



Mains Practice Question

Q. What are organic fertilizers? How can they benefit Indian agriculture? (250 words)

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Approach:

- Explain briefly about organic fertilizer.
- Give types and examples of organic fertilizer.
- Discuss its potential in transforming agriculture in India.
- Conclude suitably.

Introduction:

- An organic fertilizer is a fertilizer that is **derived from organic sources, including organic compost, cattle manures**, poultry droppings and domestic sewage.

Body:

- Further, they can be categorised into two segments.
 - **Biofertilizer and Organic Manure.**
 - **Bio-fertiliser:**
 - Bio-fertilisers are composed of living microorganisms attached to solid or liquid carriers and are useful for cultivable land, as these micro-organisms help in increasing the productivity of soil and / or crops.
 - **Examples:** Rhizobium, Azospirillum, Azotobacter, Phosphobacteria, Blue Green Algae (BGA), Mycorrhiza, Azolla.
 - **Organic manure:**
 - Organic manure, on the other hand, refers to partially decomposed organic matter like digestate from a biogas plant, compost and vermicompost, which provides nutrients to the soil / crops and improves yield.
- **Potential of organic fertilizer in India:**
 - **Utilizing Municipal Solid Waste:**
 - As India produces more than 150,000 tonnes of **municipal solid waste (MSW)** and by utilizing it in a productive way agriculture sector can be transformed.
 - Considering the collection efficiency of 80% and organic part of MSW to be 50%, total organic waste generated per day in India comes to **around 65,000 tonnes per day**. Even if half of this is diverted to the biogas industry, the **government can leverage this by reducing in import of fossils and fertilisers**.
 - **Utilizing Biogas Effluents:**
 - There is also great value in the organic fertiliser also known as **digestate, which is the biogas plant's effluent**.
 - Further, biogas can be utilised for heating, electricity and even vehicular purposes (after upgrading), whereas **digestate can help realise the vision to have a second green revolution**.

- **Increase Soil Fertility:**

- Further, digestate can provide organic carbon to the continuously depleting soil, apart from its standard nutrition value.
- In India at present, bio-fertiliser production is just over 110,000 tonnes.

Conclusion:

- There has been significant rise of organic farming sector due to growing awareness about the harmful effects of synthetic fertiliser on soil, rising health concerns, expanding urban population base and an increased consumer expenditure on food goods. Further they have the potential to eliminate the usage of synthetic fertilisers completely.

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