



# Agriculture News Extension Department Khyber Pakhtunkhwa

## IMPACT OF HEAT WAVE ON PAKISTAN'S AGRICULTURE SECTOR

Climate change is an inevitable and recognized as universal truth all around the globe with concomitant adverse impacts on water resources, agriculture production, biodiversity, human and animal health, forest systems, and socio-economic sectors.

Pakistan being a warm region, predominantly at risk to atmospheric shift due to its location at such geographical region where the temperature rise is higher than the global average. The land is generally arid and semi-arid (about 60% of the area receives less than 250 mm of rain per annum and 24% receives between 250-500 mm); the rivers are mainly supplied by the glaciers of the Hindu Kush-Karakoram, Himalayan and as a result of global warming, they are reducing rapidly; the economy is agrarian and therefore extremely vulnerable.

In Pakistan, Agriculture is the prime economic sector that supports approximately 45% of the country's workers, adds 21% to country's GDP (Gross domestic product), and contributes almost 60% to country exports. It is estimated that, Pakistan is having about 23.4 million hectares land under cultivation out of which 18.63 Mha is irrigated.

In the last few decades, it has been recorded an increase of temperature in most of the Asian regions. Almost 37% of emitted GHGs (Greenhouse gases) in these regions are associated with agricultural practices. According to 2020 report of Global Climate Risk Index, Pakistan is the fifth among the countries most highly vulnerable to global warming and climate change. The agricultural sector is one of the sectors that is most affected by the climate change. Many studies suggested that temperature increases will shift Pakistan's cropping seasons and could potentially permanently eliminate the viability of growing crops.

Climate change is threatening to the crop production system of our major crops (wheat, maize, cotton, rice, and sugarcane). It is predicted that there will be a 3°C temperature rise by 2040 and by the end of the century temperatures are predicted to have risen 5-6°C that will cause loss up to 50% of their wheat productivity in Asian countries. This loss will be greater for Pakistan due to its

geographical position. The impact of climate change significantly changes the precipitation and temperature of the earth which will disturb the time as well the growth stages of the crop. The impact of climate change on the crop varies from one crop to another as cotton is one of the most affected crops. In Pakistan, wheat, rice and gram are the main crops and leading staple



food of the agriculture sector. A decrease of 14.7 and 20.5 percent of wheat and rice crop respectively due to climate change has been observed in the past few years with their market price shooting up. This is mainly associated with rainfall distribution i.e. paradigm shift of rainfall have been noticed to change from Octobar/November to February and Matchmaking impossible cultivation of Rabi crops including wheat and gram in rained areas. In some areas of Khyber Pakhtunkhwa severe unusual hail storm have been noticed in last decade which have shown not only negative impact on field crop but also fruits and vegetables production as well.

As a result, in the last few years, almost 0.2 billion people have become food sufficient but still, almost 0.702 billion world population is living under the life of extreme poverty and food insecurity.

Change in climatic condition and global warming are the most challenging situation for all farm families of the country. In present situation the honourable Director General Agriculture Extension Khyber Pakhtunkhwa Mr. Jan Mohammad addresses the farmers to keep themselves updated

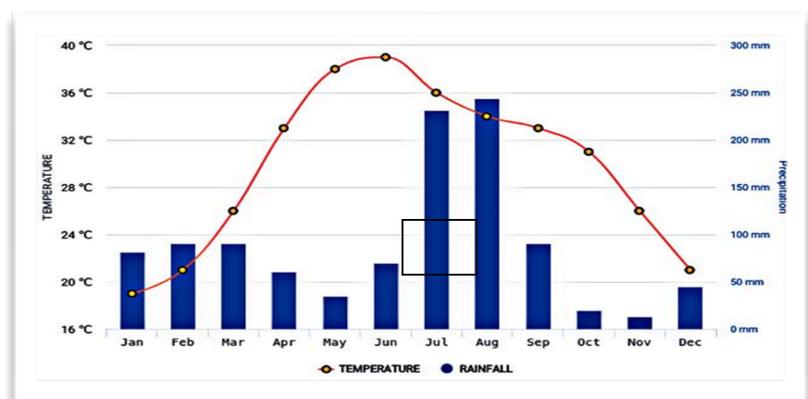


Figure- Set of basic climate data 1901-2017 for Pakistan.

regarding the heat wave/weather forecast in the coming days. He added that farmers should maintain the soil fertility for better production of the crops by proper irrigation keeping in view the climatic conditions and nature of crop.