

IMPACT OF CLIMATE CHANGE ON AGRICULTURE

13th March, 2015

RSQ 1781

SHRI A.U. SINGH DEO

Will the Minister of **AGRICULTURE** be pleased to state:

- (a) whether Government has made an estimation of the likely impact of climate change on Indian agriculture and food security, if so, the details thereof;
- (b) the progress made under the National Mission on Sustainable Agriculture and initiatives being taken by Government to promote climate resilient crop varieties; and
- (c) whether Government is taking any initiatives for encouraging farmers to adopt low carbon agriculture techniques, if so, the details thereof and if not, the reasons therefor?

MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (DR. SANJEEV KUMAR BALYAN)

(a) Yes, Sir. The Indian Council of Agricultural Research (ICAR) has conducted climate change impact analysis on crop yields using crop simulation models (INFO-CROP and HAD CM3). Reduction in crop yields has been projected for irrigated maize, wheat, irrigated and rainfed rice to the extent of 18, 6, 4 and 6 percent respectively by 2020. Further, the Council has made vulnerability assessment on major food crops in different production zones to climatic variability under the 'National Initiative on Climate Resilient Agriculture' (NICRA). The study revealed that around 81.3 million ha area in arid, semi-arid and dry sub-humid regions of the country may suffer from extreme weather events.

(b) The Government has made operational the National Mission for Sustainable Agriculture (NMSA) from the current year (2014-15). NMSA has been formulated to make Indian agriculture more productive, sustainable, remunerative and climate resilient. Activities like promotion of integrated farming system, integrated nutrient management, integrated pest management, water use efficiencies, management of rice cultivation practices like system of rice intensification (SRI), direct seeded rice (DSR) etc., conservation agriculture, livestock management, climate resilient varietal improvement, crop diversification etc. are taken up as sustainable agriculture practices.

(c) The Government through National Mission on Sustainable Agriculture (NMSA) and the Technology Demonstration component of NICRA is promoting low carbon agriculture technologies and other interventions like direct seeded rice (DSR), system of rice intensification (SRI), intermittent irrigation and mid-season drainage in rice, reduced/zero tillage, conservation agriculture practices, site-specific integrated nutrient management, use of slow release nitrogenous fertilizers and nitrification inhibitors, leaf colour chart (LCC) based nitrogen application, micro irrigation, agroforestry etc.