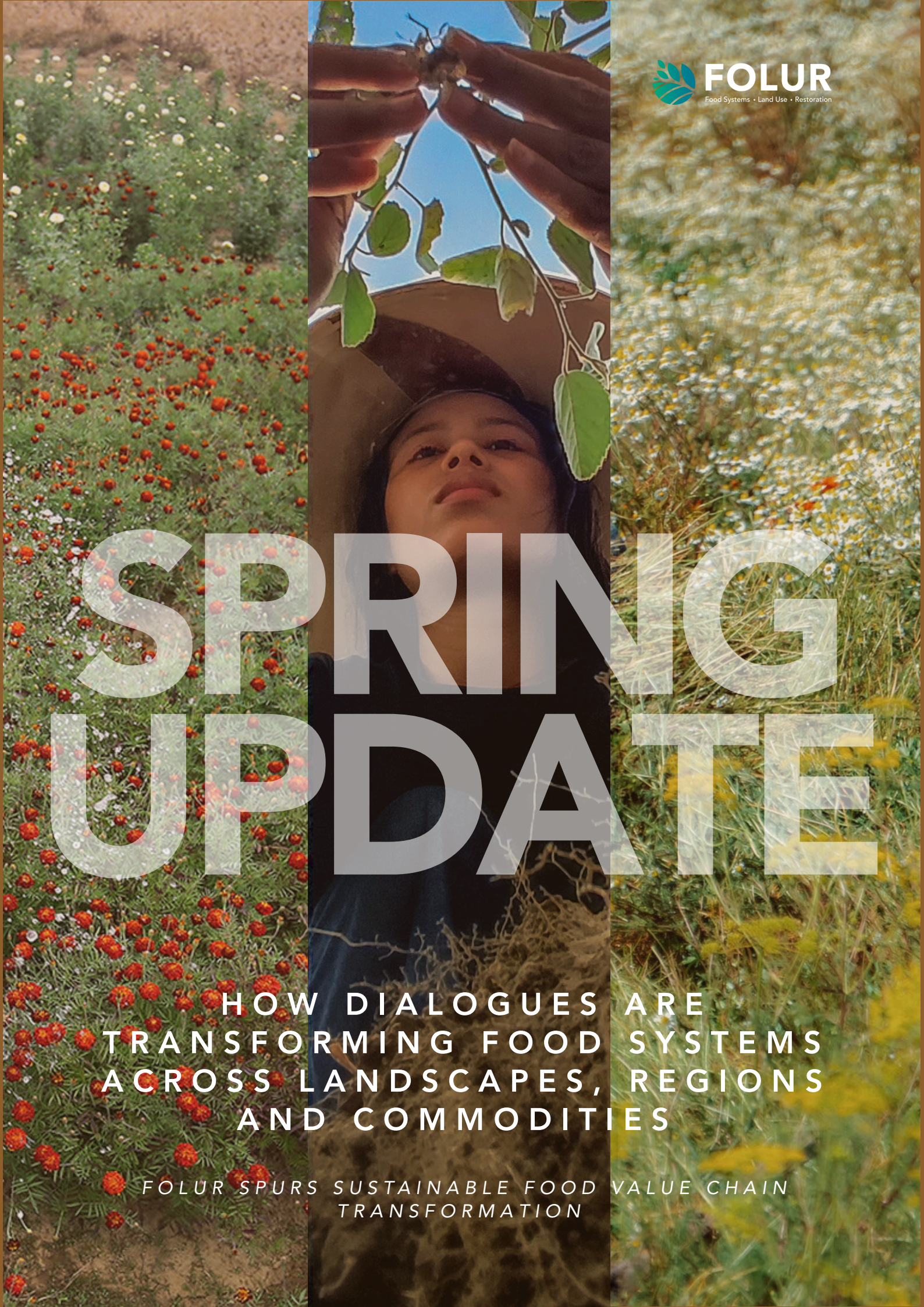


FOLUR
Food Systems • Land Use • Restoration

SPRING UPDATE

HOW DIALOGUES ARE TRANSFORMING FOOD SYSTEMS ACROSS LANDSCAPES, REGIONS AND COMMODITIES

FOLUR SPURS SUSTAINABLE FOOD VALUE CHAIN TRANSFORMATION

ABOUT

ABOUT THE FOOD SYSTEMS, LAND USE AND RESTORATION PROGRAM

FOLUR is a $345 million, seven-year initiative funded by the Global Environment Facility and led by the World Bank. Seeking to transform food and land use systems, the program consists of a Global Knowledge Platform (GP) and 27 country projects.

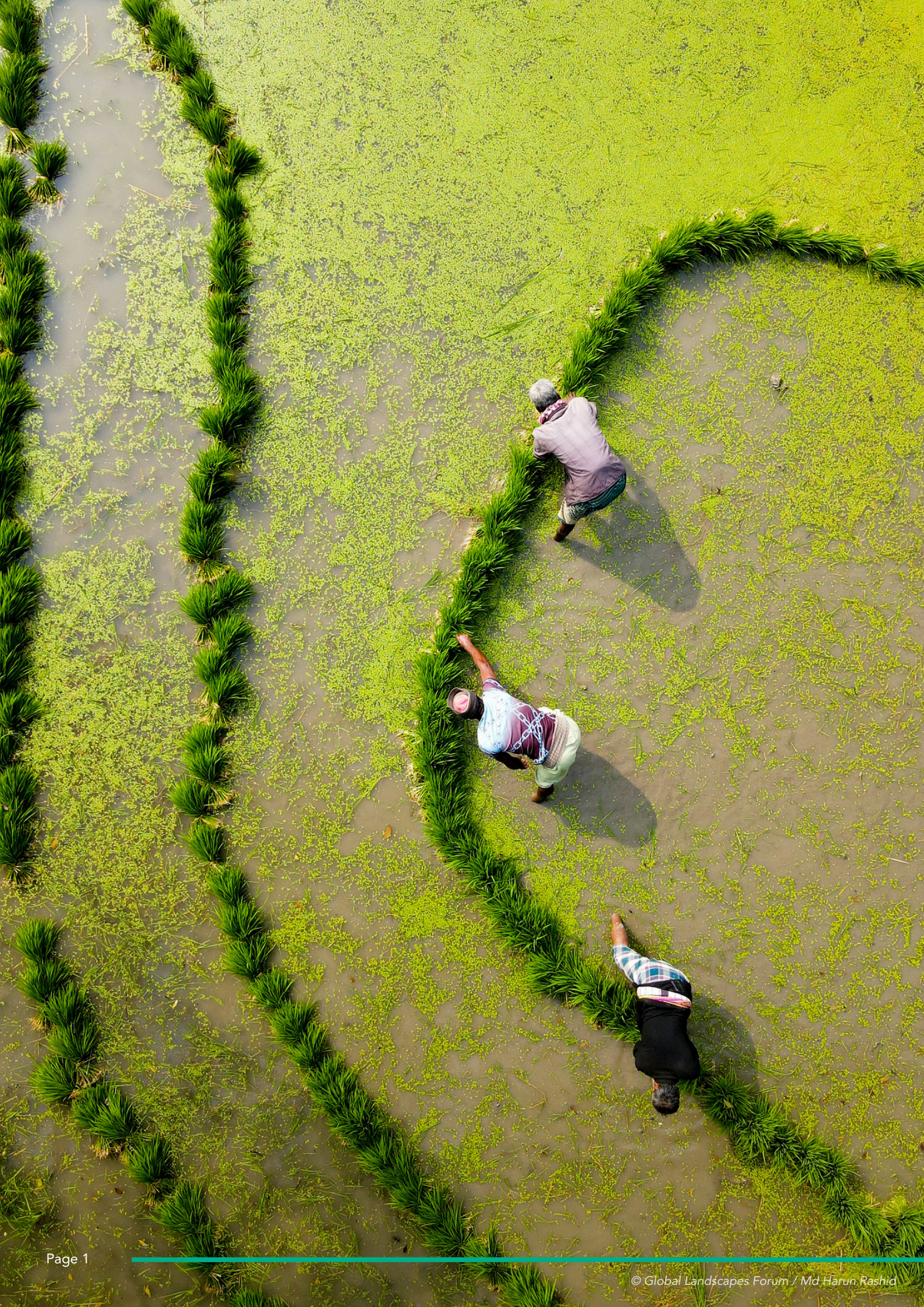
Country-level work focuses on accelerating action in landscapes and along value chains for eight major commodities, including livestock, cocoa, coffee, maize, palm oil, rice, soy and wheat.

WWW.FOLUR.ORG

Frontpage photos credit: © Global Landscape Forum

TABLE OF CONTENTS

Watch FOLUR 2024: Year in Review



INTRODUCTION

> ***We're seeing an overall shift in dynamics across projects as FOLUR meets the halfway point and approaches begin to gel.***
>
> — Chris Brett, joint manager of FOLUR and global agribusiness specialist at the World Bank

The Food Systems, Land Use and Restoration Impact Program (FOLUR) is designed to transform food value chains and mitigate their significant impact on deforestation, biodiversity loss, land degradation, and greenhouse gas emissions with hidden costs of around $12 trillion a year.

A key aim at the midpoint of the seven-year impact program and its global platform is to sharpen the overall focus on effective strategies for project implementation across the production landscapes of cocoa, coffee, livestock, maize, palm oil, rice, soy and wheat in 27 countries.

To achieve this goal, over the 2024-2025 fiscal year, leaders of projects supported by the seventh Global Environment Facility (GEF 7) funding cycle attended regional dialogues and workshops in Ethiopia, Paraguay, Türkiye and Viet Nam, participating in sessions, seminars, and field visits across a range of ecosystems.

Exchanges of practical knowledge and achievements on FOLUR targets aim to ensure productivity, environmental benefits, support to small-scale farmers, as well as policy and private sector engagement for the betterment of agricultural and forested landscapes while boosting economic growth.

"FOLURization," a prototype for incorporating effective integrated landscape management principles into restoration efforts that go beyond the 27 FOLUR countries, is also a key topic, as a way to expand the reach of global environmental benefits. These efforts include increasing low-carbon, climate-resilient targets boosting public-private initiatives and meeting traceability goals.

The global platform aims to broaden its impact by providing technical assistance to other World Bank country projects that want to embrace Integrated Landscape Management (ILM).

- An example – the Dedicated Grant Mechanism (DGM) under the Climate Investment Funds (CIF) program includes among its projects a World Bank project in Mexico implemented by Rainforest Alliance. In conjunction with FOLUR, the World Bank-led Global Partnership for Sustainable and Resilient Landscapes (PROGREEN) and the Forest Investment Program (FIP) of CIF used a certification framework – the W+ Standard – designed to measure, quantify, verify, and reward the empowerment of women as an assessment tool.

- At a FOLUR workshop in Ethiopia, nine country projects in Africa were introduced to nature-based solutions to participate in restoration training. By engaging with the World Bank Nature-Based Solutions (NBS) Invest program, participants were connected to the latest research and science-based evidence on which interventions work in which contexts, and what it takes to scale them up. Participants learned about the importance of safeguarding the natural capital that sustains agroecosystems, including natural resources, ecosystem services, and biodiversity for food and agriculture.

THE DIALOGUES

REALIZING THE VISION OF LOW-EMISSIONS RICE ACROSS LANDSCAPES

September 9-12, 2024

The Low Emissions Rice Dialogue, held from September 9-12, 2024, in Ha Noi was a pivotal regional event co-hosted by FOLUR and Viet Nam's Ministry of Agricultural and Rural Development (MARD). The conference was attended by 158 participants from public, private, and civil society sectors in Africa and Asia, including countries from the emerging GEF 8-funded Food Systems Integrated Program (FSIP).

Highlights included discussions on transforming rice production systems to reduce greenhouse gas emissions while simultaneously improving agricultural productivity and diversification. The World Bank, GEF, Food and Agriculture Organization of the United Nations (FAO), and the Good Growth Partnership led by the United Nations Development Programme (GGP-UNDP) led conversations about innovative financing, sustainable farming practices and ILM.

The dialogue emphasized strategic public and private sector interventions, innovative climate finance approaches, ag-tech systems, greater knowledge sharing, and sustainable rice cultivation techniques.

> This dialogue was a powerful moment of connection where Rice-focused Country Projects came together to share challenges, spark solutions, and draw inspiration from global experts and the field. The sense of purpose and solidarity built there captures the heart of what the FOLUR Community works to cultivate every day through its digital platform.
>
> **Philippe Fleury**
> **UNDP Food Systems Community Analyst**

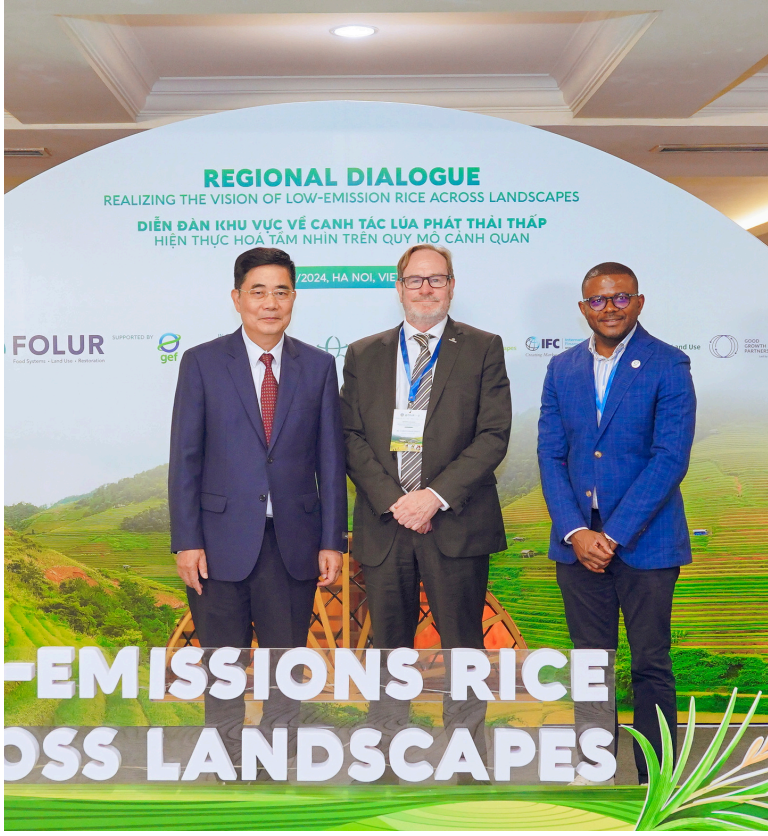
Participants explored such initiatives as Viet Nam's ambitious One Million Hectares program, which aims to transform rice production systems. Country representatives shared success stories, including Thailand's farmer training program, which reaches more than 7,000 farmers – over half of them women – and such technological innovations as China's rice-fish farming model. Tanzania engaged local farmers through area-based approaches and implemented extension services to foster stakeholder collaboration.

A field trip to the Thai Binh province in the Red River Delta showcased practical implementation at low emissions rice cultivation model sites and a farmer cooperative demonstrating rice-fish-shrimp systems.

The dialogue highlighted the importance of context-specific sustainable solutions, direct farmer engagement, accessible agricultural machinery, international knowledge exchanges and inclusive capacity-building workshops.

Discussions emphasized that strategic public investment and creating a conducive environment for private sector participation can support a green transition in rice farming. Innovative private sector financing and climate finance approaches were a key point of interest. There were also discussions about using rice standards and certifications to promote empowerment of women as well as men.

A dedicated private sector session led by the International Finance Corporation (IFC), featured experts from the Sustainable Rice Platform (SRP), World Business Council for Sustainable Development (WBCSD), Regrow, Olam Agri, and CarbonFarm.



Participants discussed how rice certifications, standards, and innovative financing could advance sustainable value chain initiatives.

WBCSD presented the latest updates from the Sustainable Rice Landscapes Initiative (SRLI), and mobilized member companies to participate in several panels sharing business perspectives and solutions for scaling sustainable rice in the region.

During the field trip to the Thai Binh province, participants visited the Thai Binh Seed Group, a commercial rice seed processing plant with a 30,000-ton annual capacity.
The dialogue also highlighted the critical role women play across rice value chains. The use of rice certification, coupled with a women's empowerment (W+) standard, were presented as a huge opportunity to increase sustainable rice initiative's reach and impacts.

Global Landscapes Forum (GLF) participated in a World Cafe presentation, sharing the various opportunities for country projects to showcase their work through GLF platforms such as the news portal ThinkLandscape. Other contributions included presentations from FAO on the Participatory Integrated Landscape Approach (PILA), the Sustainable Rice Institute (SRI) on SRP, and UNDP-GGP on its work on effective collaborative action and private sector engagement.

The event ultimately generated a platform for global collaboration, sharing best practices, and developing strategies to make rice production more sustainable, economically viable, and climate resilient.

> The dialogue put a spotlight on the unsung heroes of the global wheat supply — small-scale farmers, who produce a third of the world's food. It was a powerful space for advancing sustainability and resilience across cereal value chains.
>
> **John Colmey, Director, Global Landscapes Forum and Senior Director, CIFOR-ICRAF**

> The technical solutions for more productive and sustainable rice already exist, but we haven't found the right packages to make them attractive to farmers and to reach scale.
>
> **Alan Johnson, Senior Operations Officer, IFC**

The FOLUR Rice Dialogue is a great example of the multi-stakeholder partnership approach facilitated by the FOLUR Impact Program - engaging public, private, and civil society sectors seeking to sustainably transform rice production systems together.

Deviah Aiama, Senior Manager, Nature-Based Solutions and Landscapes

Wrap-up Article: How can we reduce emissions from rice?

Click to watch the interview with Ratna Kusuma Sari, National Project Manager of FOLUR Impact Indonesia

SUSTAINABLE MAIZE AND WHEAT: SCALING INNOVATIONS FOR RESILIENCE

January 20-24, 2025

The maize and wheat regional dialogue, jointly hosted in Istanbul with Türkiye's Ministry of Agriculture and Forestry, January 20-24, 2025, brought together 60 participants to address critical challenges in food production and climate resilience. The event focused on transforming agri-food systems through innovative approaches to sustainable maize and wheat production.

The World Bank was represented at the opening with a virtual message focused on gender and technology in maize and wheat systems delivered by Shobha Shetty, Global Director for Agriculture and Food. Her intervention was followed by in-person remarks delivered by Ferhat Çolak, Türkiye's Minister of Agriculture and Forestry and Director General for the European Union and Foreign Relations. Holger Kray, World Bank Regional Manager of Agriculture and Food, Europe and Central Asia Region, delivered a speech.

Delegates included representatives from the Center for International Maize and Wheat Improvement (CIMMYT), International Centre for Agricultural Research in the Dry Areas (ICARDA), FAO, IFC, International Fund for Agricultural Development (IFAD), Mexico's National Commission for the Knowledge and Use of Biodiversity (CONABIO), and UNDP.

Key objectives included promoting understanding of challenges and solutions for sustainable intensification of maize and wheat production, integrated landscape management, showcasing scalable innovations in cereal production, developing a strategy to identify, troduce, and promote innovations within cereal production systems and scale them up in country projects. Participants also focused on building a bridge between FOLUR, the emerging Food Systems Integrated Program (FSIP), funded by the eighth GEF (GEF-8) funding cycle, and offered emerging good technical and innovation practices to be included in the GEF 9 planning cycle.

Participants represented diverse stakeholders, including government representatives from FAO, IFC, UNDP, and national agricultural research centers (NARS). FOLUR program countries China, India, Kazakhstan, Kenya, Ukraine, and Uzbekistan were joined by FSIP countries Bhutan and Mexico.

A session on small scale producers focused on practices and policies. Farmer representatives discussed challenges for small scale producers transitioning to more resilient maize and wheat production – including the need for incentives

Click to play the videos

and the potential impacts of climate change, which may disproportionately affect them. The chairperson of Türkiye's farmer and marketing cooperative shared insights into how smallholder farmers meet complex challenges in the field. The Young Professionals for Agricultural Development (YPARD) also participated. They suggested that some generally accepted ideas about youth and agriculture are misleading and need fine-tuning and emphasized that arming young farmers with digital tools is critical for supporting their involvement. India, Kenya and Ukraine country projects shared experiences in a video produced by GLF.

Discussions centered on addressing climate change impacts on agriculture, reducing greenhouse gas emissions, implementing transformational integrated landscape management, and developing ecosystem-friendly agricultural practices.

The United Nations Environment Programme (UNEP) Climate Finance Unit emphasized the importance of financial support for sustainable agricultural production through initiatives like the Responsible Seed Capital Facility.

Notable presentations highlighted Türkiye's innovative efficient irrigation system, wheat rust disease resistance breeding, digital agriculture technologies, and sustainable farming techniques.

Other presentation topics included responsible scaling of innovations, water and nutrient management for maize- and wheat-based farming systems, sustainable soils, innovative extension methods, and gender-intentional seed selection in Ethiopia and India.

Field trips complemented discussions, with visits to Bayer Crop Science – Bayer's largest subsidiary in the Middle East region – where delegates learned about seed production and distribution. Bayer demonstrated sustainability efforts, including plans to integrate cover crops into their field operations. Participants also visited Most, a large-scale integrated livestock farm, where they learned about sustainable production of maize and wheat silage for feeding dairy cows.

> Sustainable transformation of maize and wheat systems for resilience at scale will not be possible without the catalytic role of small-scale producers.
>
> **Patrick Kalas, environmental specialist and natural resources governance expert at FAO**
>
> Collaboration of multiple agricultural companies can help increase efficiency, leverage resources and technology to achieve scale.
>
> **Suparna Jain, Operations Officer, IFC**

Private sector representatives presented innovative solutions for water management and digital agriculture. Companies like Cropin Planet demonstrated how artificial intelligence can be used to measure soil and water conditions from space. Sun Culture showcased their solar energy model that includes access to finance and carbon credit subsidies to help smallholder farmers - many of them women - implement micro-irrigation systems.

Jason Clay, Senior Vice President of Markets at World Wildlife Fund emphasized that agriculture receives only 2 percent of financing despite generating 70 percent of habitat loss and up to 35 percent of greenhouse gases, which makes private sector involvement crucial. He advocated for better agricultural infrastructure, reduced food waste, and more efficient knowledge sharing to boost sustainability.

The dialogue linked experts to innovative agricultural knowledge, shared best practices, developed strategies for scaling agricultural innovations, and supported national projects in sustainable cereal production.

TECHNICAL WORKSHOP: SCALING NATURE BASED SOLUTIONS IN AFRICA

February 25-27, 2025

The technical workshop on scaling nature-based solutions in Africa, held in the Ethiopian capital Addis Ababa, February 25–27, 2025, brought together 55 representatives from nine African countries to discuss nature-based and innovative agricultural solutions for the cocoa and coffee sectors.

The Ethiopian government, through its Green Legacy Initiative (GLI), demonstrated that since 2019, over 29 million citizens have planted 40 billion native and fruit tree seedlings, increasing forest cover from 17 percent to 23.6 percent and creating 767,000 jobs, primarily for women and youth. This success showed how restoration initiatives can simultaneously address ecological challenges and provide economic opportunities.

World Bank experts and specialists from various organizations highlighted key objectives, including promoting understanding of nature-based solutions (NBS), identifying policy measures to accelerate NBS adoption, introducing blended finance mechanisms, and the critical role of nature-based solutions in addressing climate change, biodiversity loss, and agricultural productivity. Other key sessions highlighted that NBS can deliver 72 percent of cost-effective global solutions by 2050, with agroforestry playing a crucial role in carbon sequestration and ecosystem restoration.

Participating countries Cote d'Ivoire, Ethiopia, Ghana, Kenya, Liberia, Madagascar, Tanzania, and Uganda shared success stories. Kenya showcased how introducing shade trees in coffee farms increased carbon storage from 11 to 43 tons per hectare. Ghana demonstrated private sector collaboration in sustainable cocoa farming, while Ethiopia highlighted community-led agroforestry systems as transformative approaches.

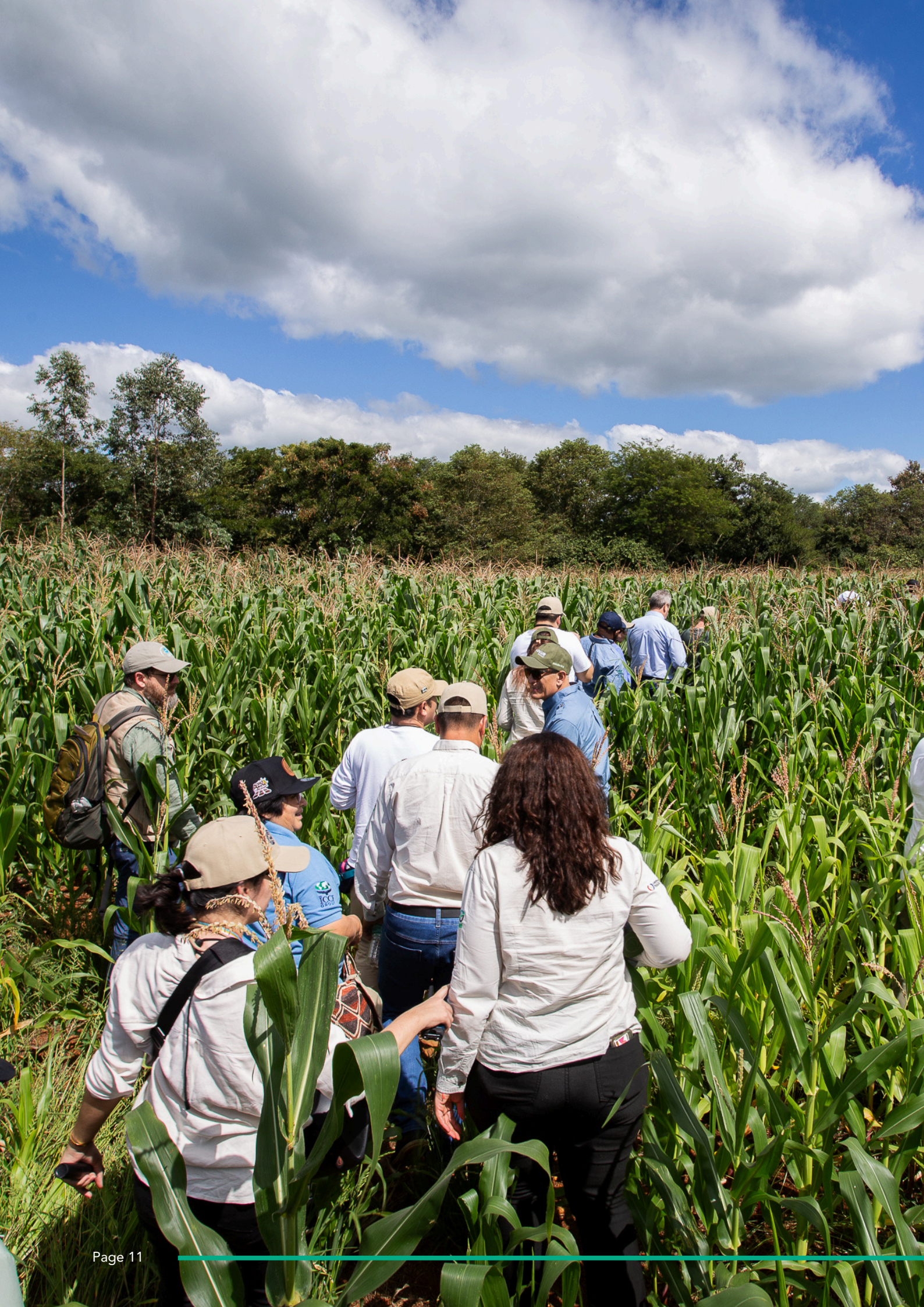
The workshop addressed significant challenges, including financial barriers, knowledge gaps, and policy limitations. Experts noted the difficulty in monetizing nature as a public good and the need for robust governance frameworks. Discussions emphasized the importance of cross-sectoral engagement, institutional capacity building, and innovative financing mechanisms.

Key recommendations included cross-country learning, targeted technical expertise, and identifying successful and context-specific restoration strategies.

Private sector discussions centered on collaborative strategies for NBS. Ghana showcased partnerships with chocolate makers Nestle and Cargill, companies implementing agroforestry and sustainable farming practices. The World Business Council for Sustainable Development (WBCSD) helped countries map business benefits of nature-based solutions.

Ghana showcased women-led initiatives as models of sustainable agricultural practices, emphasizing that women have a critical role in implementing nature-based solutions.

The dialogue concluded that nature-based solutions are essential for addressing complex environmental and socio-economic challenges in Africa, positioning nature as a fundamental solution to interconnected global issues.



REGIONAL LATIN AMERICA WORKSHOP

April 7-12, 2025

The Regional Latin America Workshop held April 7-12, 2025, in Ciudad Del Este, Paraguay, brought together approximately 40 participants from a diverse group of stakeholders who engaged with representatives, implementing agencies, and country project leaders from Brazil, Guatemala, Mexico, Nicaragua, Paraguay, and Peru.

They included FOLUR core partners FAO, IFC, GGP-UNDP, Food and Land Use (FOLU) Coalition partners WBCSD and WRI, and representatives from the GEF Secretariat.

The event included two parallel sessions:

- Knowledge exchange and dialogues, focusing on innovative practices and policy discussions
- Country project clinics, where detailed, customized sessions allowed country representatives to work directly with GEF and FOLUR Global Platform leads to address specific needs and challenges.
- Discussions on policy coherence and government collaboration were central to the workshop. Participants emphasized the critical need for effective coordination across various government ministries at national and sub-national levels to achieve both environmental and social goals.

At private sector sessions, experts from various organizations highlighted key outcomes in advancing sustainable agriculture through private sector engagement and innovative financing mechanisms.

One of the main conclusions was the critical importance of aligning incentives across value chains, with private companies, farmers, and financial institutions. Experts from IFC discussed engagement strategies with grain firm Louis Dreyfus and pulp and paper company Suzano. Participants from WBCSD discussed Soft Commodities Forum work on sustainable soy value chains in Brazil and the United Nations Environment Programme (UNEP) delivered insights on how to engage with financial institutions about financing sustainability measures.

The workshop emphasized integrating gender and Indigenous/local knowledge into project design to promote inclusive, effective, and culturally appropriate outcomes.

Participants from Peru, Paraguay and Mexico shared early success stories demonstrating how area-based approaches and extension services can effectively engage local farmers while promoting gender equality.

The workshop explored tools for assessing the impact of affirmative actions, emphasizing the need for enhanced monitoring and evaluation frameworks to measure increased inclusion and female empowerment. It also served as a platform to share innovative nature-based solutions, landscape management, and commodity-specific sustainable agriculture practices.

Participants engaged in discussions on the FOLUR Policy Accelerator, which was launched in 2023, for policymakers looking to design or improve incentive programs for landscape restoration in forests and on agricultural lands. Adapted to the FOLUR context, it has a focus on deforestation-free coffee and cocoa production.

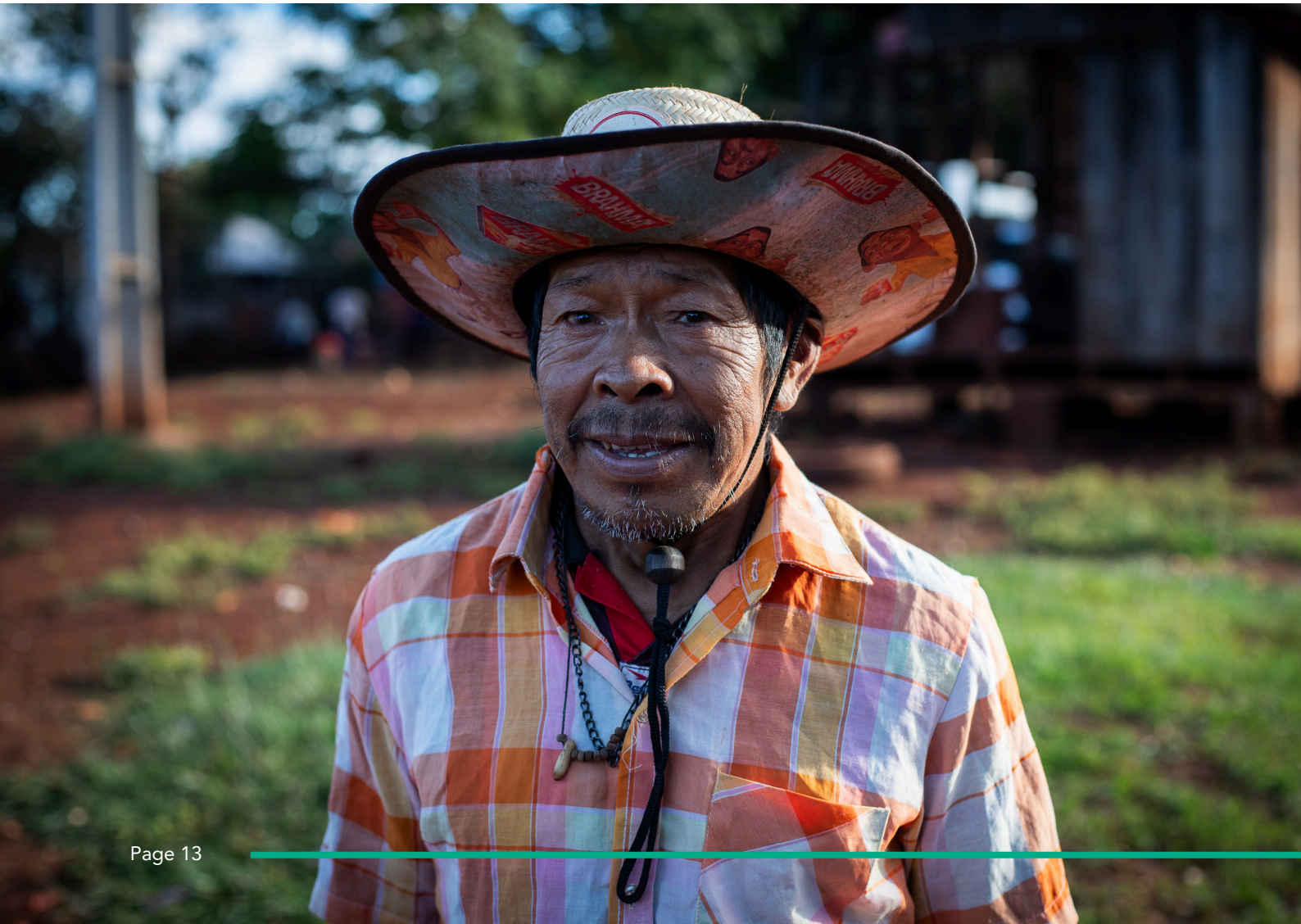
The workshop provided a valuable platform to assess the implementation progress of each country project, enabling the identification and capitalization of successful cases that may be adapted and applied to local contexts." -- Enrique Molas, Coordinator of the FOLUR Paraguay Project with the International Conservation Caucus Foundation (ICCF).

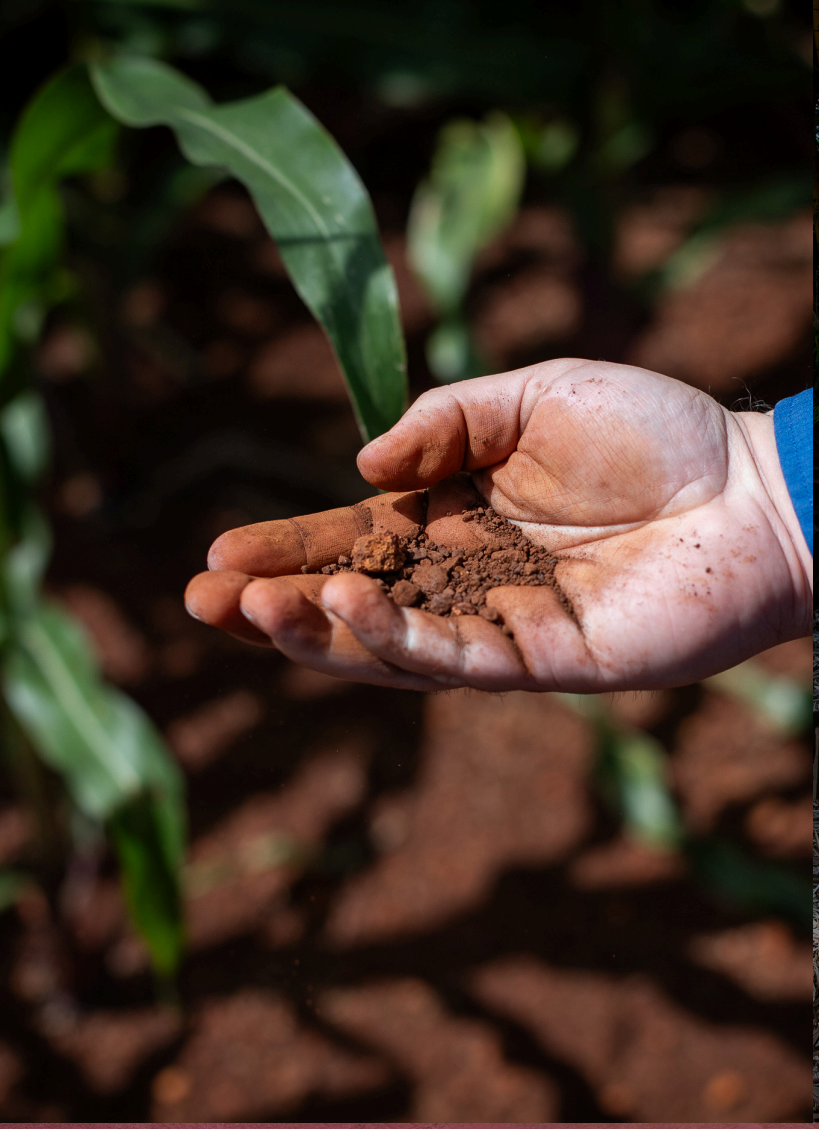
A field trip to the Naranjal district located in Paraguay's Upper Paraná Atlantic Forest, provided opportunities to learn first-hand about successful FOLUR Paraguay implementation efforts at an agricultural cooperative, a maize farm practicing crop rotation, and a certified sustainable soy farm. Participants observed soil restoration through crop diversification and maintenance of ground cover, water source conservation, contour farming, and pasture management systems.

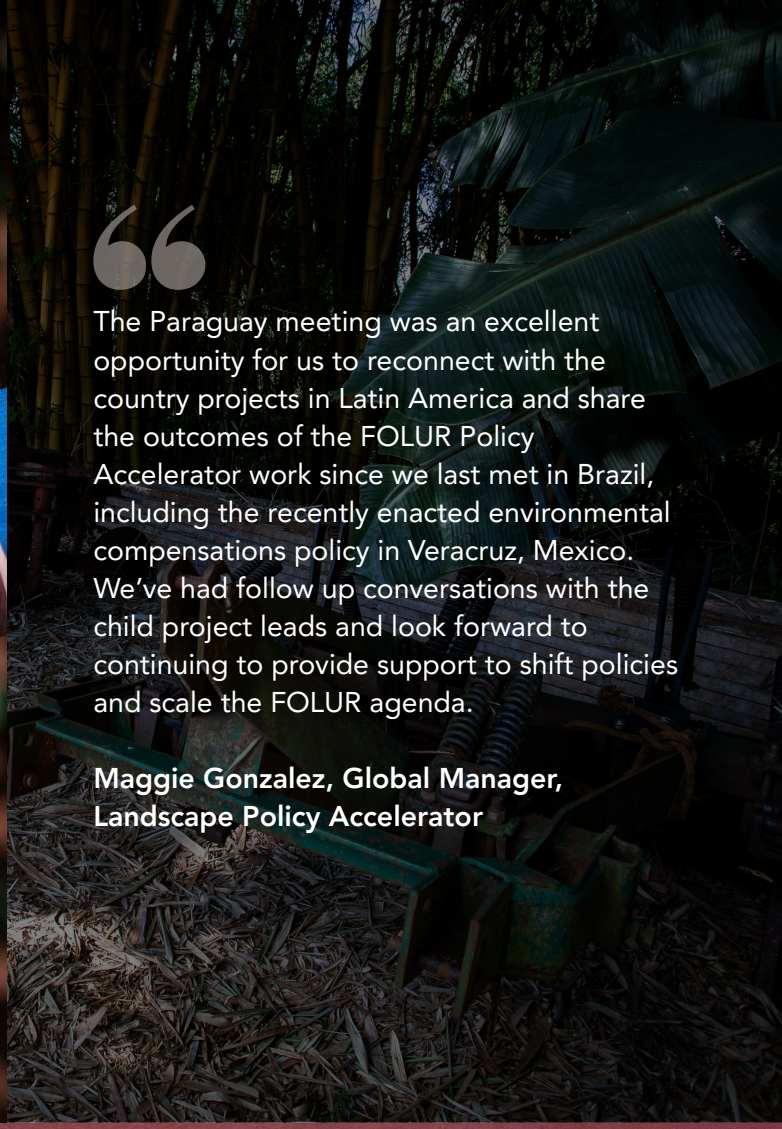
The workshop concluded with the development of six country-specific action plans agreed by participants aimed at advancing project implementation, strengthening technical assistance, and identifying further opportunities for learning and collaboration across countries. The workshop ultimately fostered a robust platform for knowledge exchange and laid a solid foundation for sustainable development strategies.

"The workshop provided a valuable platform to assess the implementation progress of each country project, enabling the identification and capitalization of successful cases that may be adapted and applied to local contexts."

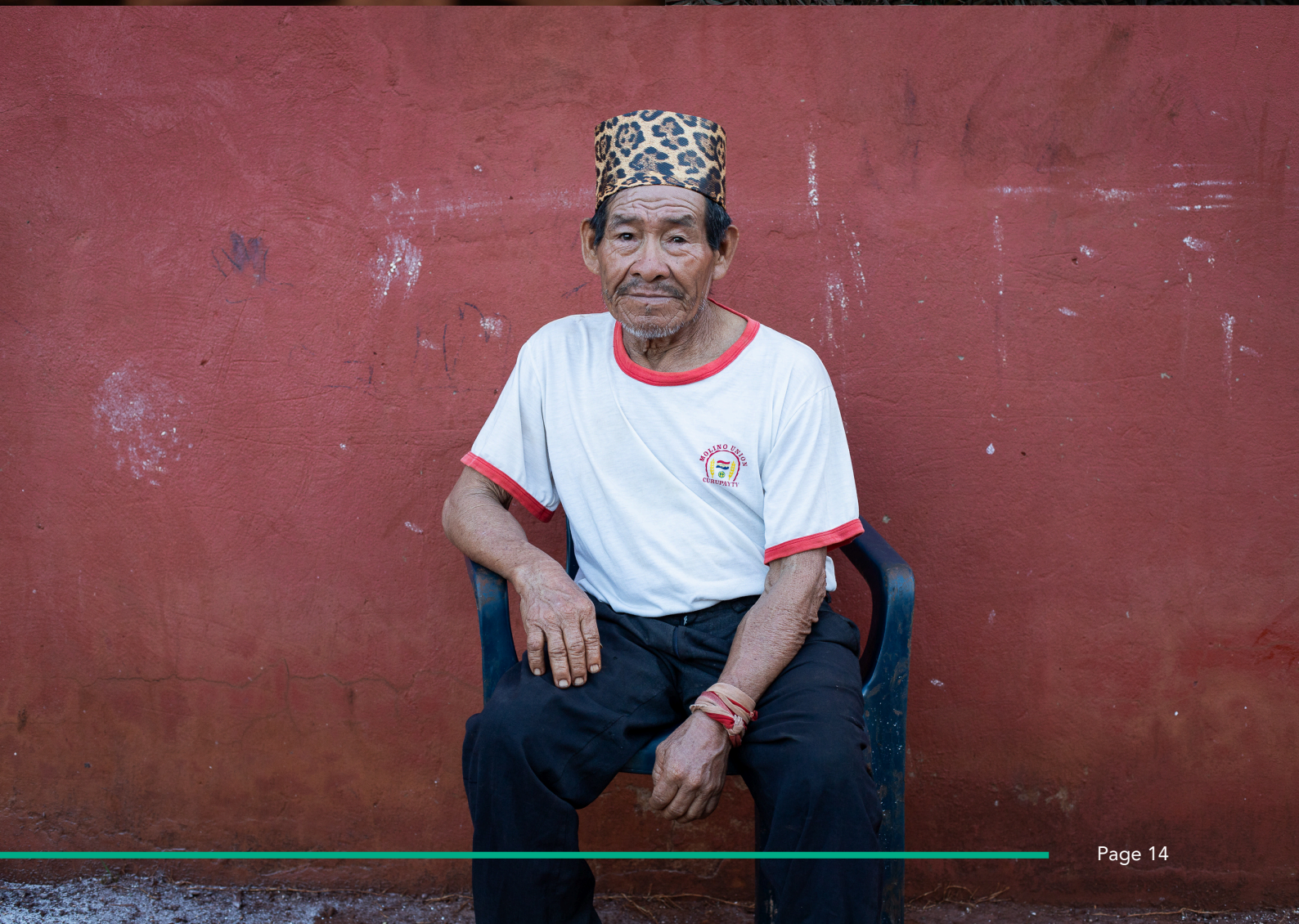
Enrique Molas, Coordinator of the FOLUR Paraguay Project with the International Conservation Caucus Foundation (ICCF)

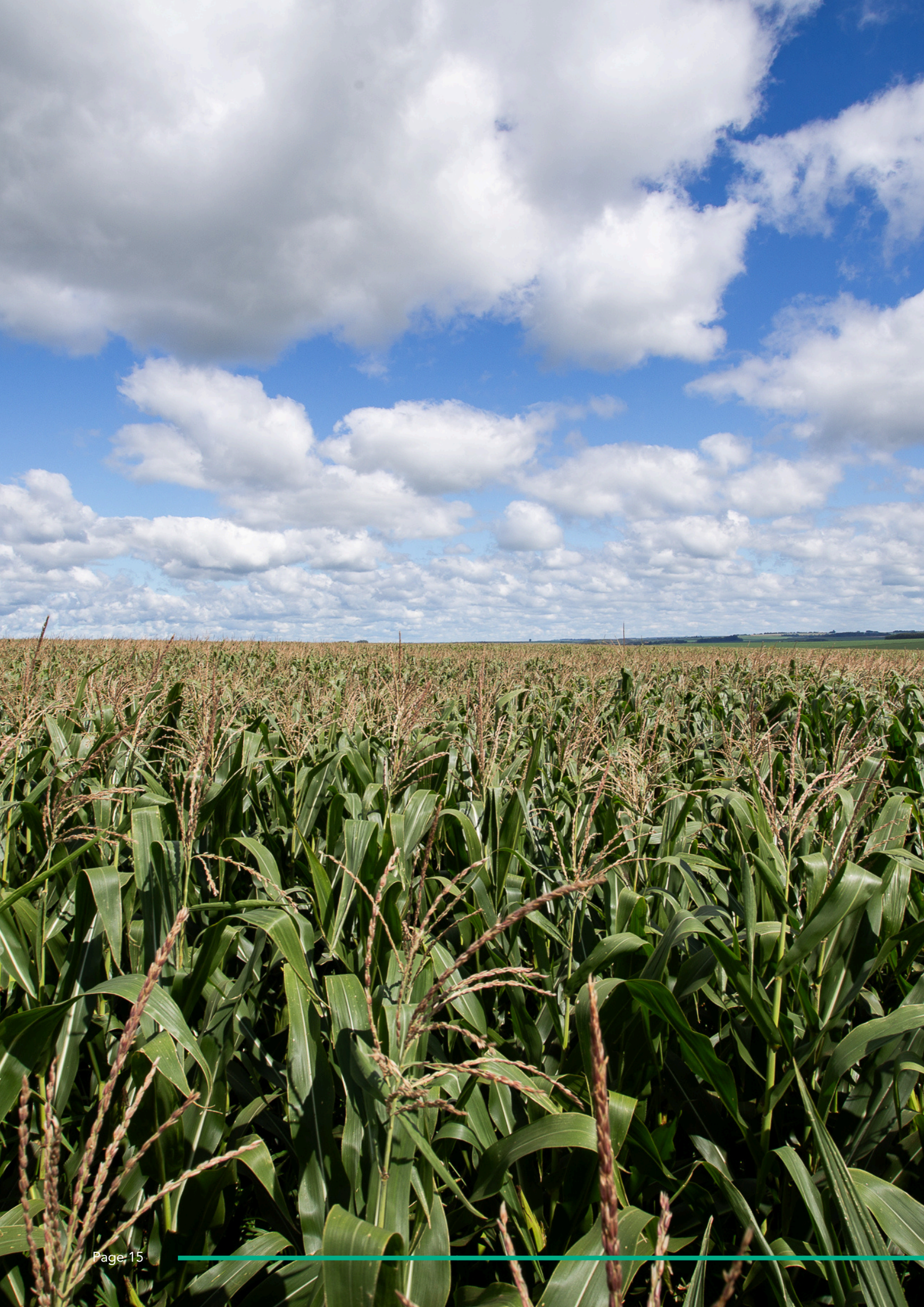






> The Paraguay meeting was an excellent opportunity for us to reconnect with the country projects in Latin America and share the outcomes of the FOLUR Policy Accelerator work since we last met in Brazil, including the recently enacted environmental compensations policy in Veracruz, Mexico. We've had follow up conversations with the child project leads and look forward to continuing to provide support to shift policies and scale the FOLUR agenda.
>
> **Maggie Gonzalez, Global Manager, Landscape Policy Accelerator**





LESSONS LEARNED

As part of the FOLUR Global Platform's efforts to capture lessons learned at the Regional and commodity dialogues, key learnings are compiled, summarized, and aggregated.

Key highlights:

- National landscape restoration programs and plans that include cost and benefit analyses can provide invaluable support for change. Policy gaps should be closed to ensure that proper frameworks are in place to support value chain transformation and provide funding to those who need it, while greater private sector participation is vital.
- System-wide changes can create more employment opportunities, while restoration can benefit the low-income livelihoods of smallholder farmers and local communities.
- Small-scale interventions can have a significant impact. For example, in Uzbekistan, a household greenhouse project provided a family with roughly USD 3,000 annually, enough income to pay for their son's education. Greenhouses, typically managed by women, can help with climate adaptation by extending growing seasons and providing more controlled environments for crop production in areas with challenging weather conditions.
- Financing mechanisms must evolve to support restoration.
- Nature-positive practices can generate significant environmental and economic gains.
- Private sector engagement is crucial, demonstrating the business case for investing in restoration, deforestation-free supply chains and introducing new applicable technologies for smallholders to adopt. Certification schemes can help verify sustainable practices and create market incentives. Local communities must be central to restoration efforts. Involving people from the beginning ensures long-term success.
- Indigenous knowledge systems offer valuable insights for sustainable land management. By combining traditional wisdom with scientific approaches and providing appropriate technical support, restoration can be accelerated while respecting cultural contexts and improving livelihoods.

Regional dialogues have demonstrated that countries face similar challenges in the field from climate variability, low productivity, and threats like drought and pests. Innovations in digital agriculture can help address these challenges.

NBS workshops have shown the need to bridge the gap between global experts and local implementation. Successful interventions must improve soil health and growing conditions and remain economically feasible.

Private sector involvement has proven crucial for sustainable agriculture. Investments from the private sector are vital for integrated land management because the amount of financing needed for effective landscape restoration and sustainable land management far exceeds what public sector and philanthropic sources alone can provide. Although agriculture generates 70 percent of habitat and biodiversity loss and up to 35 percent of greenhouse gases, it receives only 2 percent of financing. The funding gap necessitates a significant increase in private capital to achieve meaningful impact at scale.

Through collaborations with the private sector, sustainable business models can be created that can continue beyond initial project funding. In the Ethiopia workshop, experts highlighted that NBS face financing challenges because nature is a public good and it is difficult to monetize. However, innovative financial mechanisms and new business models could attract investors to this sector.

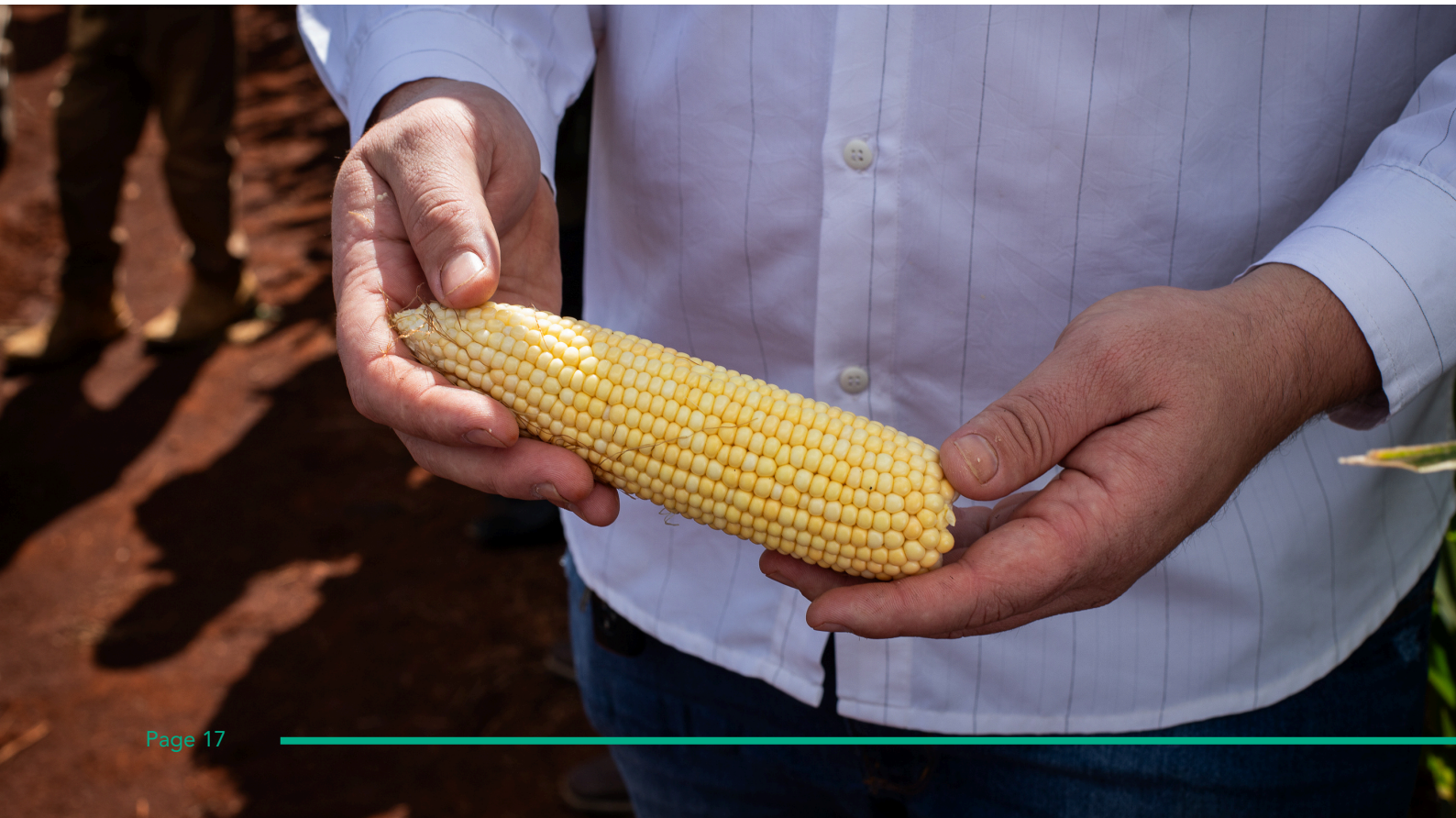
The challenge remains in creating the right enabling conditions through policy coherence, reducing investment risks, and developing business cases that demonstrate both environmental and financial returns. Funding challenges persist across climate and environmental programs.

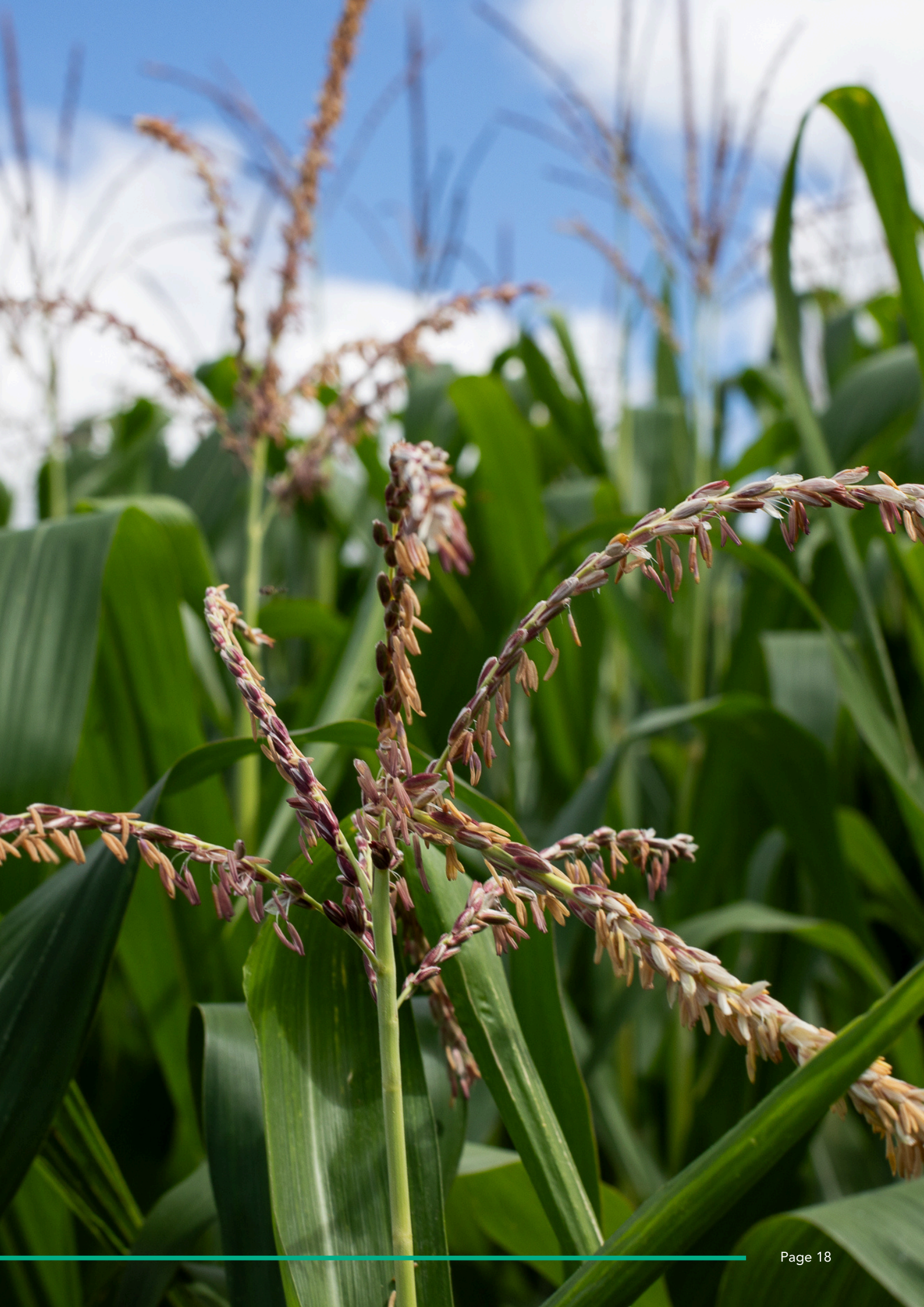
Food systems transformation requires better coordination at all levels, strong political leadership, science-informed decisions, and integration of Indigenous and local knowledge to address deficits across food value chains while protecting the environment.

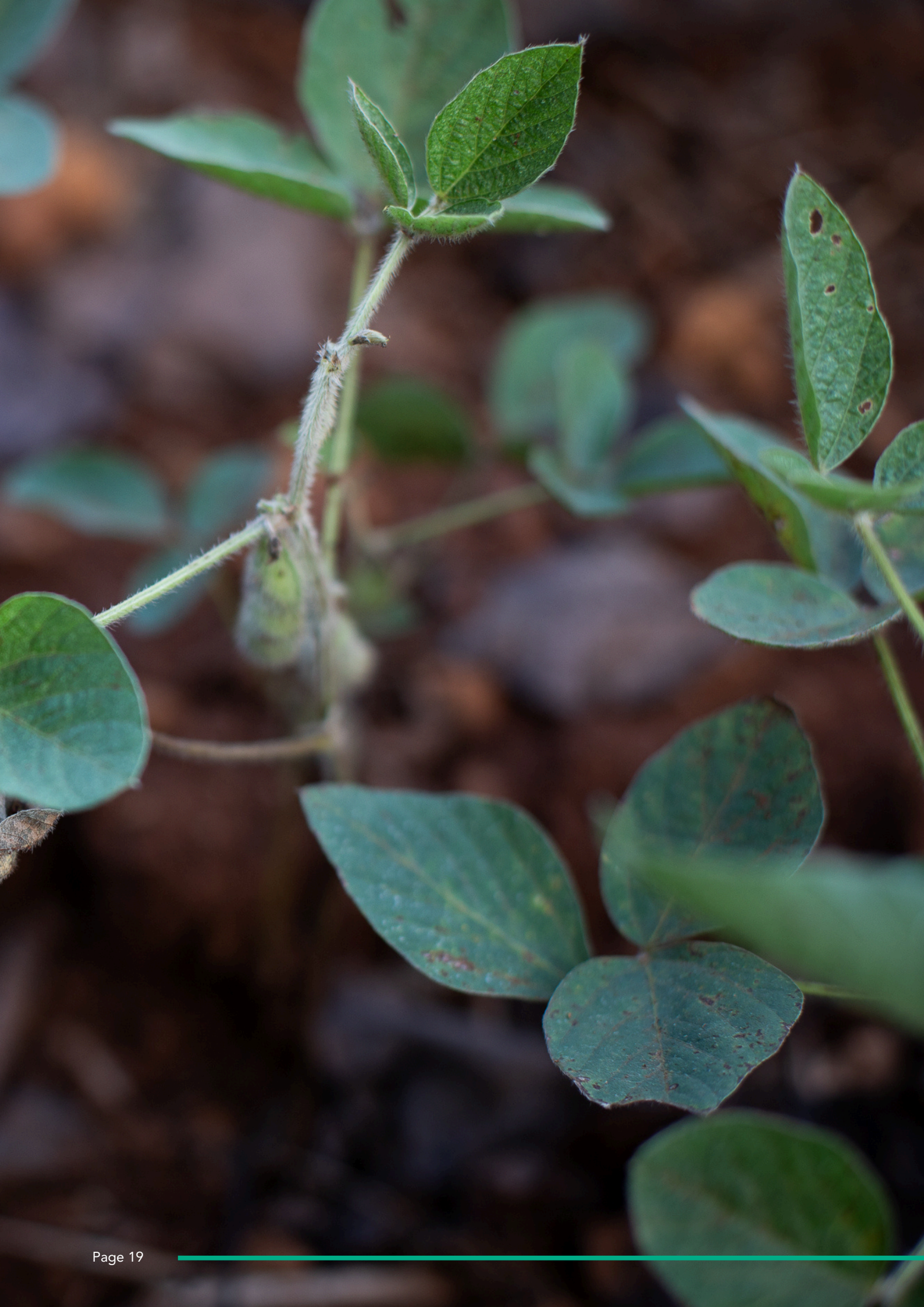
Women's engagement in decision-making can lead to better economic choices, including the adoption of newer, more resistant crop varieties and faster variety turnover.

> Blended finance approaches are proving effective. Strategic public investment creates a conducive environment for private sector participation, acting as a stimulant for dramatic transitions along food value chains.
>
> **Chris Brett, joint manager of FOLUR and global agribusiness specialist at the World Bank**

> We're really proud of the positive outcomes and concrete achievements on restoration, engagement through to small-scale interventions that benefit local communities and foster the climate adaptation efforts we are starting to see across many of the projects.
>
> **Dinara Akhmetova, joint manager of FOLUR and senior natural resources expert at the World Bank**

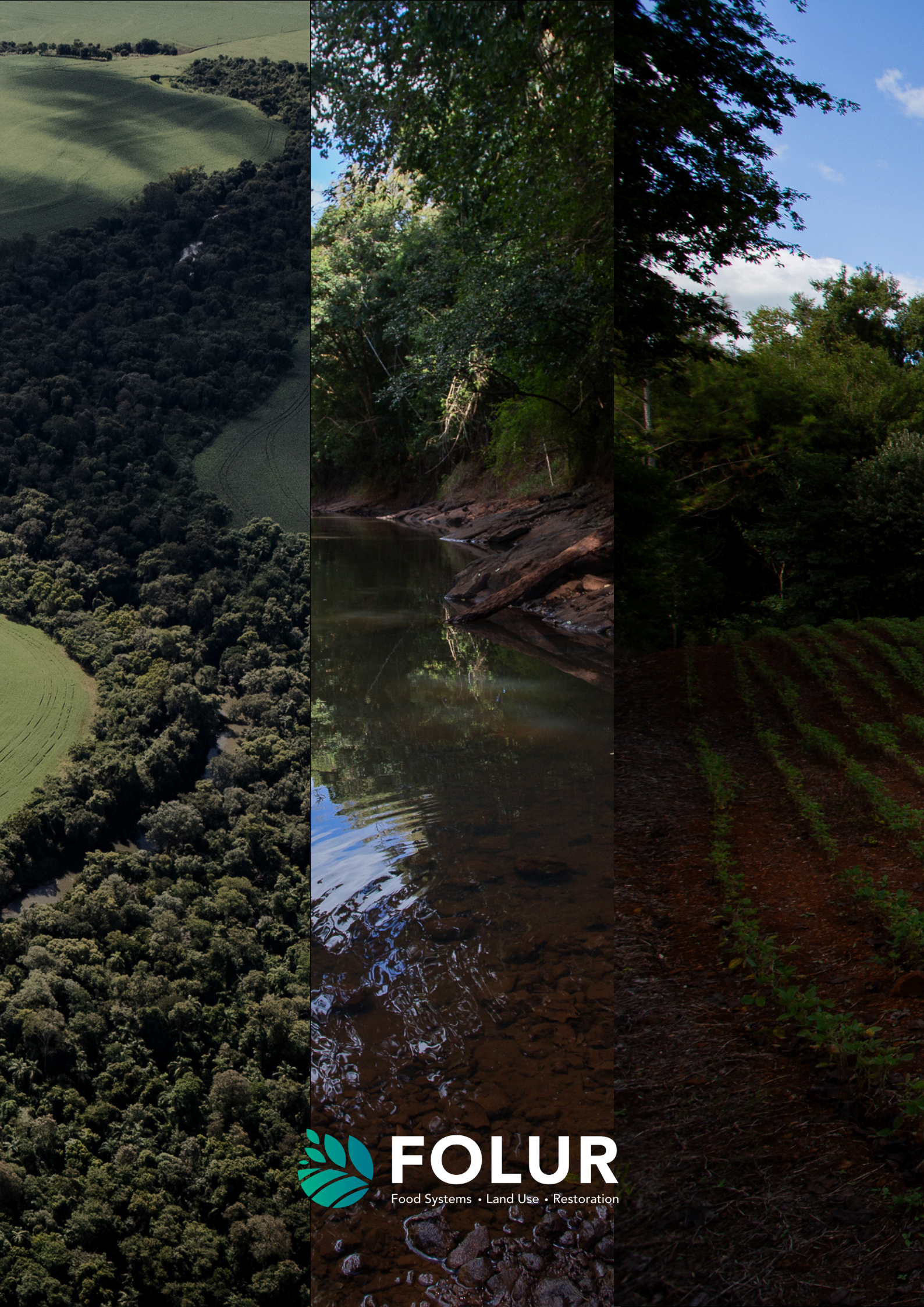






ACRONYMS AND ABBREVIATIONS

CIF	Climate Investment Funds
CIMMYT	Center for International Maize and Wheat Improvement
CONABIO	National Commission for the Knowledge and Use of Biodiversity
CPI	Climate Policy Initiative
DGM	Dedicated Grant Mechanism
FAO	Food and Agriculture Organization of the United Nations
FIP	Forest Investment Program
FOLUR	Food Systems, Land Use and Restoration Program
FSIP	Food Systems Integrated Platform
GEF	Global Environment Facility
GLF	Global Landscapes Forum
GLI	Green Legacy Initiative
GGP	Good Growth Partnership
ICARDA	International Centre for Agricultural Research in the Dry Areas
ICCF	International Conservation Caucus Foundation
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
ILM	Integrated Landscape Management
MARD	Ministry of Agricultural Development
NARS	National Agricultural Systems
NBS	Nature Based Solutions
PROGREEN	Global Partnership for Sustainable and Resilient Landscapes
SRLI	Sustainable Rice Landscapes Initiative
SRP	Sustainable Rice Platform
UNEP	United Nations Environment Programme
UNDP	United Nations Development Programme
WBCSD	World Business Council for Sustainable Development
WRI	World Resources Institute
YPARD	Young Professionals for Agricultural Development


FOLUR
Food Systems • Land Use • Restoration