of industrial facilities.

Awareness programs for Egyptian Pollution Abatement Project (EPAP):

- The main goal of the project is to assist industry in complying with environmental laws.
- The project has awareness component for increasing awareness on industrial pollution and Abatement which includes:
  - Media seminars for environmental staff and training courses for media staff of special fields and Local media.
  - Field visits for all media staff.
  - Publications, posters, video films, TV programs, etc
  - Supporting 4 NGOs activities.
  - Training different target groups through NGOs, industry, bank staff, Gos, religious leaders, etc….
  - Increasing public awareness through well-trained university graduates in Environmental evenings.
  - Cooperation with Finnish NGOs.

Awareness Programs for Integrated Industrial Solid Waste Management Project (IISWM): -

- Holding workshops for the awareness of works in 6th of October City about the importance of the project for them.

Awareness Programs for Environmental Sector Program for Egypt (ESP): -

- Training in communication of EEAA and Environmental Management Units in governments.
- Supporting decision-makers in environmental information and messages for environmental management.
- Funding strategy for environmental communication program in EEAA and Environmental Management Units in governments.

- Support of the other SPS components, EEAA departments, and governments in environmental information.

- Establishing a window for funding of activities of Non Governmental Organizations. The Egyptian Environmental Affairs Agency (EEAA) has prepared a reference guide for the media representatives about the basic environmental issues so as to be of assistance when dealing with any environmental issue as well as to help them in practicing their vital role in raising the environmental awareness.

Chapter 12: Resources Available and Needed For Chemicals (including POPs) Management

The main aim of the chapter is to provide an overview of resource availability and resource needs within the national government. Table 12.A should addresses the existing resources available within government ministries, agencies and other institutions specifically to address management of chemicals.
Table 12.B addresses the resources estimated to be needed by government ministries, agencies and other institutions in order to fulfill their responsibilities for chemicals management.

The ministries/agencies listed in the first column of each Table are provided as examples. **The tables should be adapted** to include the appropriate Ministries/Agencies in the country.

12.1 Resources Available and Needed in Government Ministries/Institutions

Table 12.A: Resources Available in Government Ministries/Institutions

Ministry / Agency Concerned	Number of Professional Staff Involved	Type of Expertise Available	Financial Resources Available (per year)
Environment		National and International Expertise	
Health			
Agriculture			
Labour			
Trade / Commerce			

Industry	**A- general Organization for Industrial:** -Technical and engineers are 30 Administraterators 10 -Total are 40 B-Ministry of Industry – Environmental Department: - 10 personal ***D-industrial observation and control:*** -45 personal **E-Organization for Standardization and quality control** - 20 personal	National Expertise	-
Finance			
Transport			
Interior / Civil Defense			
Justice			
Customs			
Foreign Affairs	Four	Follow-up of multilateral environmental agreements	-
Other			

List of the available institutes considered as an available resources across the national level:

1. Ministry of State for Scientific Research:

1. Academy of Scientific Research and Technology
2. National Research Center
3. Mubarak City for Scientific Research & Technological Applications
4. Genetic Engineering and Biotechnology Research Institute
5. Informatics Research Institute
6. National Institute for Oceanography & Fisheries
7. Petroleum Research Institute

8. Electronics Research Center
9. Research Institute for Ophthalmology
10. Theodore Bilharz Research Institute
11. National Research Institute for Astronomy & Geophysics
12. National Institute for Standards
13. National Institute for Remote Sensing & Space Science
14. Central Metallurgical Research & Development Institute
15. Technical & Technological Consultancies, Studies & Research Fund

2. Ministry agriculture & Land Reclamation:

Agriculture Research Center

1. Horticulture Research Institute
2. Plant Protection Research Institute
3. Plant Pathology Research Institute
4. Field Crops Research Institute
5. Soil & Water Research Institute
6. Animal Production Research Institute
7. Animal Health Research Institute
8. Veterinary Serum & Vaccine Research Institute
9. Animal Reproduction Research Institute
10. Agricultural Extension & Rural Development Research Institute
11. Sugar Crops Research Institute
12. Food Technology Research Institute
13. Agriculture Economics Research Institute
14. Cotton Research Institute
15. Agriculture Engineerin2 Research Institute
16. Agriculture Genetics Engineering Research Institute
17. Central Agriculture Pesticides Laboratory
18. Central Laboratory for Design & Statistical Analyses
19. Central Laboratory for Food & Feed
20. Central Laboratory for Agriculture Expert Systems
21. Central Laboratory for Development & Research of Date Palms
22. Central Administration for Experimental & Research Stations
23. Central Laboratory for Alkaline & Saline Soils
24. Central Laboratory for Agriculture Research

3. Ministry of Irrigation & Water Resources:

The National Center for Water Research.

- Water Management and Irrigation Systems Research Institute
- Canal Maintenance Research Institute
- Drainage Research Institute

- Research Institute for Ground Water
- Nile Research Institute
- Hydraulic Research Institute
- Survey Research Institute
- Mechanical and Electrical Research Institute
- Research Institute for Coast Protection
- Constructure Research Institute
- Environment & Climate Research Institute

4. Ministry of Health & Population:

1. National Organization for Drug Control & Research
2. Dental Research Center
3. Tropical Diseases Research Institute
4. Diabetes Institute
5. Nutrition Institute
6. Research Institute of Medical Entomology
7. Institute for the Deaf & Dumb
8. Field & Applied Research Institute
9. Cairo Demographic Center
10. Institute for Environmental Monitoring and Occupational Health Safety

5. Ministry of Industry & Technological Development:

1. Tebbin Institute for Metallurgical Studies
2. Egyptian Geological Survey & Mining Authority
3. Administration of Chemistry
4. Egyptian Organization for Standardization & Quality Control

6. Ministry of Electricity & Power:

1. Egyptian Atomic Energy Authority
2. Nuclear Materials Authority
3. The Egyptian Renewable Energy Development Organization
4. Electricity Authority of Egypt - High Voltage Research Center

7. Ministry of Housing, Utilities and Urban Communities:

1. Housing, Building and Planning Research Center
2. National Organization for Potable Water & Sewage
3. Organization for Research & Reconstruction Studies

8. Ministry of Transportation:

1. National Institute of Transport
2. Research & Consultancies Center for Marine Transportation Sector.
3. The National Authority for Roads & Bridges

9. Ministry of Civil Aviation:

1.The Meteorological Authority

10. .Ministry of Petroleum

1. Ghamra Research Center - Misr Petroleum Company - EGPC
2. ENPPI
3. PETROJET
4. Organization for Energy Conservation & Planning

11. Ministry of Planning

Institute of National Planning

12. Ministry of Manpower and Immigration

National Center for Occupational Safety & Health

13. Ministry of Interior

Police Research Center

Police Academy

14. Ministry of Culture

Research & Maintenance of Monuments Center

15. Ministry of Social Affairs

The National Center for Social & Criminal Studies

16. Ministry of Justice

Administration of Forensic Medicine

17. Suez Canal Authority

Department of Planning, Research & Studies.

12.2 Resources Needed by Government Institutions to Fulfill Responsibilities related to Chemicals Management

Table 12.B: Resources Needed by Government Institutions to Fulfill Responsibilities Related to Chemicals Management

Ministry / Agency Concerned	Number / Type of Professional Staff Needed	Training Requirements
Environment		
Health		
Agriculture		
Labour		
Trade/Commerce		
Industry	***General organization for Industry:*** Require 30 higher education stuff (engineers- agricultural-	- Hazardous substances and waste managements and safe disposal courses. -Temporary storage for

	scientific – environmental scientific)	hazardous substances and waste course. -Courses on BEP in field of hazardous chemical especially POPs chemicals. -Courses on BAT for minimization of hazardous emissions -Cleaner Production. -Courses about monitoring and inventories of POPs – possible final safe disposal of POPs.
Finance		
Transport		
Interior/Civil Defense		
Justice		
Customs		
Foreign Affairs		
Other		

Egypt has conducted several research work in the field of prevention and elimination of POPs chemicals and the availability to use more safe alternative chemicals less dangerous.

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4. The Statistical Year Book 1995-2002, June 2003.

Annex 1
Abbreviations/Acronyms

ARE	*Arab Republic of Egypt*
AEA	*Atomic Energy Authority*
APELL	***Awareness and Preparedness for Emergencies at Local Level***
BOD	***Biological Oxygen Demand***
BAT	***Best Available Technique***
BEP	***Best Environment Practice***
COP	***Conference of Parties***
CAIP	***Cairo Air Improvement Project***
CIDA	*Canadian International Development Agency*
CAS	***Chemical Abstract Services***
CAPL	***Central Agricultural Pesticides Laboratory***
CAPMS	*Central Agency for Public, Mobilization and Statistics*
CCC	*Cairo Central Center*
CSD	*Commission for Sustainable Development*
DO	*Developed Oxygen*
DDT	*1,1'- (2,2,2-trichloroethylidene) bis (4-chlorobenzene)*
DSS	*Decision Support System*
ECC	*Environmental Control Center*
ERS	*Emergency Response Sheet*

ER	*Executive Regulations*
EEPP	*Egyptian Environmental Policy Program*
EEAA	*Egyptian Environmental Affairs Agency*
EHSIMS	*Egyptian Hazardous Substances Information & Management System*
EIA	***Environmental Impact Assessment***
EOS	***Egyptian Organization for Standardization and Quality Control***
EPAP	*Industrial Pollution Abatement Project*
EPA	*Environmental Protection Agency-US*
EQS	*Environmental Quality Sector at EEAA*
ESP	*Environmental Sector Program*
ERS	*Emergency Response Sheet*
EU	*European Union*
EIMP	*Environmental Information Monitoring Program*
FAO	*Food and Agriculture Organization of the United Nations*
GATT	*General Agreement on Tariffs and Trade*
GEF	*Global Environmental Facilities*
GOFI	*General Organization for Industrialization*
GIS	*Geographical Information System*
GOCIE	*General Organization for control of Imports and Exports*
HCB	*HexaChloro Benzene*
HS	*Hazardous Substances*
HW	*Hazardous Wastes*

HCW	*HealthCare Wastes*
IDSC	*Information and Decision Support Center*
IE/PAC	*Industry and Environment Program Activity Center*
ICA	*Industrial Control Authority*
IFCS	*Intergovernmental Forum on Chemical Safety*
IISWM	*Integrated Industrial Solid Waste Management*
ILO	*International Labor Organization*
IOMC	*Inter-Organization Program for the Sound Management of Chemicals*
IPCS	*International Program on Chemical Safety*
IPM	*International Pest Management Program*
IRPTC	*International Register of Potentially Toxic Chemicals*
ISG	*Intersectional Group of the Intergovernmental Forum on Chemical Safety*
ISI	*Industrial Safety Institute*
ISO	*International Organization for Standardization*
JICA	*Japanese International Cooperation Agency*
MOA	*Ministry of Agriculture*
MOD	*Ministry Of Defense*
MOE	*Ministry Of Environment*
MOEE	*Ministry Of Electricity & Energy*
MOF	*Ministry Of Finance*
MOFA	*Ministry Of Foreign Affairs*
MOFT	*Ministry Of Foreign Trade*

MOHP	*Ministry of Heath and Population*
MOHUUC	*Ministry of Housing, Utilities and Urban Communities*
MOI	*Ministry Of Industry*
MOIn	*Ministry Of Interior*
MOMI	*Ministry Of Manpower and Immigration*
MOP	*Ministry Of Petroleum*
MOT	*Ministry of Transportation*
MIWR	*Ministry of Irrigation and Water Resources*
MSEA	*Ministry of State for Environment Affairs*
MSDS	*Material Safety Data Sheet*
NGO	*Non-governmental organization*
NIOHS	*National Institute of Occupational Health and Safety*
NWQAM	*National Water Quality & Availability Management Project.*
NP	*National Profile*
NIP	*National Implementation Plan*
NWRC	*National Water Research Center*
NRC	*National Research Center*
NRI	*National Research Institute*
OECD	*Organization for Economic Co-operation and Development*
OEWG	*Open-Ended Working Group*
OHS	*Occupation Health and Safety*

PCB	*Poly Chlorinated Biphenyls*
PCDD/ PCDF	*Poly Chlorinated Dibenzo Dioxins and Dibenzo Furans*
POPs	*Persistence Organic Pollutants*
PIC	*Prior Informed Consent*
R & D	*Research and Development*
SDC	*Swiss Agency for Development & Cooperation*
TDS	*Total Suspended Solid*
TS	*Total Suspended*
TSP	*Total Suspended Particles*
TT	*Technology Transfer*
UNEP	*United Nations Environmental Program*
UNIDO	*United Nations Industrial Development Organization*
UNITAR	*United Nations Institute for Training and Research*
WHO	*World Health Organization*
WTO	*World Trade Organization*
WQI	*Water Quality Information*
VOC's	*Volatile Organic Carbon*

Annex (2)

List of Pesticides Not Allawed To Be Tested, Imported, Sold, Formulated Or Used In Any Form (Technical Or Formulated) That Are Classified Group B " Probable Human Carcinogen " & Group C " Possible Human Carcinogen " According To The Usepa And Iarc/Who Classifications Ministerial Decree NO 874 / 1996 And Pesticide Committee

GROUP B: Probable Human Carcinogen:

COMMON NAME & CAS No.	*CHEMICAL NAME*	USES	*TRADE NAMES*	*Type of Danger*	Degree of Danger *According to WHO* *Classification*	*Control Standards for Handling*
1. Propargite [2312-35-8]	*2- (4-tert-buty phenoxy) cyclo-hexyl prop-2-ynyl sulfite*	Acaricide	*Comite 73%EC-Comite 30% WP Comite El Nasr 75%EC- Propargite Technical*	*Toxic Probable Carcinogen (B)*	Slightly Hazardous (SH) Class III	*Banned*
2. Mancozeb [8018-01-7]	*Manganese ethylene bis-(dithiocarbamate) (polymeric) complex with zinc salt*	*Fungicide*	*Nemispr 80%WP-Dithane M 45 80%WP-Dithane M 45 KZ 80%-Tridex 45% Fl, 75%DG, 80%WP-Ferrocopper 90%WP-Trimiltox Forte 40% WP Galben Mancozeb 58 % WP-Mancoper 69.5% WP-Ridomil Mancozeb 72%-58%WP-Sandocore M 69.1%WP-Riboset M 67.2WP- Acrobat Mancozeb 69 % WP-Mancozeb Tech.88% Subthane 82.6 % WP*	*Toxic Probable Carcinogen (B)*	Slightly Hazardous (SH) Class III	*Banned*
3. Maneb [12427-38-2]	*Manganese ethylene bis – (dithiocarbamate)*	*Fungicide*	*Comaprop 37% WP-Sunphaneb 70% WP – Haris S 65.5 % WP-Maneb Tech. 80%*	*Toxic Probable Carcinogen (B)*	Slightly Hazardous (SH) Class III	*Banned*
4. Chlorothalonil	*Tetrachloro isophthalonitrile*	*Fungicide*	*Bravo 50% WP-Daconil 75 % WP-Daconil KZ 75 % WP-Dacobre 50% WP*	*Toxic Probable Carcinogen (B)*	Slightly Hazardous (SH) Class III	*Banned*

COMMON NAME & CAS No.	*CHEMICAL NAME*	USES	*TRADE NAMES*	*Type of Danger*	Degree of Danger *According to WHO* *Classification*	*Control Standards for Handling*
[1897-45-6]						
5. Folpet [133-07-3]	*N-(trichloromethyl) thiophthal-imide*	*Fungicide*	*Mikal 75 % WP*	*Toxic Probable Carcinogen (B)*	Slightly Hazardous (SH) Class III	*Banned*
6. Procymidone [32809]	*N- (3,5dichlorophenyl) 1,2-dimethyl cyclopropane-1,2-dicarboximide*	*Fungicide*	*Sumisclex 50% WP-Sumisclex 50% DFL*	*Toxic Probable Carcinogen (B)*	Slightly Hazardous (SH) Class III	*Banned*
7. Iprodione [36734-19-7]	*3-(3,5-dichlorophenyl)-N-iso-propyl 2,4-dioxoimidazolidine-1-carboxamide*	*Fungicide*	*Rovral 50% WP*	*Toxic Probable Carcinogen (B)*	Slightly Hazardous (SH) Class III	*Banned*
8. Captan [133-06-2]	*N-(trichloromethy thio) Cyclo-hex-4-ene-1,2-dicaroximide*	*Fungicide*	*Monceren Combi 70 % SD-Captan 50 % WP-Vitavax 300 75% WP*	*Toxic Probable Carcinogen (B)*	Slightly Hazardous (SH) Class III	*Banned*
9. Cyproconazole [94361-06-5]	*(2RS,3RS;2RS,3RS)-2(4-chloro-phenyl)-3-cyclopropyl-I-(IH-1,2,4-triazole-I-yI) butan-2-oI*	*Fungicide*	*Atemi SL 10%-Atemi s 80.8%*	*Toxic Probable Carcinogen (B)*	Slightly Hazardous (SH) Class III	*Banned*
10. Alachlor [15972-06-5]	*2-chloro-2;6-diethyl-N-methoxy-methyl acetanilide*	*Fungicide*	*Lasso 48% EC-Lasso 55% Suspen.*	*Toxic Probable Carcinogen (B)*	Slightly Hazardous (SH) Class III	*Banned*
11. Propoxur [114-26-1]	*2-isopropoxyphenyl methyl-carbamate*	*Insecticide*	*Unden 200 20% EC*	*Toxic Probable Carcinogen (B)*	Slightly Hazardous (SH) Class III	*Banned*

GROUP (C): Possible Human Carcinogen

COMMON NAME & CAS No.	*CHEMICAL NAME*	USES	*TRADE NAMES*	*Type of Danger*	Degree of Danger *According to WHO* *Classification*	*Control Standards for Handling*
1) Dimethoate [60-51-5]	*O,O-dimethyl S-methylcarbamoyl-metyl phosphorodithioate*	*Insecticide*	*Roger 40% EC-Saydon 40%EC-Perfikthion 40% EC-Teltox 40% EC-Dimethoate KZ 100, 40% EC-Digor 40% EC-B-I 58 40% EC-Comethoate 40% EC-Nasrthoate 40% EC-Roxion 40% EC-Roxion ElNasr 40% EC-Romethoate 40% EC-Bambythoate 40% EC-Dimethoate Tech.*	*Toxic Possible Carcinogen (C)*	**Highly Hazardous (HH) Class I**	*Banned*
2) Cypermethrin [52315-07-8]	*(RS) a-Cyano-3-phenoxybenzyl-(IRS)-cis-trans-3-(2,2-dichlorovinyl) 1,1-dimethyl cycloprpanecarboxylate*	*Insecticide*	*Polytrin 20%EC-poltyrin KZ 20% EC-Fenom 20% EC-fenom KZ 20%EC-Fastac 25% EC-Fastac Local 25%EC-Bestox 15%EC-Bestox 20%FL-Cympush% 10% EC-Cympush KZ 10%EC-sher 30%EC sher KZ 10, %EC-Ripcord 30%EC-Ripcord Local 30%EC-Cyperco 10%EC-Nurelle 20%EC-Cypermethrin Technical*	*Toxic Possible Carcinogen (C)*	**Highly Hazardous (HH) Class I**	*Banned*
3) Carbaryl [61-25-2]	*1-naphthyl methylcarbamate*	*Insecticide*	*Sevin 85% WP-Sevin KZ 85% WP*	*Toxic Possible Carcinogen (C)*	**Highly Hazardous (HH) Class I**	*Banned*
4) Tetrachlorovinphos [961-11-5]	*(Z)-2-chloro-1-(2,4,5-trichloro-phenyl) vinyl dimethylphosphate*	*Insecticide*	*Gardona 70% EC*	*Toxic Possible Carcinogen (C)*	**Highly Hazardous (HH) Class I**	*Banned*
5) Etofenprox [80844-07-1]	*2-(4-ethoxyphenyl)-2-methyl propyl 3-phenoxybenzyl ether*	*Insecticide*	*Trebon 30% EC*	*Toxic Possible Carcinogen (C)*	**Highly Hazardous (HH) Class I**	*Banned*

COMMON NAME & CAS No.	***CHEMICAL NAME***	USES	***TRADE NAMES***	***Type of Danger***	Degree of Danger ***According to WHO Classification***	***Control Standards for Handling***
6) Dicofol [115-32-2]	*2,2,2-trichloro-1,1-bis(4-chloro-phenyl)ethanol*	*Acaricide*	*Kelthame 18.5% Ec-Kelthame 35% wr – Tedifol 24%EC – Kelthame kz 18.5 % EC -*	*Toxic Possible Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*
7) Clofentezine [74115-24-5]	*3,6-bis(2-chlorophenyl)1,2,4,5-tetrazine*	*Acaricide*	*Apollo 50% SC*	*Toxic Possible Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*
8) Fosetyl-Aluminium [9148-2408]	*Ethyl hydrogen phosphonate*	*Fungicide*	*Aliettc 80% WP-Mikat 75% WP-Mikat-M 70% WP-fosctyl Aluminium Technical*	*Toxic Possible Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*
9) Propiconazole *[60207-90-1]*	*(+)-1-(2,4-dichlorophenyl)-4-propyl-1,3-dioxane-2-ylmethyl)-1-(1H-1,2,4-triazole-1-yl)butan-2-ol*	*Fungicide*	*Tilt 10 & 25% EC*	*Toxic Possible Carcinogen (C)*	**Moderately Hazardous (MH) class II**	*Banned*
10) Triadimenol [55219-65-3]	*(1RS,2RS; 1RS,2RS)-1-(4-chloro-phenoxy)-3,3-dimethyl-1-(IH-1,2,4-triazole-1-yl)butan-2-ol*	*Fungicide*	*Bayfidan 25% EC-Bayfidan Mo 20% SC*	*Toxic Possible Carcinogen (C)*	**Slightly Hazardous (SH) Class III)**	*Banned*
11) Benomyl [17804-35-2]	*Methyl-1-(butylcarbamoyl)benzimida-zol-2-yl carbamate*	*Fungicide*	*Benlate 50% WP-Benomyl Technical*	*Toxic Possible Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*
12) Hexaconzaole [79983-71-4]	*(RS-2-(2,4-dichlorophenyl)-1-(1H-1,2,4-triazol-1-yl) henxan-2-ol*	*Fungicide*	*Anvil 5% SC*	*Toxic Possible Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*
13) Oxadixyl [77732-09-3]	*2-methoxy-N-(2-oxo-1,3-oxazolidin-3-yl) arcet-2;6-xylidide*	*Fungicide*	*Sandofan Paste – Oxadixyl Technical*	*Toxic Possible Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*

COMMON NAME & CAS No.	***CHEMICAL NAME***	USES	***TRADE NAMES***	***Type of Danger***	Degree of Danger ***According to WHO Classification***	***Control Standards for Handling***
14) Tebuconazole [107534-96-3]	*(RS)-1-p-chlorophenyl-4,4-dimethyl-3-(IH-1,2,4-triazol-l-yl methyl)pentan-3-ol*	*Fungicide*	*Raxil 2% DS-Raxil 2.5% FS-Raxil 2% WS-Folicur 25% EC*	*Toxic Probable Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*
15) Triadimefon [143121-43-3]	*1-(4-chlorophenoxy)-3,3-dimethyl-l-(IH-1,2,4-triaazol-l-yl methyl) pentan-3-01*	*Fungicide*	*Bayleton 25%WP-Bayleton Local 25% WP – Antracol Combi 71.5% WP*	*Toxic Probable Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*
16) Terbutryn [883-50-0]	*N2 -tert-butyl-N4 -ethyl-6-methylthio-1,3,5-triazine-2,4-diamine*	*Herbicide*	*Igran 80% WP-Topogard 50% WP*	*Toxic Probable Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*
17) Atrazine [1912-24-9]	*6-chloro- N2 –ethyl- N4 –isopropyl-1,3,5-triazine-2m4-diamine*	*Herbicide*	*Gesaprim 50%-80% WP-Gesaprim Local 80% WP-Primextra 50% WP-Atrazix Local 80% WP Gesapax Combi 80% WP-Atrazine Tech.*	*Toxic Probable Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*
18) Trifluoralin [1582-09-8]	*A,a,a-trifluoro-N-(1-imidazol-l-yl-2-prpoxethylidene)-o-toluidine*	*Herbicide*	*Digermin 48% EC-Treflan 48% EC-treflex Local 48%EC- Triflouralin Technical*	*Toxic Probable Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*
19) Bromacil [314-40-9]	*5-bromo-3-sec-butyl-6-methyl uracil*	*Herbicide*	*Hyvar X 80% WP-Bromacil Technical*	*Toxic Probable Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*
20) Metolachlor [51218-45-2]	*2-chloro-6-ethyl-N-(2-methoxy-1-methyl ethyl)acet-0-toluidide*	*Herbicide*	*Pyradur 58%.6% WP-Cororan Extra 50% WP-Dual 96% EC*	*Toxic Probable Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*

COMMON NAME & CAS No.	***CHEMICAL NAME***	USES	***TRADE NAMES***	***Type of Danger***	Degree of Danger ***According to WHO Classification***	***Control Standards for Handling***
21) Oxyfluorfen [72874-03-3]	*2-chloro-a,a,a-trifluoro-p-tolyl-4-nitro-phenyl ether.*	*Herbicide*	*Goal 24% EC-Goal KZ 24%*	*Toxic Probable Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*
22) Oxadiazon [19666-30-9]	*5-tert-bytyl-3-(2m4-dichloro-5-isoprpoxy phenyl)-1,3,4-oxadiazol-2(3H)-one*	*Herbicide*	*Ronstar 25% EC- Ronstar KZ 25% EC- Ronstar PL 40% EC-Oxadiazon Tech.*	*Toxic Probable Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*
23) Bromoxynil, [1689-84-5], [1689-99-2]	*3,5-dibromo-4-hydroxy benzonitrile*	*Herbicide*	*Brominal 24% EC-Pardener 22.5% EC*	*Toxic Probable Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*
24) Linuron [330-55-2]	*3-(3,4-dichlorophenyl)-1-methoxy-1-methylurea*	*Herbicide*	*Afalon S 47.5 % WP*	*Toxic Probable Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*
25) Simazine [122-34-9]	*6-chloro-N2,N4-diethyl-1,3,5-triazine-2,4-diamine*	*Herbicide*	*Trevi 10 30% SC*	*Toxic Probable Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*
26) Pendimethalin [40487-42-1]	*2-N-(1-ethylpropyl)-2,6-dinitro-3,4-xylidide*	*Herbicide*	*Stomp 50%EC - stomp KZ 50%EC-pendimethalin Tech*	*Toxic Probable Carcinogen (C)*	**Slightly Hazardous (SH) Class III**	*Banned*
27) DiChlobenil [1194-65-6]	*2,6-dichlorobenzonitrile*	*Herbicide*		*Toxic Probable Carcinogen (B)*	**Slightly Hazardous (SH) Class III**	*Banned*

List of Banned Chemicals and Pesticide Formulations Used for Agricultural Pest Control According To The Egyptian Pesticide Committee And International Organizations Decisions, October 1, 1995 & Ministerial Decree No. 55/1996 .

COMMON NAME & CASRN	*CHEMICAL NAME*	*USES*	*TRADE NAMES*	*Type of Danger*	*Degree of Danger According to WHO Classification*	*Control Standards for Handling*
1. DDT (Zeidane) [50-29-3]	*P,P'-1,1,1-trichloro-2,2-bis-(4-chloro-phenyl)ethane*	*Insecticide*	*DDT-Anofex-Dedelo-Zerdane-pentachlorine-Chlorophenothane-Rukseam-Supracide Combi-Altracide-Cotton Dust. Discontinued names : Digmar-Heliotox-Genitox-Gesapon-Gesarol-Gexarex-Gyron-Ixodex-Copsol-Neocid-Damecta-Didimac-Arkotine-Noita Koisumu*	*Toxic Probable Carcinogen*	**Moderately Hazardous (MH)**	*Banned*
2. Lindane [Y-BCH,Y-HCH) [319-86-8]	*Amma isomer of 1,2,3,4,5,6-hexa-chloro cyclohexane*	*Insecticide*	*Lindane-Lindax-Acitox-Gammaphex-Hammer-Gammaxan-Lintox-Isotox-Gammex-Lidax-Chimac-germate Plus-Lindasun-Gamma-Up-Gamma mean-Lindagam-Sulbenz-Silvanol-Novigam. Discontinued names : Lindacol-Lindol-Nexit – Gammalin-Agronexit*	*Toxic Probable Carcinogen*	**Moderately Hazardous (MH)**	*Banned*
3. Camphechlor (Toxaphene) [8001-35-2]	*Polychlorcamphene*	*Insecticide*	*Toxaphene –Motox-Heliotox(mixed withDDT) Toxakil*	*Toxic Probable Carcinogen*	**Moderately Hazardous (MH)**	*Banned*
4. Aldrin [309-00-2]	*1,2,3,4,10-hexachloro-1,4,4,4a, 5,8,8a-hexahydro-exo-1,4-endo-5,8-dimethano-naphthalene*	*Insecticide*	*Aldrin – Octalene*	*Toxic Probable Carcinogen*	**Moderately Hazardous (HH)**	*Banned*

COMMON NAME & CASRN	*CHEMICAL NAME*	*USES*	*TRADE NAMES*	*Type of Danger*	*Degree of Danger According to WHO Classification*	*Control Standards for Handling*
5. Heptachlor [76-44-8]	*1,4,5,6,7,8,8-heptachloro-1,3a4,7,7a-tetra hydro-4,7-methanoidene.*	*Insecticide*	*Dieldrin-Octaloxe*	*Toxic Probable Carcinogen*	**Moderately Hazardous (MH)**	*Banned*
6. Heptachlor epoxide [76-44-8]	*Oxidation product of heptachlor*	*Insecticide*	*Heptachlor- Biarbinex-phennotox-drinox-Heptox*	*Toxic Probable Carcinogen*	**Moderately Hazardous (MH)**	*Banned*
7. Endrin (Nendrin) [72-20-8]	*1,2,3,4,10-hexachloro-1,4,4a,5,8,8a-octa hydro-exo-1,4-exo-5,8-dimethanonaphthalene.*	*Insecticide*		*Toxic Probable Carcinogen*	**Moderately Hazardous (HH)**	*Banned*
8. Isodrin [465-73-6]	*1,2,3,4,10-hexachloro-6,7-epoxy-1,4,4a-5,6,7,8,8a-octahydro-exo-1,4exo-5,8-dimethanonaphthalene.*	*Insecticide*	*Endrin-Hexadrin-Endrex*	*Toxic Probable Carcinogen*	**Discontinued for use as pesticide**	*Banned*
9. Chlordane [57-74-9]	*1,2,4,5,6,7,8,8-octahloro-2,3,3a,4,7,7a-hexahydro-4,7-methanoindene*	*Insecticide*	*Isodrin*	*Toxic Probable Carcinogen*	**Moderately Hazardous (MH)**	*Banned*
10. Ethylan [72-74-9]	*1,1-dichloro-2,2-bis-[ethylphenyl]ethane*	*Insecticide*	*Chlordane-Octachlor-Intox*	*Toxic Probable Carcinogen*	**Highly Hazardous (HH)**	*Banned*
11. Vamidothion [2275-23-2]	*O,O-dimethyl-2 (1-methylcarbamoylethyl-thio) ethyl phosphorothioate*	*Insecticide*	*Perthane*	*Toxic Probable Carcinogen*	**Moderately Hazardous (MH)**	*Banned*
12. Dieldrin [60-57-1]	*1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a-5,6,7,8,8a-octahydro-endo-1,4-exo-5,8 dimethanonaphthalene*	*Insecticide*	*Kilval-Kilvar-Trucidor*	*Toxic Probable Carcinogen*	**Moderately Hazardous (HH)**	*Banned*

COMMON NAME & CASRN	*CHEMICAL NAME*	*USES*	*TRADE NAMES*	*Type of Danger*	*Degree of Danger According to WHO Classification*	*Control Standards for Handling*
13. Chlordecone [143-50-0]	*1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctylhydro-1,3,4-metheno-2H-cyclobuta[cd]pentalene*	*Insecticide*	*Kepone*	*Toxic*	**Discontinued for use as pesticide**	*Banned*
14. Isobenzan [297-78-9]	*1,3,4,5,6,7,8,8-octachloro-1,3,3a-4,7,7a-hexa-hydro-4,7-methanoisobenzofuran*	*Insecticide*	*Telodrin*	*Toxic*	**Discontinued for use as pesticide**	*Banned*
15. Polychloroterpenes [2275-23-2]	*Heptachloro-2,2-dimethyl-3-methylene-norborane(chloronated mixed terpenes*	*Insecticide*	*Stobane*	*Toxic Probable Carcinogen*	**Moderately Hazardous (MH)**	*Banned*
16. Mirex [2385-85-5]	*1,1a,2,3,3a,4,5,5,5a,5b,6-dodeca-chlorooctahydro-1,3,4-methano-IH-cyclobutapenalene*	*Insecticide*	*Mirex-Dechlorane*	*Toxic Probable Carcinogen*	**Discontinued for use as pesticide**	*Banned*
17. Acrylonitrile [107-13-1]	*2-propenenitrile*	*Insecticide*	*Ventox – Acrylon-Carbacryl*	*Toxic Probable Carcinogen*	**Not Classified**	*Banned*
18. .Aramite [140-57-8]	*2-chloroethyl-2[4-(1,1-dicethyl-ethyl) phenoxy]-1-methylethyl sulphate*	*Acaricide*	*Aramite*	*Toxic Probable Carcinogen*	*Discontinued for use as pesticide*	*Banned*

COMMON NAME & CASRN	*CHEMICAL NAME*	*USES*	*TRADE NAMES*	*Type of Danger*	*Degree of Danger According to WHO Classification*	*Control Standards for Handling*
19. Dibromochloro-propane [96-12-8]	*1,2-dibromo-3-chloropropane*	*Nimatocide*	*Fumazone –Nemagone*	*Toxic Probable Carcinogen*	**Highly Hazardous (HH)**	*Banned*
20. Chloropicrine [76-06-2]	*Trichloronitromethane*	*Fumigant*	*Telone-Vorlex-Ditrapex*	*Toxic Probable Carcinogen*	**Moderately Hazardous (MH)**	*Banned*
21. Leptophos [2275-23-2]	*O-2-bromo-2,5-dichlorophenyl-O-methyl-phenylphosphonothioate*	*Insecticide*	*Phosvel – Abart*	*Extremely Toxic Delayed neurotoxic*	**Highly Hazardous (HH) la**	*Banned*
22. Chlorobenzylat [510-15-6]	*Ethyl-4-,4-dichlorobenzilate*	*Acaricide*	*Kop Mite – Acarben – Akar – Folpex – Benzilan – Benz – O – Chlor*	*Toxic*	**Moderately Hazardous (MH)**	*Banned*
23. Pentachloro phenol (sodium pentchloro-phenate) [608-93-5]	*Pentachlorophenoxy sodium or sodium pentachlorophenate*	*Fungicide & Bactericide*	*Mitrol – Permatox – Dowicide – Santobrite – Napctor*	*Toxic Probable Carcinogen*	**Moderately Hazardous (MD)**	*Banned*
24. Crimidine [535-89-7]	*2-chloro-N,N-6trimethyl-4-pyrimineamine*	*Rodenticide*	*Castrix*	*Toxic*	**Discontinued for use as pesticide**	*Banned*
25. Fluoroacetic acid and its derivatives [62-74-8]	*Sodium monofluoroacetate or*	*Rodenticide*	*Fratol – Yasoknok – Rodex – Baran*	*Toxic*	**Highly Hazardous (HH)**	*Banned*
26. Fenoprop (silvex)	*2-(2,4,5-trichlorophenoxy) proppionic acid*	*Herbicide*	*Kuron – Fruitone T*	*Toxic Probable Carcinogen*	**Moderately Hazardous (MH)**	*Banned*

COMMON NAME & CASRN	*CHEMICAL NAME*	*USES*	*TRADE NAMES*	*Type of Danger*	*Degree of Danger According to WHO Classification*	*Control Standards for Handling*
[93-72-1]						
27. 2,4,5-T [93-76-5]	*2,4,5-trichlorophenoxy acetic acid*	*Herbicide*	*Nettle Ban – Selvoxone – Ban Dok-Spontox*	*Toxic Probable Carcinogen*	**Moderately Hazardous (MH)**	*Banned*
28. Morphamqu at [6436-83-3]	*1,1-bis-2-(3,5-dimethyl-4-morpholinyl)-oxoethyl-4-4-bipyridilium*	*Herbicide*	*Morphoxone*	*Toxic)*	**Discontinued for use as pesticide**	*Banned*
29. Lead Compounds [7784-40-9]	*Lead arsenate – Lead arcenite*	*Insecticid*	*Gypsine – Suprabel – Talbot.*	*Toxic*	**Moderately Hazardous (MD)**	*Banned*
30. Mercuric Compounds [7487-94-7], [21908-53-2],[7784-40-9],[7564-30-7]	*Mercuric chloride, Mercurous oxide, Mercurous chloride, phenl mercury salycylate, Methoxy ethyl mercury acetate*	*Fungicide*	*Merfusan – Mersil – Santar – Cyclosan – Calomel – Mercuran – Merculine*	*Toxic*	**Extremely Hazardous (EH)**	*Banned*
31. Arsenicals [12002-03-8],[7784-40-9],[75-60-5],[1327-53-3] [7778-39-4],[7778-44-1]	*Copper acetoarsenite, Lead arsenate, Lead arsenite, Methyl arsenc acid, Arsenic acid, Arsenic trioxide, Potasium, Sodium, & Calcium*	*Fungicide*	*Paris green – Gypsine – suprabel – daconate – Ansar*	*Toxic Probable Carcinogen*	**Extremely Hazardous (EH)**	*Banned*
32. Cadmium Compounds [12001-20-6], [7784-40-9]	*Cadmium calcium copper zinc chromate complex , cadmium chloride, cadmium succinate, cadmium sebacate*	*Fungicide*	*Crab turf – Caddy – Cadiminate – Kormad*	*Toxic*	**Not Classified**	*Banned*
33. Carbon tetra	*Carbon tetrachloride*	*Solvent*	*Not allawed to be used as a solvent in*	*Toxic Probable*	**Highly**	*Banned*

COMMON NAME & CASRN	*CHEMICAL NAME*	*USES*	*TRADE NAMES*	*Type of Danger*	*Degree of Danger According to WHO Classification*	*Control Standards for Handling*
chloride (solvent) [56-23-5]			*pesticide formulations*	*Carcinogen*	**Hazardous (HH)**	
34. Zineb [12122-67-7]	*Zine ethylene bis (dithiocarbamate)*	*Fungicide*	*Dithane Z – Cuprosan – Mancozan – Comazin – Polyram (mixtures with Zineb)*	*Toxic produces ETU (B)*	**Moderately Hazardous (MH)**	*Banned*
35. Dinitro ortho cresol (DNOC) [534-52-1]	*Dinitro orthocresol*	*Insecticide & Herbicide*	*Trifocide – Trifrina – Universal oil – Kafrosal oil*	*Toxic*	**Highly Hazardous (HH)**	*Banned*
36. Bitertanol [55179-31-2	*1-(Biphenyl-4-1oxy)-3,3-dimethyl-1-(1H-1,2m4-triazo-1-yl) butan2-ol*	*Fungicide*	*Baycor – Bitrex – Baymat*	*Toxic*	**Moderately Hazardous (MH)**	*Banned*
37. Ethylene dibromide [106-93-4]	*1,2-dibromoethane*	*Fumigant*	*Dibrome – Bromfume – E D B – 58 – Dowfume*	*Toxic Probable Carcinogen*	**Extremely Hazardous (EH)**	*Banned*
38. Antu [86-88-4]	*1-naphthyl-2-thiourea*	*Rodentcide*	*Antu*	*Toxic*	**Highly Hazardous (HH) Discontinued**	*Banned*
39. Inorganic fluoride compounds [7681-49-4], [16893-85-9]	*Sodium fluoride, Sodium fluosilicate*	*Insecticide*	*Safsan, Superkite Cutworm Bait*	*Toxic*	**Extremely Hazardous (EH)**	*Banned*
40. Nitrofen [1836-75-5]	*2,4-dichlorophenyl-4nitrophenyl ether*	*Herbicide*	*Tok – Tokorn – Nip*	*Toxic Probable Carcinogen*	**Moderately Hazardous (MH)**	*Banned*
41. Binapacryl [485-31-4]	*2-sec buty1-4,6-dinitropheny1-4-nitromethyl crotonate*	*Acaricide & Insecticide*	*Morocide – Endosan – Acricid*	*Toxic*	**Discontinued to be used as pesticide**	*Banned*

COMMON NAME & CASRN	*CHEMICAL NAME*	*USES*	*TRADE NAMES*	*Type of Danger*	*Degree of Danger According to WHO Classification*	*Control Standards for Handling*
42. Captafol [2425-06-1]	*N-(1,1,2,2-tetrachloroethylthio)-cyclohex-4-ene-1,2-dicarboxymide*	*Fungicide*	*Difolatan – Foltaf – Hypen – Folcid*	*Toxic Probable Carcinogen (B)*	**Extremely Hazardous (EH)**	*Banned*
43. Cyhexatin [13121-70-5]	*Trichlorohexyl tin hydroxide*	*Acaricide*	*Silatin – Plictran – Dorvert*	*Toxic*	**Moderately Hazardous (MH)**	*Banned*
44. Fentin hydroxide [76-87-9]	*Tricyclohexyl tin hydroxide*	*Fungicide*	*Du ter – farmatin*	*Toxic*	**Moderately Hazardous (MH)**	*Banned*
45. Fentin acetate [900-95-8]	*Triphenyl tin acetate*	*Fungicide*	*Berstan*	*Toxic*	**Moderately Hazardous (MH)**	*Banned*
46. Dinoseb [88-85-7]	*2-sec. Butyl-4,6-dinitrophenol*	*Herbicide*	*Fanicide – lvocit*	*Toxic Probable Carcinogen*	**Highly Hazardous (HH)**	*Banned*
47. Dinoterb [1420-07-1]	*2-tert-butyl-4,6-dinitrophenol*	*Herbicide*	*Nixone – Herbogil – Tolkan*	*Toxic*	**Highly Hazardous (HH)**	*Banned*
48. Ethylene dichloride [107-06-2]	*1,1-dichloroethane*	*Fumigant Insecticide*	*Granosan*	*Toxic Probable Carcinogen*	**Moderately Hazardous (MD)**	*Banned*
49. Mevinphos [26718-65-0]	*Methyl 3 (dimethoxyphosphioyloxy) butyl-2-enoate*	*Insecticide*	*Phosdrin – Duraphos – Mividrin*	*Toxic*	**Exremely Hazardous (EH)**	*Banned*

COMMON NAME & CASRN	*CHEMICAL NAME*	*USES*	*TRADE NAMES*	*Type of Danger*	*Degree of Danger According to WHO Classification*	*Control Standards for Handling*
50. Carbophenthion [786-19-6]	*S-4-chlorophenyl thiomethyl-O,O-dimethyl phosphorothioate*	*Insecticide*	*Trithion – garathion – Trithion oil*	*Toxic*	**Highly Hazardous (MD)**	*Banned*
51. Dioxathion [78-34-2]	*S,S-(1,4-dioxane-2,3-diyl) O,O,O,O-tetraethyl bis (phosphorothioate)*	*Insecticide*	*Delnay – Hercules – Deltic - Navadel*	*Toxic*	**Highly Hazardous (HH)**	*Banned*
52. Dimeton-S-methyl [919-86-8]	*O,O-diethl-O,2-ethyl thioethyl phosphorothioate*	*Insecticide*	*Metasystox*	*Toxic*	**Highly Hazardous (HH)**	*Banned*
53. Dimeton-S-methyl sulphon [17040-19-6]	*S-2-ethylthioethyl-O,O-dimethyl phosphorothioate*	*Insecticide*	*Metaisoystox*	*Toxic*	**Highly Hazardous (HH)**	*Banned*
54. Chloranil [118-75-2]	*2,3,56-tetrachloro-1,4-benzoquinone*	*Fungicide*	*Spergon*	*Toxic*	**Discontinued to be used as pesticide**	*Banned*
55. Chloranifor me-thane [20856-57-9]	*N-[2,2,2-trichloro-1—3,4-dichloro-anilino)-ethyl]formamide*	*Fungicide*	*Imugan-Milfaron*	*Toxic Probable Carcinogen*	**Discontinued to be used as pesticide**	*Banned*
56. Chlordimeform [6164-98-3]	*N2 –(4-chloro-o-tolyl)-N1 ,N1-dimethyl-formanmide*	*Fungicide*	*Galecron-Fundal*	*Toxic*	**Highly Hazardous (HH)**	*Banned*
57. Acrolein [107-02-8]	*2-propenal*	*Herbicide*	*Magnacide – Aqualine*	*Toxic*	**Exremely Hazardous (EH)**	*Banned*
58. Thionazin [297-97-2]	*O,O-diethyl-O-pyrazin-2-yl phosphorothioate*	*Nimatocide*	*Nimafos-Zinofos*	*Toxic*	**Exremely Hazardous (HH)**	*Banned*
59. Barban	*4-chlorobut-2-ynyl-3-chlorocarbanilate*	*Herbicide*	*Carbyne*	*Toxic*	**Discontinued to be used as**	*Banned*

COMMON NAME & CASRN	*CHEMICAL NAME*	*USES*	*TRADE NAMES*	*Type of Danger*	*Degree of Danger According to WHO Classification*	*Control Standards for Handling*
[101-27-9]					**pesticide**	
60. Chlorthiamid [1918-13-4]	*2,6-dichlorothiobenamide*	*Herbicide*	*Prefix*	*Toxic*	**Discontinued to be used as pesticide**	*Banned*
61. Di-allate [2303-16-4]	*S-2,3-dichlorallyl-di-siopropyl (thiocarbamate)*	*Herbicide*	*Avadex*	*Toxic*	**Discontinued to be used as pesticide**	*Banned*
62. Parathion (Thiophos) ***[56-38-2]***	*O,O-dimethyl-O-4-nitrophenyl phosphorothioate*	*Insecticide*	*Fostox-penncap E-Folidol-Niram*	*Toxic Probable Carcinogen*	**Exremely Hazardous (EH)**	*Banned*
63. Methyl parathion [298-00-0]	*2-chloro-2-diethyl carbamoyl-1-methyl-vinyl-dimethylphosphate*	*Insecticide*	*Fostox metil – Penncap M –Kafrol oil*	*Toxic*	**Exremely Hazardous (EH)**	*Banned*
64. Phosphamidon [13171-21-6]	*Diethyl –1,3-dithiolan-2-ylidene-phosphoroamidate*	*Insecticide*	*Dimecron – Apamidon*	*Toxic*	**Discontinued to be used as pesticide (EH)**	*Banned*
65. Phosfolan [947-02-4]	*Diethyl-1,3-dithiolan-2-ylidene-phosphoroamidate*	*Insecticide*	*Cyolane – Cylan*	*Toxic*	**Discontinued to be used as pesticide (EH)**	*Banned*
66. Mephosphol an [950-10-7]	*Diethyl-4-methyl-1,3-dithiolan-2-ylidene phosphoroamidate*	*Insecticide*	*Cytrolane – Cytrolane/Endrin (Mixture)*	*Toxic*	**Discontinued to be used as pesticide (EH)**	*Banned*

COMMON NAME & CASRN	*CHEMICAL NAME*	*USES*	*TRADE NAMES*	*Type of Danger*	*Degree of Danger According to WHO Classification*	*Control Standards for Handling*
67. Azinophos – methyl [86 – 50 – 0]	*S –3,4 dihydro-4-oxo-1,2,3,benzo triazin –3-ylmethyl –O,O – dimethyl phosphorodithioate*	*Insecticide*	*Guthion – Gusathion – Gusathion/Tamaron*	*Toxic*	**Highly Hazardous (HH)**	*Banned*
68. Flucythrinate [70124-77-5]	*α-cyano-3-phenoxybenzyl(S)-2-(4-di-fluoromethoxyphenyl)3-methylbutyrate*	*Insecticide*	*Cybolt-Cythrin-PayOff*	*Toxic*	**Discontinued to be used as pesticide**	*Banned*
69. Methidathion [95-37-8]	*S-2.3-dihydro-5-methoxy-3-ylmethyl-O.O-dimethyl-phosphrodithioate*	*Insecticide*	*Supracide- Ultracide- Oleosupracide*	*Toxic possible Carcinogen*	**Highly Hazardous (HH)**	*Banned*
70. Nicotine [54-11-5]	*(S)-3-(1-methylyrolidin-2-yl)*	*Insecticide*	*Nicotine sulphate*	*Toxic*	**Highly Hazardous (HH)**	*Banned*
71. Piperophos [24151-93-7]	*S-2-methylpiperidinocarbonylmethyl-O,O-dipropyl phosphorodithioate*	*Insecticide*	*Rilof-Avirosan*	*Toxic*	**Highly Hazardous (HH)**	*Banned*
72. Methoxychlor [72-43-5]	*1,1,1-trichloro-2,2-bis-(4-methyl-phenyl)ethane*	*Insecticide*	*Marlate-Saitofos(mixed with parathion)*	*Toxic*	**Highly Hazardous (HH)**	*Banned*
73. Chinomethionate [2439-01-2]	*6-methyl-1,3-dithiolo[4,5-b] quinoxalin-2-one*	*Fungicide*	*Morestan*	*Toxic*	**Highly Hazardous (HH)**	*Banned*

COMMON NAME & CASRN	*CHEMICAL NAME*	*USES*	*TRADE NAMES*	*Type of Danger*	*Degree of Danger According to WHO Classification*	*Control Standards for Handling*
74. Fluorodifen [15457-05-3]	*4-nitrophenyl-α,α,α-trifluoro-2-nitro-p-tolylether*	*Herbicide*	*Preforan*	*Toxic*	**Highly Hazardous (HH)**	*Banned*
75. Endosulfan [115-29-7]	*(1,4,5,6,7,7-hexachloro-8,9,10-trinor-born-5-en-2,3-ylene bis methylene) sulphite*	*Insecticide*	*Thiodane-Cyclodan-Malix-Thimul-Thiofor*	*Toxic*	**Highly Hazardous (HH)**	*Banned*
76. Inorganic Cyanide Compounds [74-90-8] , [143-33-9] , [592-01-8]	*Hydrogen cyanide (Hydrocyanic acid), Sodium cyanide,Calcium cyanide*	*Insecticide, Fungicide, Herbicide*	*Cyanogas-Cyangas-Cymag-Sodium Cyanide- Calcium cyanide*	*Toxic*	**Highly Hazardous (HH)**	*Banned*
77. Ortho Anisidine [90-04-0]]						

ANNEX (3)

PERMISSIBLE LIMITS OF AIR POLLUTANTS IN EMISSIONS

Air pollutants in this context are gaseous, solid, liquid or steam pollutants emitted by various establishments within given periods and likely to impact adversely on public health, animals, plants, material, or property, or to interfere with person's exercise of his daily life. Accordingly, if the emission of these pollutants results in the presence of concentrations thereof in excess of the maximum permissible limits for outdoor air, they shall be considered air pollutants.

TABLE (1)
OVERALL PARTICLES

S. No.	**Kind of Activity**	**Maximum Limit for Emissions (mg/m^3 from Exhaust)**
1.	Carbon Industry	50
2.	Coke Industry	50
3.	Phosphates Industry	50
4.	Casting and extraction of lead, zinc, copper, and other non-ferrous metallurgical industries.	100
5.	Ferrous Industries	200 Existing 100 New
6.	Cement Industry	500 Existing 200 New
7.	Synthetic woods and fibers	150
8.	Petroleum and Oil Refining Industries.	100
9.	Other Industries	200

TABLE (2)
MAXIMUM LIMITS OF GAS AND FUME
EMISSIONS FROM INDUSTRIAL ESTABLISHMENTS

	Pollutant	**Maximum Limit for Emissions (mg/m^3 from exhaust)**
*	Aldehydes (measured as Formaldehyde)	20
*	Antimony	20
*	Carbon Monoxide	500 Existing 250 New
*	Sulphur Dioxide	
	Burning Coke and Petroleum	4000 Existing 2500 New
	Non-ferrous Industries	3000
	Sulphuric Acid Industry & other sources	1500
*	Sulphur trioxide in addition to sulphuric acid	150
*	Nitric Acid	
*	Nitric Acid Industry	2000
*	Hydrochloric Acid (Hydrogen Chloride)	100
*	Hydrofluoric Acid (Hydrogen Fluoride)	15
*	Lead	20
*	Mercury	15
*	Arsenic	20
*	Heavy elements (total)	25
*	Silicon Fluoride	10
*	Fluorine	20

	Pollutant	Maximum Limit for Emissions (mg/m^3 from exhaust)
*	Tar	
	Graphite Electrodes Industry	50
*	Cadmium	10
*	Hydrogen Sulphide	10
*	Chlorine	20
*	Carbon	
	Garbage Burning	50
	Electrodes Industry	250
*	Organic Compounds	
	Burning of organic liquids	50 0.04% of crude (oil refining)
*	Copper	20
*	Nickel	20
	Nitrogen Oxides	
	Nitric Acid Industry	3000 Existing 400 New
	Other sources	300

ANNEX (3)
MAXIMUM LIMITS OF AIR POLLUTANTS INSIDE THE WORK PLACE ACCORDING TO TYPE OF INDUSTRY

Threshold Limits are the concentrations of airborne chemical substances to which workers can be exposed day after day without adverse effects to their health and are divided into three kinds:

1- Threshold Limits – Mean time

Is the average time of an ordinary working day (8 hours) to which the worker may be exposed for 5 days a week throughout the period of his employment without suffering any damage to his health.

2- Threshold Limits - Limits of exposure for a short period

They are the limits to which the workers may be continuously exposed for a short period.

The threshold limits for short periods, are the limits of exposure for an average period of 15 minutes and which may not be exceeded under any circumstances during the working period. The period of exposure may not exceed 15 minutes nor be repeated more than four times during the same day. The period between each short exposure and the next must be at least sixty minutes.

3- The ceiling limit which may not be exceeded even for a moment. When absorption through the skin is a factor in increasing exposure, the sign "+ skin" shall be placed before the critical threshold. With respect to dust that merely causes annoyance without having tangible harmful health effects, the threshold limits shall be 10 milligrams/cubic metre for inhalable particles.

Concerning simple asphyxiate gases which have no significant physiological effects, the decisive factor shall be the concentration of oxygen in the atmosphere which may not be less than 18%.

Substance	Threshold Limits				
	Mean time		Limits of exposure for a short period		Remarks
	Part per million P.P.M	mg/m^3	Part per million P.P.M	mg/m^3	
Acetaldehyde	100	180	150	270	
Acetic Acid	10	25	15	37	
Acetic Anhydride	5	20			+ SKIN
Acetone	750	1780	1000	2375	
Acetonitrile	40	70	60	105	+ SKIN
Tetrabromide Acetylene	1	15	1.5	20	
Acetyl Salicylic Acid (Aspirin)		5			
Acrolein	0.1	0.25	0.3	0.8	
Acrylamide		0.3		0.6	+ SKIN
Acrylic Acid	10	30			
Acrylonitrile	2				+ SKIN
Alderine		0.25		0.75	+ SKIN
Allyl Alcohol	2	5	4	10	+ SKIN
Allyl Chloride	1	3	2	6	
Aluminium Metal and Oxides	10		20		
Pyro Powders	5				
Soldering Smoke Fumes	5				
Soluble Salts	2				
Alkylates	2				
Aminopyridine	5.5	2	2	4	
Ammonia	25	18	35	27	
Ammonium Chloride (Fume)					
n-Amyl Acetate	100	530	150	800	
sec-Amyl Acetate	125	670	150	800	
Aniline and Similars	2	10	5	20	+ SKIN
Antimony and Its Compounds (Counted as antimone)		0.5			

Substance	Threshold Limits				Remarks
	Mean time		Limits of exposure for a short period		
	Part per million P.P.M	mg/m^3	Part per million P.P.M	mg/m^3	
ANTU (Alpha Naphtyl Thiourea)		0.3		0.9	
Arsenic and Its Soluble Compounds (Counted as Arsenic)		0.2			
Arsine Gas	0.05	0.2			
Petroleum asphalt Fumes		5		10	
Atrazine		5			
Methyl Azynphos		0.2		0.6	+ SKIN
Barium and Its Soluble Compounds (Counted as Barium)		0.5			
Benzene (Petrol)	10	30	25	75	
Benzyl Chloride	1	5			
Beryllium		0.002			
Diphenyl	0.2	1.5	0.6	4	
Bismuth Telluride	10		20		
Sodium tetra borate (Anhydrous)		1			
Sodium tetra borate (Decahydrate)		5			
Sodium tetra borate (Pentahydrate)		1			
Boron Oxide		10		20	
Boron Tribromide	1	10	3	30	
Boron Trifluoride	1	3			+ CEILING
Bromine	0.1	0.7	0.3	2	
Bromine pentafluoride	0.1	0.7	0.3	2	
Bromoform	0.5	5			

Substance	Threshold Limits				
	Mean time		Limits of exposure for a short period		Remarks
	Part per million P.P.M	mg/m^3	Part per million P.P.M	mg/m^3	
Butadiene	1000	2200	1250	2750	
Butane	800	1100			
n-Butyl Acetate	150	710	200	150	
sec- Butyl Acetate	200	950	250	1190	
tert-Butyl Acetate	200	950	250	1190	
Butyl Acrylate	10	55			
n-Butyl Alcohol	50	150			+ SKIN
sec- Butyl Alcohol	100	305	150	450	
tert- Butyl Alcohol	100	300	150	450	
Butyl Amines	5	15			+ SKIN
Tetra Butyl Chromate Counted as Chromium Oxide(CrO_3)		0.1			+ SKIN CEILING
Butyl Lactate	5	25			
Butyl Mercaptan	0.5	1.5			
Cadmium Dusts and Salts (Counted As Cadmium)	0.05		0.2		
Cadmium Smokes	0.05				CEILING
Calcium Carbonate				20	
Calcium Hydroxide		5			
Calcium Oxide		2		10	
Carbaryl		5		10	
Carbofuran		0.1			
Carbon Black		3.5		7	
Carbon Dioxide	5000	9000	15000	27000	
Carbon Disulphide	10	30			+ SKIN
Carbon Monoxide	50	55	400	440	
Carbon Tetra Chloride	5	30	20	125	

Substance	Threshold Limits				Remarks
	Mean time		Limits of exposure for a short period		
	Part per million P.P.M	mg/m^3	Part per million P.P.M	mg/m^3	
Carbon Tetra Bromide	0.1	1.4	0.3	4	
Chlordane		0.5		2	+ SKIN
Chlorinated Camphene		0.5		1	+ SKIN
Chlorinated Diphenyl Oxide		0.5		2	
Chlorine	1	3	3	9	
Chlorine Dioxide	0.1	0.3	0.3	0.9	
Chloro Acetaldehyde	1	3			CEILING
Chlorobenzene	75	350			
Chlorodiphenyl (42%)		1		2	
Chlorodiphenyl (45%)		0.5		1	
Chloroform	10	50	50	225	
Di (chloromethyl) Ether	0.001	0.005			
Chloropicrin	10	45			
Chlorpyrifos		0.2		0.6	+ SKIN
Chromium and Its Compounds (Counted on The Basis of Chromium)		0.5			
Hexavalent Chromium Compounds (Counted on The Basis of Chromium)		0.05			
Volatile Coal Tar Products Which Are Soluble In Benzene		0.2			
Cobalt and its Dust and Smokes		0.1			
Copper Smokes		0.2			
Copper Dust and Sprinkles (Counted as Copper)		1		2	
Raw Cotton Fluff		0.2		0.6	
Cresoles	5	22			+ SKIN

Substance	Threshold Limits				
	Mean time		Limits of exposure for a short period		Remarks
	Part per million P.P.M	mg/m^3	Part per million P.P.M	mg/m^3	
Cyanide Salts, Counted as Cyanide		5			SKIN
Cyanogen	10	20			
Cyanogen Chloride	0.3	0.6			CEILING
Cyclohexane	300	1050	375	1300	
Cyclopentadiene	75	200	150	400	
Cyclopentane	600	1720	900	2580	
D.D.T		1		3	
Decaborane	0.05	0.3	0.15	0.9	SKIN
Diazinon		0.1		0.3	+ SKIN
Diazomethane	0.2	0.4			
Diborane	0.1	0.1			
Dichloro acetylene	0.1	04			CEILING
o-Dichlorobenzene	50	300			CEILING
para - Dichlorobenzene	75	450	110	675	
1, 2 - Dichloro ethylene	200	790	250	1000	
Dichloroethyl ether	5	30	10	60	+ SKIN
Dichlorvos	0.1	1	0.3	3	+ SKIN
Dichrotofos		0.25			+ SKIN
Dieldrin		0.25		0.75	+ SKIN
Diethanolamine	3	15			
Dimethylaniline	5	25	10	50	+ SKIN
Dinitrobenzene	0.15	1	0.5	3	+ SKIN
Dinitro- O - Cresol		0.2		0.6	+ SKIN
Dinitrotoluene		1.5		5	+ SKIN
Dioxin	25	90	100	360	+ SKIN

Substance	Threshold Limits				
	Mean time		Limits of exposure for a short period		Remarks
	Part per million P.P.M	mg/m^3	Part per million P.P.M	mg/m^3	
Dipropylene Glycol Methyl Ether	100	600	150	900	+ SKIN
Diquat		0.5		1	
Disulfiram		2		5	
Endosulfan		0.1		0.3	+ SKIN
Endrin		0.1		0.3	+ SKIN
Epichlorohydrin	2	10	5	20	+ SKIN
Ethyl Acetate	400	1400			
Ethanol	1000	1900			
Ethanolamine	3	8	6	15	
Ethylbenzene	100	435	125	545	
Ethyl butyl ketone	50	230	75	345	
Ethyl chloride	1000	2600	1250	3250	
Ethylene diamine	10	25			
Ethylene oxide	10	20			
Ethylene dichloride	10	40	15	60	
Ethylene glycol (particles)		10		20	
Ethylene glycol (Vapour)	50	125			Ceiling
Ethyl mercaptan	0.5	1	2	3	
Ferro vanadium Dust		1		0.3	
fibrous Glass Dust		10			
Fluorides (Counted on The Basis of Fluorine)		2.5			
Fluorine		2	2	4	CEILING
Formaldehyde	2	3			CEILING
Formic Acid	5	9			

Substance	Threshold Limits				Remarks
	Mean time		Limits of exposure for a short period		
	Part per million P.P.M	mg/m^3	Part per million P.P.M	mg/m^3	
Gasoline	300	900	500	1500	
Heptachlor		0.5		2	+ SKIN
Heptane	400	1600	500	2000	
Hexachloro Cyclopentadiene	0.01	0.1	0.03	0.3	
Hexachloro-Naphthalene		0.20		0.60	+ SKIN
n- Hexane	50	180	1000	3600	
Hexane Isomers	500	1800	1000	3600	
Hydrogen Bromide	3	10			
Hydrogen Cyanide	10	10			CEILING
Hydrogen Fluoride	3	2.5	6	5	
Hydrogen Sulphide	10	14	14	21	
Iodine	0.1	1			CEILING
Iron Oxide Smokes	3	5		10	
Iron Pentacarbonyl	0.1	0.8	0.2	0.16	
Isobutyl Alcohol	50	150	75	225	
Isopropyl Alcohol	400	980	500	1225	
Lead Dust and Smokes Non Organic (as Lead)		0.15		0.45	
Lead Arsenate		0.15		045	
Lead Chromate		0.05			
Lindane		0.5		0.5	+ SKIN
Liquified Petroleum Gases	1000	1800	1250	2250	
Magnesium Oxides Smokes		10			
Malathion		10			+ SKIN
Manganese Dusts and Compounds (as Manganese)		5			CEILING
Manganese Smokes		1		3	

Substance	Threshold Limits				
	Mean time		Limits of exposure for a short period		Remarks
	Part per million P.P.M	mg/m^3	Part per million P.P.M	mg/m^3	
Mangenese Tetra Oxide		1			
Mercury (as Mercury)					+ SKIN
Alkyl Compounds		0.01		0.03	
Smokes Of All Other Compounds Except Alkyl		0.05			
Aryl Compounds and Inorganic Compounds		0.1			
Methomyl		2.5			+ SKIN
Methoxychlor		10			
Methyl Alcohol	200	260	250	310	+ SKIN
Methyl Bromide	5	20	15	60	
Methyl butyl ketone	5	20			
Methyl chloride	50	105	100	205	
Methyl chloroform	350	1900	450	2450	
Diphenylmethane Diisocyanate (MDI)	0.02	0.2			CEILING
Methylene Chloride	100	360	500	1700	
Methyl Ethyl Ketone	200	590	300	885	
Methyl Hydrazine	0.02	0.35			+ SKIN
Methyl Isocyanate	0.02	0.05			+ SKIN
Methyl Mercaptan	0.5	1			
Methyl Parathion		0.2		0.6	+ SKIN
Mevinphos	0.01	0.1	0.03	0.3	+ SKIN
Monocrotophos					
Naphthalene	10	50	15	75	
Nickel Carbonyl (as Nickel)	0.05	0.53			
Nickel Metal		1			
Soluble Compounds (as Nickel)		0.1		0.3	
Nicotine		0.5		1.5	+ SKIN

Substance	Threshold Limits				Remarks
	Mean time		Limits of exposure for a short period		
	Part per million P.P.M	mg/m^3	Part per million P.P.M	mg/m^3	
Nitric Acid	2	5	4	10	
Nitric Oxide	25	30	35	45	
Para Nitroaniline		3			+ SKIN
Nitrobenzene	1	5	2	10	+ SKIN
Nitro Chlorobenzene		1		2	+ SKIN
Nitrogen Dioxide	3	6	5	10	
Nitrogen Trifluoride	10	30	15	45	
Nitroglycerin	0.02	0.2	0.05	0.5	+ SKIN
Nitrotoluene	2	11			+ SKIN
Octachloronaphthalene		0.1		0.3	+ SKIN
Mineral Oil Sprinkles		5		10	
Osmium Tetraoxide (as Osmium)	0.0002	0.002	0.0006	0.006	
Oxalic Acid		1		2	
Oxygen Difluoride	0.05	0.1	0.15	0.3	
Ozone	0.1	0.2	0.3	0.6	
Paraffin Wax Vapours		2		6	
Paraquat (Size of Inhalable Particles)		0.1			
Parathion		0.1		0.3	+ SKIN
Pentachloronaphthalene		0.5		2	
Pentachlorophenol		0.5		1.5	+ SKIN
Ethylene Dichloride	50	325			
Phenol	5	19	10	38	+ SKIN
Phenothiazine		5		10	+ SKIN
Para-Phenylene Diamine		0.1			+ SKIN
Phenylhydrazine	5	20	1	45	+ SKIN

Substance	Threshold Limits				
	Mean time		Limits of exposure for a short period		Remarks
	Part per million P.P.M	mg/m^3	Part per million P.P.M	mg/m^3	
Phenyl Mercaptan	0.5	2			
Phosgene	0.1	0.4			
Phosphine	0.3	0.4	1	1	
Phosphoric Acid		1		3	
Yellow Phosphorus		0.1		0.3	
Picric Acid		0.1		0.3	+ SKIN
Platinum Metal		1			
Soluble Platinum Salts (as Platinum)		0.002			
Potassium Hydroxide		2			CEILING
Propionic Acid	10	30	15	45	
Propyl Alcohol	200	500	250	625	+ SKIN
Pyrethrum		5		10	
Pyridine	5	15	10	30	
Rotenone		5		10	
Selenium Salts (as Selenium)		0.2			
Selenium Hexafluoride	0.05	0.2			
Silicon				20	
Silicon Carbide				20	
Silver Metal		0.1			
Soluble Silver Salts		0.01			
Sodium Azide	0.1	0.3			CEILING
Sodium Bisulfite		5			
Sodium Fluoroacetate		0.05		0.15	+ SKIN
Sodium Hydroxide		2			CEILING
Sodium Metabisulfite		5			

Substance	Threshold Limits				Remarks
	Mean time		Limits of exposure for a short period		
	Part per million P.P.M	mg/m^3	Part per million P.P.M	mg/m^3	
Stibine	0.1	0.5	0.3	1.5	
Protein Decomposing Enzymes (100% Pure Crystalline Enzyme)		0.00006			CEILING
Sulphur Dioxide	2	5	5	10	
Sulphuric Acid		1			
Sulphur Hexafluoride	1000	6000	1250	7500	
Sulphur Monochloride	1	6	3	18	
Sulphur Pentafluoride	0.025	0.25	0.075	0.75	
2,4,5 – Trichlorophenoxy- Acetic Acid		10		20	
TEPP (Tetra ethyl pyrophosphate)	0.004	0.05	0.01	0.02	+ SKIN
1,1,2,2, Tetrachloroethane	5	35	10	70	+ SKIN
Tetra Ethyl Lead (as Lead)		0.1		0.3	+ SKIN
Tetryl		1.5		3	+ SKIN
Soluble Thallium salts (as Thallium)		0.1			+ SKIN
Thiram		5		10	
Tin & Its Inorganic Compounds (Except Tin Tetra Oxide Counted as Tin)		2		4	
Tin Organic Compounds (as Tin)		0.1		0.2	+ SKIN
Titanium Dioxide				20	
Toluene	100	375	150	560	+ SKIN
Toluene Di-isocyanate	0.02	0.14			CEILING
o-toluidine	2	9			+ SKIN
Trichloroacetic Acid	1	5			
1,2,4, Trichlorobenzene	5	40			

Substance	Threshold Limits				Remarks
	Mean time		Limits of exposure for a short period		
	Part per million P.P.M	mg/m^3	Part per million P.P.M	mg/m^3	
Trichloroethylene	50	270	150	805	
Trichloronaphthalene		5		10	
2,4,6 – Trinitrotoluene		0.5		3	+ SKIN
Trimethylbenzene	25	125	35	170	
Triorthocresyl Phosphate		0.1		0.3	
Natural Uranium & Its soluble & insoluble Compounds (Counted as Uranium)		0.2		0.6	
Inhalable Vanadium Dusts & Smokes (Counted as Vanadium PentaOxide)		0.5			
Vinyl Chloride	5	10			
Warfarin		0.1		0.3	
Soldering Smokes		5			
Solid Timber Dusts		1			
Soft Timber Dusts		5		10	
Xylene	100	435	150	655	+ SKIN
Zinc Chloride Smokes		1		2	
Zinc Oxide Smokes		5		10	
Zirconium Compounds (Counted as Zirconium)		5		10	

Annex (4)

Basel Convention

Article 2

Definitions

For the purposes of this Convention:

1. "Wastes" are substances or objects, which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law;

2. "Management" means the collection, transport and disposal of hazardous wastes or other wastes, including aftercare of disposal sites;

3. "Transboundary movement" means any movement of hazardous wastes or other wastes from an area under the national jurisdiction of one State to or through an area under the national jurisdiction of another State or to or through an area not under the national jurisdiction of any State, provided at least two States are involved in the movement;

4. "Disposal" means any operation specified in Annex IV to this Convention;

5. "Approved site or facility" means a site or facility for the disposal of hazardous wastes or other wastes which is authorized or permitted to operate for this purpose by a relevant authority of the State where the site or facility is located;

6. "Competent authority" means one governmental authority designated by a Party to be responsible, within such geographical areas as the Party may think fit, for receiving the notification of a transboundary movement of hazardouswastes or other wastes, and any information related to it, and for responding to such a notification, as provided in Article 6;

7. "Focal point" means the entity of a Party referred to in Article 5 responsible for receiving and submitting information as provided for in Articles 13 and 16;

8. "Environmentally sound management of hazardous wastes or other wastes" means taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes;

9. "Area under the national jurisdiction of a State" means any land, marine area or air space within which a State exercises administrative and regulatory responsibility in accordance with international law in regard to the protection of human health or the environment;

10. "State of export" means a Party from which a transboundary movement of hazardous wastes or other wastes is planned to be initiated or is initiated;

11. "State of import" means a Party to which a transboundary movement of hazardous wastes or other wastes is planned or takes place for the purpose of disposal therein or for the purpose of loading prior to disposal in an area not under the national jurisdiction of any State;
12. "State of transit" means any State, other than the State of export or import, through which a movement of hazardous wastes or other wastes is planned or takes place;
13. "States concerned" means Parties which are States of export or import, or transit States, whether or not Parties;
14. "Person" means any natural or legal person;
15. "Exporter" means any person under the jurisdiction of the State of export who arranges for hazardous wastes or other wastes to be exported;
16. "Importer" means any person under the jurisdiction of the State of import who arranges for hazardous wastes or other wastes to be imported;
17. "Carrier" means any person who carries out the transport of hazardous wastes or other wastes;
18. "Generator" means any person whose activity produces hazardous wastes or other wastes or, if that person is not known, the person who is in possession and/or control of those wastes;
19. "Disposer" means any person to whom hazardous wastes or other wastes are shipped and who carries out the disposal of such wastes;
20. "Political and/or economic integration organization" means an organization constituted by sovereign States to which its member States have transferred competence in respect of matters governed by this Convention and which has
been duly authorized, in accordance with its internal procedures, to sign, ratify, accept, approve, formally confirm or accede to it;
21. "Illegal traffic" means any transboundary movement of hazardous wastes or other wastes as specified in Article 9.

Article 4

General Obligations

1. (a) Parties exercising their right to prohibit the import of hazardous wastes or other wastes for disposal shall inform the other Parties of their decision pursuant to Article 13.

(b) Parties shall prohibit or shall not permit the export of hazardous wastes and other wastes to the Parties which have prohibited the import of such wastes, when notified pursuant to subparagraph (a) above.

(c) Parties shall prohibit or shall not permit the export of hazardous wastes and other wastes if the State of import does not consent in writing to the specific import, in the case where that State of import has not prohibited the import of such wastes.

2. Each Party shall take the appropriate measures to:

(a) Ensure that the generation of hazardous wastes and other wastes within it is reduced to a minimum, taking into account social, technological and economic aspects;

(b) Ensure the availability of adequate disposal facilities, for the environmentally sound management of hazardous wastes and other wastes, that shall be located, to the extent possible, within it, whatever the place of their disposal;

(c) Ensure that persons involved in the management of hazardous wastes or other wastes within it take such steps as are necessary to prevent pollution due to hazardous wastes and other wastes arising from such management and, if such pollution occurs, to minimize the consequences thereof for human health and the environment;

(d) Ensure that the transboundary movement of hazardous wastes and other wastes is reduced to the minimum consistent with the environmentally sound and efficient management of such wastes, and is conducted in a manner which will protect human health and the environment against the adverse effects which may result from such movement;

(e) Not allow the export of hazardous wastes or other wastes to a State or group of States belonging to an economic and/or political integration organization that are Parties, particularly developing countries, which have prohibited by their legislation all imports, or if it has reason to believe that the wastes in question will not be managed in an environmentally sound manner, according to criteria to be decided on by the Parties at their first meeting.

(f) Require that information about a proposed transboundary movement of hazardous wastes and other wastes be provided to the States concerned, according to Annex V A, to state clearly the effects of the proposed movement on human health and the environment;

(g) Prevent the import of hazardous wastes and other wastes if it has reason to believe that the wastes in question will not be managed in an environmentally sound manner;

(h) Co-operate in activities with other Parties and interested organizations, directly and through the Secretariat, including the dissemination of information on the transboundary

movement of hazardous wastes and other wastes, in order to improve the environmentally sound management of such wastes and to achieve the prevention of illegal traffic.

3. The Parties consider that illegal traffic in hazardous wastes or other wastes is criminal.

4. Each Party shall take appropriate legal, administrative and other measures to implement and enforce the provisions of this Convention, including measures to prevent and punish conduct in contravention of the Convention.

5. A Party shall not permit hazardous wastes or other wastes to be exported to a non-Party or to be imported from a non-Party.

6. The Parties agree not to allow the export of hazardous wastes or other wastes for disposal within the area south of 60° South latitude, whether or not such wastes are subject to transboundary movement.

7. Furthermore, each Party shall:

(a) Prohibit all persons under its national jurisdiction from transporting or disposing of hazardous wastes or other wastes unless such persons are authorized or allowed to perform such types of operations;

(b) Require that hazardous wastes and other wastes that are to be the subject of a transboundary movement be packaged, labelled, and transported in conformity with generally accepted and recognized international rules and standards in the field of packaging, labelling, and transport, and that due account is taken of relevant internationally recognized practices;

(c) Require that hazardous wastes and other wastes be accompanied by a movement document from the point at which a transboundary movement commences to the point of disposal.

8. Each Party shall require that hazardous wastes or other wastes, to be exported, are managed in an environmentally sound manner in the State of import or elsewhere. Technical guidelines for the environmentally sound management of wastes subject to this Convention shall be decided by the Parties at their first meeting.

9. Parties shall take the appropriate measures to ensure that the transboundary movement of hazardous wastes and other wastes only be allowed if:

(a) The State of export does not have the technical capacity and the necessary facilities, capacity or suitable disposal sites in order to dispose of the wastes in question in an environmentally sound and efficient manner; or

(b) The wastes in question are required as a raw material for recycling or recovery industries in the State of import; or

(c) The transboundary movement in question is in accordance with other criteria to be decided by the Parties, provided those criteria do not differ from the objectives of this Convention.

10. The obligation under this Convention of States in which hazardous wastes and other wastes are generated to require that those wastes are managed in an environmentally sound manner may not under any circumstances be transferred to the States of import or transit.

11. Nothing in this Convention shall prevent a Party from imposing additional requirements that are consistent with the provisions of this Convention, and are in accordance with the rules of international law, in order better to protect human health and the environment.

12. Nothing in this Convention shall affect in any way the sovereignty of States over their territorial sea established in accordance with international law, and the sovereign rights and the jurisdiction which States have in their exclusive economic zones and their continental shelves in accordance with international law, and the exercise by ships and aircraft of all States of navigational rights and freedoms as provided for in international law and as reflected in relevant international instruments.

13. Parties shall undertake to review periodically the possibilities for the reduction of the amount and/or the pollution potential of hazardous wastes and other wastes which are exported to other States, in particular to developing countries.

Annex VIII

LIST A

Wastes contained in this Annex are characterized as hazardous under Article 1, paragraph 1 (a), of this Convention, and their designation on this Annex does not preclude the use of Annex III to demonstrate that a waste is not hazardous.

A1 Metal and metal-bearing wastes

A1010 Metal wastes and waste consisting of alloys of any of the following:

• Antimony
• Arsenic
• Beryllium
• Cadmium
• Lead
• Mercury
• Selenium
• Tellurium
• Thallium

but excluding such wastes specifically listed on list B.

A1020 Waste having as constituents or contaminants, excluding metal waste in massive form, any of the following:

• Antimony; antimony compounds
• Beryllium; beryllium compounds
• Cadmium; cadmium compounds
• Lead; lead compounds
• Selenium; selenium compounds
• Tellurium; tellurium compounds

A1030 Wastes having as constituents or contaminants any of the following:

• Arsenic; arsenic compounds
• Mercury; mercury compounds.
• Thallium; thallium compounds

A1040 Wastes having as constituents any of the following:

• Metal carbonyls
• Hexavalent chromium compounds

1 Note that mirror entry on list B (B1160) does not specify exceptions.

A1050 Galvanic sludges

A1060 Waste liquors from the pickling of metals

A1070 Leaching residues from zinc processing, dust and sludges such as jarosite, hematite, etc.

A1080 Waste zinc residues not included on list B, containing lead and cadmium in concentrations sufficient to exhibit Annex III characteristics

A1090 Ashes from the incineration of insulated copper wire

A1100 Dusts and residues from gas cleaning systems of copper smelters

A1110 Spent electrolytic solutions from copper electrorefining and electrowinning operations

A1120 Waste sludges, excluding anode slimes, from electrolyte purification systems in copper electrorefining and electrowinning operations

A1130 Spent etching solutions containing dissolved copper

A1140 Waste cupric chloride and copper cyanide catalysts

A1150 Precious metal ash from incineration of printed circuit boards not included on list B1

A1160 Waste lead-acid batteries, whole or crushed

A1170 Unsorted waste batteries excluding mixtures of only list B batteries. Waste batteries not specified on list B containing Annex I constituents to an extent to render them hazardous.

A1180 Waste electrical and electronic assemblies or scrap2 containing components such as accumulators and other batteries included on list A, mercury-switches, glass from cathode-ray tubes and other activated glass and PCB-capacitors, or contaminated with Annex I constituents (e.g., cadmium, mercury, lead, polychlorinated biphenyl) to an extent that they possess any of the characteristics contained in Annex III (note the related entry
on list B B1110)

A2 Wastes containing principally inorganic constituents, which may contain metals and organic materials

A2010 Glass waste from cathode-ray tubes and other activated glasses

A2020 Waste inorganic fluorine compounds in the form of liquids or sludges but excluding such wastes specified on list B

A2030 Waste catalysts but excluding such wastes specified on list B

A2040 Waste gypsum arising from chemical industry processes, when containing Annex I constituents to the extent that it exhibits an Annex III hazardous characteristic (note the related entry on list B B2080)

A2050 Waste asbestos (dusts and fibres)

A2060 Coal-fired power plant fly-ash containing Annex I substances in concentrations sufficient to exhibit Annex III characteristics (note the related entry on list B B2050)

A3 Wastes containing principally organic constituents, which may contain metals and inorganic materials

A3010 Waste from the production or processing of petroleum coke and bitumen

A3020 Waste mineral oils unfit for their originally intended use

A3030 Wastes that contain, consist of or are contaminated with leaded anti-knock compound sludges

A3040 Waste thermal (heat transfer) fluids

A3050 Wastes from production, formulation and use of resins, latex, plasticizers, glues/adhesives excluding such wastes specified on list B (note the related entry on list B B4020)

A3060 Waste nitrocellulose

A3070 Waste phenols, phenol compounds including chlorophenol in the form of liquids or sludges

A3080 Waste ethers not including those specified on list B

A3090 Waste leather dust, ash, sludges and flours when containing hexavalent chromium compounds or biocides (note the related entry on list B B3100)

A3100 Waste paring and other waste of leather or of composition leather not suitable for the manufacture of leather articles containing hexavalent chromium compounds or biocides (note the related entry on list B B3090)

A3110 Fellmongery wastes containing hexavalent chromium compounds or biocides or infectious substances (note the related entry on list B B3110)

A3120 Fluff - light fraction from shredding

A3130 Waste organic phosphorous compounds

A3140 Waste non-halogenated organic solvents but excluding such wastes specified on list B

A3150 Waste halogenated organic solvents

A3160 Waste halogenated or unhalogenated non-aqueous distillation residues arising from organic solvent recovery operations

A3170 Wastes arising from the production of aliphatic halogenated hydrocarbons (such as chloromethane, dichloro-ethane, vinyl chloride, vinylidene chloride, allyl chloride and epichlorhydrin)

A3180 Wastes, substances and articles containing, consisting of or contaminated with polychlorinated biphenyl (PCB), polychlorinated terphenyl (PCT), polychlorinated naphthalene (PCN) or polybrominated biphenyl (PBB), or any other polybrominated analogues of these compounds, at a concentration level of 50 mg/kg or more4

A3190 Waste tarry residues (excluding asphalt cements) arising from refining, distillation and any pyrolitic treatment of organic materials

A4 Wastes which may contain either inorganic or organic constituents

A4010 Wastes from the production, preparation and use of pharmaceutical products but excluding such wastes specified on list B

A4020 Clinical and related wastes; that is wastes arising from medical, nursing, dental, veterinary, or similar practices, and wastes generated in hospitals or other facilities during the investigation or treatment of patients, or research projects

A4030 Wastes from the production, formulation and use of biocides and phytopharmaceuticals, including waste pesticides and herbicides which are off-specification, outdated,5 or unfit for their originally intended use

A4040 Wastes from the manufacture, formulation and use of woodpreserving chemicals

A4050 Wastes that contain, consist of or are contaminated with any of
the following:

• Inorganic cyanides, excepting precious-metal-bearing residues in solid form containing traces of inorganic cyanides

• Organic cyanides

A4060 Waste oils/water, hydrocarbons/water mixtures, emulsions

A4070 Wastes from the production, formulation and use of inks, dyes, pigments, paints, lacquers, varnish excluding any such waste specified on list B (note the related entry on list B B4010)

A4080 Wastes of an explosive nature (but excluding such wastes specified on list B)

A4090 Waste acidic or basic solutions, other than those specified in the corresponding entry on list B (note the related entry on list B B2120)

A4100 Wastes from industrial pollution control devices for cleaning of industrial off-gases but excluding such wastes specified on list B

A4110 Wastes that contain, consist of or are contaminated with any of the following:

• Any congenor of polychlorinated dibenzo-furan

• Any congenor of polychlorinated dibenzo-dioxin

A4120 Wastes that contain, consist of or are contaminated with peroxides

A4130 Waste packages and containers containing Annex I substances in concentrations sufficient to exhibit Annex III hazard characteristics

A4140 Waste consisting of or containing off specification or outdated chemicals corresponding to Annex I categories and exhibiting Annex III hazard characteristics

A4150 Waste chemical substances arising from research and development or teaching activities which are not identified and/or are new and whose effects on human health and/or the environment are not known

A4160 Spent activated carbon not included on list B (note the related entry on list B B2060)

Annex (5)

Rotterdam Convention Prior Informed consent (PIC)

Article 7

Listing of chemicals in Annex III

1. For each chemical that the Chemical Review Committee has decided to recommend for listing in Annex III, it shall prepare a draft decision guidance document. The decision guidance document should, at a minimum, be based on the information specified in Annex I, or, as the case may be, Annex IV, and include information on uses of the chemical in a category other than the category for which the final regulatory action applies.

2. The recommendation referred to in paragraph 1 together with the draft decision guidance document shall be forwarded to the Conference of the Parties. The Conference of the Parties shall decide whether the chemical should be made subject to the Prior Informed Consent procedure and, accordingly, list the chemical in Annex III and approve the draft decision guidance document.

3. When a decision to list a chemical in Annex III has been taken and the related decision guidance document has been approved by the Conference of the Parties, the Secretariat shall forthwith communicate this information to all Parties.

Annex III

CHEMICALS SUBJECT TO THE PRIOR INFORMED CONSENT PROCEDURE

Chemical	**Relevant CAS number(s)**	**Category**
2,4,5-T	93-76-5	Pesticide
Aldrin	309-00-2	Pesticide
Captafol	2425-06-1	Pesticide
Chlordane	57-74-9	Pesticide
Chlordimeform	6164-98-3	Pesticide
Chlorobenzilate	510-15-6	Pesticide

DDT	50-29-3	Pesticide
Dieldrin	60-57-1	Pesticide
Dinoseb and dinoseb salts	88-85-7	Pesticide
1,2-dibromoethane (EDB)	106-93-4	Pesticide
Fluoroacetamide	640-19-7	Pesticide
HCH (mixed isomers)	608-73-1	Pesticide
Heptachlor	76-44-8	Pesticide
Hexachlorobenzene	118-74-1	Pesticide
Lindane	58-89-9	Pesticide
Mercury compounds, including inorganic mercury compounds, alkyl mercury compounds and alkyloxyalkyl and aryl mercury compounds		Pesticide
Pentachlorophenol	87-86-5	Pesticide
Monocrotophos (Soluble liquid formulations of the substance that exceed 600 g active ingredient/l)	6923-22-4	Severely hazardous pesticide

		formulation
Methamidophos (Soluble liquid formulations of the substance that exceed 600 g active ingredient/l)	10265-92-6	Severely hazardous pesticide formulation
Phosphamidon (Soluble liquid formulations of the substance that exceed 1000 g active ingredient/l)	13171-21-6 (mixture, (E)&(Z) isomers) 23783-98-4 ((Z)-isomer) 297-99-4 ((E)-isomer)	Severely hazardous pesticide formulation
Methyl-parathion (emulsifiable concentrates (EC) with 19.5%, 40%, 50%, 60% active ingredient and dusts containing 1.5%, 2% and 3% active ingredient)	298-00-0	Severely hazardous pesticide formulation
Parathion (all formulations - aerosols, dustable powder (DP), emulsifiable concentrate (EC), granules (GR) and wettable powders (WP) - of this substance are included, except capsule suspensions (CS))	56-38-2	Severely hazardous pesticide formulation
Crocidolite	12001-28-4	Industrial
Polybrominated biphenyls (PBB)	36355-01-8(hexa-) 27858-07-7 (octa-) 13654-09-6 (deca-)	Industrial
Polychlorinated biphenyls (PCB)	1336-36-3	Industrial

Polychlorinated terphenyls (PCT)	61788-33-8	Industrial
Tris (2,3-dibromopropyl) phosphate	126-72-7	Industrial