

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

**RAJYA SABHA**  
**UNSTARRED QUESTION NO. 695**  
TO BE ANSWERED ON 17.12.2018

**Impact of air pollution on crop yield**

695. SHRI RAJMANI PATEL:

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

- (a) whether it is a fact that the air pollution lowers crop yield in India and if so, the details thereof;
- (b) whether it is also a fact that cleaning up the air can have positive benefits for agriculture and food security; and
- (c) if so, the steps taken by Government to reduce the air pollution in the country during the last three years?

**ANSWER**

**MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE**  
**(DR. MAHESH SHARMA)**

- (a) & (b) Air pollution affects the crops directly by the deposition of Suspended Particulate Matter (SPM) on leaf surface and entry of gaseous air pollutants such as SO<sub>2</sub> and NO<sub>2</sub> into plants through stomata thereby hampering the physiological processes and finally their growth and yield. Secondly, it affects indirectly by lowering the light intensity on ground i.e. global dimming and thus affecting the photosynthesis and crop yield to a certain extent depending on crop species. Cleaning up of air can benefit the agriculture positively. The preliminary studies conducted at ICAR-Indian Agricultural Research Institute (IARI), New Delhi indicate that if the air pollution load on the crop is reduced by filtering them using filters and charcoal filters in the tunnels, the growth, yield and photosynthesis of crops such as wheat, barley and chickpea were enhanced significantly.
- (c) The measures taken/being taken by the Government to check/control the increasing level of pollution and improve the air quality in the country inter alia, include notification of National Ambient Air Quality Standards; setting up of monitoring network for assessment of ambient air quality; introduction of cleaner / alternate fuels like gaseous fuel (CNG, LPG etc.), ethanol blending, launching of National Air Quality index; universalization of BS-IV from 2017; leapfrogging from BS-IV to BS-VI fuel standards since 1st April, 2018 in NCT of Delhi and from by 1st April, 2020 in the rest of the country; notification of Construction and Demolition Waste Management Rules; banning of burning of biomass/stubble residue; notifications regarding 'Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring EC' and 'Mandatory Implementation of Dust Mitigation Measures for all Construction and Demolition Activities'; notification of Construction and Demolition Waste

Management Rules; promotion of public transport network; streamlining the issuance of Pollution Under Control Certificate; issuance of directions under Section 18(1)(b) of Air (Prevention and Control of Pollution) Act, 1981 and under Section 5 of Environment (Protection) Act, etc.

Further, to stop burning of crop residue, the Central Government has introduced a new Central Sector Scheme on 'Promotion of Agricultural Mechanization for in-situ management of Crop Residue in the States of Punjab, Haryana, Uttar Pradesh and NCT of Delhi' for the period from 2018-19 and 2019-20 with an outlay of Rs. 1151.80 crore. This year's allocation of Central funds is Rs. 591.65 crore. Under this scheme, there is financial assistance on purchase of eight straw management implements (50% of the cost of the implement for individual farmers; and 80% of the cost of implements for Custom Hiring Centre (CHC) by Co-operative Societies of farmers, groups or SHGs, FPOs and Private Entrepreneurs).

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