



## Mains Marathon

**Day 30:** What is Carbon Farming? Discuss why Carbon Farming is a viable option for reducing climate change?

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### Approach / Explanation / Answer

- Define Carbon Farming.
- Discuss why carbon farming is a viable option for reducing climate change.
- Mention the steps that can be taken to encourage carbon farming.
- Conclude suitably.

### Answer:

Carbon farming (also known as carbon sequestration) is a system of agricultural management that helps the land store more carbon and reduce the amount of Greenhouse Gases (GHGs) that it releases into the atmosphere. It involves practices that are known to improve the rate at which CO<sub>2</sub> is removed from the atmosphere and converted to plant material and soil organic matter. Carbon farming is successful when carbon gains resulting from enhanced land management or conservation practices exceed carbon losses.

According to the Third Biennial Update Report submitted by the Government of India in early 2021 to the UNFCCC, the agriculture sector contributes 14% of the total GHG emissions. Agricultural emissions in India are primarily from the livestock sector (54.6%) and the use of nitrogenous fertilizers (19%). Amongst these, GHG emissions from rice cultivation during 2016 accounted for 71.322 million tonnes “CO<sub>2</sub> equivalent”, which analysts say might have gone up to 72.329 million tonnes “CO<sub>2</sub> equivalent” during 2018-19.

Switching to regenerative agriculture practices can reduce it and carbon farming can accelerate this shift.

### Carbon Farming is a Viable Option because

- **Climate Friendly:** Carbon farming promises a bold new agricultural business model — one that fights climate change, creates jobs, and saves farms that might otherwise be unprofitable. In essence, a climate solution, and increased income generation opportunity and ensuring a food security net for the population.
- **Optimising Carbon Capture:** It is a whole farm approach to optimising carbon capture on working landscapes by implementing practices that are known to improve the rate at which CO<sub>2</sub> is removed from the atmosphere and stored in plant material and/or soil organic matter.
- Carbon farming can **incentivise our farmers** to introduce **regenerative practices** in their

agricultural processes helping them shift their focus from improving yields to functioning ecosystems and sequestering carbon that can be sold or traded in carbon markets.

- **Farmer Friendly:** It not only improves the health of soil but can also result in improved quality, organic and chemical-free food (farm-to-fork models) along with boosted/secondary income from carbon credits for the marginalised farmers.
- **Growth in Carbon Market:** The total value of the global carbon markets grew by 20% in 2020 — the fourth consecutive year of record growth — and is well on its way in raising a critical mass of investors. The value of traded global markets for carbon dioxide permits grew by 164% to a record €760 billion (\$851 billion) in 2021. Carbon thus can effectively prove to be the 'cash crop' of the future for farmers

## Steps can be Taken to Encourage Carbon Farming

- **Tapping the Potential of Soil:** Soil is one of the most untapped and underutilized defenses against climate change and acts as an efficient carbon sink. India should capitalize on it to achieve its Net Zero target and decarbonizing pathway. Studies show that soil removes about 25% of the world's fossil-fuel emissions each year and has been the missing link from the globally prescribed carbon management practices and narrative.
- **Legal Backing for Carbon Farming:** An extensive and pioneering carbon farming Act with a robust transition plan can effectively demonstrate the idea of creating a carbon sink on working land and farm the way out of climate crisis, improve nutrition, reduce the punishing inequalities within farming communities, alter the land use pattern and provide the much-needed solution to fix our broken food systems.
- **Direct Incentives for Farmers:** The land sector is key for reaching a climate-neutral economy, because it can capture CO<sub>2</sub> from the atmosphere. However, to encourage the agriculture and forestry sectors, it is necessary to create direct incentives for the adoption of climate-friendly practices, as currently there is no targeted policy tool to significantly incentivise the increase and protection of carbon sinks.
- **Carbon Credits and Carbon Banks:** The farmers can be rewarded through globally tradable carbon credits. Carbon banks can also be created that would buy and sell carbon credits from farmers. These credits could then be sold to corporations needing to offset their emissions. Paying farmers to restore carbon-depleted soils offers a great opportunity for a natural climate solution and to stabilize global warming below 2°C.
- **Collective Participation:** For the overall framework of carbon farming to be successful, it would have to include sound policies, public-private partnerships, accurate quantification methodologies and supportive financing to efficiently implement the idea. It requires it to be done at a scale where measurable carbon capture can be achieved along with maintaining healthy soils that absorb and store carbon.

Agriculture covers more than half of Earth's terrestrial surface and contributes roughly one-third of global GHG emissions. Thus, Carbon farming can fight climate change by absorbing the GHG emissions.

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