

Key messages

Aligning regenerative agricultural practices with outcomes to deliver for people, nature and climate

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Context and overview:

- Agriculture is the largest global source of ecosystem degradation and biodiversity loss, the largest water user and a key driver of climate change.
- Furthermore, food systems themselves are greatly threatened by these negative environmental impacts. For example, climate change is predicted to reduce major crop yields by 3–7% for every 1°C degree increase in temperature, which risks undermining future food security.
- **“Regenerative agriculture” is gaining increasing interest** amongst agri-food industry leaders, civil society organizations and farming communities as a potential solution.
- Although a universal definition does not exist, **regenerative agricultural practices generally aim to improve soil health**, enhance water infiltration and storage, increase the resilience of farms, and reduce reliance on chemical inputs.
- **There is currently an inconsistent understanding of what “regenerative agriculture” is, the practices it entails and outcomes it can achieve:**
 - The lack of evidence, especially from low- and middle-income countries, means it is difficult to assess what regenerative practices can achieve across farm, landscape and global levels
 - Farmer experiences are often missing from reporting metrics
 - The lack of definition and misalignment around practices and what qualifies as “regenerative” can create a risk that companies cannot be held to account for their targets and claims
- **This report highlights the need to create an outcome-based framework for measuring and assessing regenerative agricultural practices.** Aligned metrics are needed at different scales, from farm level up to the global level, to:
 - Improve evidence and research about what approaches are most effective in different contexts
 - Support global alignment
 - Ensure the right incentives flow to farmers
 - Guide practitioners to identify and innovate around site-specific solutions
- **This report includes a review of evidence on how specific regenerative agricultural practices link to three important farm-level outcomes: biodiversity, climate change mitigation and yield.**

Key findings:

- **The review finds that many regenerative agricultural practices can have a positive impact on on-farm biodiversity and on-farm carbon sequestration, but effects on on-farm net greenhouse gas emissions were mixed and effects on yield were highly variable:**
 - All the evidence points to contextual variations such as topography and soil type as key determinants for results across biodiversity, climate change mitigation and yield. The framework would ensure that practices lead to the best outcomes in different geographies

- The report finds that regenerative practices can reduce soil degradation and increase soil health – which can maintain or increase productivity over time
- However, the report also found highly variable effects on yield. In situations where regenerative practices lead to a yield decline, the growing global demand for food means that this could risk unintended consequences for food security, off-farm biodiversity or climate change mitigation
- **Because of variable effects on yield, positive biodiversity or carbon outcomes on the farm do not always lead to positive biodiversity or carbon outcomes at the landscape and global level.** Therefore, an outcomes-based framework needs to embed a holistic set of outcomes and examine effects at multiple scales to ensure that agriculture can help achieve our global goals.
- **It is critical that the framework is based on research, evidence, experience and insights of farmers, Indigenous Peoples, local communities, civil society and academia from across the world.**
- **Aligning regenerative agricultural practices with measurement of outcomes will allow farmers and practitioners to adopt and scale up agricultural practices that have a positive effect on people and planet** relative to business as usual at the farm, value chain, corporate and landscape level.
- **The report also finds that there are overall gaps in evidence** which means more research is needed to ensure global goals for food security, nature, and climate are delivered. This includes gathering data on greenhouse gas emissions overall (not just soil carbon sequestration); evidence from developing economies; as well as on the impacts regenerative agricultural practices have at landscape and global levels.

Recommendations for stakeholders:

- **Multistakeholder collaboration and efforts are critical.** For example:
 - **Policymakers** must eliminate support measures that encourage unsustainable agricultural practices, agricultural expansion and land conversion; set laws and regulations for land conversion; and repurpose agricultural subsidies to support more sustainable farming practices
 - **Businesses**, in partnership with farmers, need to set outcome-based targets to drive the adoption of practices that are suitable to local contexts but also tackle wider system issues at landscape and global level; and make data and evidence readily available to the public
 - **Research and academia, civil society and donors** also play critical roles in providing the resources needed to help address the gaps in evidence and bring different stakeholders together
 - **Farmers** can challenge peers to improve the environmental performance of their farms; lobby for greater accountability and rewards; and experiment with practices that have positive outcomes on the environment
- **The report argues that shifting to regenerative agricultural practices will not be enough on its own.** It is also critical to develop and deploy new technologies to sustainably enhance food and nutrition security and productivity, and also transform current food consumption, marketing and distribution patterns.
- **Progress is already taking place. REGEN10**, a global endeavor committed to a farmer-driven and inclusive approach, is developing the principles, framework and metrics to measure and identify how different agricultural production systems and practices can achieve positive outcomes at farm, landscape and global levels.