

The Role of Environmental Affairs Agency of East Delta Region to Mitigate the Problems of Water Pollution



By

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THE SHOW ITEMS

- ❑ **Wastewater cycle in East Delta region.**
- ❑ **Programs of the Action Plan**
- ❑ **Achievements.**

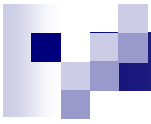


Fresh water sources

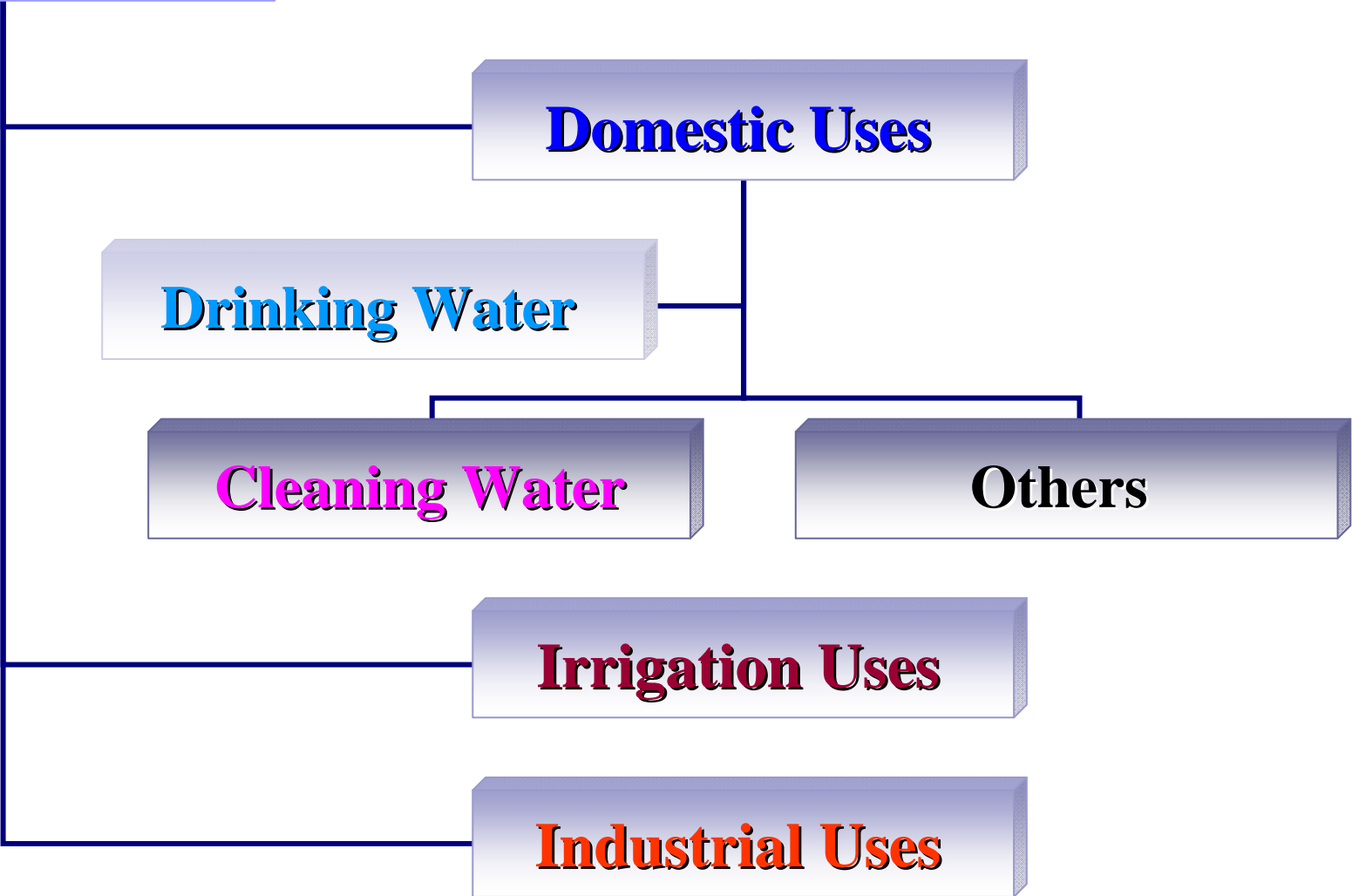
River Nile (55.5 M m³)

Rainwater (1M m³)

Groundwater (4.37M m³)



Fresh Water Uses





Wastewater Sources

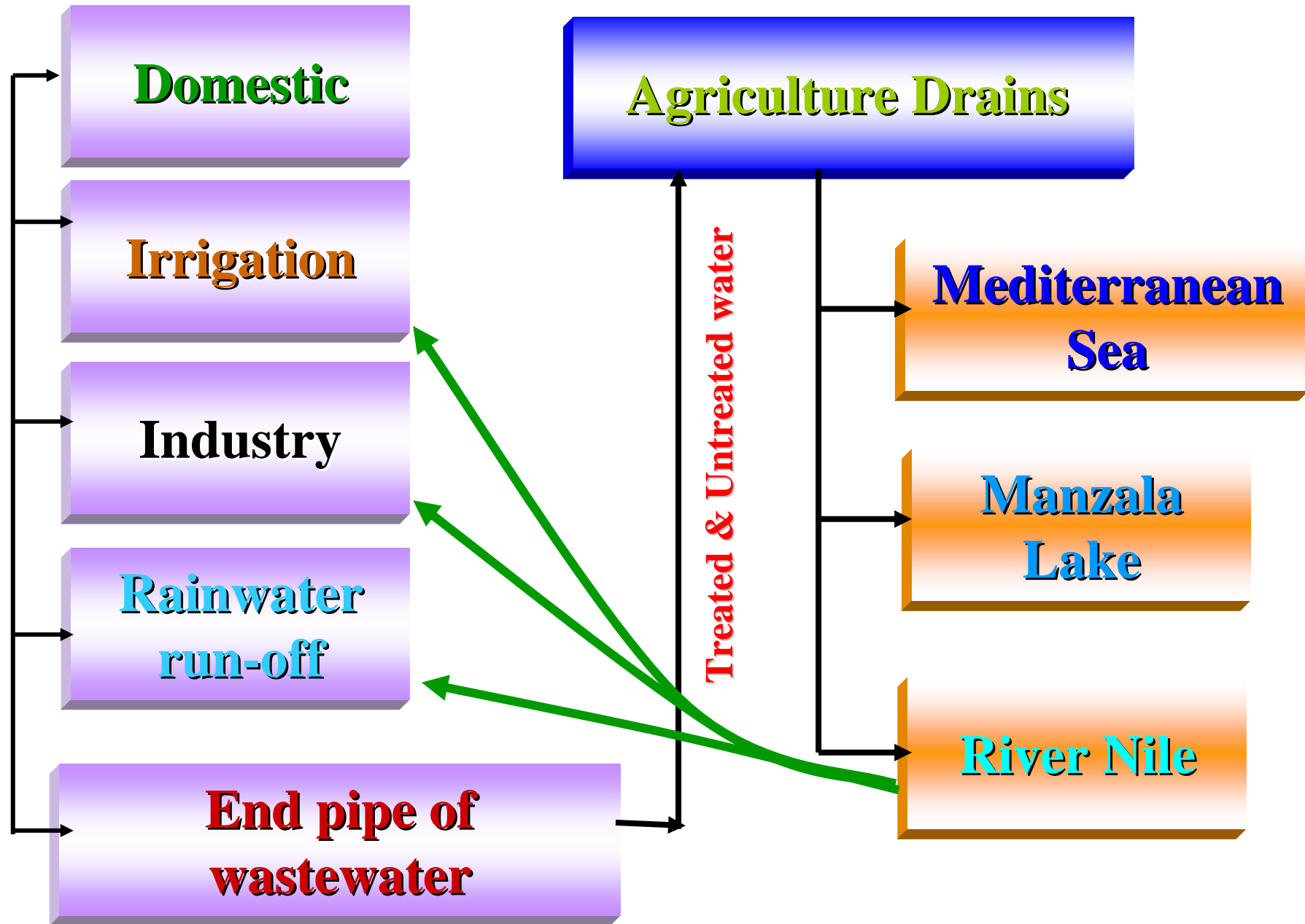
Sewage Wastewater

Irrigation Wastewater

Industry Wastewater

Rainwater run-off

Wastewater Cycle



Reasons	Sources	Types	Examples
□ Domestic Wastewater	• Urban areas especially unformed areas	• Organic matters. • Chemical substances resulted from detergents	Wastewater treatment stations
□ Agriculture wastewater	• Agriculture Drains	• Pesticides • Nutrient (phosphate & nitrate). • Exceeds Salts	• High Serow & Omar Bak. • Drain No. (1)&(2) and Hadous, and Bah el-Baker
■ Industry wastewater	• Industry activities	• Heavy metals • Harmful chemicals. • Oil & Grease	• El-Nasr Co. for fertilizer and chemical industry • Industry zone in Gammas & New Damietta
■ Solid waste	• Wastes of households • Remains of buildings	• Bacteriological contamination. • Organic load.	Solid wastes on the edges of River Niles and associated canals
■ Negative human activities	• Detergents . • Cleaning of animals and clothes	• Harmful chemical. • Bacteriological contamination	El-Bahr Elsagher & Bahr Besendela



Wastewater Treatment Systems

1- Aerobic Systems:

Mainly based on aeration system for biological treatment.

2- Anaerobic Systems:

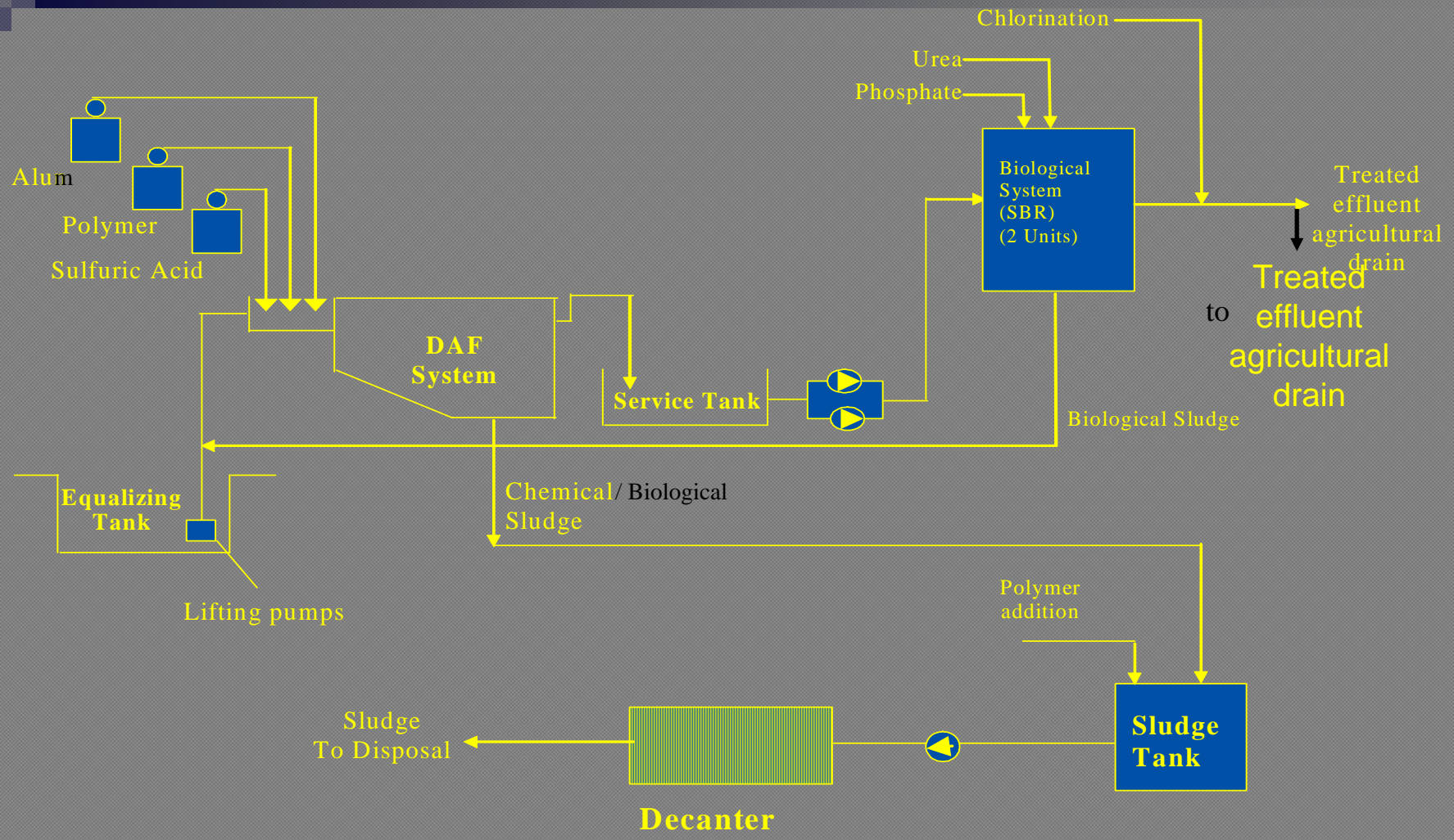
Mainly based on chemical treatment

Whole WWT systems are aerobic Systems



First

Wastewater Cycle in East Delta Region




General Process Flow Diagram for End-of-Pipe Treatment System



Second

Programs of the Action Plan



□ Environmental Affairs Agency of the East Delta in Mansoura is interesting with the water issues, where it become one of its priorities and that for many reasons-:

- Clean water is strategic importance to meet the requirements of development as well as human demands.**
- Water sources in Egypt are limited and revealed widespread concern about with the increasing requirements**



□ The action plan of Mansoura RBO includes:

- Package of education programs to raise awareness about the harmful activities and definition the pressing environmental issues.**
- Other many programs, namely:-**



1 : Environmental Monitoring of Water Quality

- **Monitoring of River Nile water (Damietta branch) (40 sample in 2006).**
- **Monitoring of Lake Manzala through fixed points represent mouths of five drains on the lake.**
- **Monitoring of Water quality for some agricultural drains.**
- **Monitoring of coastal water quality in Damietta, Dakahlyia governorates**

2 : Environmental impacts assessments

Date	Number of assessed project
2002	2484
2003	2754
2004	2963
2005	2378
2006	1844
2007	592

- The environmental impact assessment for new projects is the systematic examination of the effects of others deliberately caused by development projects in order to reduce and mitigate the effects of the feasibility study and analysis of environmental projects.
- 13015 project has been assessed by Mansoura RBO in East Delta region in the period from 2002 to 2007.



3: Environmental Inspections

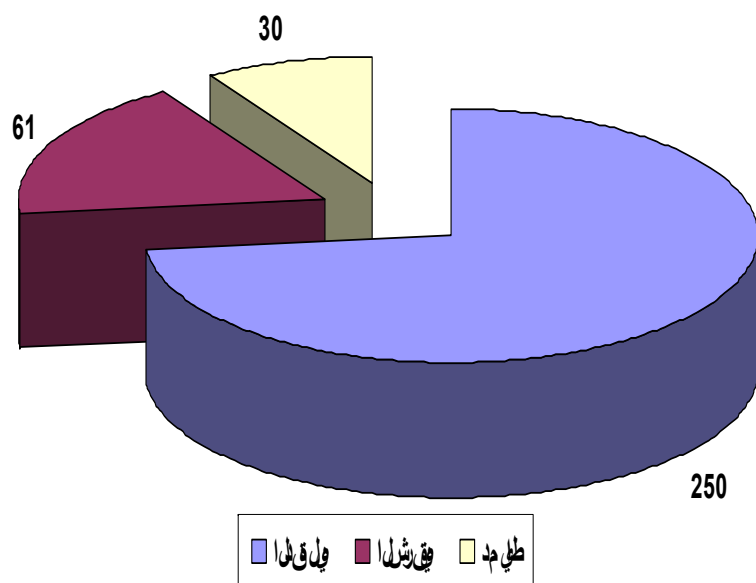
- ❑ Environmental inspection Program includes all factories discharging their industrial wastewater on the waterways.
- ❑ Major industrial enterprises located along the River Nile (*Talkha power station –Power Station of Kafr Al-Battikh, Edfina factory*).
- ❑ Major coastal enterprises such as (*Se-Gas-Damietta Port, industrial zones in new Damietta and Gamasa*).
- ❑ The number of samples have been taken in 2006 during inspection campaigns **100** sample



4 : Quality insurance of drinking water

- **Three committees have been formed to monitor the quality of drinking water and their sources in Eastern Delta Region according to:-**
- **The decision of Dakhliya Governor No. 80 in 03-12-2005.**
- **The decision of Damietta Governor No. 324 in 05-21-2006.**
- **The decision of Sharkiya Governor No. 330 in 09-21-2006.**

The Quality insurance of Drinking Water



- Monitoring of drinking water Committees at the level of the Eastern Delta consisting of the following :-
 - Health directorates.
 - Environmental Affairs Agency of the East Delta.
 - Environmental Management Units (EMU) of three governorates.
 - Drinking water and sanitation Companies.
 - The total except number of samples taken by Committees in 2006 about **341** sample in the region .



5 : Environmental big issues

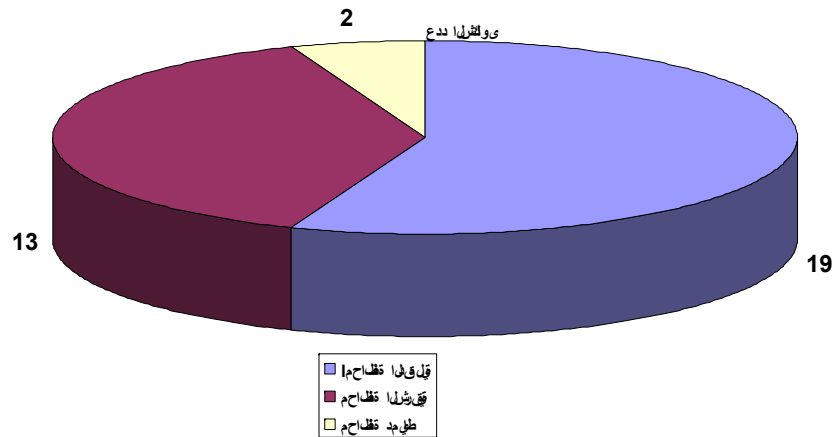
- ❑ **Mansoura RBO Participating in the mitigation of major environmental problems and disasters that occur in large scale of the territory and has contributed effectively to study the following problems.**
- ❑ **The emergence of odor in the drinking water in Mansoura city (2004).**
- ❑ **The issue of drinking water in Biljay village (2006)**



6 : Scientific studies about water quality problems

- ❑ The preparation of some specialized scientific studies of environmental problems related to water quality is essential part of the tasks assigned by Mansoura RBO.
- ❑ Team work of specialist researchers in the fields of *geology, chemical and environmental science* is currently prepare a scientific study on the underground aquifer, in the Sharkiya and southern part of Dakhliya governorates for the following reasons.
 - Groundwater wells constitute about 80% of drinking water sources in Sharqiya governorate.
 - The acute shortage of sanitation services to preserve (about 440 disadvantaged village)
 - Lack of environmental awareness among a large segment of the inhabitants of the seriousness of others rational practices on water quality especially groundwater

7 : Citizen Complaints



- ❑ All complaints classify related to issues of water (surface water or drinking water).
- ❑ Mansoura RBO is specifying a committee to examine all aspects on the field that can be relevant, and take samples from different sources for analysis.
- ❑ The number of complaints about water issues which had been discussed during the **34** complaints in **2006** in three Governorates



Operational Procedures

- ❑ **First:** Periodic monitoring of water quality has assessed and compared with the previous year to determine deterioration and improvement from the previous year of the environmental situation in the region, and addressing stakeholders with monitoring results to take appropriate action to correct the situation.
- ❑ **Second:** Legal actions being taken against offense industrial facilities and fined in accordance with the law 4 for 1994.
- ❑ **Third:** Each month, technical report send to the *General Secretaries of Governorates and the National Authority for drinking water and sanitation* to solve the problems that would affect the quality of drinking water, such as (*washing the networks - maintenance treatment plants - supply lines of disadvantaged areas of potable water intakes-cleaning stations*).



Third

Achievements

The Problem of Fish Cages



- About (2579) fish cage have been removed from the Nile course Damietta branch in the month of December 2006 after big efforts Fish cage which was affected water in Adliya, Bustan and Kafr Al-Battikh areas and caused a decline in their quality of
- *The participation of Public Administration for the Nile Protection and Police of Environment and Water Courses in Damietta, and Damietta Governorate*

The Problem of High Serow Drain



- In year 2005 The Ministry of irrigation and water resources has launched new project to amendment the mouth of high Serow drain to the lower Serow Drain and the established new pumping station at Lake Manzala in e *New Alexandria village*, an attempt to remove the pumping station on River Nile at *Mit EL-Kholi Abdullah village*.
- Discharging of agricultural drainage water mixed with sewage wastewater leads to the deterioration of water quality in River Nile

Problem of Edfina in Damietta



- Through a good follow-up of Mansoura RBO in East Delta the end pipe of the industrial drainage of Edfina factory for food industries has been changed to the sewage network, instead of the Nile River and the construction of the treatment plant.

Improve the Sewage Wastewater



- ***Effective Microorganism (EM)*** substance has applied to treat and improve the sewage wastewater three years ago.
- The applied experiments on some sanitation plants in Damietta and Dakhliya have proved that improve the quality of wastewater.

The problem of fishing boats in Ezbet El-Borg Damietta

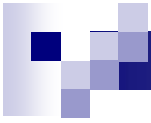


- After many environmental campaigns with Police of Environment and Water Courses the efforts of Mansoura RBO have Succeed and these campaigns showed the need to establish a fishing port in Mediterranean Sea this area.
- Currently Damietta governorate is studying the establishment of fishing port instead of random groupings to reduce the negative impacts of fishing boats on the marine environment and River Nile .



Recommendations

- ❑ Exceeding the education programs to raise awareness about the harmful activities and definition the pressing environmental issues .**
- ❑ Stop harmful practices that affect water quality**
- ❑ Support all sanitation treatment stations with the modern techniques.**
- ❑ Activate all laws to prohibit the disposal of industrial wastes only after fully treatment.**
- ❑ Supply disadvantaged villages with sanitation and clean water services.**



THANK YOU