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MAGAZINE NOTES

Harnessing Carbon Markets for Farmer's Prosperity

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CURATED & WRITTEN BY

Bharat Choudhary

UPSC Educator & Content Creator

linkedin.com/in/epicbharat

Harnessing Carbon Markets for Farmer's Prosperity

📗 **Kurukshetra** Chapter 1 · 2 min read ·

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The issue's most exam-rich chapter treats carbon as a potential **cash crop**: if farming practices that cut emissions can be measured and verified, farmers can sell the reduction as credits, stacking climate income on top of crop income.

WHERE FARM EMISSIONS COME FROM

- Agriculture contributes about **18 percent of global carbon emissions**
- Within agricultural emissions: **enteric fermentation in livestock accounts for 53 percent**, **rice cultivation 17 percent**

That makes rice and livestock the two big mitigation frontiers for India.

CLIMATE-SMART RICE

PRACTICE	EFFECT
Alternate Wetting and Drying (AWD)	Cuts methane from flooded paddies; reduces water use 15-20 percent
Direct Seeded Rice (DSR)	Skips transplanting and continuous flooding; cuts methane and labour

HOW THE MARKET WORKS

- **1 carbon credit = 1 metric tonne of CO2 equivalent** removed or avoided
- The **Voluntary Carbon Market (VCM)** runs on third-party verification; the leading global standards are **Verra (VCS)** and **Gold Standard**
- **Agroforestry** is India's proven model: poplar-based systems in Punjab and Haryana are credited with storing millions of tonnes of CO2e
- The domestic **Green Credit Programme** rewards tree plantation on degraded land, a parallel non-market incentive

MAINS ANGLE

Critical analysis: carbon income favours large, organised farms; smallholders face high measurement-reporting-verification (MRV) costs, long payout cycles and contract opacity. Without aggregation through FPOs and SHGs, carbon markets could reproduce the very inequities they promise to ease. **Way forward:** public MRV infrastructure (remote sensing baselines), model contracts in Indian languages, FPO-level aggregation, and aligning VCM projects with the CCTS so domestic and international credits do not cannibalise each other.

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EMISSIONS:

Agriculture: ~18 percent of global carbon emissions

Within agri: enteric fermentation 53 percent; rice cultivation 17 percent

MARKET MECHANICS:

1 carbon credit = 1 tCO_2e; top verifiers: Verra (VCS), Gold Standard

AWD and DSR cut paddy methane; AWD saves 15-20 percent water

INDIA INSTRUMENTS:

Green Credit Programme (plantation on degraded land)

Punjab-Haryana poplar agroforestry: millions of tonnes CO_2e stored

Sources: Kurukshetra / Publications Division , PIB

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