

Agricultural extension activities to reduce the impacts of agricultural risks caused by climate change In the governorates of Dakahlia and Minya

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Abstract

This research aims to assess the level of knowledge among respondents about climate change; examine agricultural extension activities aimed at mitigating agricultural risks caused by climate change from the perspective of surveyed farmers; analyze the adaptation methods employed by these farmers to cope with the effects of climate change; and identify significant differences in farmers' knowledge regarding the risks of climate change to their crops.

The research was conducted in the governorates of Dakahlia and Minya. From each governorate, two centers were selected, and two villages were chosen from each center, yielding a sample size of 240 respondents. This sample represents 10% of the total research population of 2581 farmers, who were randomly selected.

The main findings were as follows:

- More than half of the respondents do not participate in agricultural extension activities designed to disseminate weather information. These activities include field schools, harvest days, training programs, receiving mobile phone notifications, advisory messages via social media, and browsing agricultural websites. Additionally, 16.7% of farmers in Dakahlia and 18.3% in Minya were entirely unaware of climate change.
- Efforts to Monitor Weather Conditions:
- Despite the limited engagement in formal extension activities, over half of the respondents actively sought weather information. This effort was reported by 68.3% of farmers in Dakahlia and 53.3% in Minya.
- Perceived Impacts of Climate Change on Agriculture:
- A majority of the farmers identified several climate change manifestations negatively affecting agriculture. These include rainfall scarcity, irregular rainfall timing, cloud cover, changes in the length of day and night, equality between day and night, wind intensity, sunshine, frost, heavy rainfall, and high humidity levels.
- Weak Implementation of Risk Management Strategies:
- The study revealed limited adoption of risk management strategies for addressing the impacts of climate change among the surveyed farmers.
- Regional Variations in Adaptation Activities:
- Significant differences were observed between the two governorates regarding adaptation strategies employed by farmers to cope with rising temperatures. Farmers in Minya demonstrated higher levels of adaptation activities compared to those in Dakahlia.

Keywords: Climate change, Adaptation, Farmers activities , Agricultural Extension activities.