Farm household's risk perception, attitude and adaptation strategies to deal with climate change: promise and perils from rural Pakistan

Abstract

Pakistan is highly vulnerable and exposed to extreme climatic events like floods and droughts, where the recurring flood is a major challenge in the flood-prone areas. The present study determines the farmer's risk perception, risk attitude, adaptation measures and various aspects of the vulnerability to climate change such as floods, droughts, heavy rainfalls, pest and disease at farm level in rural Pakistan. Risk perceptions and attitude of the farm household are crucial factors influencing farm productivity, investment and management decisions at farm level. A well-designed questionnaire was employed to interview a total of 720 farm households from six districts of Khyber Pakhtunkhwa (KP) province. The finding revealed that the floods, heavy rains, extreme temperature, drought, forest degradation, reduction in crop yield, soil erosion, human and animal disease, insect and pests were the foremost factors of the climate change perceived by the farm household. Age, farming experience, off-farm income, land tenure system, access to credit and education level of the farm household were the main factors influencing the climate-related risk attitude of the farmers. Furthermore, the study revealed that based on nature of risks the farm households employed a number of adaptation measures of agricultural husbandry such as the change in cropping pattern, crops calendar, seed variety, soil conservation, farm insurance, farm diversification and water storage etc. However, the study identified that Poverty, credit rationing, low level of education, insecure tenure systems, lack of resources, lack of market accessibility, lack of government backing and limited knowledge regarding climate change were the core limitations tackled by the farmers while implementing certain adaptation measures. The finding of this study provides guidance, policy recommendations and reference for future researchers.

Keywords: Climate variability; Risk perception; Risk attitude; Flood and drought risks; Adaptation measures