

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

LOK SABHA
UN-STARRED QUESTION NO.4309
TO BE ANSWERED ON 13.12.2019

Impact of Climate Change

4309. SHRI KUNWAR DANISH ALI:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) whether the Government has undertaken a study on the impact of climate change including changing monsoon patterns and its effects on the agriculture sector of the country;
- (b) if so, the details thereof;
- (c) the details of land and crops in hectares which were affected by flood and drought in the country during the last three years, State-wise; and
- (d) the corrective steps taken by the Government in this regard?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

(SHRI BABUL SUPRIYO)

(a) and (b) As part of the first and second National Communications submitted to the United Nations Framework Convention on Climate Change, the Ministry has conducted studies on impact of climate change in India. Ministry of Earth Sciences, Government of India has studied the variability of weather events in Indian Region. Studies on the impact of rainfall variation and its consequences on crops are carried out by Central Research Institute for Dry Land Agriculture (CRIDA), Indian Council of Agricultural Research (ICAR), Hyderabad which has come out with district level contingency plans based on rainfall deviations for adoption by the farmers. In addition, CRIDA also implements 'National Initiative on Climate Resilient Agriculture (NICRA)' to address such issues with mitigation measures through advisories to the farmers.

(c) As per information of Central Water Commission, in the year 2017, due to floods/heavy rains, 6.076 million hectare (mha) of area was affected and damage to crops represented an area of 4.972 mha.

As per information of Ministry of Agriculture and Farmers Welfare, five States were affected by drought in 2016-17 and 2017-18, whereas six States were affected by drought in the year 2018-19. The details, State wise is represented in the below mentioned table.

S.No.	Name of State affected due to drought	Area affected (in ha.) 2016-17	Area affected (in ha.) 2017-18	Area affected (in ha.) 2018-19
1.	Karnataka (Kharif)	3635721.74	---	2022418
	(Rabi)	1371769.29		1938715.43
2.	Chhattisgarh	---	605803	---
3.	Madhya Pradesh	---	1864339.97	---
4.	Andhra Pradesh	1273732.24	131531	1361531.54
5.	Rajasthan	2002727	1706791	2965295.99
6.	Tamil Nadu	2037032.29	---	---
7.	Kerala	51894.09	---	---
8.	Jharkhand	---	---	530386.80
9.	Gujarat	---	---	110514
10.	Uttar Pradesh	---	109835	---
11.	Maharashtra	---	---	7264063

(d) India Meteorological Department (IMD) in collaboration with CRIDA is continuously issuing Agromet Advisories using Extended Range Forecast (ERFS) throughout the season particularly during prolonged dry spell / poor rainfall situation for farmers and other users. Through this project, rainfall condition is monitored jointly by IMD and State Departments of Agriculture at district levels and if variation in rainfall arises, contingency crop planning is advised based on the situation. Crops of shorter duration varieties and deep root system are normally advised to the farmers during deficient rainfall in the early-season followed by adequate rainfall. During deficient rainfall in the mid-season, measures like moisture conservation strategies, reduction of planting densities, supplemental irrigation based on available water source are advised.

The Govt. of India has launched the Flood Management Programme (FMP) during XI Plan with an outlay of Rs 8,000 Cr for providing central assistance to States for taking up works related to river management, flood control, anti-erosion, drainage development, flood proofing works restoration of damaged flood management works, anti-sea erosion and catchment area treatment. The scheme with outlay of Rs 10,000 Cr was continued during XII Plan also.

A comprehensive scheme titled “Flood Management and Border Areas Programme (FMBAP)” with an outlay of Rs 3342.00 Cr for period 2017-2020 with merged components from the existing Flood Management Programme (FMP) and River Management Activities & Works related to Border Areas schemes during XII Five Year Plan has been approved by the Union Cabinet on 07-Mar-2019 and aims at completion of the on-going projects already approved under FMP.

Department of Agriculture Cooperation & Farmer Welfare (DAC&FW) is implementing Per Drop More Crop component of PMKSY which is operational from 2015-16. The PMKSY- Per Drop More Crop mainly focuses on enhancing water use efficiency at farm level through precision/micro irrigation (Drip and Sprinkler Irrigation). Besides promoting precision irrigation and better on-farm water management practices to optimize the use of available water resources, this component also supports micro level water storage or water conservation/management activities to supplement Micro Irrigation.

Ministry of Agriculture and Farmers Welfare is anchoring the National Mission for Sustainable Agriculture (NMSA) under the National Action Plan on Climate Change.

Rainfed Area Development (RAD) is being implemented as a component under NMSA from 2014-15. RAD focuses on Integrated Farming System (IFS) for enhancing productivity and minimizing risks associated with climatic variability. Under this system, crops/cropping system is integrated with activities like horticulture, livestock, fishery, agro-forestry, apiculture etc. to enable farmers not only in maximizing farm returns for sustaining livelihood, but also to mitigate the impacts of drought, flood or other extreme weather events with the income opportunity from allied activities during crop damage.
