

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION NO. 685
TO BE ANSWERED ON 08.02.2021

Impact of diet on climate change

685. SHRI MD. NADIMUL HAQUE:

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

- (a) whether any assessment was done on impact of animal agriculture on climate change and increase in factory animal farming and Green House Gas (GHG) emissions in India if so, details thereof;
- (b) impact of waste disposal from slaughterhouses on environment;
- (c) details of major waste centres used for dumping by slaughterhouses, State-wise;
- (d) details of total carbon dioxide equivalent emissions by animal agriculture; and
- (e) the comparison of carbon dioxide equivalent emissions, water consumption and land area used for different food choices i.e. vegan vs vegetarian vs non vegetarian or plant based diet vs animal products based diet in Indian context?

ANSWER

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

(a) As per India's Second Biennial Update Report (BUR-2) to United Nations Framework Convention on Climate Change (UNFCCC), greenhouse gases (GHGs) produced from agriculture are 417.22 million tonne carbon dioxide equivalent (MtCO₂e), out of which 255.26 MtCO₂e were emitted from the livestock sector. In addition, marginal emissions are also contributed by wastewater generated by poultry and meat industry which is covered under waste category. According to the information received from the Indian Council of Agricultural Research (ICAR), there is no increase in factory animal farming, rather smallholder system is largely practiced in India.

(b) As per information received from ICAR, the waste from slaughterhouses is biodegradable and hence the adverse effects on the environment are negligible. Solid waste generated from process *i.e.*, bones, flesh, and blood is taken to rendering plants and converted to poultry feed etc. Minor quantities are inedible wastes which are disposed of as per the norms of State Pollution Control Boards. The Central Pollution Control Board (CPCB) has brought out 'Revised Comprehensive Industry Document on Slaughter Houses' in 2017.

(c) The pollution aspects (waste water and solid waste) of slaughterhouses are regulated by the State Pollution Control Board/Pollution Control Committee (SPCBs/PCCs). The SPCBs/PCCs issue the Consent to Operate (CTO) under the Water Act, 1974 and Air Act 1981 and prescribe standards for control of pollution. Industry specific standards for slaughterhouses have also been notified under Environment (Protection) Rules, 1986. No industry specific major waste centres are developed. However, Treatment Storage and Disposal Facility (TSDF) sites exist in the states for safe disposal of hazardous waste for all category of industries

(d) According to India's Second Biennial Update Report (BUR-2) submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in December 2018, GHG emissions in 2014 by livestock in the form of enteric fermentation and manure management was 255.26 million tonnes of carbon dioxide equivalent which is about 9.79% of the total GHG emissions of the country.

(e) The ICAR-Indian Agricultural Research Institute has done research on carbon footprints of Indian food items. Their results have shown that animal food products (meat and milk) and rice cultivation mostly contributed to methane(CH₄) emission, while food products from crops contributed to emission of nitrous oxide(N₂O). For a balanced diet (vegetarian), an adult Indian man consumed 1.16 kg of food and emitted 0.72 kg CO₂ eq. GHG per day. For a woman, the emission was 20% lower. Emissions of GHGs were 13% more for a non-vegetarian meal. A non-vegetarian meal with mutton emitted GHGs 1.8 times of a vegetarian meal, 1.5 times of a non-vegetarian meal with chicken and an ovo-vegetarian meal, and 1.4 times a lacto-vegetarian meal.
