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Unlocking Agricultural Benefits: How Carbon Credits Can Transform India's Farming Sector

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A carbon credit is a tradable certificate that represents the reduction of one tone of carbon dioxide (CO_2) or an equivalent amount of another greenhouse gas (GHG) from the atmosphere. It serves as a measure of the amount of GHG emissions that have been prevented or removed through various activities, such as renewable energy projects, reforestation, or improved industrial processes.

Carbon credits function similarly to emission permit slips. A corporation is authorized to produce one ton of CO_2 emissions when it purchases carbon credits, which the government/carbon credit holders often provide through a payment basis. Carbon money is transferred vertically through carbon credits from businesses to regulators; however, businesses that have extra credits can sell them to other businesses. The basic unit traded is the equivalent of one ton of carbon emissions, also known as CO_2e. The average Indian generates approximately 1.9 tons of CO_2e (carbon dioxide equivalent) per year from various activities, including driving, shopping, using electricity, and gas at home, as well as other everyday activities.

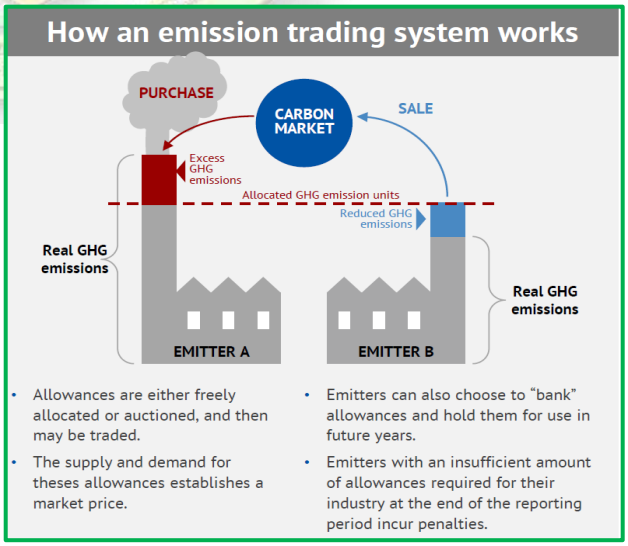
Carbon market and Principle of carbon credit

The carbon credit market is a system where carbon credits are bought and sold. The carbon credit market operates on the principle that reducing emissions in one area can help balance out emissions in another, contributing to overall climate goals. It operates under the market on the principle that entities (such as companies or governments) that emit greenhouse gases (GHGs) can offset their emissions by purchasing carbon credits from projects that reduce or sequester GHGs.

How carbon market works

There are several carbon trading mechanism including tax on carbon emission by governmental regulated bodies and paying to carbon creditors based on Co2e and another option is to implement an emission trading scheme – to create a carbon market.

1. Issuance of carbon credit certificate: Projects that successfully reduce or remove GHGs, such as renewable energy installations, reforestation efforts, or energy efficiency improvements, generate carbon credits.



Each credit represents the reduction of one tone of CO2 or its equivalent in other GHGs.

2. Trading under market: These credits can be sold in carbon markets. There are two main types of markets:

2.1. **Compliance (Regulatory) Markets**: Operated under government regulations, where companies or countries are required to offset their emissions. Examples include the European Union Emission Trading Scheme (EU ETS) and California's Cap-and-Trade Program.

2.2. **Voluntary Markets**: Where companies or individuals buy credits voluntarily to offset their emissions, often as part of corporate sustainability goals or personal commitments. These projects include reforestation, wetland restoration, desert management, improved forest management. Majority of these projects works without pre-established standards.

3. **Verification and Certification**: To ensure credibility, carbon credits must be verified by independent third parties to confirm that the emissions reductions are real, additional, and permanent. Certification standards, such as the Verified Carbon Standard (VCS) or the Gold Standard, are used for this purpose.
4. **Purchase and Use**: Buyers of carbon credits use them to meet their emission reduction targets or to claim carbon neutrality. Sellers receive financial compensation for their efforts in reducing GHGs, which can help fund further environmental projects.

Example: Xpansiv is the largest voluntary carbon credit marketplace in the world, currently hosting over 90% of all transactions worldwide. Companies with major net-zero commitments like Chevron, Shell, Walmart, and Goldman Sachs – all use Xpansiv's trading platform, which providing both platform for issuance of carbon credit certificates after inspecting and monitoring alone with platform to sell the created carbon credit. In India Bureau of Energy Efficiency (BEE) is the administrator in carbon trading market.

How Carbon credit in can benefit the Indian agriculture

India has large desert and, drought-prone, calamities prone area, where the production and investment uncertainties are high. So this uncertainty is creating inequality on one hand and compromising the production because of unbalance use of resources so to get the benefit if carbon trading system could be started based on suitable trading system having regulatory mechanism in following ways:

1. Framer who creating carbon credit will get income so expenditure burden on transfer of payment can be reduced while maintaining or enhancing farmers income
2. Farmer will adopt climate resilient crops and crop practices
3. Government investment on mitigating climate induced diseases and calamities can be reduced
4. Carbon credit can be sell in international market according to loss and damaging principle of United Nations Climate Conference COP-27
5. Crop substitution programs in India can succeed if emission reduction benefits are transferred to farmers based on carbon trading system.
6. Crop substitution program will be one on key for farmers in getting comparative advantage to farmers.

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