

IMPACT OF CHANGING WEATHER PATTERNS ON AGRICULTURE

Relevant for: Environment & Disaster Management | Topic: Environmental Degradation - GHGs, Ozone Depletion & Climate Change

Ministry of Agriculture & Farmers Welfare

Impact of changing weather patterns on agriculture

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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, hailstorms, cyclonic rains and winds etc., which caused damage to standing crops and ultimately poor yield of crops.

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 crops have been affected due to calamities, the details of the assistance provided under natural calamities during the last three years is given at Annexure-I, During the year 2018-19 (as on 06.12.2018), the State Government of Andhra Pradesh, Karnataka, Maharashtra, Jharkhand, Gujarat and Rajasthan had declared drought and submitted Memorandum seeking financial assistance from NDRF. Inter Ministerial Central Teams have been constituted for on the spot assessment of drought situation in these states. The state Government of Odisha has also declared drought but has not submitted any Memorandum.

As per available information, the scientist of India Meteorological Department and other institutions has found significant changes in the rainfall pattern, extreme events etc. Both flood and drought in individual years does 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 states is given at Annexure –II.

Central Research Institute for Dryland Agriculture (CRIDA) of Indian Council of Agricultural Research (ICAR) has prepared districts wise contingency plan for 633 districts. Under contingency plan, the States are advised to use short duration, drought tolerant, alternate crops, flood/water logged tolerant varieties besides use of new technologies on crop cultivation. In order to insulate farmers against the loss of crop due to natural calamities, Government of India has launched Pradhan Mantri Fasal Bima Yojana (PMFBY) from April 2016.

Annexure –I

Annexure –I as reference in part (b) by Lok Sabha Unstarred Question No. 45 due for 11.12.2018

Assistance approved from National Disaster Response Fund (NDRF) for Natural Calamities (Drought & hailstorm) in the States from (2015-16 to 2017-18)

(Rs in Crore)

During - 2015-16				
S. No	State	Calamity	A m o u n t sought by the state	A m o u n t approved by
1	Karnataka	Drought-K Drought-R	3830.84 1417.14	1540.20 723.23
2	Chhattisgarh	Drought	6093.79	1276.25
3	M a d h y a Pradesh	Drought	5114.53	2032.68
4	Maharashtra	Drought Drought-R	6020.36 2251.66	3638.83 679.54
5	Odisha	Drought	2344.99	815.00
6	Telangana	Drought	2601.99	791.21
7	U t t a r Pradesh	Drought Drought-R	2057.79 1888.35	1304.52 622.76
8	A n d h r a Pradesh	Drought	2000.56	433.77

9	Jharkhand	Drought	2142.78	336.94
10	Rajasthan	Drought Hailstorm	10537.02 4372.27	1193.41 79.18
11	Uttarakhand	Drought-R	91.97	70.22
	Total:		52765.22	15537.74
During - 2016-17				
1	Karnataka	Drought-(K) Drought-(R)	4702.54 3310.83	1782.44 795.54
2	Andhra Pradesh	Drought-(K)	2513.97	518.93
3	Kerala	Drought-(K)	1019.90	112.05
4	Tamil Nadu	Drought-(K)	39565.00	1748.28
5	Rajasthan	Drought-(K)	3660.97	588.34
6	Puducherry	Drought-(R)	132.35	17.70
	Total		54905.56	5563.28
During - 2017-18				
1	Madhya Pradesh	Drought (K)	3705.95	836.09
2	Chhattisgarh	Drought (K)	4401.00	395.91
3	Rajasthan	Drought (K)	3078.26	526.14
4	Andhra Pradesh	Drought-R	519.06	113.14
5	Maharashtra	P e s t Attack/Ock hi	3373.31	60.76
6	U t t a r Pradesh	Drought-R	678.98	157.23
	Total:		15756.56	2089.27

Annexure –II

Annexure –II as reference in part (c) by Lok Sabha Unstarred Question No. 45 due for 11.12.2018

Extreme Weather Events in the last three years (2015-2017)

Events	Affected areas
2015	
Heavy rainfall	Tamil Nadu, Andhra Pradesh, Assam, Gujarat, Madhya Pradesh, Manipur, Odisha, Rajasthan, West Bengal
Hailstorm	Bihar, Gujarat, Madhya Pradesh, Maharashtra, Rajasthan, Haryana, Punjab, Uttar Pradesh, Uttarakhand, Himachal Pradesh, J&K, Telangana, Andhra Pradesh, Kerala, West Bengal
Drought	Chhattisgarh, Karnataka, Jharkhand, Odisha, Madhya Pradesh, Maharashtra, Andhra Pradesh, Telangana, Rajasthan
Cyclone	Gujarat
2016	
Heavy rainfall	Gujarat, Maharashtra, Rajasthan, Andhra Pradesh, Uttarakhand, Assam, Bihar & Madhya Pradesh
Hailstorm	Bihar, Odisha, Madhya Pradesh, Uttar Pradesh
Drought	Uttar Pradesh, Madhya Pradesh, Maharashtra, Odisha
Cyclone (Vardah)	Tamil Nadu
2017	
Flood	Gujarat, South Rajasthan, West Bengal, Assam, Uttar Pradesh, Odisha, Northern Coastal Andhra Pradesh
Hailstorm	Maharashtra, Vidarbha, Central Madhya Pradesh
Drought	Punjab, Haryana, Uttar Pradesh, East Madhya Pradesh, Vidarbha
Cyclone(Ockhi)	Kerala, Tamil Nadu

This information was given by Minister of State for Ministry of Agriculture & Farmers Welfare Shri Gajendra Singh Shekhawat.

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