Chapter II

Urban Development and Population Activities

8 Urban Communities Environmental Development

8-a Introduction

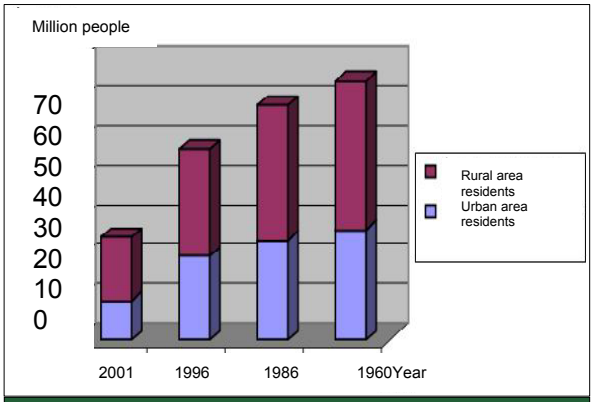
Urban areas play an important role in providing job opportunities, housing, and services, in addition to being centers of culture, education, and technical development as well as industrial centers for increasing income. Urban areas are the largest contributors to NDP development. However, the accelerating growth in cities and urban areas is accompanied by many side effects, such as the increase in unemployment rates, inefficiency of services, exhaustion of the infrastructure, and environmental deterioration. During the period from 1960 to 2004, Egypt's population doubled more than two and a half times, from approx. 26 million to 72 million respectively. The surge in population, coupled with internal rural-urban migration, resulted in the increase in population in rural and urban areas in varying rates. Urban population percentage has increased from 38.2% in 1960 to 43.9% in 1986. Then, the percentage dropped to 42.6% in 1996 to settle roughly at this level till 2002. Nonetheless, it is expected that urban population percentage will rise to 59.9% of the total population by 2030.

Since the nineties of the last century, the state's attention to environmental issues has increased. The state committed itself to environmental preservation and combating the side effects of economic development activities under economic and demographic trends in the Egyptian community. In the mid eighties, the state started, at a limited scope, to increase its focus on the environment. An institutional and organizational framework for the environment was established, represented in the Ministry of State for Environmental Affairs (MSEA) and the Egyptian Environmental Affairs Agency (EEAA), as well as the legal and legislative framework required for environment pro-

tection, represented in Law No. 4/1994 on Environment Protection. The state worked on activating the institutional framework and providing it with all capacities, to enable it to implement the legislative framework to ensure environmental protection and quality improvement.

8-b Urban Environment in Egypt and Major Pressures

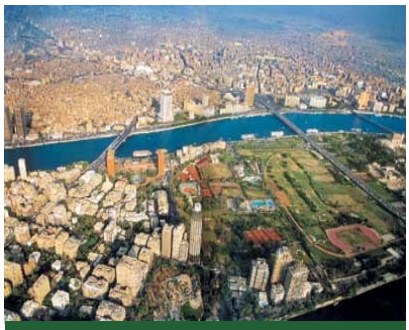
The environment and its natural resources in the Arab Republic of Egypt has experienced a number of pressures over the last fifty years, either due to the significant population increase or the vast expansion in economic activities. The following figure shows population increase in Egypt since 1960.



Population growth in Egypt and its distribution on rural and urban areas from 1960 till 2001

Source: UNDP, Egypt Human Resources Report, 2003

The surge in urban areas was concentrated in a number of large cities such as Cairo and Alexandria, where 40% of urban population lives. In Cairo alone one third of the urban population of Egypt is found. This was the reason behind persistent expectations indicating that Cairo's would continue to rank among the highest twenty cities in the world with respect to population during the coming twenty years. The increase in urban areas population was coupled with increased population density. Population density in Cairo, Alexandria and Giza, excluding desert areas, amounts to 12700, 2153, 4552 persons/km^2 respectively, compared to average population density in Egypt in general which stands at 1011 persons/km^2.



The City of Cairo

Population increase and extension in urban areas as well as their high population density has led to the emergence of many problems, such as environmental deterioration. The rapid growth of cities resulted in an increase in pressures on utilities and services, such as sanitation, water, roads, and transportation networks and waste management. Another problem is the spread of squatters with all its subsequent problems and negative impacts on the environment. Squatter populations in Egypt were estimated at 9 million in 2001, living in 1174 unplanned settlements, on a surface area of 418,138 km^2. Nearly 3.5 million live in squatter areas in Greater Cairo (184 settlements) that lack utilities and services. Noteworthy, urban areas growth is usually associated with an increase in pressures on existing natural resources in the adjacent areas, such as urban encroachment on agricultural land.

Environmental problems are also aggravated in residential areas adjacent to industrial zones and in areas characterized by

overlap in land uses. The concentration of industrial activities in cities and urban areas has adversely impacted on population health and environment quality in such areas. Though the industrial sector in Egypt is considered an influential sector on the national income and economic development, yet it is a main source for air, water and soil pollution. In Egypt today, there are about 26,000 industrial establishments, some of which are concentrated within cities, such as smelters, cement and fertilizers factories and tanneries. The majority of which are still using old techniques, causing emissions in the ambient environment, exposing residents in these areas to significant health hazards. Furthermore, investors' lack of environmental awareness in these areas exacerbates the problem, added to this lack of incompliance with environmental dimensions in projects that were launched before the issuance of Environment Law no. 4/1994 as a result of the absence of the requirement to conduct EIA studies.

In addition, the movement of vehicles on crowded roads intensifies the pressures on urban environment. It was estimated that more than 3 million vehicles trafficked Cairo streets in 2002, consuming 52 million tons of gasoline and 5500 tons diesel fuel annually, emitting their toxic gas exhausts into the ambient air, let alone the noise.

8-c Challenges Facing Urban Environment and Communities In Egypt

Major challenges facing the urban environment in Egypt may be summarized as follows:

- Air pollution prevention in urban areas resulting from emissions by industrial facilities and vehicles in crowded street.
- Environmental services provision for improving infrastructure and upgrading squatters within and around cities.
- Sanitation impacts on public health inside and outside residential areas, on buildings, due to increase in drainage levels, and on the land quality.
- Efficiency improvement, preservation and management of natural resources, particularly water resources and agricultural land.
- Reducing waste accumulation, and developing more effective systems in municipal solid and hazardous waste management.
- Increasing green areas, protecting local ecosystems and preventing noise and visual pollution.

8-d State Efforts for Developing Urban Areas

The state has focused on revitalizing and activating the role of civil society in Egypt. NGOs are significant civil society institutions that adopt environmental issues, due to their experience and awareness of environmental issues and voluntary work and their ability to mobilize people to participate in solving environmental problems. Accordingly, NGOs have witnesses a reactivation of their role during recent years where their numbers have increased and their activities have greatly diversified. The number of registered NGOs in Egypt in 1999 has reached 14,657, working in 16 social activity, 10,846 of which are active in the field of social welfare, while 3,811 are active in local development. Concerning geographical distribution, more than one quarter of these NGOs are found in Cairo, followed by Giza, Alexandria, Sharqia and Minia governorates, (7.6%, 6.4%, 5.9%, and 5.4% respectively).

Specific integrated programs were set to develop or extend existing residential areas, as well as developing environmental regulations governing the new residential areas through a group of activities:

- Coordination with the ministries, entities and all sectors to incorporate the environmental dimension in their activities.
- Coordination with the General Authority for Urban Planning to select the sites for new cities and urban conglomerates.
- Developing guidelines required for EIA of new residential areas expansions in older areas.
- Developing guidelines required for environmental impact assessment of new sanitation plant sites.
- Coordination with the Governorates to select controlled waste landfill sites.

MSEA and it executive arm, EEAA, through the Support for Environmental Assessment and Management (SEAM) program, have developed a Solid Wastes Management Strategy (SWMS) in 5 Governorates; Qena, Sohag, Daqahlia, Damietta, and South Sinai.
As for existing residential areas, a plan was developed for studying their environmental status and identify environmental development requirements, responsible organizations and their role, based on environmental indicators for studying and assessing the environmental status of residential areas and establishing a database for such areas, analyzing data, concluding information and detailed reports and determining the procedures required to overcome the environmental challenges and maximize positive aspects.

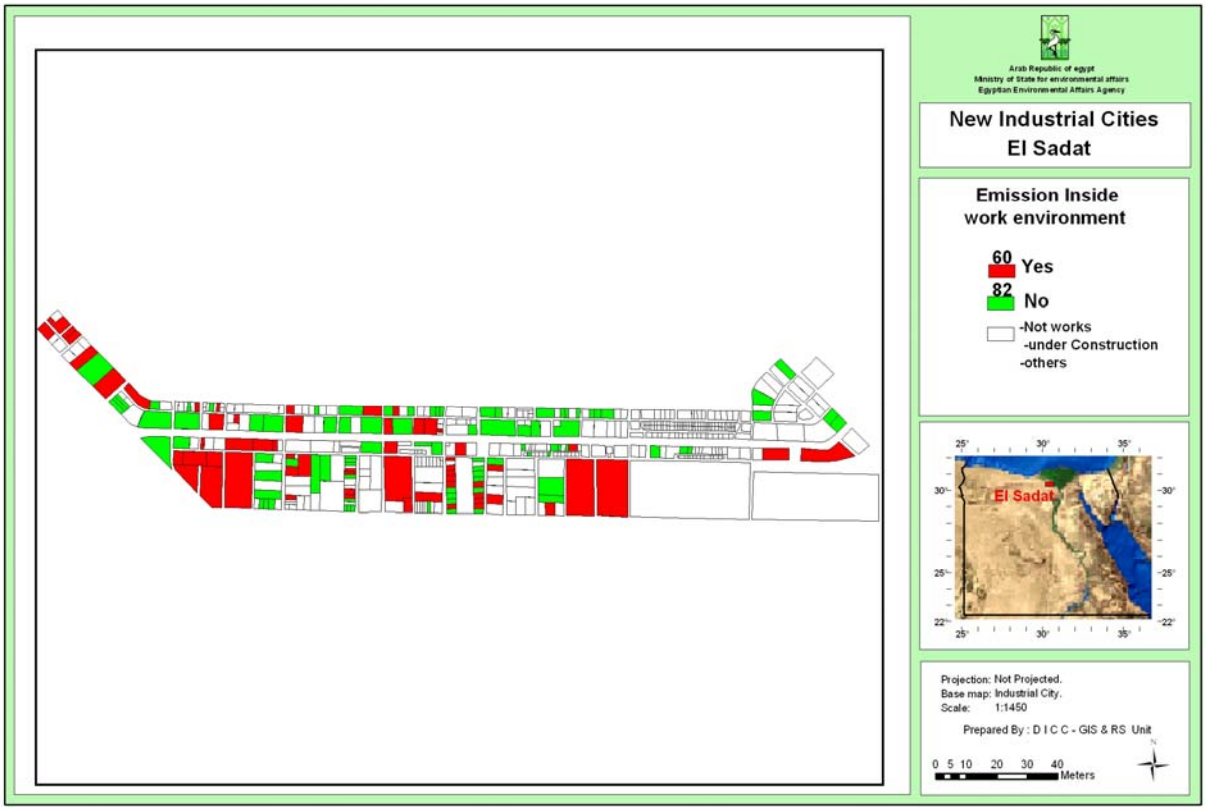
Through the UK DFID funded SEAM program and Danida funded EMG component, a number of demonstration projects were funded and implemented for environmental development and environmental management improvement in residential areas (cities and villages). The projects were implemented in many fields including solid waste management (12 projects), sanitation (4 projects), and 24 projects for achieving Cleaner Production (CP) in some facilities within residential areas. It was observed that these projects are low cost, replicable and sustainable.

Within the framework of supporting community participation in preserving the environment, 40 projects were launched in the fields of waste management, sanitation, tree planting, environmental training and awareness.

Within the efforts for developing informal settlements in Egypt and providing them with utilities and services, the state had upgraded 286 squatter settlements in 10 Egyptian Governorates till the year 2001, and is currently working on developing other 435 areas.

New Areas

Two modal environmental villages were established under Mubarak national project for young graduate villages. In these models agricultural, domestic and sanitation wastes sound management was implemented, in addition to raising environmental awareness was through the establishment of an environmental cultural cen-



New Industrial Cities – Sadat City (Emissions in the work environment)

ter, in addition to rodents and insects control programs, and observing the aesthetics by painting houses in a unified color and establishing gardens and parks. For ensuring sustainability of the activities
of this model, an environmental council was established with elected members from the residents, and a village environmental profile and work plan were developed.

A new activity was added for environmental improvement in residential areas and development and services sectors through establishing the GEAP department anchored within EEAA for developing environmental action plans that observe Governorate-specific environmental issues, linking to the NEAP, in cooperation with foreign consultancies such as the SEAM program, funded by the British Government, and EMG Component in Beni Suef and Aswan Governorates, funded by Danida, under environmental assistance offered to the Arab Republic of Egypt. GEAPs and Development plans were implemented for 7 Governorates, namely Aswan, Sohag, Beni Suef, Daqahlia, Damietta, South Sinai, in addition to the GEAP currently being developed for Luxor city.

8-e Environmental Development in Industrial Areas

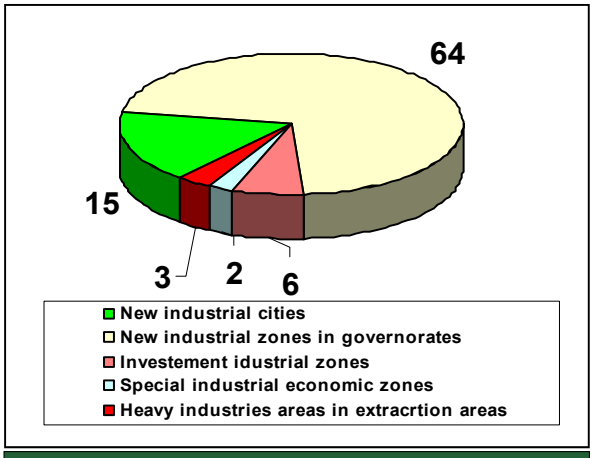
The industrial sector in Egypt is an effective sector on GDP and economic development. However, it is a major source of water, air and soil pollution and a main consumer of energy and natural resources.

The Industrial sector in Egypt is characterized by:

1. The continuous increase in industrial

facilities. Industrial facilities in Egypt have reached more than 26,000 large, medium or small enterprises.

2. The rising trend of encouraging the private sector, privatization, and Egyptian and foreign investments.
3. Extending the use of national technologies and rehabilitating old ones.
4. Reducing industrial conglomerates inside cities.
5. Allocating large areas for industrial activities in new independent areas and cities outside residential blocs.
6. The extension in selecting industrial areas qualified to conclude international agreements in order to boost exports and competition with foreign goods and industries (QIZ).
7. **90 new cities and industrial zones were allocated as follows:**
   a. 15 new industrial cities.
   b. 64 new industrial areas in Governorates.
   c. 6 investment industrial free zones in Governorates.
   d. 2 private economic industrial areas.
   e. 3 heavy industries areas in strategic locations, under the jurisdiction of Canal Governorates.
   f. in addition to the industrial and handicraft areas within approved plans inside cities.



Industrial Activities in Egypt

Challenges Facing the Development of Industrial Areas And New Industrial Cities

a. Emphasizing industrial projects economic feasibility over environmental effectiveness.
b. Increased investments in polluting industrial activities due to increased demand (cement – ceramics – textile dying – carpets – metal foundry and smelting activities – coal production – fertilizers – petrochemicals …etc.).
c. Increased volume of industrial wastes in the absence of safe landfills for hazardous wastes.
d. High costs of relocating industrial conglomerates existing within residential cities boundaries.
e. The lack of compliance with enforced environmental regulations, laws, requirements and environmental standards.
f. High cost of control systems, treatment plants and eco-friendly raw material.

State Efforts In Developing Industrial Areas And New Industrial Cities

The state has focused significant attention for industrial areas and new industrial cities to address the negative impacts on Egypt's environment resulting from the persistent increase in number and size of industrial facilities, the use of old techniques and the spread of industrial facilities within city cordons. This attention, mainly through the Ministry of State for Environmental Affairs, is manifested in the following:

1. Passing Law 4/1994 on environment

protection, in which special clauses were dedicated to environmental assessment of new industrial facilities, and expansion of existing ones.
2. Coordinating with the relevant ministries and entities to incorporate the environmental dimension in planning, implementation and operation phases of industrial facilities and areas (the Ministry of Housing and Construction, Ministry of Industry, General Organization for Industrialization and Governorates concerned).
3. Developing monitoring plans for industrial areas and new cities, establishing integrated database, extracting and studying environmental indicators and developing suitable environmental solutions in cooperation with research centers and projects.
4. Issuing environmental standards and requirements for new industrial areas and expansion of existing ones.
5. Coordination and participation in selecting environmentally appropriate sites for new industrial zones, expansions, and relocation sites for polluting activities outside residential blocs.
6. Issuing environmental planning master plan for the distribution of activities within industrial zones.
7. Providing opinion on approving EIA studies in facilities located in industrial areas.
8. Developing EIA guidelines in industrial areas and sanitation treatment plants.
9. Developing environmental standards and requirements for infrastructure projects (such as roads – sanitation plants).
10. Implementing pilot projects for improving environmental conditions and reducing pollution loads in industries using old technologies, in cooperation with research centers and foreign projects.

8-f Future Vision

If accomplishments in existing environmental status in residential areas are of monumental importance, future planning through a comprehensive overall vision is a necessity whereby the general goal is achieved, as well as the protection of and saving in natural wealth and financial resources. Thus, the future vision for environmental work in urban areas in Egypt includes:

- Completing the study of environmental situation of all Egypt cities and villages, and completing, and later updating, the environmental database.
- Issuing reports on the state of the environment in all Governorates, and discussing them with competent authorities, while identifying required measures and potential funding sources.

Urban and Rural Areas

- Implementing more demonstration projects for improving environmental services, rationalizing wealth consumption, expanding participation base by assigning a bigger role to local administration, civil society, NGOs and the private sector in a bid to achieve decentralized environmental management under an integrated environmental management system, in addition to capacity building and environmental awareness programs in residential areas and opening new channels for coordination with

the relevant ministries, authorities and institutions to achieve better development.

- Studying developing and updating the various industries through incorporating the environmental dimension and applying CP rules in industrial facilities adversely impacting the environment, such as tanneries, smelters, and glue factories as well as publishing guidelines in cooperation with research centers and universities to achieve integrated environmental management in industrial zones.

New Cairo City

2002 1997

8-g References

- CAPMAS Statistical Yearbook 2000 – 2003.