

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

**LOK SABHA**  
**UNSTARRED QUESTION NO.1911**  
TO BE ANSWERED ON 12.02.2021

**Emission of Green House Gases from Crops**

1911. SHRIMATI SUNITA DUGGAL:

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

- (a) whether the emission of green house gases from agriculture sector poses a threat to India's green transition goals;
- (b) if so, the details thereof;
- (c) the details of such crops which emit more green house gas during their cultivation;
- (d) whether the Government is planning to encourage farmers to shift to cultivation of other environment friendly crops and if so, the details thereof; and
- (e) the steps taken to ensure climate conducive agricultural transition in the country?

**ANSWER**

**MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE**  
**(SHRI BABUL SUPRIYO)**

(a) to (c) As per India's second Biennial Update Report (BUR) 2018, the agriculture sector emitted 16% of total Greenhouse Gas (GHG) emissions in the country in 2014. The main sources of emissions from agriculture sector are methane (74%) and Nitrous Oxide (26%). The methane emissions in the agriculture sector mainly occur due to livestock rearing (enteric fermentation and manure management) and rice cultivation. Nitrous Oxide is primarily emitted due to the application of fertilizers to the agricultural soils. However, India has reduced the emissions intensity of its GDP by 21% over 2005 levels, thereby meeting its pre-2020 voluntary emissions reductions target. It is also on track to meet its NDC (Nationally Determined Contributions) goals under the Paris Agreement.

(d) and (e) The National Mission for Sustainable Agriculture (NMSA) is being implemented since 2014-15. NMSA promotes integrated farming systems, value addition and farm development activities for sustainable agriculture through a series of adaptation measures. These include, inter alia, (i) improved crop seeds (ii) livestock and fish cultures (iii) water use efficiency (iv) pest management (v) improved farm practices (vi) nutrient management (vii) agricultural insurance (viii) credit support (ix) markets and (x) access to information and livelihood diversification.

The National Innovations in Climate Resilient Agriculture (NICRA) project aims to enhance the resilience of Indian agriculture to climate change and climate vulnerability through strategic research and technology. The Crop Diversification Programme is being implemented in the states of Punjab, Haryana and western Uttar Pradesh since 2013-14 to divert the area under water-intensive paddy to alternative crops like pulses, oilseeds, maize, and cotton and to agro-forestry plantation. In addition, adoption of System of Rice

Intensification (SRI) in various regions has led to reduction in emission of greenhouse gases. Through NICRA project, shift from rice-rice to rice-pulse (green gram/ black gram) cropping system is promoted in eastern India. The restructured National Bamboo Mission (NBM) operational from the year 2018-19, is promoting bamboo plantations in farmer's fields, homesteads, community lands, arable wastelands etc, to promote farmers income and build climate resilience.

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