

The Great Egyptian Water Productivity Hackathon

Water Issues in Egypt

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Safir Hotel Cairo



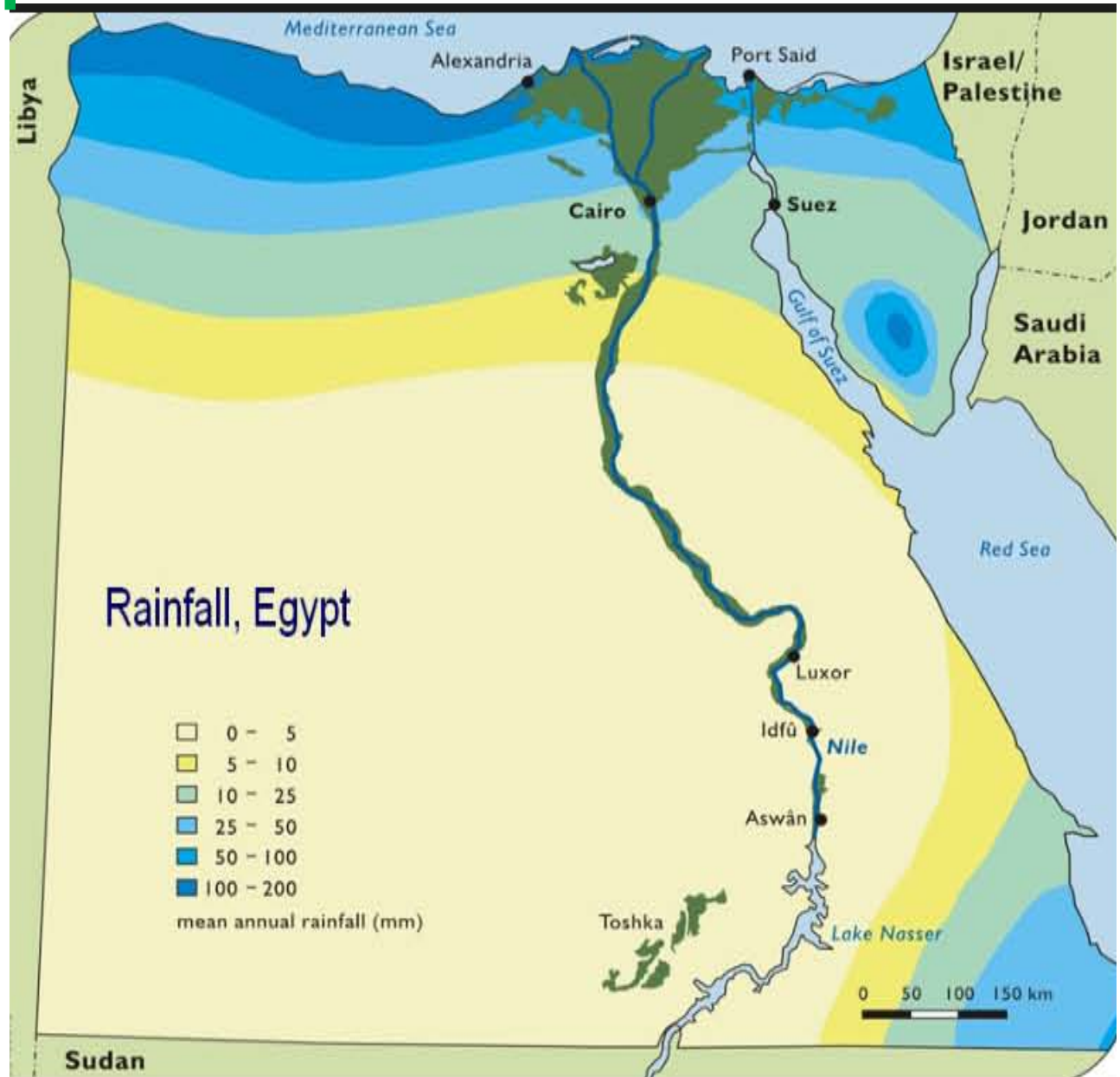
Ministry of Foreign Affairs of the
Netherlands



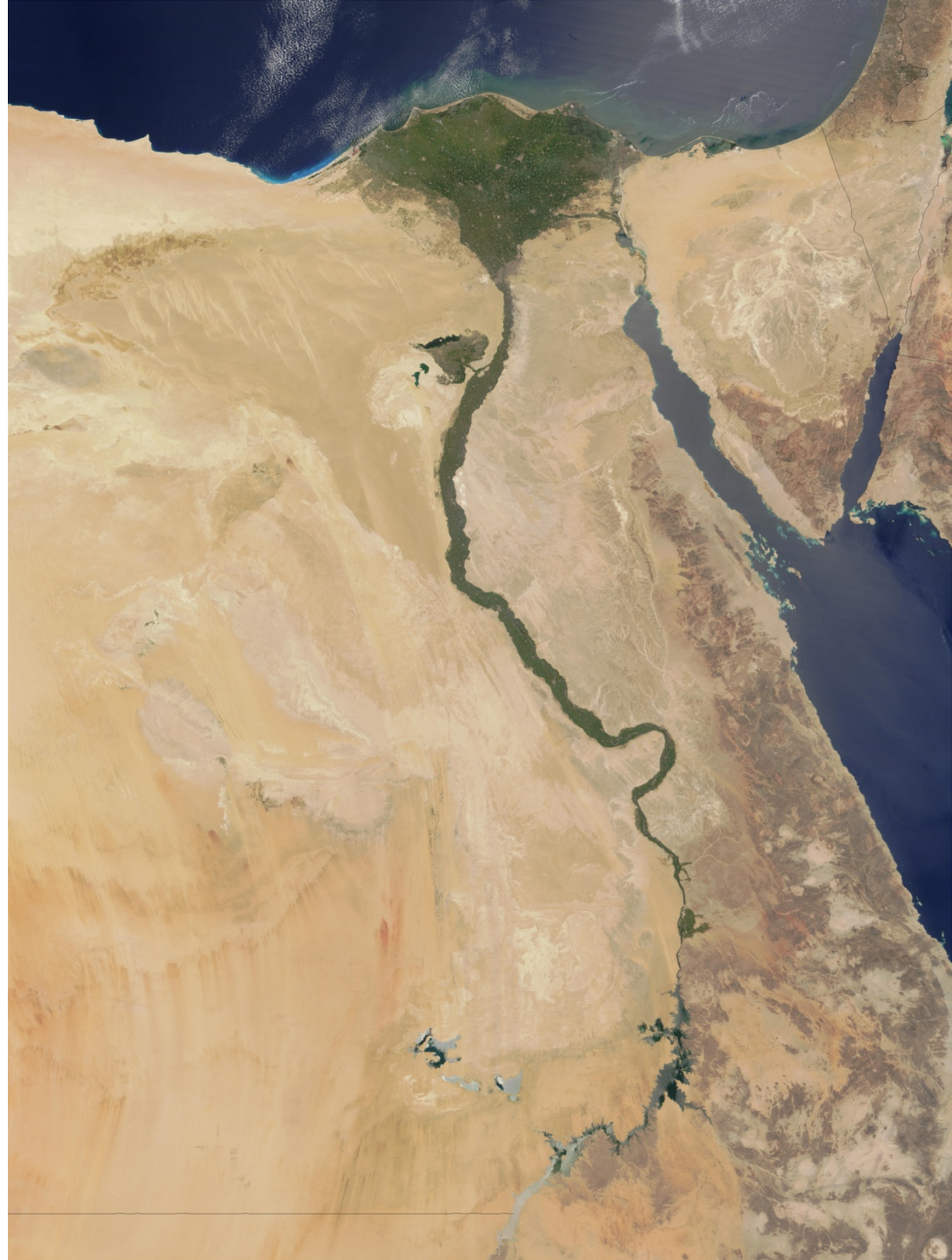
Water Resources

Rainfall:
Extremely
little

2.2% of
water
resources

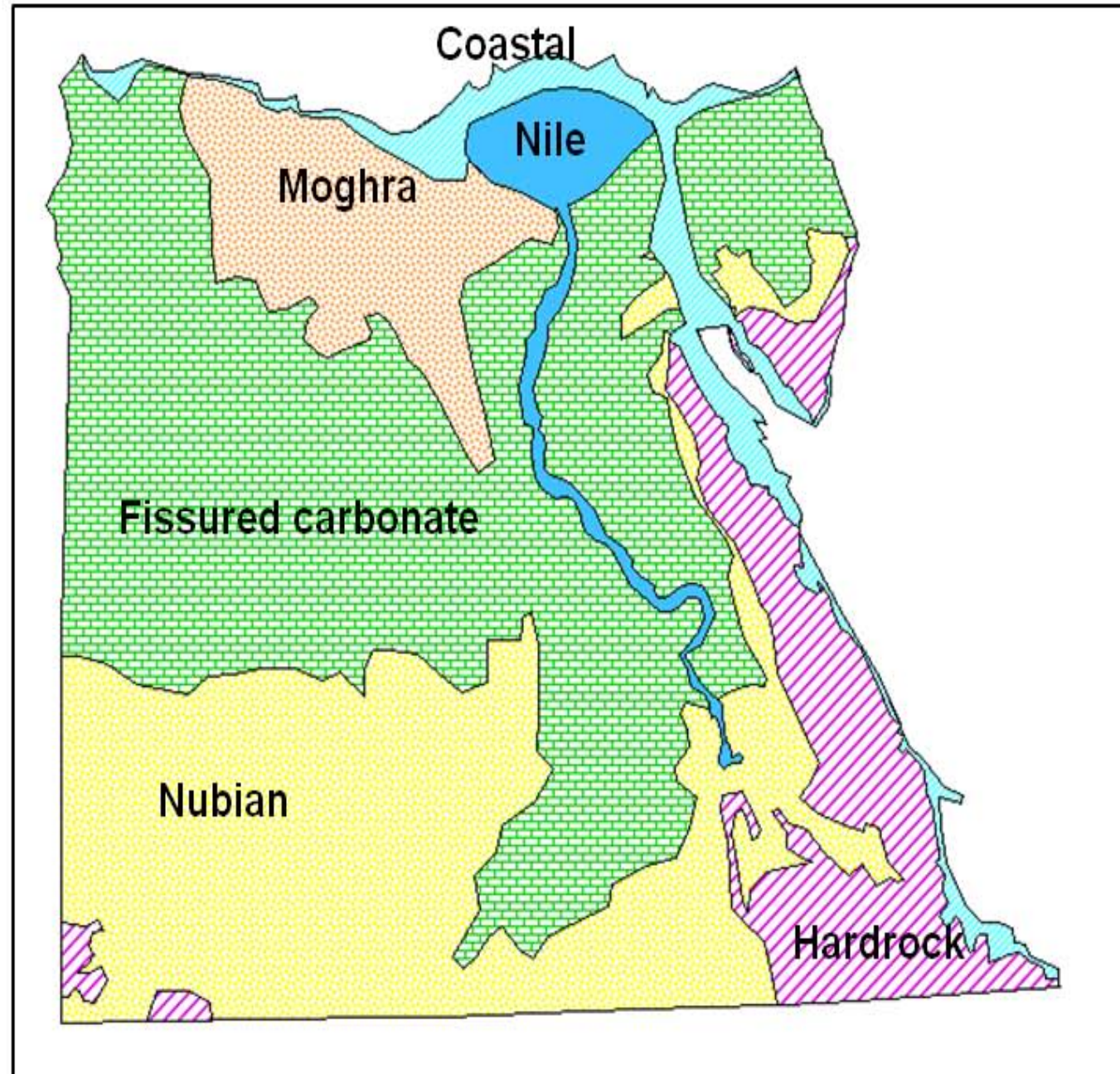


- Nile Water 94% of water resources
- agricultural lands 4% of total area
 - almost total dependence on Nile water



Groundwater

Deep groundwater comprises about 3-4% of total at present



Water Demands

Water Uses (BMC)		
Sector	Consumption	Utilization
Drinking	1.8	9.0
Industry	1.4	2.0
Agriculture	40.4	67.0
Disposal of drainage water	12.2	
Evaporation losses	3.0	3.0
Environmental balance	0.2	0.2
Total consumption	59.0	81.2

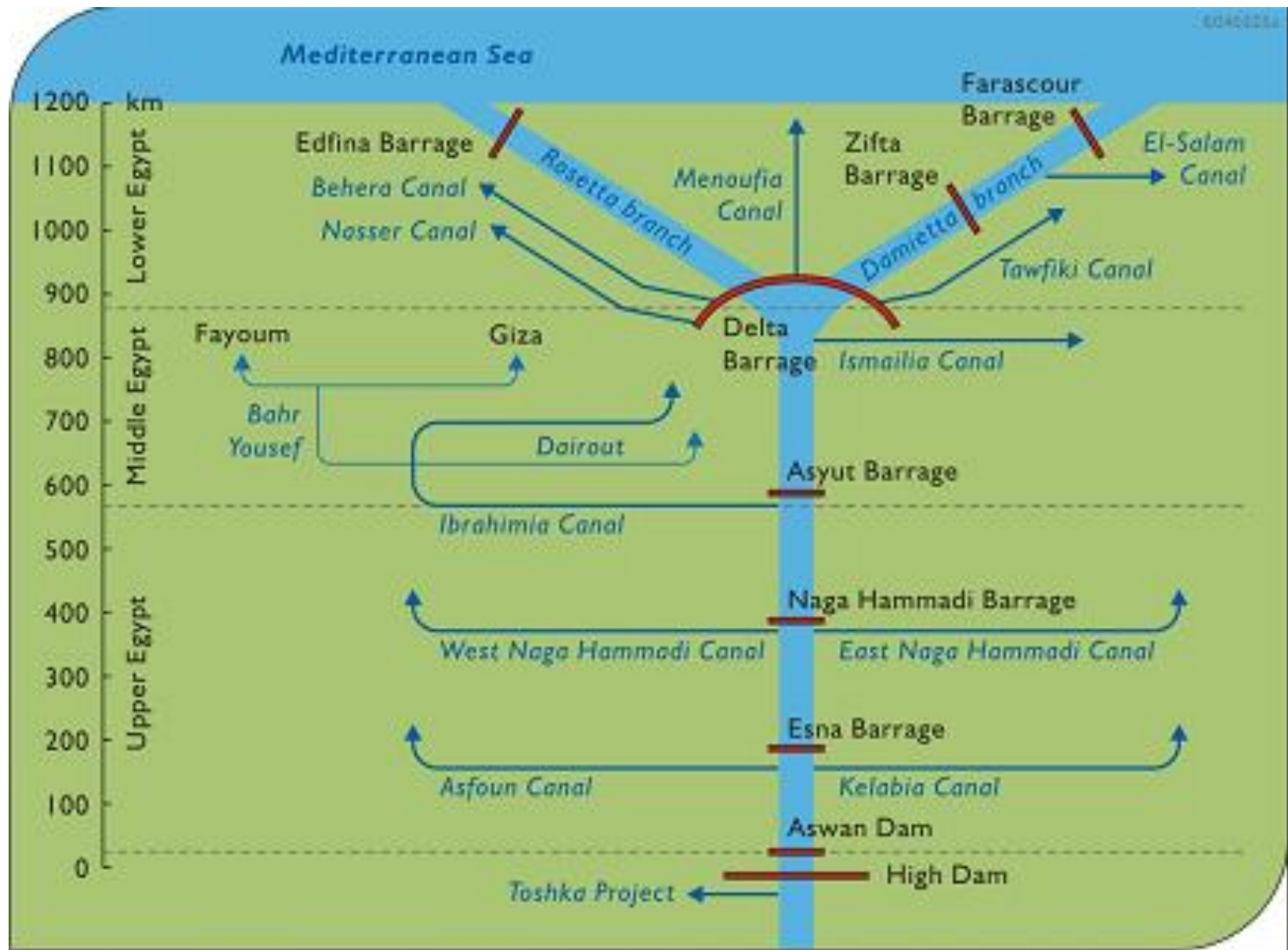
The Water Balance

Water Resources (BMC)		Water Uses (BMC)		
Water Resources	Quantity	Sector	Consumption	Utilization
Conventional Water Resources		Drinking	1.8	9.0
Nile	55.5	Industry	1.4	2.0
Deep Groundwater	2.0	Agriculture	40.4	67.0
Rainfall	1.3	Disposal of drainage water	12.2	
Desalination	0.2	Evaporation losses	3.0	3.0
		Environmental balance	0.2	0.2
Total	59.0	Total consumption	59.0	81.2
Nonconventional water resources (reuse)				
Nile aquifer	6.2			
Drainage water reuse	16.0			
Total	22.2			
Total available water	81.2	Total utilization	81.2	

Water Management



Water distribution system



Aswan High Dam



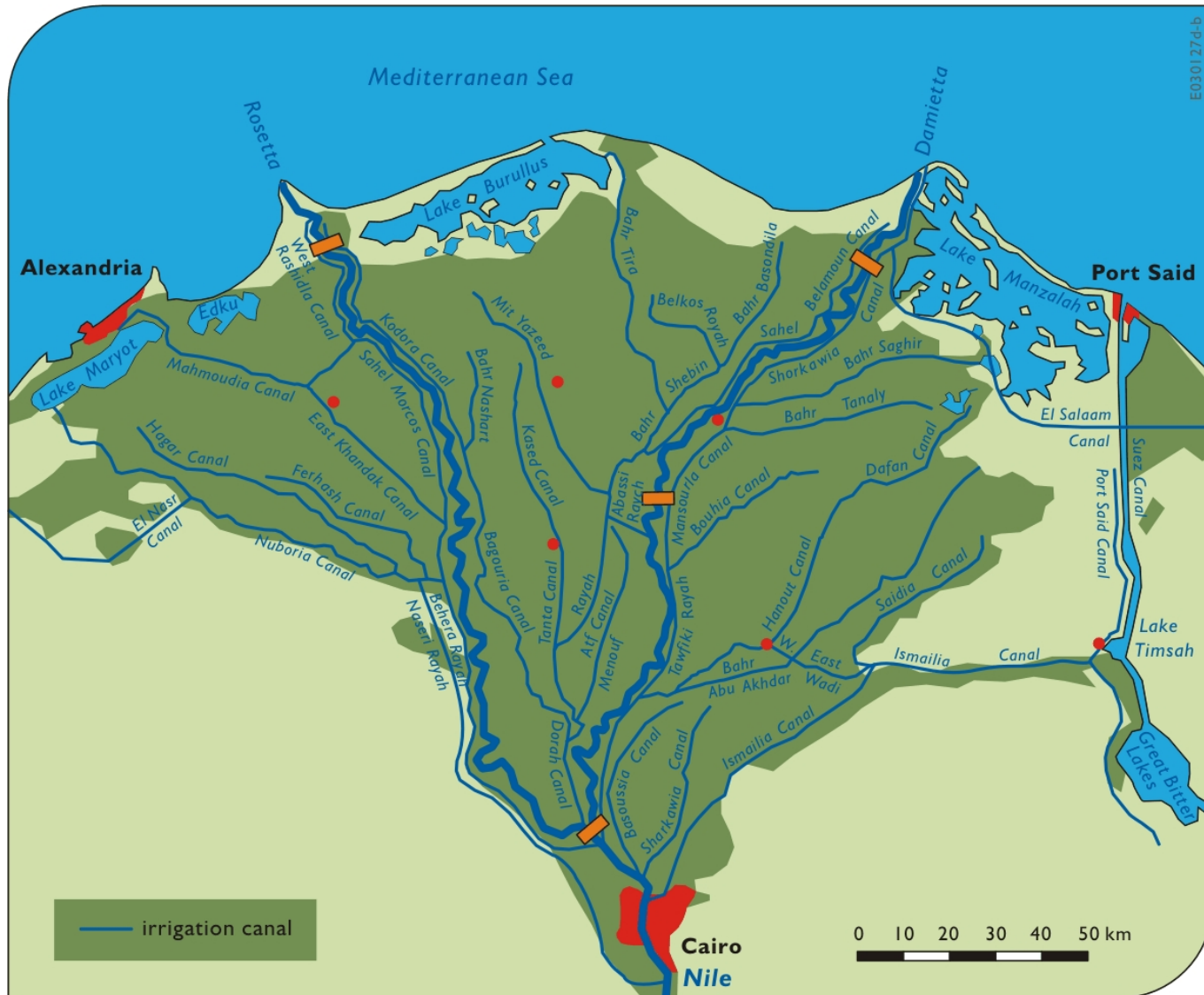
Delta Barrage



Assiut Barrage



Irrigation Canals in the Delta



Regulator on Main Canal in Eastern Delta



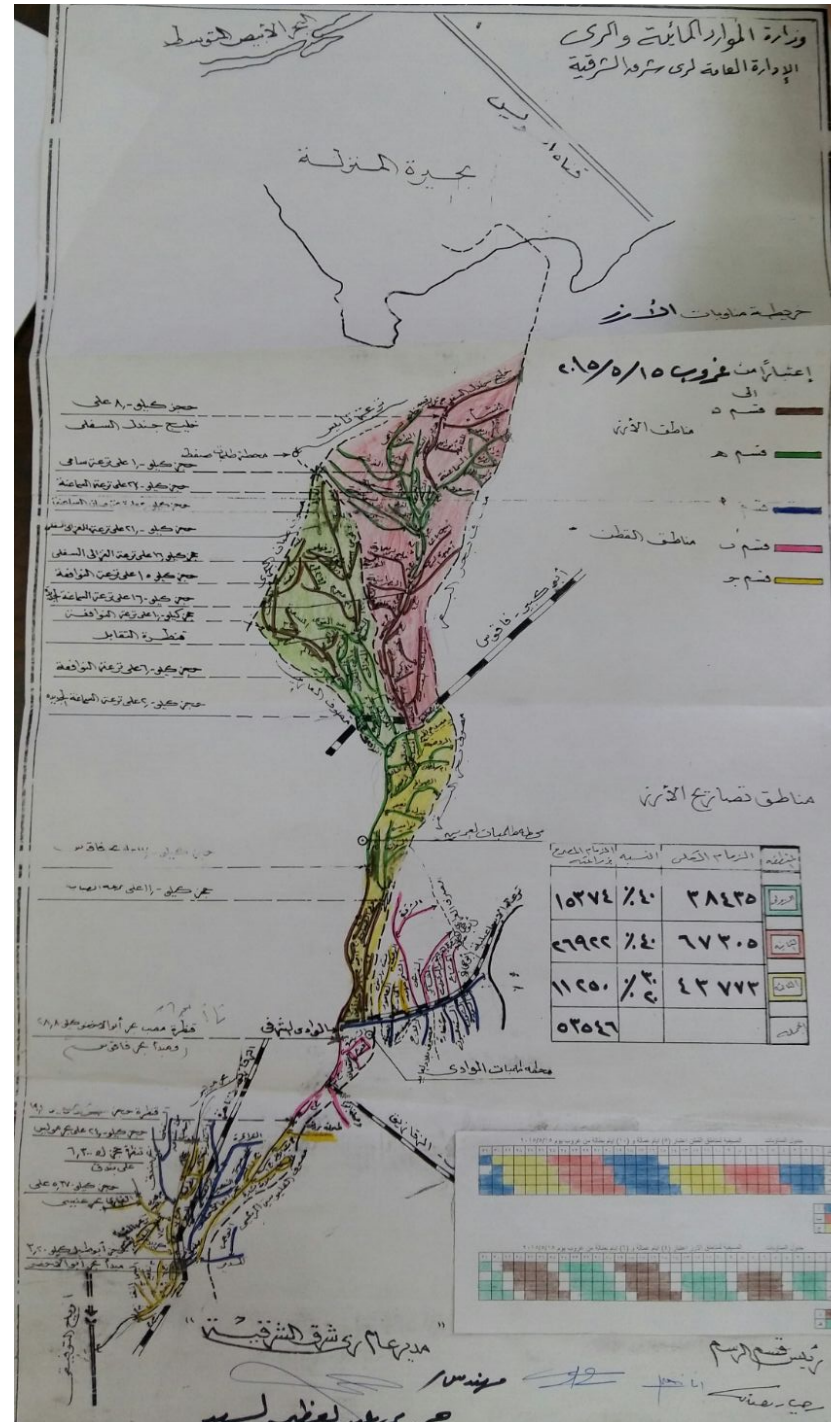
Main Irrigation Canal – Eastern Nile Delta



Irrigation Modernization through Buried Pipe – North Nile Delta



**(irrigation district
about 50,000 feddan)**



Water management at the operational level in the old lands is hampered by:

- Administrative and hydrologic boundaries don't match
- Supply side data:
 - The actual flows are not measured
 - Data about official reuse are very crude (pump flow rate and approximate number of months of operation)
 - There are no data about unofficial reuse rates
 - There are no data about actual groundwater abstractions
- Demand side data:
 - There are no accurate surveys about actual cropped area and actual cropping pattern (such as with the use of remote sensing)
 - There are no accurate data about urbanization and loss of agricultural lands
 - There are no reliable estimates about actual crop water consumption. For example for rice, quoted figures from different official sources varied between 5,000 and 9,200 m³ per feddan per growing season.

Center Pivot Irrigation – Western Delta Desert



