

**Loss to farmers due to climate change**

†2165. SHRI RAM VICHAR NETAM: Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased to state:

(a) whether the crops have been damaged, the production and the income of farmers has decreased due to sudden change in climate;

(b) if so, the total loss incurred to farmers due to this reason during each of the last three years and the current year, State-wise;

(c) whether sudden change in climate has caused heavy rainfall, hailstorm, cyclone, less rainfall, drought etc.; and

(d) if so, the names of areas which are affected by such abnormal weather system?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FARMERS WELFARE (SHRI S. S. AHLUWALIA): (a) and (b) The production of crops has fluctuated due to various reasons including aberrant weather conditions, sown area and change in productivity. The production of foodgrains in the country during last three years is as under;

Year	Production (in Million Tonnes)
2013-14	265.04
2014-15	252.02
2015-16*	252.22

\*Fourth Advance Estimates

The State Government is primarily responsible for taking necessary relief measures in the wake of natural calamities. For undertaking relief measures, funds are available with the State Government in the form of State Disaster Response Fund (SDRF). Additional financial assistance, over and above SDRF, is considered from National Disaster Response Fund (NDRF) for natural calamities of severe nature and is approved on the basis of Memorandum received from State Government, in accordance with established procedure.

Agricultural Land has been affected due to low rainfall in the country during last year. Eleven States, *i.e.* Karnataka (both for Kharif and Rabi), Chhattisgarh, Madhya Pradesh, Maharashtra (both for Kharif and Rabi), Odisha, Telangana, Uttar Pradesh (both for Kharif and Rabi), Andhra Pradesh, Jharkhand, Rajasthan and Uttarakhand (Rabi) submitted Memoranda reporting crop loss due to natural calamities like drought, hailstorm, pest attack and cold wave/frost. The details regarding State-wise cropped

† Original notice of the question was received in Hindi.

area affected during 2015-16 is given in the Statement-I (*See below*). The State-wise assistance given from NDRF for national calamities *viz.* drought, hailstorm, pest attack and cold wave/frost during 2013-14, 2014-15 and 2015-16 is given in the Statement-II (*See below*). In the financial year 2016-17, so far no State has submitted Memorandum on account of natural calamities like drought, hailstorm, pest attack and cold wave/frost. The loss of crops results in decrease income of farmers who suffered loss.

(c) and (d) As per the Ministry of Earth Sciences, analysis of past more than 100 years of data by the scientist of India Meteorological Department and other institutions has found significant changes in the rainfall pattern, extreme events etc. Both flood and drought are part of natural climate variability and occurrences flood or drought in individual years do not depend on climate change. However as an impact of climate change, it is being reported that the spatial variability, intensity and frequency of extreme events like heavy rainfall have increased.

Unseasonal/heavy rains accompanied with hailstorm, cyclone etc. has affected the following States enlisted below during the past couple of years.

State	Event
Gujarat, Rajasthan, West Bengal, Odisha, Manipur, Meghalaya and Jharkhand	Flood due to Heavy rainfall
Rajasthan, Uttar Pradesh, Haryana, Madhya Pradesh, Maharashtra and Punjab	Rain accompanied with hailstorm
Bihar, Odisha, Andhra Pradesh, Gujarat, Tamil Nadu and Kerala	Heavy rain due to cyclone

***Statement-I***

*State-wise details of cropped area damaged due to natural calamities during 2015-16*

Sl. No.	State	Calamity	Cropped Area damaged (in lakh ha.)
1	2	3	4
1.	Karnataka	Drought-K	28.88
		Drought-R	22.33
2.	Chhattisgarh	Drought-K	25.60
3.	Madhya Pradesh	Drought-K	51.54
4.	Maharashtra	Drought-K	53.11
		Drought-K (supplementary)	39.98

1	2	3	4
		Drought-R	13.35
5.	Odisha	Drought-K	13.41
6.	Telangana	Drought-K	12.30
7.	Uttar Pradesh	Drought-K	15.08
		Drought-R	6.43
8.	Andhra Pradesh	Drought-K	5.38
9.	Jharkhand	Drought-K	5.31
10.	Rajasthan	Drought-K	39.79
11.	Uttarakhand	Drought-R	1.09

K: Kharif R: Rabi

**Statement-II**

*Assistance from National Disaster Response Fund (NDRF) for Natural Calamities  
(Drought, hailstorm, pest attack and cold wave/frost) in the States*

(₹ in crores)

Sl. No.	Name of State	Calamity	Central assistance approved by GoI (under N.D.R.F)
<b>During 2013-14</b>			
1.	Bihar	Drought	931.87
2.	Karnataka	Drought	226.57
		Hailstorm	82.77
3.	Andhra Pradesh	Drought	254.54
		Hailstorm	40.06
4.	Maharashtra	Hailstorm	552.88
5.	Madhya Pradesh	Hailstorm	494.95
6.	Uttar Pradesh	Hailstorm	270.55
Sl. No.	State	Calamity	Amount approved
1	2	3	4
<b>During 2014-15</b>			
1.	Haryana	Drought	168.87
		Hailstorm	369.09

1	2	3	4
2.	Karnataka	Drought	200.85
		Hailstorm	105.33
3.	Uttar Pradesh	Drought	777.34
		Hailstorm	2801.59
4.	Maharashtra	Drought	1962.99
5.	Andhra Pradesh	Drought	237.51
6.	Rajasthan	Hailstorm	1447.73
7.	Bihar	Hailstorm	791.42
8.	Telangana	Hailstorm	83.744
9.	Himachal Pradesh	Hailstorm	71.534
<b>During 2015-16</b>			
1.	Karnataka	Drought	1540.20
		Drought-R	723.23
2.	Chhattisgarh	Drought	1276.25
3.	Madhya Pradesh	Drought	2032.68
4.	Maharashtra	Drought	3049.36
		Drought (Supplementary)	#
		Drought-R	#
5.	Odisha	Drought	815.00
6.	Telangana	Drought	791.21
7.	Uttar Pradesh	Drought	1304.52
		Drought-R	#
8.	Andhra Pradesh	Drought	433.77
9.	Jharkhand	Drought	336.94
10.	Rajasthan	Drought	1193.41
		Hailstorm	#
11.	Uttarakhand	Drought-R	#

#under process and finalization.

R-Rabi