Assessing the Effects of Climate Change on Wheat Production, Ensuring Food Security and Loss Compensation under Crop Insurance Program in Punjab-Pakistan

Authors : Mirza Waseem Abbas, Abdul Qayyum, Muhammad Islam

Abstract : Climate change has emerged as a significant threat to global food security, affecting crop production systems worldwide. This research paper aims to examine the specific impacts of climate change on wheat production in Pakistan, Punjab in particular, a country highly dependent on wheat as a staple food crop. Through a comprehensive review of scientific literature, field observations, and data analysis, this study assesses the key climatic factors influencing wheat cultivation and the subsequent implications for food security in the region. A comparison of two subsequent Wheat seasons in Punjab was examined through climatic conditions, area, yield, and production data. From the analysis, it is observed that despite a decrease in the area under cultivation in the Punjab during the Wheat 2023 season, the production and average yield increased due to favorable weather conditions. These uncertain climatic conditions have a direct impact on crop yields. Last year due to heat waves, Wheat crop in Punjab suffered a significant loss. Through crop insurance, Wheat growers were provided with yield loss protection keeping in view the devastating heat wave and floods last year. Under crop insurance by the Government of the Punjab, 534,587 Wheat growers were insured with a $1.6 million premium subsidy. However, due to better climatic conditions, no loss in the yield was recorded in the insured areas. Crop Insurance is one of the suitable options for policymakers to protect farmers against climatic losses in the future as well.

Keywords : climate change, crop insurance, heatwave, wheat yield punjab
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