



# Nature-based solutions to reduce climate change effects on coastal areas and human activities in Tunisia : Initiatives, projects, heritage

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Workshop on Implementation of  
Nature-based Solutions to tackle climate  
change

*Marseille (France)  
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## Good practices in Tunisia

- Identification and deployment of the Nature-Based Solutions to adapt on the climate change, promote the resilience of coastal and marine ecosystems and reduce disaster risk and climate change impacts.***
- The identified solutions value the services provided by preserved, restored or sustainably managed ecosystems.***
- Ecosystems in good condition can reduce exposure to the natural risks, and the impacts of extreme events***

# Examples

Nature-based Solution Category	Related concepts	Good practice
<b>Ecosystem restoration</b>	Ecological / Agricultural Traditional Engineering	Guettayas (small polders)/dedicated to agriculture
<b>Ecosystem management</b>	Integrated coastal zone management	ICZM National Strategy
		Coastal Area Management Program
		Beaches management plan
		AP for integrated coastline management
		Sensitive area management Scheme
	Integrated water ressources management	Irrigating crops potentialities, watering green areas and loading groundwater with the treated and desalinized waters
		MPD management
		Land Use policies and laws
<b>Protection and preservation of the ecosystems</b>	Shoreline, Protected Areas	Conservation of marine and coastal protected areas
		Restoration of the coastal dunes (using Ganivelles and palmivelles)
<b>(Climate change, natural risks ...)</b>	Ecosystem-based adaptation	Coastal water resources and impact of the Sea level rise, ...
	Ecosystem-based risk reduction	Risk Assessment, studies

# Adaptation and reduction of natural risks and effects of climate change based on ecosystems

# Role of protected areas

## The role of protected areas Marine and coastal protected areas (MCPA)

Program  
Creation of  
12 MCPAs



Proven vulnerability of MCPAs of the Eastern coasts for the Climate Change Effects: **submersion, erosion, floods, water/soil salinization, habitats/ biodiversity perturbation.**

Among the objectives assigned to these protected areas: **promote the resilience of the coastal and marine ecosystems to the climate change effects.**

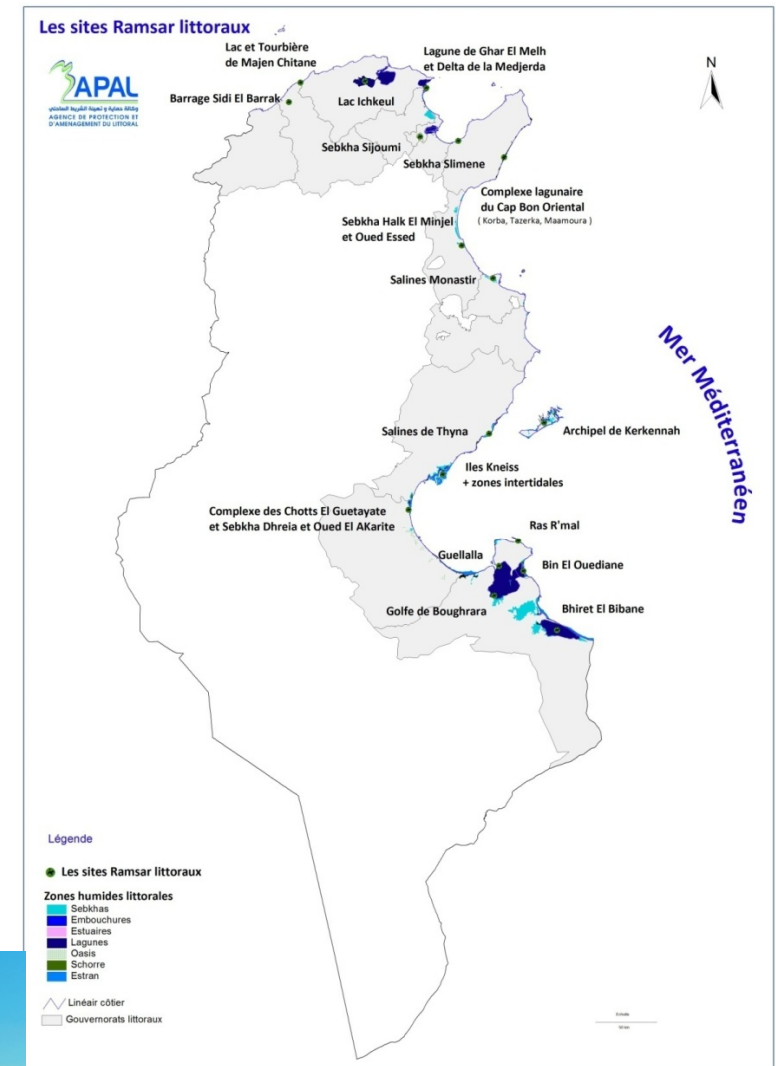
**\*Contribute to protect populations against extreme climate events and reduce their vulnerability to these risks**



# Wetlands : contribution to better resilience and adaptation/CC effects

## Protection of coastal wetlands

- Preserve natural and socio-economic heritage
- Role as a storm basin - against floods



# “Ganivelles”, smooth solution for dune restoration

## Flexible solutions against erosion

Reconstitution des dunes bordières - APAL



\* African Adaptation Project (Adaptation du littoral tunisien au changement climatique)





## Flexible solutions against erosion

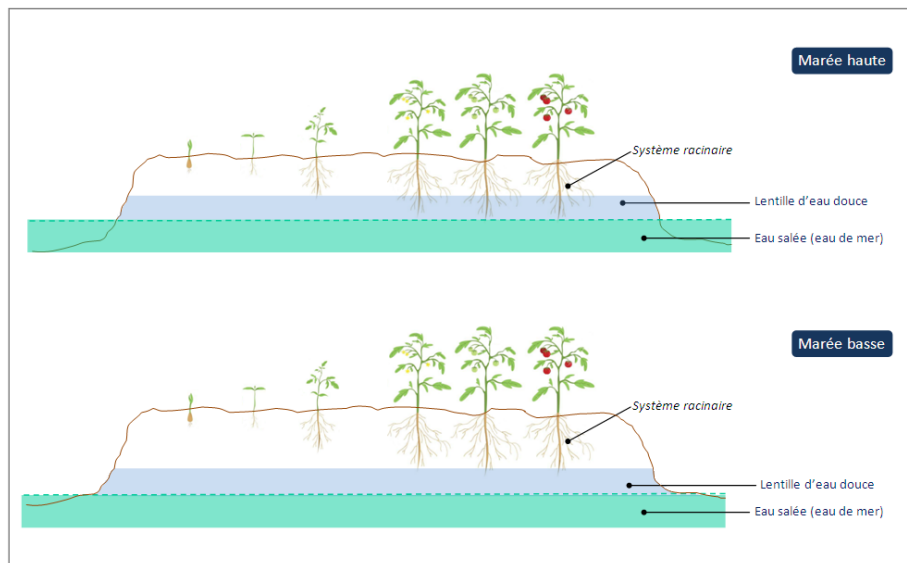
- Take inspiration from nature to preserve shoreline –sandy beaches:
- Protect dead posidonia benches
- Awareness : local authorities and hotel keepers on the importance of formations (dunes and posidonia benches) to limit erosion





# Traditional sandy polders agriculture faced to soil and water resources scarcity

## Scarcity of water resources and soils : Traditional solution based on nature: artificial polder – Ramli in Ghar el Melh



- GIAHS list request / FAO





**Thank you**

**For more information :**

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