

## The role of regenerative agriculture practices in combating climate change and restoring the Agri ecosystem with sustainable practices

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Amid the mounting challenges posed by climate change and the growing need for sustainable agricultural practices, we find hope in the pivotal role of regenerative agriculture, enhancing the 3Ps of agriculture Business which is productivity, predictability, and profitability. It is crucial for businesses, policymakers, and the agricultural community to appreciate the significance of regenerative practices in addressing these pressing issues as we navigate the intricate landscape of climate change.

Climate change is no longer a distant threat; it is a present reality with far-reaching consequences for agriculture. Rising global temperatures, increased frequency of extreme weather events, and shifting precipitation patterns have disrupted traditional farming methods. These changes not only affect crop yields and food security but also intensify soil erosion, decrease water availability, and contribute to greenhouse gas emissions.

Agriculture, as both a contributor to and victim of climate change, plays a dual role. It contributes to climate change through emissions of methane and nitrous oxide, deforestation, and the use of energy-intensive practices. However, it is also vulnerable to the consequences of climate change. Prolonged droughts, extreme heat, and changing pest patterns pose threats to crop production.

Regenerative agriculture offers a path forward, aiming to mitigate climate change while simultaneously enhancing the resilience of the Agri ecosystem. This approach transcends sustainability by actively restoring and revitalizing the health of the land, soil, and the environment. It seeks to strengthen the natural processes that underpin productive agriculture.

Restoring Soil Health is Central to regenerative agriculture is the belief that soil is more than just a medium for plant growth; it is a living ecosystem. Conventional agricultural practices, such as excessive tilling and heavy pesticide use, degrade the soil, leading to erosion and loss of fertility. Regenerative agriculture, in contrast, focuses on rebuilding and maintaining soil health through techniques like cover cropping, reduced tillage, and the use of organic matter. This not only boosts crop yields but also sequesters carbon in the soil, reducing greenhouse gas emissions.

Regenerative agriculture emphasizes the importance of biodiversity, understanding that diverse ecosystems are more resilient in the face of climate change. By maintaining and promoting biodiversity on farms, regenerative practices help control pests and reduce the need for chemical inputs. Additionally, diverse cropping systems enhance soil health and make agriculture more adaptable to changing environmental conditions.

One of the most compelling aspects of regenerative agriculture is its role in sequestering carbon. By drawing carbon dioxide from the atmosphere and storing it in the soil, these practices directly contribute to climate change mitigation. The adoption of agroforestry, reforestation, and rotational grazing systems can enhance carbon sequestration while benefiting farmers and the environment.

As climate change leads to water scarcity in many regions, regenerative agriculture practices offer strategies to conserve and manage water more efficiently. These practices include rainwater harvesting, the use of cover crops, and the development of swales and contour farming systems. By optimizing water use, regenerative agriculture contributes to improved water quality and increased resilience against drought.

As business leaders, it is critical to understand the compelling business case for adopting regenerative agriculture practices. Beyond the ethical and environmental reasons, regenerative agriculture can also lead to more robust supply chains, cost savings, and enhanced brand reputation.

With the volatility of climate change, businesses reliant on agricultural products are exposed to supply chain disruptions. By encouraging regenerative agriculture, companies can help build more resilient supply chains that are less susceptible to the shocks of extreme weather events and crop failures.

Contrary to the misconception that regenerative agriculture is expensive, it can often lead to cost savings. Reduced dependence on synthetic fertilizers and pesticides, lowered irrigation costs, and enhanced soil health can translate to a more economical farming system in the long run.

Consumers are increasingly conscious of the environmental and ethical aspects of the products they purchase. Businesses that align with regenerative agriculture practices can tap into the growing demand for sustainably produced food and goods. Such alignment enhances brand reputation and fosters customer loyalty.

To facilitate the widespread adoption of regenerative agriculture, policymakers and investors have pivotal roles to play. This includes incentivizing farmers through subsidies, providing technical support, and promoting research and development in regenerative techniques.

The urgency of addressing climate change and revitalizing our agricultural ecosystem cannot be overstated.