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Adaptation measures to reduce the impact of climate variability on crop production in Jordan

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Jordan has limited natural resources such as water and agricultural land. It is classified as an arid and semi arid country. The average annual precipitation ranges between 200 and 500 mm. Although a small country, Jordan has many different climatic regions; including sub tropical, Mediterranean, steppe and desert regions. Temperature and rain differences between these regions are wide, beside fluctuation in climate from one year to another.
Climate change will add more stress on the natural renewable resources, especially on water and agriculture. In spite that most of agricultural areas in Jordan are rain-fed, the agriculture sector utilizes about two-thirds of the available water resources.
The purpose of the study is to identify adaptation measures that would reduce climate change and water scarcity impacts on agricultural productivity and on crop production in particular. Adaptation measures were proposed based on results from assessment of climate change impacts on agricultural production.
The adaptation for rainfed agriculture included the improvement of soil water storage to maximize the plant water availability; the application of conservation agriculture to reduce soil degradation; the improvement of soil fertility; the management of crop residue and tillage practices to conserve soil moisture; the modification of planting and harvesting dates for field crops and the selection of drought-tolerant crop varieties; the expansion of rainwater harvesting and management schemes; encouraging the farmers to adopt and apply the in-situ water harvesting systems (micro-catchment); developing strategies and plans for climate change adaptation and capacity building; and the improvement of extension services and technology transfer.

Proposed autonomous adaptation measures included the enhancement of adaptive capacity of farmers to be more involved in decision-making and diversification of farmers' sources of income to minimize vulnerability to climate change.

Keywords: Climate Change, Adaptation, Mediterranean, Agriculture