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Adapting to Climate Change in the Near East Region

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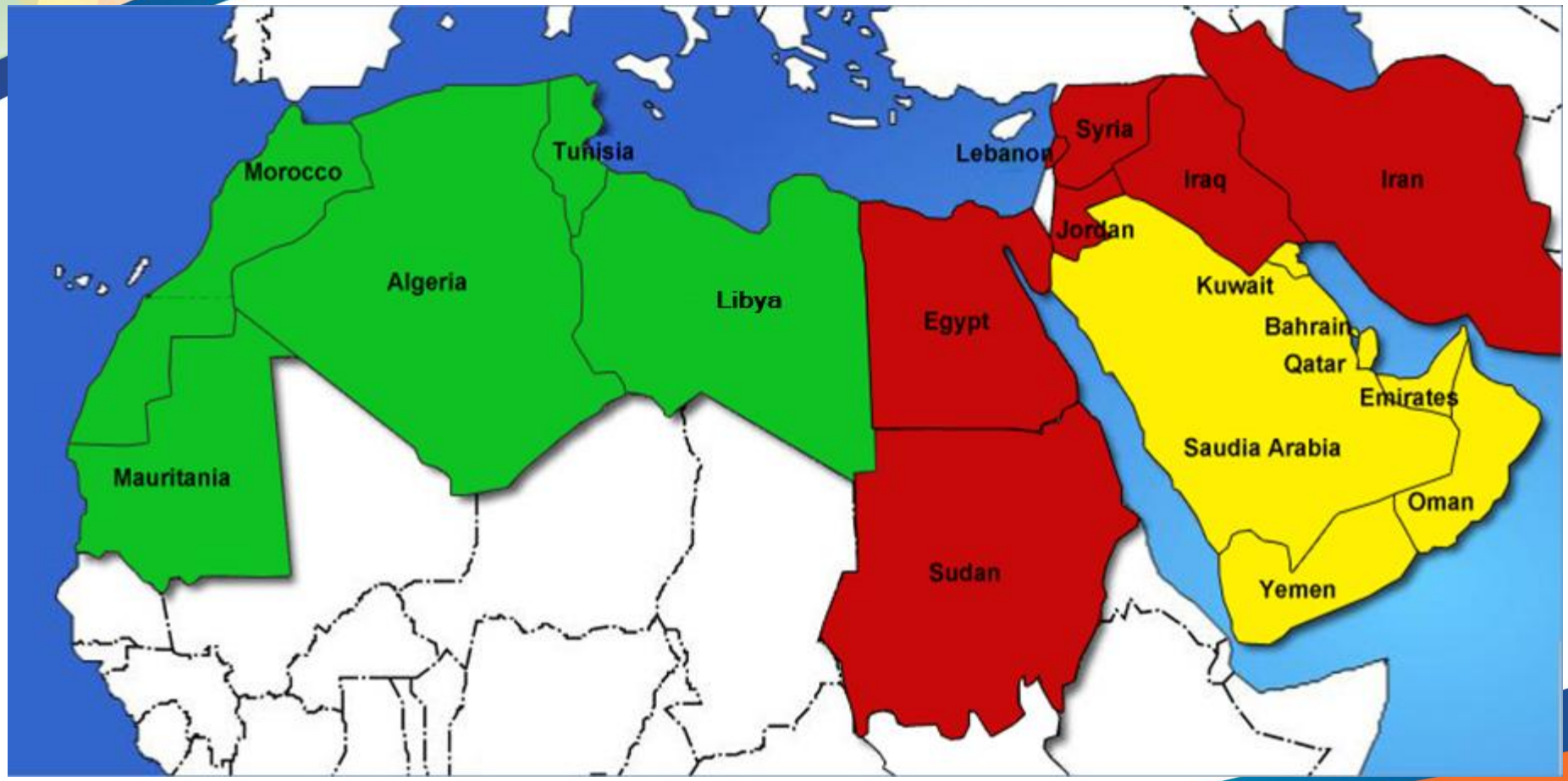
RNE: Near East and North Africa Region



Regional Context

- Rural population: 96% of region's poor live in rural areas
- More than 25% population below poverty line, with large variations between countries
- Rural areas livelihoods depend essentially on agriculture
- Agriculture is the major driver of economy and food security
- Major sub-sectors: crops, livestock, forests and fisheries
- Nearly all countries are net importers of food (equivalent of 74 billion CM of water in 2008)
- Deficit in cereals > double between 2000 and 2030

CC impacts on Natural Resources in RNE

Forests, Livestock, and Rangelands

- Degradation from water stress , frequent and extreme weather events
- Decline in productivity of livestock from erratic rainfall and moisture decline
- Disappearance of fragile ecosystems in desert, arid- and semi-arid areas
- Increased vulnerability of dry land ecosystem, increased risk of wildfires
- Shifts arable land into more arid rangelands
- Increases importation of animal feeds
- Increases the interdependence of countries for genetic resources
- Shift of forest species by risk of genetic erosion and species extinction

CC impacts on Natural Resources in RNE

Fisheries and Aquaculture

- Changes to amount and distribution of fish, and possible increase in Lessepsian species in Mediterranean
- North-western Arabian Sea and coastal western Africa –potential changes to upwelling systems, to which pelagic fish catch is tracked
- Evidence of coral bleaching and potential increase in SST in Red Sea
- Shatt Al-Arab – anthropogenic changes upstream make this important fisheries area more vulnerable to climate change impacts in terms of quantity and quality of water available, with potential implications for the Gulf as well
- Nile delta will be impacted both by changes in Mediterranean and in the flow of the Nile with uncertain impacts on fisheries and aquaculture

Agriculture

- Reduced productivity due to changes in climatic patterns
- Increased risks due to extreme climatic events and sea level rise
- Shortens the length of growth period and freezing days

CC impacts on Food Security

Impacts on food **availability**

- Potential for reduced agricultural production
- Temporal effects on local markets as well as market prices of imports

Impacts on food **accessibility**

- Increase in food prices, loss of farm income and non-farm employment
- Changed fish farm and fish catch opportunities

Impacts on **food systems stability**

- Greater instability of food supply
- Need for increased capacity and expenditure to preserve to respond adequately to large-scale disasters

CC Adaptation Strategies

Livestock, forestry and rangelands	
	Examples of Adaptation strategies
Animal diseases	• Improve vaccination coverage through strengthening veterinary capacity • Creating sub-regional capacity in forecasting diseases linked to CC
Drought	• Conserve animal feeds • Strengthen veterinary quarantine system
Forest and Rangeland degradation	• Restoration of degraded forests and rehabilitation of rangelands • Afforestation and reforestation • Use of tolerant species & fire management
Low productivity of adapted genetic resources	• Improve breeds through designing national breeding programs • Conserve adapted local breeds (in-situ and ex-situ conservation)

CC Adaptation Strategies

Fisheries and aquaculture	
	Examples of Adaptation strategies
Changes to habitat structure (capture fisheries)	• Responsible stock enhancement • Coastal habitat restoration
Livelihood changes resulting from changes to ecology (capture fisheries)	• Explore and implement livelihoods diversification • Optimize harvest and post-harvest sector • Adaptive post-harvest and marketing strategies
Water quality change (aquaculture)	• Set-up monitoring and early warning system • Set-up bio-security framework
Extreme climate events (aquaculture)	• Ensure provision and access of early warning systems • Improve preparedness of farmers; improve farming systems to face extreme events

FAO Regional Initiatives to Address CC Issues

- Nov. 2009, FAO held the First Regional Forum on climate change in the Near East and North Africa
- December 2009, Regional Workshop (FAO and WorldFish Center): Adapting to climate change: The ecosystem approach to fisheries and aquaculture in the Near East and North Africa Region;
- Jun. 2011, FAO held the Second Regional Forum on climate change, resulting in the Beirut Declaration
- Regional workshop on Forests, rangeland and climate change in the Near East Region (Cairo, September 2011)
- Regional workshop on reducing vulnerability of fishers, fish farmers, and their communities to disasters and climate change impacts in the North Africa and Near East (Oman, March 2012)
- FAO is launching the Near East Regional Network on Climate Change Information and Knowledge Exchange (FAO, 2012)

Policy and Strategy: Key Challenges

- Knowledge and data gap; high level of uncertainty on regional level climate change projections
- Regional expertise
- Observation and monitoring systems
- Communication and networking
- Awareness among policy makers and local communities

Recommendations

- Elaborate and implement national and regional
- Develop capacities in related disciplines
- Improve data-collection and information-sharing
- Develop early warning systems against extreme climatic events
- Enhance agricultural technologies
- Strengthening national coordination among the multiple stakeholders
- Enhancing the recognition of climate change impacts by policy and decision-makers
- Increasing public and private investment in climate change

Recommendations

Regional cooperation is urgently needed for:

- Regional trust fund for climate change adaptation and mitigation
- Improving coordination, information and monitoring, early warning and contingency planning
- Harmonization of tools, standards and development of vulnerability indicators
- Developing regional capacity in vulnerability assessment, monitoring and adaptation measures, including early warning systems
- Ensuring that livestock, forestry, fisheries and aquaculture specific issues are incorporated into regional climate change adaptation strategies

THANK YOU!