

Chapter 8

Tree Planting, Forests, Green Areas and Belts





Tree Planting, Forests, Green Areas and Belts

Introduction

Trees are considered one of the most important environmental elements that provide yield, protection and shade. Forests and planted trees represent one of the natural renewable resources that maintain environmental balance and play an important role in its natural environment. It reacts with different atmospheric, land, water and biological environmental elements and protect the environment. In general, without trees human life will lose sustainability, thus we have to protect forests and plant trees for the sake of our planet.

From this regard the Ministry of State for Environmental Affairs is implementing a number of activities to limit the adverse impacts of pollution on environment, these can be summed up as follows:

1. The Green Belt around Greater Cairo (Cairo, Giza, Qaliubia)

The project aims at planting an intensive green belt around Greater Cairo extending for 100 km and consisting of 500,000 trees, in order to make use of treated wastewater instead of wasting it in the desert. Moreover, it provides job opportunities for youth and achieves environmental and economic outcomes.

The project started in 2005 and by 2006, 65,000 Eucalyptus ,Casuarina, Cupressus and Acacia trees were planted, representing 16 km of the first stage which extends for 22 km long. This stage starts at the intersection of the Ring Road and El Qatamia- El Ein El Sokhna Road and ends at the intersection of the Ring Road with Cairo- Suez Road.

During 2007, a daily follow up is performed for irrigation, pruning of trees, and maintaining drip irrigation networks. Pictures (8.1), (8.2).

Tree Planting, Forests, Green Areas and Belts



Picture (8.1): Flowers of the Acacia Trees in the First Stage of the Green Belt Project



Picture (8.2): Growth of Cupressus Trees in the Green Belt Project



Tree Planting, Forests, Green Areas and Belts

A protocol was signed to implement the project's second stage between EEAA and Military Works Department. This stage includes establishing the main irrigation line of the 14 km Eastern arch of the belt and planting 13 km with a total of 60,000 trees. Water tanks were installed to start implementing the irrigation network and planting the trees.

2. Afforestation using treated wastewater

Water resource management and using nontraditional water resources are considered among the main tasks of sustainable development stakeholders at the global level. Wastewater treatment and use in different purposes are one of the important alternatives, being an additional renewable source of water which contain nutritional elements essential for trees and plants.

According to the protocol signed between the Ministry of Agriculture and Land Reclamation (Central Department for Afforestation and Environment), Ministry of State for Environmental Affairs (EEAA), and Ministry of Housing, Utilities and Urban Communities (National Authority for Potable Water and Sanitation), the National Program for the Safe Use of Treated Wastewater for Afforestation is implemented. It aims at planting 400,000 feddans of tree forests to make use of 2.4 billion m³ of wastewater.

By the end of 2007, afforested areas reached 11,176 feddans in 34 forests in 17 governorates as illustrated in Table (8.1), in addition to the forests that are being planted (2007-2008) over 16,984 feddans in 27 forests in 8 governorates as illustrated in Table (8.2).

Due to the relative advantage of planting *Jatropha* to produce bio-oil in desert lands using treated wastewater, planting *Jatropha* forests is expanded to Luxor (120 feddans), Sohag (150 feddans), and Suez (400 feddans) as shown in pictures (8.3), (8.4).

Tree Planting, Forests, Green Areas and Belts



Table (8.1): Status of Implementation of Forests Using Treated Wastewater Till 2007

Governorate	Plant Discharges (thousand m ³ /day)	Forest no.	Planted Areas (feddan)	Irrigation System	Plant Varieties
Aswan	100	4	730	Drip	Khaya - Terminalia
Luxor	55	2	900	Drip + modified flood irrigation	Khaya, Jatropha, Eucalyptus, Mulberry, Acacia
Qena	274	3	900	Modified flood irrigation	Eucalyptus, Khaya
Sohag	416	6	2491	Drip + modified flood irrigation	Khaya, Jatropha
Assuit	223	3	495	Drip	Khaya
Minia	110	2	200	Drip	Eucalyptus, Casuarina
Giza	65	1	500	Drip	Khaya, Cupressus
Daqahlia	2	1	200	Drip	Concarpus, Cupressus, Eucalyptus
Menofia	18	1	600	Drip	Agara, Cupressus, Pinus, Acacia, Eucalyptus, Mulberry, Ornamental trees
Matrouh	50	1	200	Drip	Eucalyptus, Casuarina
Alexandria	20	1	60	Drip	Eucalyptus, Casuarina
Ismailia	90	1	500	Drip	Concarpus Agara, Cupressus, Pinus, Khaya, Eucalyptus, Casuarine, Mulberry, Bamboo
Suez	30	1	400	Drip	Jatropha
North Sinai	15	1	300	Drip	Cupressus
South Sinai	10	2	700	Drip	Eucalyptus, Casuarina, Ornamental trees



Tree Planting, Forests, Green Areas and Belts

Governorate	Plant Discharges (thousand m ³ / day)	Forest no.	Planted Areas (feddan)	Irrigation System	Plant Varieties
Red Sea	94	1	200	Drip	Casuarina, Jatropfa, Khaya
New Valley	41	3	1800	Drip + modified flood irri- gation	Terminalia, Tamarix, Neem, Khaya, Eucalyp- tus, Acacia
Total		34	11176		

Source: Ministry of Agriculture and Land Reclamation—Ministry of State for Environmental Affairs—Ministry of Housing, Utilities and Urban Development

Table (8.2): Forests Under Implementation Using Treated Wastewater (2007-2008)

Governorate	Plant Discharges (thousand m ³ /day)	Forest no.	Areas Under Implementa- tion (feddan)
Luxor	55	1	200
Qena	274	10	5070
Sohag	416	6	3218
Assuit	223	4	4936
Red Sea	94	1	800
Matrouh	50	1	800
Beni Suef	41	2	560
Minia	110	2	1400
Total		27	16984

Source: Ministry of Housing, Utilities and Urban development

Tree Planting, Forests, Green Areas and Belts



Picture (8.3): Jatropha Forest Producing Bio-oil in Luxor



Picture (8.4): Training Youth on Producing Jatropha curcas Irrigated by Treated Wastewater



Tree Planting, Forests, Green Areas and Belts

Effectuating the Egyptian Code for using treated wastewater, issued in 2005, and experimenting plant types mentioned therein, MSEA continued its experiments in the pilot field managed through the Integrated Water Resources Management Project (Life) over 10 feddans. Bio-oil-producing *Jatropha* and *Jobba* plants are followed up and experimented, in addition to other plants such as Linen, Roses, Bird of Paradise, *Duranta*, Sorghum fodder, Mulberry, African Mahogany, *Dalbergia Sisso* and olives. Green and tree growth, and environmental and economic impacts of these crops are assessed. Initial results indicate the success of planting such crops and irrigating them with treated wastewater. Pictures (8.5), (8.6).



Picture (8.5): *Jobba* Trees in Luxor Pilot Field

Tree Planting, Forests, Green Areas and Belts



Picture (8.6): Roses in Luxor Pilot Field

Encouraging technical education according to Mubarak-Kohl Initiative to provide technicians scientifically and practically trained on means of production and technology and according to labor market needs, and due to the lack of labor for forests irrigated with treated wastewater, in addition to expansion in planting these forests especially in Upper Egypt, the Ministry opened the second class in this system so that the total number of trainees in Luxor forest reached 60 trainees.

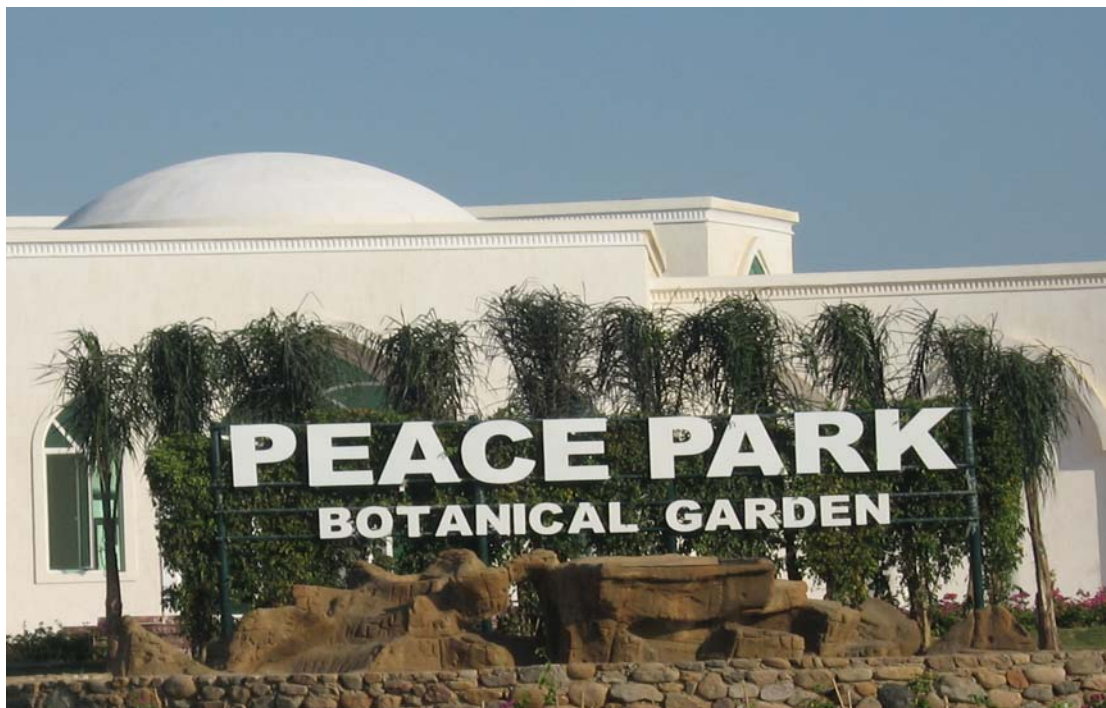


Tree Planting, Forests, Green Areas and Belts

3. Efforts made in planting trees, green areas and parks

In addition to establishing tree forests using treated wastewater, the following activities have been implemented:

A. Owing to the importance of botanical gardens in maintaining the genetic origins of different plants, MSEA established the Botanical Peace Park on an area of 33 feddans, where the genetic origins of medical and aromatic plants in South Sinai Governorate are collected and reproduced. The park also includes green areas, trees, shrubs and different types of palm trees. Picture (8.7), (8.8).



Picture (8.7): Botanical Sharm El Sheikh Peace Park

Tree Planting, Forests, Green Areas and Belts



Picture (8.8): Roman Theatre in Sharm El Sheikh Peace Park

To create an atmosphere of communication between youth all over the world and within the proceedings of the International Youth Forum of the Peace Movement headed by Mrs. Suzan Mubarak , the First Lady participated with 700 youth from 100 countries in planting olive trees in the Peace Park in September 2007. Picture (8.9).



Picture (8.9): Reception of the Members of Suzan Mubarak Movement for Peace in Sharm El Sheikh Peace Park



Tree Planting, Forests, Green Areas and Belts

- B. Within the celebrations of Environment Day in 5 June 2007 under the slogan “Climate Change ... Topic of the Hour”, 110,000 trees were distributed all over the governorates and youths participated by planting the trees in their governorates.
- C. Establishing plant nurseries affiliated to the government or NGOs in all governorates over areas ranging between 1 to 10 feddans per nursery. This year, 12 nurseries have been established to produce shrubs of wooden trees and ornamental plants, including Nour El Hoda NGO nursery in Beni Suef and the Central Nursery in El Kharga City - New Valley Governorate.
- D. Within the framework of squatter development, 20 schools were beautified and planted with trees at El Nahda in El Salam City (picture (8.10)). Moreover, waste incinerator in Manshyet Nasser, Cairo, has been developed.



Picture (8.10) Students Participation in Planting Trees in One of El-Nahda Schools

Tree Planting, Forests, Green Areas and Belts



- E. To encourage youth and develop their sense of belonging in cooperation with some NGOs and the Egyptian TV, the project of the Best Youth for 2007 Summer was implemented. Also, 2000 trees and 4000 flowers in different colors were provided to the youth to be planted in 8 squares in Cairo and Giza.
- F. Tree planting in 180 schools and 9 school roofs, in front of mosques, inside monasteries, hospitals (Suzan Mubark Specialized Hospital - Red Crescent NGO), Central Security Units, public squares, and NGOs (The Egyptian Association for Environment Protection and Wild Life in Daqahlia, El Sadat Association for Development and Social Welfare in Menufia Governorate, Community Development Association in Samool in Gharbia Governorate, Central Integrated Care Society, South Mearage Association for Community Development). 32,000 trees were provided to these associations.
- G. Tree planting of some local units such as El Akwaz Local Unit Association - El Saf City, Giza Governorate; El Azazy Local Unit, Faqous, Sharqia Governorate; and some youth centers such as El Basateen and Dar El Salam youth centers.
- H. Beautification and tree planting of some universities, institutes and faculties including MDCI in Helwan; Faculty of Applied Arts, Helwan University; and Kindergarten Faculty, Fayoum University. Also, the third phase of tree planting in Fayoum University Campus was implemented. Picture (8.11).



Picture (8.11): Beautifying and Tree Planting in Fayoum University Campus



Tree Planting, Forests, Green Areas and Belts

- I. Participation in establishing and planting Suzan Mubark Family Park at New Cairo over an area of 60 feddans including planting green areas, trees, shrubs. It is considered the largest and newest park in Egypt to be established through a new developed concept representing the second generation of distinguished parks in Egypt complying with current changes.
- J. Tree planting and beautifying some desert roads to protect them from sand encroachment such as the first phase of North Sinai roads and cities for 40 km, and Fayoum - Cairo Road for 10.5 km. Picture (8.12).



Picture (8.12): Tree Planting in Cairo - Ismailia Desert Road

Tree Planting, Forests, Green Areas and Belts



Future Plan (till 2012)

With treated wastewater amounts increasing with establishing more treatment plants all over the country during the plan duration, MSEA in cooperation with all line ministries is highly concerned about work progress and planting more forests, aiming at the following:

1. wood production,
2. producing organic bio-oil (Jatropha), and
3. establishing green belts to reduce land, water, and air pollution.

Moreover, continuing the plantation of green belts based on treated wastewater irrigation is one of MSEA priorities either through continuing the implementation of the second and third phases of the green belt around the Ring Road of Greater Cairo or by planting green belts on cross roads intersecting the Ring Road for 25 km, in addition to green belts around old and new cities.

Efforts continue to add more green areas and plant more trees to improve environment, through intensifying tree planting efforts and establishing parks in old cities or in new urban communities to benefit from health, aesthetic, tourist and environmental advantages.

References

- (1) **Housing and Building Research Center– Ministry of Housing, Utilities and Urban Communities - 2005: The Egyptian Code for Using Treated Wastewater in Agriculture.**