

PAKISTAN FLOODS: AN INSIGHT INTO AGRICULTURE AND FOOD SUPPLY

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To the Editor,

Pakistan has experienced agricultural disasters since May 2022 as a result of rainfall-related flooding and waterlogging. The rainfall rate experienced in Pakistan was disastrous and led to considerable damage to crop production in the country. Being an agricultural country, approximately 40% of the labor force relies on agriculture for employment and the sector represents about 20% of the country's economy (Wang *et al.* 2022).

Pakistan is the 5th largest cotton producer in the world and its annual production accounts for 5% of the global output. The country has recently struggled with the heat waves crisis followed by floods, which, as a result of damage in cotton production areas, led to a shrinking in the world's cotton supply, prompting the agricultural sector into turmoil. Around 45% of the country's cropland has already been deluged, completely wiping out vegetables and cotton crops. However, these are not the sole effects. Flooding also creates complex abiotic stress in crops, including oxygen depletion, altered soil chemical characteristics and reduced light availability (Youssef *et al.* 2016) The combination of these physical and chemical changes will substantially reduce the crops' development, growth and yield (Inam *et al.* 2022).

The food price inflation measured in August 2022 was at its highest value since May 1975 and is expected to surge by another 30% due to the deadly flood. Correspondingly, the cost of edibles has increased significantly, particularly of onion which increased threefold, of potato and Ghee (a fat used for cooking) fourfold, and of tomato fivefold since November 2022. The government took some measures to reduce inflation and started, within this scope, to import vegetables and some other items from Afghanistan and Iran. More than

727,000 cattle have died so far, leading to a shortage of meat, milk and other dairy products. The Express Tribune media of Pakistan reported that the loss of livestock had impacted livelihood in a country where almost 8 million rural families raise cattle earning 35-40% of their income from livestock (Devi 2022).

Climate catastrophes are readily increasing every year, with every natural disaster breaking previous records of storms, floods, drought, wildfires and earthquakes. It is vital that as a global community, we begin to address the way we treat our planet (Ahmad & Afzal 2022). Our efforts must focus on building a more sustainable and green future. However, the effects of climate change will continue over the coming years, and we must learn to prepare and mitigate the disasters related to climate change. Working together and responding as a community can help us build resilience and ensure that no one is left behind. We suggest that Pakistan will need to import more food to the country in order to make up for lower domestic yields. Meanwhile, countries that typically depend on Pakistan's exports, like those that export cotton and rice will need to find alternative suppliers, which will put extra pressure on the world's supply of resources. We must improve water resource management and increase agricultural productivity to enhance food security and build resilience against climate risks. The upgraded Trimmu and Panjnad barrages need to be equipped with modern technology and must their capacity should be expanded to regulate the flow of water, which will subsequently protect the vast farmlands from flooding in the future.

Ethics Committee Approval: Since the article does not contain any studies with human or animal subject, its approval to the ethics committee was not required.



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