Climate change may reduce rabi and kharif crop earnings by up to 13.7% and 5.5%; farmers left to their own resources to cope

Mount Abu: Harsimranjit Brar, 26, has an unforgettable childhood memory of his family’s fields in Fatuhi Khera, a village in Punjab’s Sri Muktsar Sahib district. Just before harvest, it would be a sea of white fluff. Brar’s father, a seasoned farmer, used to cultivate cotton on a 40-acre plot every kharif (monsoon) season.

All that changed after a deluge in 2009 submerged their land under 4-5 feet of water, wiping out their cotton crop, recalled Brar, now an inspector with the Punjab Agro Foodgrains Corporation Limited. Three days of rain damaged the cotton crop in 60-70 villages of the around 238 villages in the district.

It took months for the standing water to percolate into the saturated ground. "The damage to our land was so substantial that it washed out the possibility of growing any crops in 2010," he said.

To avoid a repeat of the disaster, in 2011, Brar’s father and elder brother decided to grow paddy—parmal, as it is called in Punjab—on 9 acres of their land because paddy can withstand water-logging.

Supporting smallholder farmers to better harness markets is a powerful way to help communities move from poverty to prosperity," said Dr Peter Carberry, Director General (Acting), ICRISAT. The family has now switched to paddy on 38 of 40 acres. In the district itself, 75 percent of the acreage dedicated to cotton is now used for paddy, Brar reckoned.

"Monsoon rainfall used to be spread across the season but we had started to see more downpours followed by dry spells," Brar said. "Downpours invariably led to water-logging. We strongly felt we needed to de-risk our income."

The farmers of Sri Muktsar district chose to play it safe; elsewhere farmers might choose to deal with climate change differently. In semi-arid regions, for example, "farmers adopt more risky cash crops such as cotton instead of more resilient dryland cereals or pulses, in the anticipation of higher returns but at a very high risk of failure", said Anthony Whitbread, a research programme director at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

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