



Mains Practice Question

Q. Discuss the causes of high GHG emissions from the agriculture sector and the steps that can be taken to minimise the emissions. (250 Words)

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Approach

- Start the answer by explaining, with data, a link between agriculture and GHG emission.
- Discuss the causes of high GHG emission from the agriculture sector.
- Discuss steps that can be taken to minimise the GHG emissions.

Introduction

Agriculture sector contributes 73% of the country's methane emissions, the Budget announcements have been rather limited. Agricultural and allied activities such as rice cultivation, rearing of domestic animals and biomass burning account for 22%-46% of the global methane concentration.

Body

Causes of High GHG emission from Agriculture sector

- The damage is largely a result of the various kinds of subsidies — on urea, canal irrigation and power for irrigation.
- The Minimum Support Prices (MSP) and procurement policies concentrated on a few states and largely on two crops, rice, and wheat has led to their overproduction.
 - As of 1 January 2022, the stocks of wheat and rice in the country's central pool were four times higher than the buffer stocking requirement.
 - Despite the record distribution of rice in the Public Distribution System (PDS) and exports in 2020-21, the rice stocks with the Food Corporation of India (FCI) are seven times the buffer norms for rice.
 - This data not only reflects inefficient use of scarce capital, but also the large amount of greenhouse gases (GHG) embedded in these stocks.
- The GHG emissions in agricultural production are also related to :
 - Emissions due to burning rice residues
 - Application of fertilisers
 - Production of fertilisers for rice
 - Energy operations like harvesting
 - Pumps
 - Processing
 - Transportation

Steps that can be taken to reduce GHG emission from Agriculture-

- **Revisiting Policies:** The Economic Survey 2021-22 points out that the country is over-exploiting

its ground water resource, particularly in the northwest and some parts of south India which is primarily due to paddy cultivation on 44 million hectares.

- Although this has helped India achieve food security, it's time now to save groundwater and the environment.
- This calls for revisiting policies to subsidise power and fertilisers, MSP and procurement and reorient them towards minimising GHG emissions.
- **Three-Pronged Approach for GHG Emissions:** Studies pointed out that India has the potential to cut 18% of its annual greenhouse gas emissions from the agriculture and livestock sector.
 - The study estimated that 50% of this reduction could be achieved by implementing these three measures:
 - Efficient use of fertiliser
 - Adoption of zero-tillage
 - Management of water used to irrigate paddy
- **Encouraging Farmers:** Farmer groups and the private sector can be mobilised to develop carbon markets in agriculture, both at the national and international levels.
 - Moreover, specific water, fertiliser and soil management practises can lead to triple win - reducing the climate impacts of rice cultivation while increasing productivity of this culturally important grain and increasing farmer profits.
 - Such a move will give India a “climate smart” agriculture in Amrit Kaal.
 - Also, if we can protect productivity levels with a low-carbon footprint, it will help India to access global markets too.
- **Carbon Pricing:** According to the International Monetary Fund (IMF), the world needs a carbon tax of \$75 per tonne by 2030 to reduce emissions to a level consistent with a 2°C warming target.
- **Increasing Farmer Awareness:** The right approach is to give the rice-producing-farmers the right advice and incentives at the right time so that they add only as much water or fertilisers as the rice plant needs.
 - Rice farming shall be made more sustainable, without having a negative impact on farmers livelihood.