



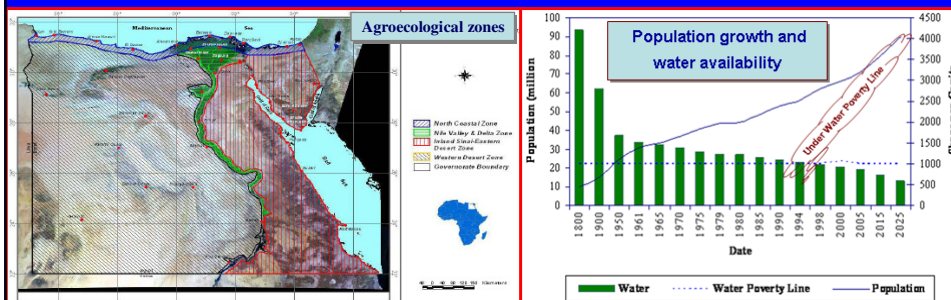
Arab Republic of Egypt
Ministry of Water Resources and Irrigation

Water Management in Egypt (Challenges and Options in the Nile Delta)

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Egyptis not an exception!



The gap between the available water resources and water requirements is expected to be wide in the future

Nile Inflows

The Egyptian water quota from the Nile is 55.5 BCM annually as specified in the 1959 agreement between Egypt and Sudan.

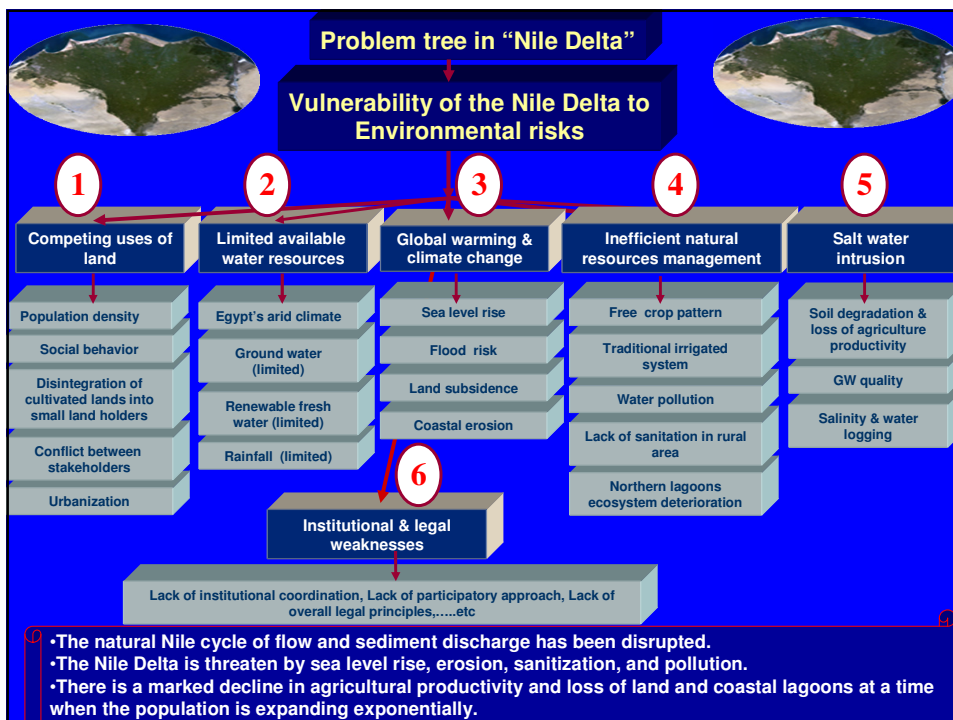
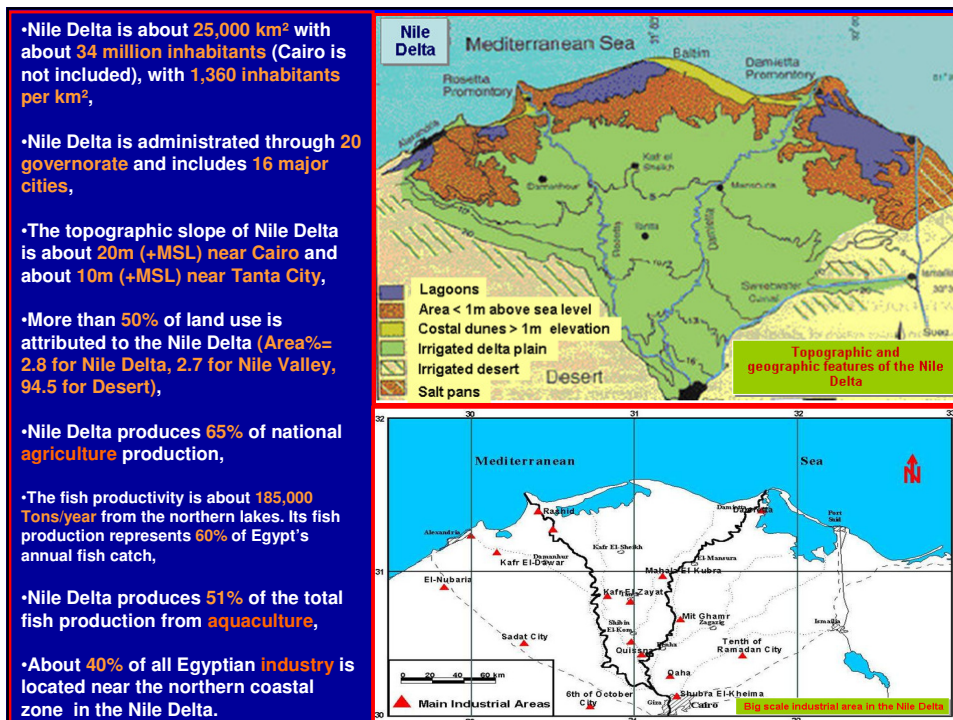
Groundwater

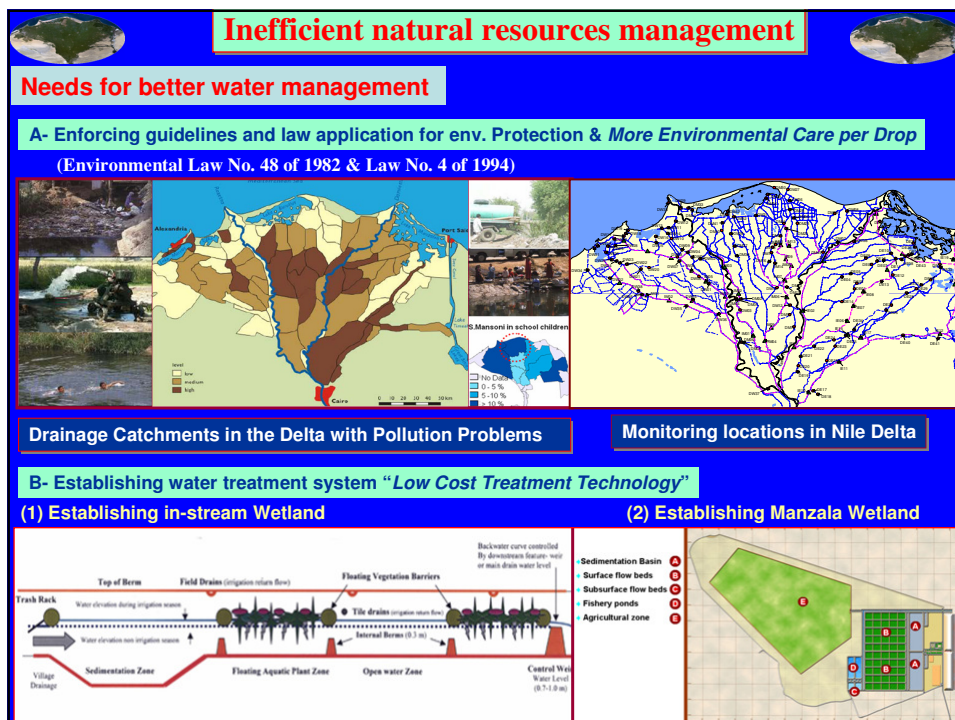
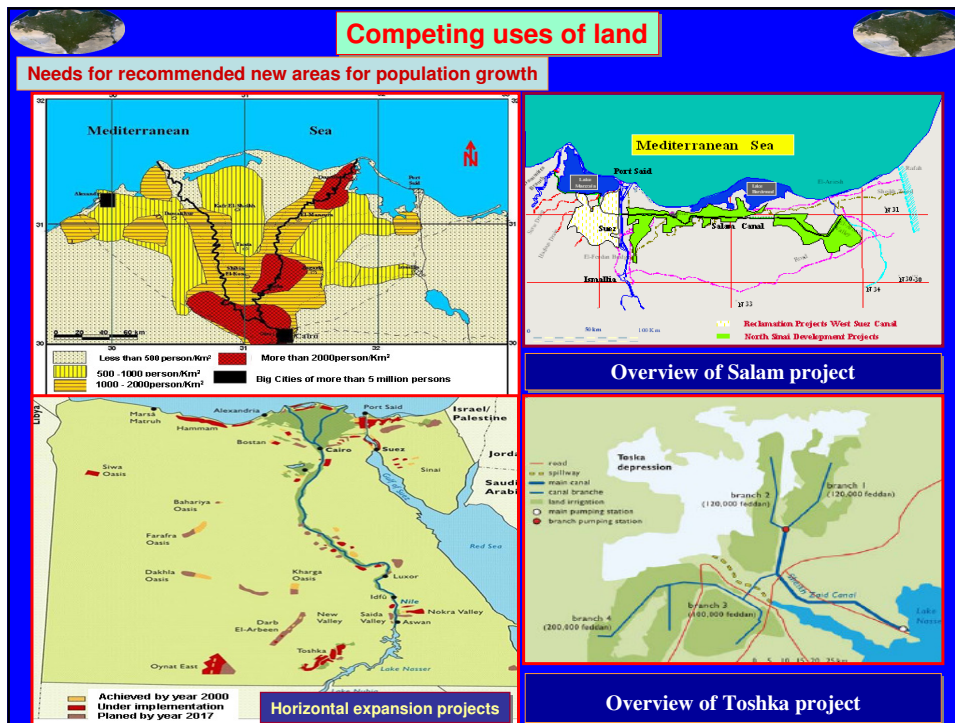
Groundwater in the desert is very limited. The possible amount expected from the groundwater fossil reservoirs is 0.5 BCM/yr.

Deep & Coastal GW in Sinai, some 10-20% renewable – current use = 0.09 BCM.

Rainfall

Egypt is mostly a rainless country that leads to limited water resources. The yearly total run-off that could be harvested is limited 1.0 BCM/yr.

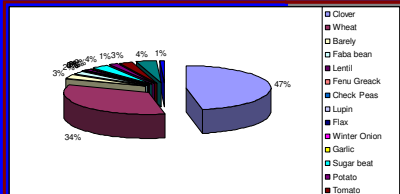




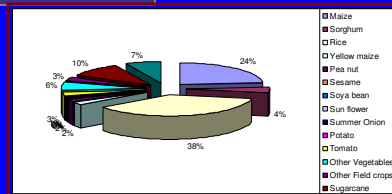
C- Establishing water management activities on-farm for *More Crop per Drop*



Modifying the cropping pattern



Winter water requirements pattern structure in Egypt, 2007



Summer water requirements pattern structure in Egypt, 2007

D- Aquatic weed control



E- Controlling soil degradation and loss of agriculture productivity

Salinity and water logging



Constructing subsurface drainage system



Subsurface drainage coverage in the Delta



Salinity and water logging are now under control in about 80% of the affected areas following the instillation of drainage system

F- Improving the water quality and ecosystem in Northern Lagoons



06/04/2006



Brackish-water Fisheries

In the North Delta (lakes Maryuit, Edku, Burullus & Manzala)

Saline – water Fisheries

These comprise Bardaweel Lagoon and Port Fouad Lake

Pollution source: Agricultural drainage and disposal of primary treated domestic sewage.
This pollution accelerates the process of eutrophication.
So, many fish species are disappeared from these lakes as a result of water pollution!

Prevention and/or reduction of domestic, agricultural and industrial emissions is the main key for lakes restoration

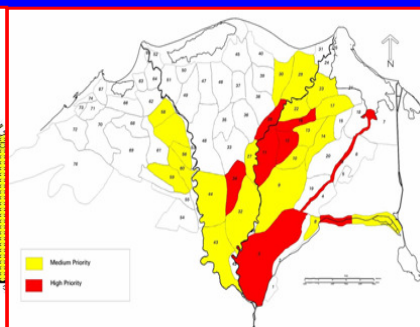
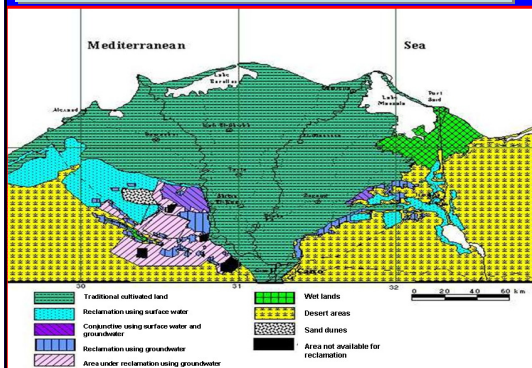
How

- Focus on treatment of industrial and domestic wastewater,
- Control production and import agrochemicals,
- Control the use of organic fertilizers,
- Enforcing guidelines and law application.



Water shortage

Needs for reuse agricultural drainage water



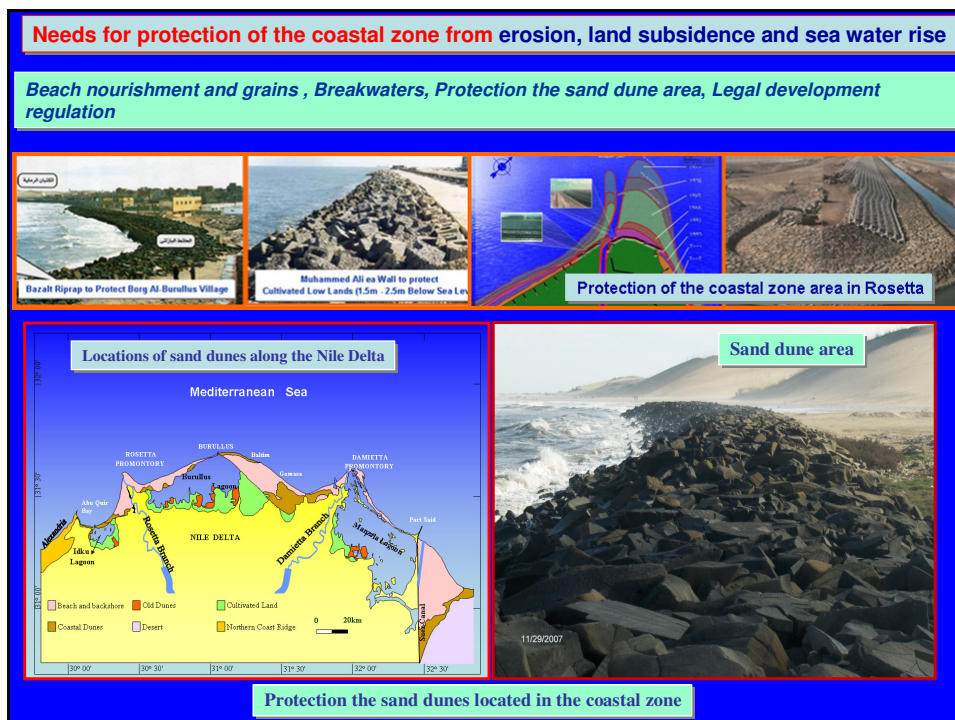
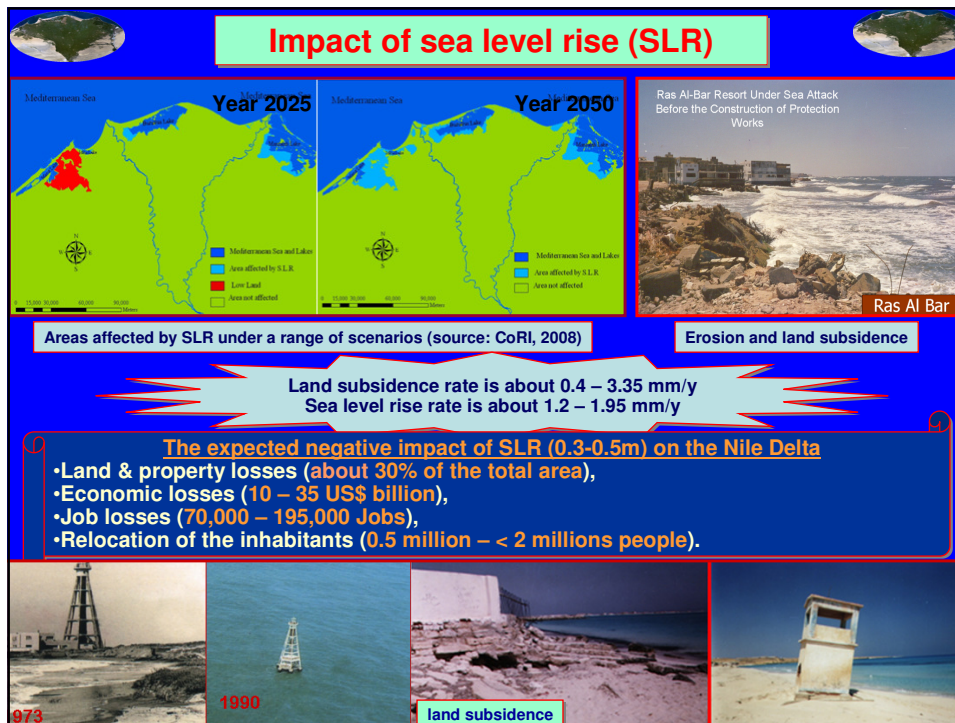
Priority areas in the Nile Delta based on the official reuse criteria

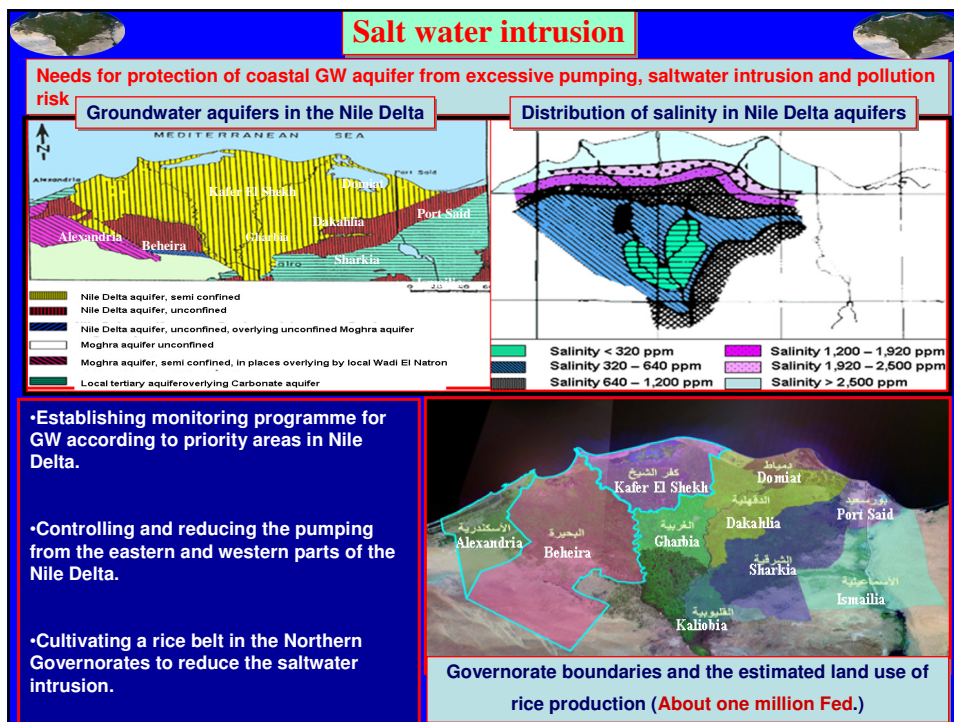
Main agricultural areas and types of irrigation in the Nile Delta

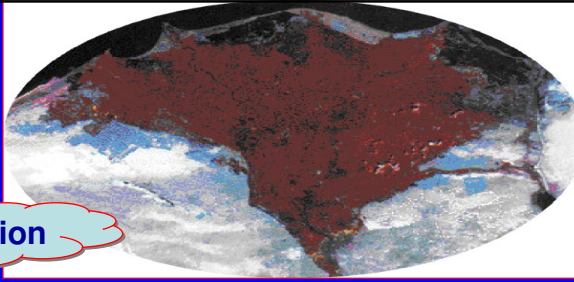
Official reuse criteria in the Nile Delta

Maximum Possible drainage water reuse in Nile Delta (BCM)

| Region | Available Drainage Water | Currently Reused | Possible to be reused |
|---------------|--------------------------|---------------------------------|-----------------------|
| Eastern Delta | 4.083 | 2.049 | 1.519 |
| Middle Delta | 5.849 | 2.007 | 2.881 |
| Western Delta | 3.819 | 1.123 | 2.384 |
| Total | 13.751 | 5.181 + 4.0 unofficial reuse | 6.784 ?? |

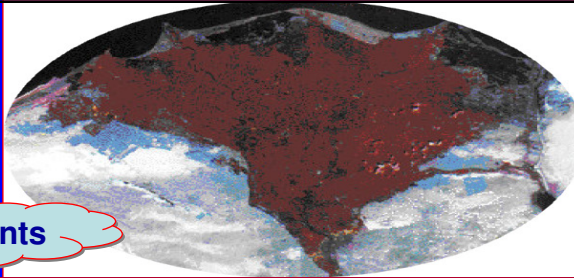






Conclusion

- The Nile Delta is one of the most heavily populated and intensely cultivated areas on earth.
- The Nile Delta is highly vulnerable to environmental risks.
- The main key factors that cause the environmental risks in this region are Sea level rise, erosion, land subsidence, salt water intrusion, soil degradation, undiversified crop-pattern, yield reduction, water pollution, population growth & competing uses of land.
- It is vital to sustain the Nile Delta from such environmental risks by developing adaptive measures and upgrading awareness.
- Further and more effective coordination, cooperation and collaboration with national and international activities are needed in the field of water and land management in the delta.



Statements

- The strategy to face climate change impacts should be integrated within the National Plans. This requires: awareness, political will and commitment
- There is a need to link science and research with policy. Realistic choices have to be made, determining priorities and using opportunities
- There is a need to mobilise short and long-term funding for the implementation of the Plans. This requires huge investment, that may surpass the Government's capability
- Because climate change is a global phenomenon, we urge the international community to be committed to fund the cost of coping with climate change.
- There is a need for continuous international dialogue, sharing knowledge, integrated networking and exchange of best practices.

