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## Climate Adaptation Governance for Agriculture Sector in Province of Punjab, Pakistan

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### Abstract

Climate adaptation strategies at subnational level are key to protect farmers from fatal climatic impacts and future climate vulnerability. However, there are implementation challenges for these strategies at the subnational level?. This study develops a framework to understand responses of subnational governments looking at the province of Punjab, Pakistan.

Pakistan is ranked one of the most vulnerable country to climate change. Punjab is the most populous and second largest province in Pakistan. The province accounts for 53 % of the total agricultural gross domestic product in the country. This sector is exposed to the adverse impact of climate change. The implementation of climate policies is the responsibility of provincial governments in the country. This study is conducted to understand the climate adaptation governance in the Punjab province.

The scope of the present study is to explore the prominent adaptation initiatives for agriculture sector in the province of Punjab. More succinctly, the study investigates the autonomous adaptation to climate change for agriculture sector in the province. The study also identifies the drivers behind planned and autonomous adaptation initiatives in the province.

The study finds that the government has launched massive level awareness campaign to educate about climate change by publishing about climate change, its impacts, and possible solutions in various local languages. The training programs are being arranged for the farmers so that they can handle the challenge effectively. Moreover, academics and other stakeholders are engaged in the province.

The local farmers are actively involved in autonomous adaptation in the province. The government encourages engagement of farmers in climate adaptation policies and actions. Four important elicited autonomous adaptation initiatives are taking place: changing planting dates, changing crops types, changing fertilisers, and planting shade trees. Our study identifies the factors that influence the implementation of these autonomous initiatives.

The initiatives at planned level adaptation are primarily driven by coordination among the respective departments, engagement with academics, and availability of financial resources. On the other hand autonomous initiatives are majorly driven by the previous experiences of farmers, sustainability in agriculture production, and the knowledge sharing among the farmer community.

**Keywords:** Adaptation, agriculture, climate, governance, Pakistan

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