

**GOVERNMENT OF INDIA
AGRICULTURE
LOK SABHA**

UNSTARRED QUESTION NO:4812

ANSWERED ON:23.04.2013

IMPACT OF CLIMATE CHANGE ON AGRICULTURE

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Will the Minister of AGRICULTURE be pleased to state:

- (a) whether the Inter-governmental Panel on Climate Change (IPCC) has expressed deep concern over the spreading impact of climate change on the agriculture sector;
- (b) if so, the details thereof and the reaction of the Government thereto;
- (c) whether the Indian Council of Agricultural Research (ICAR) has conducted any survey in regard to the impact of global warming on agricultural production and on different agro-climatic zones including desert area of Rajasthan in the country;
- (d) if so, the details and the outcome thereof; and
- (e) the contingency plan of the Government to deal with the impact of climate change on agriculture sector and livestock in the country?

Answer

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FOOD PROCESSING INDUSTRIES (SHRI TARIQ ANWAR)

(a) & (b): Yes, Madam. As per IPCC's Fourth Assessment Report (IPCC, 2007), the rate of warming due to green house gas emissions has been much higher in the recent decades, resulting in increased average temperature of the global ocean, sea-level rise, decline in glaciers and oceans. The projected increase in global temperature is likely to be in the range of 1.8 to 4.0 °C. For south Asia including India, the IPCC has projected rise in temperature in the range of 0.5 to 2.0 °C by 2020, 0.88 to 3.16 °C by 2050 and 1.56 to 5.44 °C by 2080. The increase in temperature may facilitate frequency and intensity of droughts and floods, soil erosion, depletion of soil organic carbon, changes in pest profile, submergence of coastal land, decline in fertilizer use efficiency, increase in evapo-transpiration and crop respiration rate, alter partitioning of photosynthate to economic products affecting overall crop production.

The Government under National Action Plan on Climate Change (NAPCC) is considering a National Mission for Sustainable Agriculture (NMSA) during XII Plan under which the component on Climate Change and Sustainable Agriculture: Modeling & Networking is aimed to promote climate change adaptation/mitigation research/pilot/model projects suiting to specific agro-climatic conditions.

The Indian Council of Agricultural Research has initiated a mega network project, National Initiative on Climate Resilient Agriculture (NICRA) during 2010-11 and is continuing during the current plan with a multi-pronged strategy encompassing strategic research on adaptation and mitigation, demonstration of technologies on farmers' fields and create awareness among farmers and other stake holders.

(c) No, Madam. However, climate change impact assessment studies conducted by ICAR using the crop simulation models projected reduction in crop yields for irrigated maize, wheat, irrigated and rainfed rice to the extent of 18, 6, 4 and 6 percent respectively in 2020.

(d) Doesn't arise.

(e) The Council is preparing District Level Contingency Plans for 572 target districts (410 completed) of the country to deal with impact of climate change on agriculture and allied sectors including livestock.