NATURE-POSITIVE SOLUTIONS: BURKINA FASO

INITIATIVE ON Nature-Positive Solutions

The CGIAR Nature-Positive Solutions Initiative made considerable progress in Burkina Faso. Activities with women's groups, schools and climate-challenged smallholders established new frameworks to promote nature-positive activities and research. This report highlights NATURE+ activities across three years in Burkina Faso and looks ahead at the Initiative's continued work in the CGIAR Research Portfolio 2025-2030.

Women work at a tree nursery in Burkina Faso as part of NATURE+'s efforts on restoration with native tree species. Some 600 small-scale nurseries were identified and surveyed, and upcoming research results will provide guidance for improving their operations and helping Burkina Faso reach its goal of restoring 5 million hectares of land.

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What is Nature-Positive Solutions' vision?

The CGIAR Nature-Positive Solutions Initiative (NATURE+) was established to reimagine and implement innovative, scalable, and locally relevant solutions that enhance biodiversity, regenerate landscapes, and ensure sustainable food production. Through five work packages – **CONSERVE**, **MANAGE**, **RESTORE**, **RECYCLE** and **ENGAGE**, uniquely designed to be simultaneously deployed at research sites – the Initiative aims to help shift agriculture from being a driver of environmental degradation to becoming a net-positive contributor to nature. Through cross-sectoral collaboration, research, and community-driven interventions, NATURE+ integrates conservation, restoration, circular bioeconomy practices and policy science to create resilient agri-food systems.

Across all five countries, the NATURE+ Initiative is transforming food systems by promoting biodiversity, regenerative agriculture, and circular economy solutions. Each country's activities are tailored to its specific environmental, economic, and social challenges, but together, they create a global model for nature-positive agricultural transitions. The initiative demonstrates that agriculture does not have to come at the expense of nature, but instead, can be a force for ecosystem restoration, climate resilience, and sustainable livelihoods.

At the heart of NATURE+ is a commitment to fostering equity and inclusivity by empowering local communities, Indigenous peoples, women, and youth to lead sustainable food system transformations. By leveraging both traditional knowledge and scientific advancements, NATURE+ is creating pathways for regenerative agriculture, soil health improvement, agrobiodiversity conservation, and sustainable livelihoods across diverse landscapes. NATURE+ had almost 300 partners and stellar collaboration between CGIAR centers – Alliance of Bioversity International and CIAT, International Water Management Institute, International Potato Center, International Center for Agricultural Research in the Dry Areas, and the International Food Policy Research Institute.

What issues does NATURE+ address?

The global food system faces pressing challenges that threaten ecosystems, food security, and human well-being. NATURE+ worked to address the following key challenges:

- **Biodiversity Loss:** Agricultural expansion and monocultures have led to the loss of native species, reduced ecosystem resilience, and decreased agricultural productivity. The initiative promotes tree-based restoration and conservation of native crops to counteract this trend.
- **Land Degradation:** Unsustainable farming practices and climate change exacerbate soil erosion, loss of fertility, and desertification. NATURE+ focuses on soil health restoration and nature-positive farming methods to reverse degradation.
- **Food and Nutrition Insecurity:** While food production has increased, nutritional diversity has declined, leading to malnutrition and diet-related health issues. NATURE+ integrates neglected and underutilized species (NUS) into food systems to improve dietary diversity and resilience.

- **Climate Change:** Unpredictable weather patterns, prolonged droughts, and floods are affecting agricultural productivity. The initiative supports climate-resilient farming techniques, water management, and tree planting for carbon sequestration.
- **Circular Bioeconomy Gaps:** Agricultural waste is often underutilized, leading to environmental pollution. NATURE+ promotes bio-based solutions such as composting, biochar production, and biogas generation to close resource loops and enhance sustainability.
- **Lack of Inclusive Policy Support:** Many countries lack enabling policies for sustainable agriculture and nature-positive solutions. The initiative works with governments and stakeholders to integrate nature-positive strategies into national policies and action plans.

Burkina Faso: specific challenges

Burkina Faso faces severe environmental and agricultural challenges, including **land degradation**, **water scarcity**, and **dependence on external seed sources**. The initiative worked to strengthen **local seed systems** for both crops and trees, **promote agroecology**, **and develop circular bioeconomy solutions** such as composting and biochar production. Additionally, **malnutrition and limited dietary diversity** prompted efforts to integrate neglected and underutilized species (NUS) into local food systems, ensuring better nutrition and food sovereignty. Despite security challenges in the country, NATURE+ and its partners made key advances during the Initiative's three years.

Key work package highlights

CONSERVE: Developed community diversity registries to map neglected and underutilized species (NUS).

MANAGE: Women's empowerment through NUS, particularly moringa, amaranth, and sweet potatoes.

RESTORE: Strengthening native-tree seed systems; surveyed 600 small-scale tree nurseries.

RECYCLE: Capacity building on circular bioeconomy (CBE) practices such as biofertilizer and biochar production; Black Soldier Fly (BSF) larvae farming for animal feed.

ENGAGE: Policy development for tree-based land restoration.

Burkina Faso is a key country for nature-positive interventions, particularly in biodiversity conservation and landscape restoration. **CONSERVE** developed community diversity registries, mapping neglected and underutilized species (NUS) to support biodiversity conservation. **MANAGE** empowered women by promoting the use of NUS like moringa, amaranth, and sweet potatoes, enhancing food security and economic opportunities. **RESTORE** strengthened native-tree seed systems, surveying 600 small nurseries to improve restoration efforts. **RECYCLE** trained communities in circular bioeconomy (CBE) practices, including biofertilizer and biochar production, and introduced Black Soldier Fly (BSF) farming to create sustainable animal feed solutions. **ENGAGE** focused on policy development for tree-based land restoration, which aligns with the country's ambitious reforestation goals.

These efforts collectively contribute to national climate resilience, food security, and sustainable agricultural practices, supporting Burkina Faso's broader reforestation and environmental goals while improving local livelihoods and biodiversity conservation. The innovative approach of NATURE+ helped deliver simultaneous benefits across research work packages, establishing new frameworks for successful future nature-positive research-for-development.

Boosting resilience in fragile environments

Burkina Faso's activities under NATURE+ are crucial for building agricultural resilience in the face of climate change, land degradation, and food insecurity. The work on native seed systems, agroecology, and circular bioeconomy solutions ensures that smallholder farmers can sustainably produce food while maintaining biodiversity. The focus on neglected and underutilized species (NUS) is significant because it enhances dietary diversity and reduces reliance on external seed sources, which is especially important given the limited access to high-quality planting material. Additionally, circular economy initiatives, such as biochar and biopesticides, help improve soil fertility, making agriculture more productive and sustainable in a semi-arid climate. More than **400 farmers** were trained in **compost and biochar production**. Some **600 small-scale tree nurseries** were surveyed for capacity-building efforts. NATURE+ worked extensively with **women's cooperatives** and **schools**.

Key significance of results

- Reduces **seed dependence** and enhances **local biodiversity conservation**.
- Improves **food security** and **nutrition** by integrating **NUS into local food systems**.
- Supports **climate adaptation** through tree-based restoration and **sustainable soil management**.
- Increases **income sources** for smallholders, particularly through **new bioeconomy activities** and **landscape restoration** opportunities.
- Decreases farmers' **dependence** on expensive, industrial inputs, also supporting their families' economies.
- Promotes **inclusion of youth and women** in diverse nature-based activities.

Burkina Faso: a nature-positive future

Burkina Faso has made significant strides in biodiversity conservation and sustainable land restoration, in part due to NATURE+. Community diversity registries have been established to map neglected and underutilized species (NUS). Policy developments have focused on tree-based land restoration, while women's empowerment initiatives promote NUS like moringa and amaranth. Circular bioeconomy training has introduced biofertilizer and biochar production alongside Black Soldier Fly (BSF) farming. Additionally, native tree seed systems have been strengthened, and a survey of 600 small nurseries has guided restoration efforts.

Future efforts will focus on scaling agroecological practices, expanding biodiversity conservation, and improving land restoration policies. Community diversity registries will be integrated into national conservation policies. Circular bioeconomy hubs will be expanded,

and reforestation efforts will work toward a 5-million-hectare restoration goal. These initiatives will enhance Burkina Faso's resilience to climate change, food security, and sustainable land-use practices.

Publications and further reading

The following is a brief list of key published highlights from NATURE+. For comprehensive lists, please view the work package reports CONSERVE, MANAGE, RESTORE, RECYCLE and ENGAGE.

Additionally, readers can review the majority of NATURE+'s 370 outputs, outcomes and other advances between 2022-2024 on the CGIAR Results Dashboard.

Also, the NATURE+ repository on CGSpace contains more than 300 items.

Publications

Seeding African Forest and Landscape Restoration: Evaluating Native Tree Seed Systems in Four African Countries – Read here

Enabling Environment for Circular Bioeconomy Sector in Burkina Faso - Read here

Food Composition Table of Selected Local Tree Species in Burkina Faso - Read here

Circular bioeconomy business models - recovering food products to reduce agricultural waste: cases from Burkina Faso, India, Kenya and Vietnam – Read here

Circular bioeconomy business models - Energy Recovery from Agricultural Waste: Cases from Kenya and Burkina Faso - Read here

Land Restoration Amid Male Outmigration – Read here

Harnessing Indigenous Knowledge and Practices for Effective Climate Change Adaptation – Read here

Fostering gender equity in Nature-Positive Solutions - Strategies for inclusive and sustainable transformation – Read here

Traditional agrobiodiversity management practices by cereal and cowpea custodian farmers in mossi area in Burkina Faso – Read here

News & Blogs

600 Small-Scale Tree Nurseries in Burkina Faso Hold Large Diversity – Read here

Neglected Crops Open Markets, Strengthen Women's Groups in Burkina Faso – Read here

Africa Climate Summit advanced tree restoration pledges but a big seed shortage remains – Read here

Sowing the seeds of tomorrow, one school garden at a time – Read here

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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: www.cgiar.org/funders.

To learn more about this Initiative, please visit this webpage.

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