

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

**LOK SABHA**  
**UNSTARRED QUESTION NO.6089**  
TO BE ANSWERED ON THE 11<sup>TH</sup> APRIL, 2017

**IMPACTS OF CLIMATE CHANGE ON AGRICULTURE**

6089. SHRI DILIPKUMAR MANSUKHLAL GANDHI:

Will the Minister of AGRICULTURE AND FARMERS WELFARE कृषि एवं किसान कल्याण मंत्री be pleased to state:

- (a) whether sudden change in weather pattern has resulted in crop damage, poor yield and loss of income to the farmers;
- (b) if so, the total loss incurred by farmers during each of the last three years and the current year in each State/UT on this account;
- (c) whether the sudden change of climate has also resulted in heavy rains, deficient rains, drought etc., if so, the regions prone to this abnormal weather patterns affecting agriculture and the farmers; and
- (d) the contingency plan drawn by Government to overcome climate change?

**ANSWER**

MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FARMERS WELFARE

कृषि एवं किसान कल्याण मंत्रालय में राज्य मंत्री (SHRI PARSHOTTAM RUPALA)

- (a): As per the Ministry of Earth Science, there is no evidence of change in weather pattern over the country. However, there have been extreme weather events in the recent past including extended dry periods, floods, hailstorm, cyclonic rains and winds etc., which caused damage to standing crops and ultimately poor yield of crops.
- (b): The State Government primarily assesses the losses incurred to the farmers on account of crop damage and poor yield due to extreme climatic events and submit memorandum to Government of India for providing relief to the farmers. The assistance sought by different State Governments during the last three years and current year on this account is given at Annexure-I.
- (c): 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 of flood or drought in individual years does not depend on climate change. However, due to climatic aberrations, 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;

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
Bihar, Karnataka, Andhra Pradesh, Haryana, Uttar Pradesh, Maharashtra, Chattisgarh, Odisha, Telangana, Jharkhand, Rajasthan and Uttarakhand	Drought

Indian Council of Agricultural Research (ICAR) - Central Research Institute for Dryland Agriculture (CRIDA) has also mapped 572 districts of the country for their vulnerability to extreme events due to climate change. The vulnerability was assessed high to very high in 230 districts, medium in 114 districts and low to very low in 228 districts.

(d): CRIDA of ICAR has prepared district wise contingency plan for 623 districts. Under contingency plan, the States are advised to initiate various interventions to minimise the impact of such extreme climatic events. Besides, to insulate farmers against the loss of crop due to natural calamities, Government of India has launched Pradhan Mantri Fasal Bima Yojana (PMFBY) from Kharif 2016-17.

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

(Rs. in crores)

Sl. No.	Name of State	Calamity	Assistance sought by the State Government	Central assistance approved by GOI (under N.D.R.F)
<b>During - 2013-2014</b>				
1.	Bihar	Drought	12564.04	931.87
2.	Karnataka	Drought	778.06	226.57
		Hailstorm	99.12	82.77
3.	Andhra Pradesh	Drought	638.09	254.54
		Hailstorm	59.71	40.06
4.	Maharashtra	Hailstorm	4475.76	552.88
5.	Madhya Pradesh	Hailstorm	5723.65	494.95
6.	Uttar Pradesh	Hailstorm	500.53	270.55
	<b>Total:</b>		<b>24838.96</b>	<b>2854.19</b>
<b>During - 2014-2015</b>				
1.	Haryana	Drought	4829.25	168.87
		Hailstorm	1925.97	369.09
2.	Karnataka	Drought	779.20	200.85
		Hailstorm	151.28	105.33
3.	Uttar Pradesh	Drought	4819.49	777.34
		Hailstorm	7573.70	2801.59
4.	Maharashtra	Drought	6013.28	1962.99
5.	Andhra Pradesh	Drought	1532.00	237.51
6.	Rajasthan	Hailstorm	11885.45	1447.73
7.	Bihar	Hailstorm	2041.10	791.42
8.	Telangana	Hailstorm	117.59	83.744
9.	Himachal Pradesh	Hailstorm	353.395	71.534
	<b>Total:</b>		<b>42021.71</b>	<b>9017.998</b>
<b>During - 2015-2016</b>				
1.	Karnataka	Drought	3830.84	1540.20
		Drought-R	1417.14	723.23
2.	Chhattisgarh	Drought	6093.79	1276.25
3.	Madhya Pradesh	Drought	5114.53	2032.68
4.	Maharashtra	Drought-K	4002.82	3049.36
		Drought-K (Supplementary)	2017.54	589.47
		Drought-R	2251.66	679.54
5.	Odisha	Drought	2344.99	815.00
6.	Telangana	Drought	2601.17	791.21
7.	Uttar Pradesh	Drought	2057.79	1304.52
		Drought-R	1888.35	622.76
8.	Andhra Pradesh	Drought	2000.56	433.77
9.	Jharkhand	Drought	2142.78	336.94
10.	Rajasthan	Drought	10537.02	1193.41
		Hailstorm	4372.27	79.18
11.	Uttarakhand	Drought-R	91.97	70.22
	<b>Total:</b>		<b>52765.22</b>	<b>15537.74</b>
<b>During - 2016-2017</b>				
1.	Karnataka	Drought(K)	4702.54	1782.44
		Drought( R)	3310.83	#
2.	Andhra Pradesh	Drought(K)	2281.79	518.93
3.	Kerala	Drought(K)	992.5	#
4.	Tamil Nadu	Drought(K)	39565.00	1748.28
5.	Rajasthan	Drought(K)	3660.97	#
6.	Puducherry	Drought( R)	132.35	#
	<b>Total</b>			4049.65

R:Rabi, K: Kharif  
# Under consideration

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