

GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE AND FARMERS WELFARE
DEPARTMENT OF AGRICULTURE AND FARMERS WELFARE

RAJYA SABHA

UNSTARRED QUESTION NO. 1795

TO BE ANSWERED ON 04/08/2023

IMPACT OF DUST STORMS AND HEAT SPIKES ON AGRICULTURE

1795. SMT. SANGEETA YADAV:

Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased to state:

- (a) whether it is a fact that increase in frequency of dust storms in the country during the last five years have adversely affected crops;
- (b) if so, the details thereof and the reasons therefor;
- (c) the impact of increase in frequency of intense heat spikes on agriculture in Northern India;
- (d) whether Government has set up/is planning to set up any special centre to study the impact of climate change on agriculture;
- (e) if so, the details thereof; and
- (f) if not, the reasons therefor?

ANSWER

THE MINISTER OF AGRICULTURE AND FARMERS WELFARE

(SHRI NARENDRA SINGH TOMAR)

(a) & (b): As per Indian Meteorological Department, the frequency of dust storms in the country is decreasing since last three years and are summarized in Annexure-I. Since the dust storms occurs mainly during summer months, when rabi season is almost over (March-April) and kharif season is about to start (June-July), the adverse impact on agriculture is less. However, dust storms usually have adverse impacts on summer vegetables, fruits and fodder crops. The direct effect of occurrence of dust storm on crop productivity is mainly due to physical damage of crops/trees and dislodging of crops by high wind speed. Apart from physical damage, the loss of top fertile soil from bare fields during summer season indirectly affect the crop growth and yield, specifically in arid regions of the country.

(c): Agricultural production in India is vulnerable to climate variability and change. The abnormal increase in temperature during 2022 affected crops, fruits, vegetables and animals in several parts of the country. The heat wave coincided with grain filling and development stages of wheat, resulted in reduction of yields at several locations. High temperatures resulted in moisture stress, sun burn, flower drop and less fruit setting in kinnow, pomegranate, mango and lemon.

Due to technological interventions, the negative impacts of heat spikes have been dealt with effectively. Recently developed varieties of wheat (DBW187, DBW303, HD3226, JKW 261, HD 3298, PBW771, HI 162) for Indo-Gangetic plains of India showed better resilience towards the high temperature stress encountered at the grain filling stage during 2022 and the varieties like DBW187, DBW303, HD3226 played a major role in sustaining the production. In spite of occurrence of heat spikes, food grains production in the country has continuously increased during the last 5 years which can be seen in the below table.

(In million tonnes)

Year	2018-19	2019-20	2020-21	2021-22	2022-23
Production of food grains	285.21	297.50	310.74	315.72	330.53 (As per 3 rd Advance estimate)

Besides, to protect the farmers from abnormal weather conditions, ICAR in collaboration with India Meteorological Department (IMD) is issuing Agromet advisories twice a week (Tuesday and Friday) to around 6 crore farmers of the country through Gramin Krishi Mausam Seva program. A mobile App viz., 'Meghdoot' has been launched by the Ministry of Earth Sciences, to help farmers to obtain weather information including alerts and related Agromet advisories specific to their Districts.

(d) to (f): Central Research Institute for Dryland Agriculture, Hyderabad under Indian Council of Agricultural Research (ICAR-CRIDA) is identified as a special centre/nodal institute to study the issues related to Climate Change and its impact on crops and animal health. Government of India launched a flagship network project namely National Innovations in Climate Resilient Agriculture (NICRA). The project aims to develop and promote climate resilient agriculture to address vulnerable areas of the country and help the districts and regions to cope up with extreme weather conditions like droughts, floods, frost, heat waves, etc. The project has three components viz. strategic research, technology demonstration and capacity building. The main thrust areas are (i) identification of the most vulnerable districts/regions, (ii) development of crop varieties and management practices for adaptation and mitigation and (iii) assessment of climate change impacts on livestock, fisheries and poultry vis-a-vis identification of adaptation strategies. Location-specific climate resilient technologies have been tested and validated at on-farm sites of 151 climatically vulnerable districts for adoption by the farmers.

Annexure-I

The dust storm events observed during the last three years as reported by IMD.

Station Name	2020	2021	2022
AHMEDABAD	---	1	---
AMRITSAR	2	8	3
BAHRAICH	1	---	---
BHAGALPUR	---	---	3
FATEHPUR	9	---	---
GAYA	1	1	7
GAZIPUR	9	---	---
GUWAHATI	---	1	---
HAMIRPUR	2	---	---
HARDOI	1	---	---
HISSAR	---	6	5
LUCKNOW	2	4	3
MEDNAPUR	2	---	---
AYANAGAR (NEW DELHI)	---	2	---
NEW DELHI (PALAM)	1	3	---
SAFDARJUNG (NEW DELHI)	3	---	---
PATIALA	---	3	1
PATNA	---	---	2
SHAHJAHANPUR	1	---	---
Total Number of Events	34	29	24
