

## Impacts of Climate Change on Food and Nutrition Security in Pakistan

The Strategic Review of Food and Nutrition Security (2017) conducted by the Government of Pakistan (GoP) with the support of the World Food Programme (WFP) and in collaboration with other partners, indicated climate change as a novel factor, among many others, that is negatively impacting the food security and nutrition situation in Pakistan ([Government of Pakistan et al., 2017](#)). Different climate-induced catastrophes such as droughts, floods, heatwaves, hurricanes, and wildfires are reducing crop yields, destroying and killing livestock, and causing disruption to the food supply chain. For instance, increasing CO<sub>2</sub> emissions are expected to lead to a decline in key nutrients such as zinc and protein in major crops resulting in zinc deficiency in an additional 175 million people and 122 million people will be protein deficient by 2050 ([Smith and Myers 2018](#)). Likewise, it is predicted that the rising risks of climate change on food and nutrition security will also lead to several other issues such as the safety of food and disruptions in the food distribution process, which will ultimately change diet quality increasing the prevalence of malnutrition among millions of people across the world ([Mirzabaev et al., 2023](#)).

The change of climate is also affecting people in several other ways. For instance, it is causing rural-to-urban migration as people are unable to access adequate livelihood opportunities through agricultural means; changing food habits; cropping patterns, giving rise to other socioeconomic insecurities ([FAO 2023](#)). Climate change will continue to exacerbate the risks of hunger and malnourishment, particularly through its physical impacts on agricultural production and by degrading livelihoods in rural and food-insecure areas through 2050; this risk will grow in significance from 2030 onwards. The emerging threat of climate change to global nutrition and food security, therefore, demands new design strategies and resources to address this challenge ([WFP 2021](#)).

Pakistan has also experienced the devastating effects of climate change in the form of extreme weather patterns and floods, which have intensified its food and nutrition insecurity situation through the damage caused to agricultural land and food productivity ([Waseem et al., 2022](#)). The heightened frequency of extreme weather events, like the devastating floods that occurred in 2022 caused by heavy monsoon rains affected around 33 million people among which 70% were women and children, killed around 1.1 million livestock and destroyed around 9.4 million acres of crops across the country ([OCHA 2022](#)). In monetary terms, the floods account for a loss of a total of USD 15.2 billion. Similarly, damage to food, agriculture, fisheries, and livestock sectors was estimated at around USD 3.7 billion. This flooding also significantly impacted the livelihoods of around 77% of households in the affected districts ([MOPDSI 2022](#)).

During the period between 2020 and 2022, around 42.30% (97.9 million people) of the population in Pakistan faced the problem of moderate to severe chronic food insecurity as compared to 14.1% in 2014-16 ([World Bank 2023](#)). While food insecurity remains high, access to a healthy and nutritious diet is also a major problem as around 83% of the population does not have the resources to access a healthy and nutritious diet. This is also evident in terms of overall prevalence of stunting and wasting rates among children under 5 years old. Approximately 34% children are stunted and 7.1%, are wasted ([FAO et al., 2023](#)).

The situation is more alarming in the flood-affected areas of Pakistan. For instance, according to the most recent Integrated Food Security Phase Classification (IPC) 2023 report, 29% of the rural population in 43 flood-affected analysed districts of Pakistan are in IPC Phase 3 or above (crisis or emergency). Moreover, it is projected that this number is expected to increase by another 3% (bringing 1.29 million more people in IPC Phase 3 or above) by January 2024 due to multiple factors, such as climate shocks, livestock and crop loss due to diseases, and high inflation ([WFP and FAO 2023](#)). The

acute malnutrition (AMN) analysis conducted in June 2023 for 33 flood affected districts found that over 2 million children are suffering acute malnutrition in the aftermath of the 2022 flooding (IPC AMN 2023). Apart from this, food inflation due to multiple factors (but mostly related to climatic change) increased from 13% to over 37% in rural Pakistan which has further hampered healthy food affordability capacity of the rural population ([Pakistan Economic Survey 2023](#)). Furthermore, the market prices of various commodities, in the recent past, such as rice and wheat have witnessed unprecedented increase whereas rice and wheat production have declined by 20.5% and 14.7%, respectively. Moreover, analysis from various agencies shows that the severity of climatic events such as droughts, heat stress, and flooding will either increase or remain at the current level till 2050 ([MoCC 2023](#)). The increase in temperature is expected to lead to a further decline in agricultural production by around 8 to 10% by 2040 ([Syed et al., 2022](#)).

It is evident from the facts mentioned above that climate change is posing a serious threat to food and nutrition security, livelihood trajectories and agriculture in Pakistan as well as globally. Therefore, SDPI in collaboration with the World Food Programme (WFP), is organising this to explore ways to overcome the crisis of food insecurity and nutrition in the face of climate change in the country. The session will bring together key stakeholders including government officials, development and food experts to discuss the following main questions:

1. How does climate change affect lives and livelihoods of the most vulnerable population groups, and hence impede progress towards achieving nutrition and food security in Pakistan?
2. Given the predicted increase in climatic events in the future, how can the Government of Pakistan, especially provincial governments, along with development partners jointly work to put in place the right set of policies, strategies and plans to help achieve food and nutrition security for the population at all levels?

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