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CLIMATE CHANGE BACKGROUND PAPER

EXECUTIVE SUMMARY

The Near East and North Africa (NENA) is one of the regions that will be most affected by the impacts of climate change. Small scale farmers in the region are among those most impacted by changing climate patterns and increased weather extremes, making them particularly vulnerable to natural hazards and changing climatic conditions and this is because, the majority of the agricultural areas in the Region are rain fed. Climate change thereby adds and intensifies existing challenges like population increase, water scarcity and increasing land degradation that leads to the rise in conflicts and distress migration; which requires coherence and convergence of humanitarian, development and peace actors blending short, medium and longer term interventions.

It is projected that climate change will result in reduced production and direct economic losses to farmers, affecting agricultural growth, rural livelihoods and well-being. Regional efforts to assess impact of climate change and cope with its consequences are undertaken through the **Regional Initiative for the Assessment of Climate Change Impacts on Water Resources and Socio-Economic Vulnerability in the Arab Region (RICCAR)**. FAO's partnership with regional bodies such as the **League of the Arab States (LAS)**; technical organizations such as the **Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD)**, the **International Center for Agricultural Research in Dry Areas (ICARDA)**, the **Arab Organization for Agricultural Development (AOAD)** and UN sister agencies such as the **Economic and Social Commission for West Asia (ESCWA)**, **United Nations Development Programme (UNDP)** and the **United Nations Environment Programme (UNEP)**, provide effective support to countries facing the adverse impacts of climate change and climate mitigation, adaptation and resilience of their agricultural livelihoods and related food systems.

A Climate-smart agricultural approach provides practical adaptation and mitigation measures for the climate change challenges facing the NENA region, including increasing temperatures, increasingly erratic precipitation, and sea level rise. These measures include establishment of early warning systems, the development and use of enhanced crop varieties that are heat, drought and/or salt tolerant, and new innovative soil and water sustainable management techniques among others.



Drip irrigated field.
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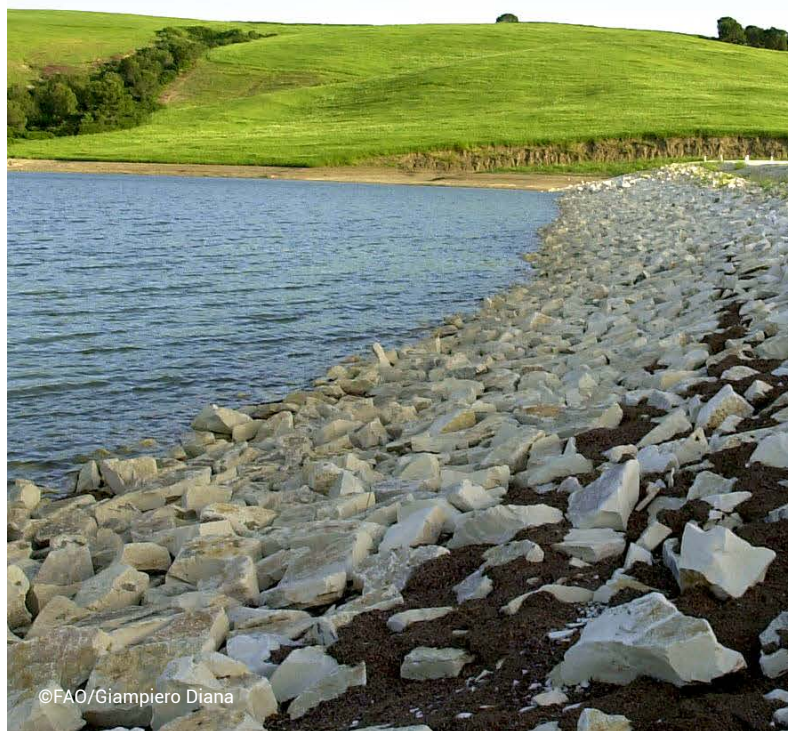
The following is a summary of some projects active in NENA:

In the Nile Delta, Egypt, irrigation canals are often located below ground level, requiring the use of pumps to lift water to the fields that depends on using diesel fuel and electricity. Using fossil fuels is not only costly but also contributes significantly to the increase of CO2 emissions. Therefore, a low-cost clean alternative source of energy is required to ensure farmers have a reliable system to pump and irrigate. Solar power used for pumping water as renewable energy is contributing to agricultural productivity, securing energy supply, climate change mitigation, and the reduction of negative environmental and health impacts.

Sudan's project on "Resilience building by establishing women collective farms" targets four agro-ecological zones in the country with a view to modify current coping approaches. As a result, resilience of food-production systems and food-insecure communities was enhanced in the face of climate change. In addition, a better understanding of lessons and emerging best practices were captured and up-scaled at the national level, which helped to support adaptation policy development.

In Tunisia, "Water harvesting structures to protect ecosystems and improve resilience of farmers" strengthens the resilience of rural producers and the sustainability of the south Tunisian agropastoral oasis ecosystems in the face of climate change. The project aims to improve groundwater recharge and protect homes and oases from flooding; encourage local governance for sustainable management of natural resources; strengthen the capacity of producers for sustainable agricultural production; and improve and diversify household incomes through the development of income-generating activities.

The Regional Workshop on Climate-Smart Agriculture in NENA was organized in 2018 in Khartoum, Sudan as the first workshop of this kind in the region, aiming to review impact of climate change on different farming systems and livelihoods of small-scale farmers and building common understanding of the concept and importance of climate-smart agriculture among key decision-makers in the ministries of agriculture and environment.



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There is a need for a regional strategy on climate change in the NENA region based on:

- ▶ Assessment of the impact of climate change on agriculture and livelihoods at regional, national and local levels.
- ▶ Identification and scaling-up of climate-proofed agricultural practices, policies and investments and promoting climate change adaptation and mitigation approaches such as nature-based solutions and climate-smart agriculture.
- ▶ Integration among the ministries of agriculture, water and environment in the countries of the region to ensure consideration of the agriculture and water sector concerns in climate change-related policy processes and strategies such as Nationally Determined Contributions, National Adaptation Plans, and National Agriculture and Investment Plans.
- ▶ Enhance the capacity of national programs to address the challenges of climate change at the technical and institutional levels.



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