

Agricultural Water Productivity as Adaptation to Climate Change (AWP-ACC)

Context

Egypt's climate can be categorized as hot arid desert climate with variable rainfall and recurrent droughts particularly in the northern Nile Delta. Due to rapid growth of population and economy, the country's natural resources, and especially the limited water resources – 95% of all water available to the country is derived from the River Nile –, are under great pressure today. The already precarious situation is further aggravated by climate change. The expected main impacts of climate change are increasing temperature, sea level rise, sea water intrusion into the groundwater, declining groundwater recharge by precipitation and surface water, and increasing of intensity and frequency of extreme weather events, such as droughts, storms and marine surges, and in salination of agricultural areas especially in the northern part of the Nile Delta.

The Government of Egypt has responded to the pressing threat of climate change by forming an inter-ministerial National Climate Change Committee and developing various general and sector-specific strategies. In 2010, the 'National Environmental, Economic and Development Study (NEEDS) for Climate Change' and the 'Second National Communication to the UNFCCC' were released. Amongst others, these documents identify:

- Priority sectors: water, agriculture, coastal zones, tourism, housing, roads, health;
- Potential and priority mitigation and adaptation measures;
- Cost of addressing climate change.

Objective

Agricultural Water Productivity is improved as a means to adapt to climate change by optimising fertilizer practices and pesticides, crop rotation and the planting calendar.



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Approach

The programme works on the local level to increase the resilience of farmers and on the national level to improve the national framework with regard to climate change adaptability.

Measures are:

- Providing information and training for farmers on effective and resource-conserving farming and irrigation methods, crop selection, use of fertilizers and crop sequences.
- Developing primary guidelines for reuse of drainage and wastewater in agri- and aquaculture.
- Improving knowledge management of climate change relevant information to improve planning of adaptation processes.
- Strengthen social responsibility to improve water quality, solid waste management and efficient use of water.

Activities are closely coordinated with all relevant stakeholders and other donor funded projects working in the sector (IFAD, WB, other GIZ programmes).

Impact

Adapted farming and improved irrigation-methods increase water productivity while protecting soil and water resources. Reuse of treated drainage and wastewater lead to a diversification of water resources, thus making farmers and other water users less vulnerable to unstable water supply. Ensuring and improving agricultural production provides food and income security.

Increased energy efficiency in water supply also increases water productivity while reducing the energy demand, thus contributing to both adaptation to and mitigation of climate change.