



Nature-Positive Solutions for Shifting Agrifood Systems to More Resilient and Sustainable Pathways (NATURE+) is one of the Research Initiatives in CGIAR's new research portfolio that will deliver science and innovation to transform food, land, and water systems in a climate crisis.

Challenge

The mass production of cheap but plentiful food has taken a toll on both the environment and humans. Industrial agriculture drives 80 percent of deforestation and threatens 86 percent of species currently at risk of extinction. It is responsible for significant crop and genetic diversity losses, and up to 37 percent of global greenhouse gas emissions. This drive for cheap food has accelerated land degradation and land use change, while heavily burdening global water resources. The homogenization of food sources and diets impacts smallholder farming families, too, reducing nutrition outcomes, farming incomes, and crop resistance to pests and diseases. These problems are compounded by misaligned public policies and economic incentives. Cheap food is cheap because these factors are not accounted for.

Events such as the 2018 financial crisis, the COVID-19 pandemic, and the conflict in Ukraine illustrate the fragility of our food systems and their reliance on a small number of crops, produced in a few countries. Even as the conflict in Ukraine unfolds, food prices in Africa are rising and the UN's International Fund for Agricultural Development (IFAD) estimates an increase in global hunger and poverty, as Russia and Ukraine make up about 30 percent of global wheat and 53 percent of global sunflower exports. Yet crises such as these also offer an opening to rethink our food systems and how greater crop diversity, more sustainable production practices, and reduction and recycling of waste can help lead to greater sustainability.

Nature-positive production is a holistic concept that ensures agriculture is a net positive contributor to staying within planetary boundaries. It envisions sustainable production that re-imagines, co-creates, and implements food systems that equitably support food and livelihoods while ensuring agriculture's contributions are not harmful to the environment. Identified by the 2021 UN Food Systems Summit as a critical pathway to sustainable food systems, a nature-positive approach has three pillars:

- conservation of biodiversity,
- management of biodiversity and natural resources to provide ecosystem services, and
- avoiding further degradation and restoring nature when necessary.

Nature-positive solutions embrace methods and strategies implemented at farm and community levels to cope with climate change and natural resources depletion while ensuring availability and access to food and connecting traditional and modern production knowledge.

NATURE+ AT A GLANCE

OBJECTIVE: This Initiative aims to re-imagine, co-create, and implement nature-positive solutions-based agrifood systems that equitably support food and livelihoods on the ground, while simultaneously ensuring that agriculture is a net positive contributor to nature.

FOCUS COUNTRIES: Burkina Faso, Colombia, India, Kenya, Vietnam

WORKS TOWARD SUSTAINABLE DEVELOPMENT GOALS: 2, 5, 6, 12, 13, 15

PRIMARY CGIAR IMPACT AREA: Environmental Health and Biodiversity

In this Initiative, CGIAR researchers and partners will reshape food production systems in five countries, Burkina Faso, Colombia, India, Kenya, and Vietnam, to meet food demands of growing populations by stewarding biodiversity and improving soil and water management within integrated nature-positive solutions.

Working with stakeholders across agriculture, economic, environment, and natural resource management sectors at farm- and community-level, they will:

- Boost critical ecosystem services and enhance social and economic benefits, including equality,
- Tackle the root economic and political causes of environmental degradation from agricultural production, and
- Harness the power of nature-based solutions and ecosystem services alongside advances in digital agriculture and agronomy to reverse negative trends around natural assets, including climate, biodiversity, land, and water.

Objectives

Dire global development challenges, including climate change, malnutrition, and environmental degradation, require urgent action. To help address these challenges, this Initiative has the following objectives:

1. Co-design a decision-support platform to help users, including producers, national agricultural and research and education systems (NARES), natural resource stewards, nongovernmental organizations, conservation communities, the private sector, and local governments, select proven nature-positive solutions that have been trialed and adapted to their local contexts and integrate their needs.

2. Validate the decision-support platform as a tool which achieves multiple benefits and minimizes tradeoffs for communities and their natural environments, through implementing nature-positive solutions in approximately eight communities in biodiversity-rich areas, benefitting approximately 100,000 people as co-designers or end-users.
3. Analyze the local political economy and identify social-inclusion or agency barriers to nature-positive solutions adoption, to shape more inclusive enabling environments through policy and finance to incentivize adoption of nature-positive solutions by rural communities across five countries.
4. Help private sector and government actors shape financially viable business models and blended, market-responsive, socially inclusive investment plans around nature-positive solutions, using a demand-driven approach and capitalizing on CGIAR evidence and innovation around climate financing, payment for ecosystem services, and tradeoff evaluations.
5. Document learning while raising awareness and building capacity among key stakeholders to support wider adoption of nature-positive solutions at global, national, and local levels, based on sound monitoring (including locally relevant indicators), evaluation, and novel learning mechanisms.

Activities

Drawing on CGIAR's 50 years of research experience as well as the experiences and perspectives of a wide network of partners who understand local needs and contexts, the following activities will help realize this Initiative's objectives:

- Identifying, testing, and implementing nature-positive solutions for more effective conservation of interlinked agrobiodiversity, water and soils systems, focusing on the intersection of agrobiodiversity conservation and water and soil resource management which is critical to halting and reversing biodiversity loss.
- Working with smallholder communities to ensure the sustainable, nature-positive management of biodiversity and other natural resources and improve production systems through nature-positive innovations, learning, and technologies.
- Providing the scientific evidence base and capacity to monitor and quantify ecosystem service delivery and maximize efficiency of interventions, to help local restoration stakeholders establish innovative, nature-positive solutions that attract investment and break the degradation cycle.
- Working with a wide range of stakeholders to ensure nature-positive recy-

cling solutions are used more effectively by small- and medium-sized enterprises to generate increased resources that benefit poor farming households in rural areas and contribute to reducing greenhouse gas emissions.

- Engaging key actors in creating an enabling environment for NPS, by identifying the true cost of food, including the hidden costs of women's labor; valuing and shaping different types of incentives; and building mainstreaming implementation and scaling capacity.

Nature-Positive Impact

CGIAR's Research Portfolio aims to create real, lasting, and positive impact in five key Impact Areas. As part of the Portfolio, the NATURE+ Initiative contributes to all five areas in the following ways:



Environmental Health and Biodiversity: In the five focus countries of Vietnam, India, Kenya, and Burkina Faso, food, land, and water productivity will be increased by 30 percent and biodiversity by 50 percent, while reversing soil deg-radation.



Nutrition, Health, and Food Security: Consumers will have access to a more diverse diet, with women and children in particular benefitting from nutrient-dense crops and varieties.



Poverty Reduction, Livelihoods, and Jobs: Value chains that offer nature-positive solutions will help create jobs and income opportunities, particularly for women and youth.



Gender Equality, Youth, and Social Inclusion: The needs of women and indigenous people must be at the heart of nature-positive solutions, including ensuring opportunities for training, community engagement, and management.



Climate Adaptation and Mitigation: Nature-positive adaptation measures will help communities build resilience to climate shocks and reduce greenhouse gas emissions, while ensuring financial incentives align with environmental goals.

Further reading:

Nature-Positive Solutions for Shifting Agrifood Systems to More Resilient and Sustainable Pathways: <https://on.cgiar.org/3rHjbRO>

"Boost Nature-Positive Production: A paper on Action Track 3," UN Food Systems Summit, December 2020: <https://bittylink.com/9dy>

"The State of the World's Biodiversity for Food and Agriculture," Food and Agriculture Organization of the United Nations, 2019: <https://bit.ly/3nr52WN>



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CGIAR is a global research partnership for a food-secure future. CGIAR science is dedicated to transforming food, land and water systems in a climate crisis. Its research is carried out by 13 CGIAR Centers/Alliances in close collaboration with hundreds of partners, including national and regional research institutes, civil society organizations, academia, development organizations and the private sector. www.cgiar.org

We would like to thank all funders who support this research through their contributions to the CGIAR Trust Fund: <https://www.cgiar.org/funders/>.

To learn more about this and other initiatives in the CGIAR Research Portfolio, please visit www.cgiar.org/cgiar-portfolio.

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