



Ministry of Water Resources and Irrigation, MWRI

National water Research Center

Coastal Research Institute, CoRI

Shoreline Management in Egypt

24 - 26 September 2014

Deltas in Times of Climate Change II,
Rotterdam, The Netherlands

1

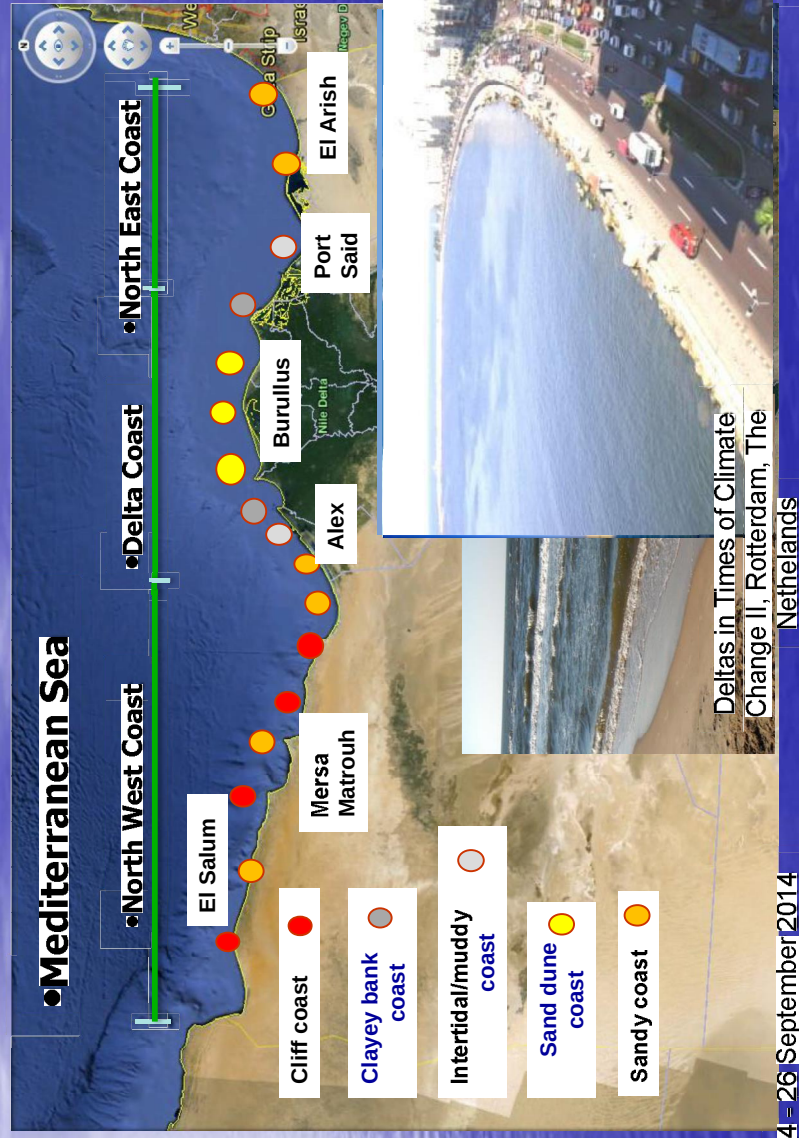
Egypt Coastal Geomorphology

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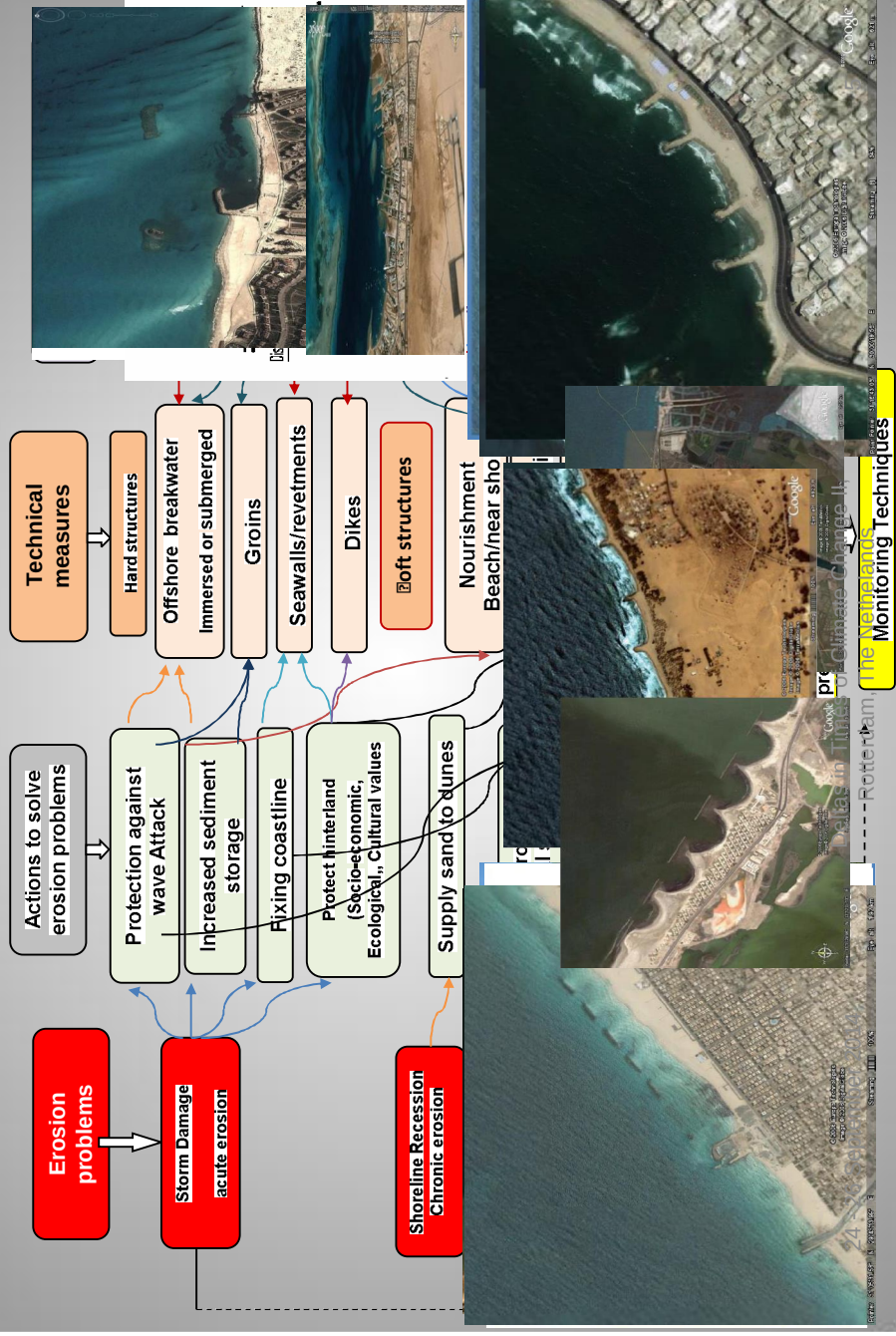
2

Coastal Geomorphology Spreading along the Mediterranean Coast of Egypt



Solutions for Shoreline Erosion Problems

Finding technical solutions for shoreline erosion problems and SLR



Coastal Protection Management

Coastal Protection Management

Comparison of the Effectiveness of Coastal Management
Protection Measures - Hard Engineering

	Advantages	Disadvantages
Seawalls	• Absorb shock of waves • Reduce erosion of shore	• Erosion may lead to collapse of seawall • Costly
Breakwaters	• Protect coast from high energy waves • Encourage build-up of beach	• Erosion on parts of coast not protected by breakwaters
Groynes	• Protect coast from high energy waves • Encourage build-up of beach	• Erosion on parts of coast not protected by groynes
Gabions	• Weaken wave energy • Reduce coastal erosion	• Need regular maintenance

Coastal Protection Management

Comparison of the Effectiveness of Coastal Management
Protection Measures - Soft Engineering

	Advantages	Disadvantages
Beach nourishment	• Improves beach quality • Improves storm protection	• Expensive • Affects marine ecosystem • Requires constant supply of new sand
Relocation properties	• Allows nature to take its course • Avoids loss of lives and properties	• Affects investment opportunities in coastal areas
Planting of mangroves	• Helps trap sediments to form islands • Prevents coastal erosion	• Can affect the depth of coasts - implications for port activities/coastal transportation

Coastal Protection Management

Comparison of the Effectiveness of Coastal Management
Protection Measures - Soft Engineering

	Advantages	Disadvantages
Stabilizing dunes	• Vegetation growing on dunes anchor sand • Protects coast from sea	• Dunes are easily eroded if vegetation is not present
Growth of coral reefs	• Reduces wave energy • Encourages the growth of living organisms • Improves fishing opportunities	-



Thank you