



CGIAR

2022

ANNUAL REPORT

Science to transform food, land, and
water systems in a climate crisis



Message from the Executive Management Team

The vision of a world in which we can provide food and nutrition security for all within the planet's boundaries is under threat. As climate change converges with conflict and pandemic recovery, we are witnessing the most severe food crisis in modern history, with hard-won progress against poverty and equality, as well as hunger and malnutrition, being eroded.

CGIAR, whose mission is to transform food, land, and water systems in a climate crisis, is playing a vital role in meeting these converging challenges head on. Together with our trusted partners, we are developing innovative solutions that provide smallholder farmers and consumers in low- and middle-income countries with the tools and knowledge they need to adapt to the changing climate. We have changed the way we work to ensure that our science and innovation supports progress towards global targets – including the UN Sustainable Development Goals and the Paris Agreement – and the goals of our regional and country partners.

While agriculture is a significant contributor to climate change and is heavily impacted

by it, it also has the potential to be part of the solution, acting as a carbon sink and supporting nature and biodiversity. This is why we've chosen a climate theme for this 2022 Annual Report, highlighting our work in the context of the changing climate.

A key achievement in 2022 was the launch of a major new portfolio of **Research Initiatives**. Drawing on half a century of expertise and a network of partnerships around the world, the portfolio channels our collective research efforts towards delivering impact where it counts. We established **five impact areas** that bring together the breadth of CGIAR's expertise and focus efforts on research and innovation that can be brought to scale to meet today's urgent challenges.

Our **2022 Technical Report**, as a component of this year's Annual Report, provides a deeper look into how we work, with an updated **Results Dashboard** on our impact, individual **Annual Reports** for each of the new Initiatives and Impact Area Platforms, and an in-depth report on internal **performance, coordination, and practice change**. The overall picture is brought together in our **Portfolio Narrative** report, showing how we have worked with partners to deliver results.

As well as launching a major new program of work in 2022, last year also brought significant milestones in our organizational transformation. **One CGIAR**, our ambitious reform, progressed to align the strengths and expertise of our respective Research Centers. This collaborative integration is allowing us to leverage our collective potential, streamline operations, and enhance our ability to deliver impactful outcomes on a global scale.

In 2022, we established our Executive Management and **Senior Leadership Teams**¹ made up of exceptional leaders from diverse

backgrounds. We appointed new directors for our **six major regions**, each backed by a Regional Integrated Initiative. Our leadership is united behind their shared vision of healthier, more sustainable, more resilient food systems for people and planet.

The report highlights these accomplishments and more. In this digital-only publication, you can see results from across our Research Portfolio, learn how climate action is being integrated across our five key impact areas, explore stories of impact from CGIAR Centers and partners in our six major regions, and gain insight into how we are improving our operations.

We invite you to explore this year's Annual Report to discover how CGIAR is addressing the urgent challenges posed by the growing insecurities we face today. With science and in partnership, we can achieve a world with sustainable, resilient, and equitable food, land, and water systems delivering nourishment and prosperity for all.



We invite you to explore this year's Annual Report to discover how CGIAR is addressing the urgent challenges posed by the growing insecurities we face today, including those posed by climate change.

Claudia Sadoff

CGIAR Executive Managing Director (to 31 July 2023)

Lindiwe Majele Sibanda
CGIAR System Board Chair



Warm regards,

Claudia Sadoff, CGIAR Executive Managing Director (to 31 July 2023)

Lindiwe Majele Sibanda, Chair, CGIAR System Board

¹ Claudia Sadoff was CGIAR Executive Managing Director and led CGIAR's Senior Leadership Team until 31 July 2023.

[Read the 2022 Annual Report online](#)

Research and Innovation

CGIAR Portfolio

Climate change threatens food systems around the world, posing risks of increased hunger, malnutrition, and poverty, yet food systems produce almost a third of greenhouse gas emissions globally. We must change the way we produce, process, distribute and consume food, both to adapt to new extremes and, mitigate further damage.

In 2022, through better organizational coherence and closer partnerships, we drew together all of our capabilities and assets, forged ahead with new Research Initiatives to deliver real and targeted **impact**, and changed our internal practices and **reporting methods** to improve and communicate our performance.

We are focused on delivering in five Impact Areas: **Climate**, **Environment**, **Gender**, **Nutrition**, and **Poverty**.

And we are already starting to see results: **32 new Research Initiatives** and their coordinating Impact Platforms submitted **annual reports** in 2022, and reported their **Key Results Stories**, demonstrating impact toward targets of the UN Sustainable Development Goals.

Overall, the results show a united and cohesive One CGIAR, working together with partners more effectively than ever to advance our collective goals – with the numbers and evidence to prove it.

[Explore our Portfolio](#)

It's time to innovate

In 2022, CGIAR launched a **new Portfolio** of Research Initiatives. Drawing on half a century of expertise and a network of partnerships that spans the globe, the new Portfolio channels our collective research and innovation efforts toward real impact where it counts.

Following our **2030 Research and Innovation Strategy**, the new Portfolio situates CGIAR in an evolving global context, and responds to the demand to work collectively as One CGIAR and with partners to transform our food, land, and water systems in a climate crisis. It is put into action through the **2022-24 Investment Prospectus**, which commits resources and pooled funding to the Initiatives as prioritized areas of investment.



Research and Innovation Results

FEATURED STORY

Bengal Water Machine reform offers hope for millions of farmers



Abdul Motaleb, a farmer in Rangpur, Bangladesh, pumps groundwater to the surface to irrigate his vegetable crops. Photo by Abdul Momin

Research is providing alternatives to restrictive policies that have limited groundwater use in Bangladesh, where food security challenges remain.

In 2022, CGIAR research produced recommendations for groundwater policy reforms in Bangladesh that could benefit tens of millions of people.

The recommendations have been drawn from extensive CGIAR research into the [groundwater-energy nexus](#), ongoing explorations into [solar irrigation](#) under the CGIAR Research Initiative on [Transforming Agrifood Systems in South Asia](#), and emerging CGIAR literature on local irrigation methods—such as the “[Bengal water machine](#)”—and their potential for supporting climate change mitigation and adaptation, while ensuring food security.

Bangladesh is among the world’s most densely populated countries and crop production is intensive. Since facing food scarcity around the time of independence in 1971, policymakers have encouraged farmers to cultivate crops during the rainy monsoon season; but also produce a second or even third crop during the dry winter and early summer seasons. Production during these dry seasons has long been supported through policies that have relaxed barriers to the import and installation of irrigation pumps.

Farmers adapted to this context with the invention of the “Bengal water machine”—tube wells using water from aquifers that are recharged on an annual basis by monsoon rains and major rivers. The system has captured 75 cubic kilometres of freshwater over 30 years. Farmers use pumps to extract

water and control flooding during the rainy season. Research shows that, when carefully managed, the process can not only aid water conservation efforts, but can also enhance flood control and food security.

Being mindful of differing groundwater recharge rates, government policy has tried to restrict pumping in areas with lower recharge. A lack of reliable information on aquifer levels has since led to blanket bans, even where groundwater is abundant. Farmers in Bangladesh are now bound by mandatory, restrictive groundwater use permits that limit their ability to use groundwater to irrigate. Longer dry seasons compounded by climate change make it harder to produce extra crops, threatening the nation’s food security.

Now, based on CGIAR recommendations, farmers could soon be benefiting from new policies that are tailored to specific areas, based on how much water is available in local underground aquifers. The concept and proposed policies have gained attention both nationally and internationally, with researchers featured in the media.

In parallel, the CGIAR Initiative on [Transforming Agrifood Systems in South Asia](#) is investing in options like solar-powered pumps to shift the innovative system towards clean, renewable energy. These are being introduced as on-grid systems where farmers can generate and sell solar electricity when their pumps are not in use.

The integrated approach contributes to national and global goals on food security, sustainable development, and climate change adaptation and mitigation.

[Learn more](#)

Reaching millions with climate tips via reality TV in Zambia



A farm improvement show called 'Munda Makeover' delivered climate-smart tips, backed by CGIAR science, to 3 million viewers a week.

The free-to-air reality TV show, facilitated and co-funded by CGIAR Initiatives and Centers, aimed to share knowledge about climate information services (CIS) and climate-smart agriculture (CSA) with smallholder farmers, to help them solve real-life problems.

In each 26-minute episode, presenters and experts would accompany a smallholder farmer to a family plot to hear about a challenge they were facing. The hosts would then demonstrate practical solutions that could be carried out by the farmers, and by viewers at home.

[Learn more](#)

Doubling climate mitigation via national policy in Viet Nam



CGIAR innovations have been adopted into national policy in Viet Nam, to meet updated climate targets that aim to double mitigation of greenhouse gas emissions from agriculture.

Viet Nam's revised **Nationally Determined Contributions** to the Paris Agreement aim to increase mitigation of emissions from agriculture by 82% using national resources, or 97% with international support. To meet these targets, several innovations under the **CGIAR Initiative on Asian Mega-Deltas** have been mainstreamed into national policies and local programs by Viet Nam's Ministry of Agriculture and Rural Development.

Innovations include: **alternate wetting and drying**, **climate-smart mapping and adaptation planning**, **mechanized rice straw composting**, and **Agro-Climatic Bulletins** for accessible advisory services.

[Learn more](#)

Boosting climate resilience for 20,000 farmers in Guatemala



A CGIAR-designed approach to co-producing and sharing climate information has empowered 20,000 farmers in Guatemala to thrive despite the challenges of climate change.

Guatemala suffers large agricultural losses annually due to climate variability – small-scale producers are the hardest hit, and can lose up to 70% of their crops if caught out by a mid-summer drought. The **Local Technical Agroclimatic Committee (LTAC)** approach, a CGIAR innovation, delivers valuable information to farmers to inform their decision-making and safeguard their livelihoods. Through this approach, expert advice is co-produced by government, academia, civil society and UN agencies, translated into easy-to-understand bulletins for farmers, and disseminated digital and non-digital means.

Nineteen LTACs are now active, covering 100% of the national geography, and enhancing proactive climate risk management from the local to national levels.

[Learn more](#)

Making vital climate connections for 160 million in the Niger Basin



After years of CGIAR research and engagement, “nexus” thinking has been adopted into policy across the climate-affected Niger Basin, potentially benefiting more than 160 million people.

The Niger River Basin is shared by nine countries in West Africa, covering 2.23 million km² and supporting 160 million people. In a changing climate, it suffers from water, energy, and food insecurity, environmental degradation, and political and civil conflicts.

The **Nexus Guidance** policy, formally adopted by the Niger Basin Council of Ministers in December 2022, offers a systematic methodology for assessing synergies and linkages across the water-energy-food-ecosystems (WEFE) nexus, coordinating the efforts of 350 active projects, including dams, irrigation schemes and conservation programs, and achieving the Basin’s **Shared Vision** for a resilient future.

[Learn more](#)

Growing 25% more wheat with climate tools in Ethiopia



Farmer Abera Degefa hand-bundling his wheat in Boru Lencha village, Ethiopia.
Photo by P. Lowe/CIMMYT

Smallholder farmers in Ethiopia have increased wheat yields by up to 25% by using a CGIAR-developed tool to support their decision-making.

The **NextGen Agroadvisory** tool was co-developed with partners to provide location-, context-, and climate-specific agricultural advice, particularly in relation to climate-smart farming practices, pest and disease surveillance, fertilizer use and soil fertility management. The advanced advisory tool integrates datasets on more than 25,000 crop responses to fertilizer, spatial co-variants, machine-learning algorithms and “next-season” climate information to guide decisions on planning, planting, and when and how much fertilizer to use.

In the 2021-2022 season, 300 farmers used the tool and increased yields and profits by close to 25%, compared to if they had followed blanket local and national recommendations. Noting their success, the tool is now being piloted across five districts.

[Learn more](#)

Mapping pest and disease threats in a climate crisis



Looking for disease symptoms in cassava in Kampong Cham, Cambodia.
Photo by G. Smith/CIAT

A CGIAR-led network has mapped priority areas for pest and disease detection and response across the Global South, in preparation for climate threats.

Climate change is predicted to drive an increase in pest and disease outbreaks, which already impact global food security and cost more than **\$220 billion a year**. Bringing together a network of plant health specialists and social scientists from 26 countries across Asia, Africa, and Latin America and the Caribbean, the **CGIAR Initiative on Plant Health** identified major research and capacity gaps of National Plant Protection Organizations (NPPOs), the main bodies responsible for outbreak response, and planned ways to address them through a Global South plant health diagnostic and surveillance network.

The unprecedented mapping exercise sets the agenda for developing and sharing knowledge in preparedness for emerging pests and diseases.

[Learn more](#)

Our impact in numbers



Climate

3.1 million people



In 2022, more than **3.1 million people** used CGIAR innovations to mitigate or adapt to climate change. This included more than 1.3 million women and 1.8 million men.

1,535 partners



Up to **1,535 partners** were engaged on climate-focused results at the ground level.

2,388 results



Our scientists produced more than **2,338 results** that contributed to SDG 13 on Climate Action, including publications, analyses and methods.

119 climate solutions



119 field-ready climate solutions were shared to help smallholders adapt to climate change and reduce emissions from agriculture.



Environment

1.7 million people



Almost **1.7 million people** used CGIAR innovations to improve environmental health and biodiversity.

1,708 partners



A total of **1,708 partners** worked with us on supporting conservation of biodiversity and a healthy environment.

1,210 results



Our researchers produced **1,210 results** contributing to SDGs 14 and 15 on life below water, and life on land.

334 new innovations



Our researchers in 2022 produced around **334 new innovations** to support environmental health and biodiversity worldwide.

[Explore the CGIAR results dashboard](#)

[Explore the CGIAR results dashboard](#)



Gender

1.5 million people



More than **1.5 million people** used CGIAR innovations to support gender equality, youth, and social inclusion.

1,658 partners



Up to **1,658 partners** were engaged with efforts for equality and inclusion on the ground.

421 results



As many as **421 results** were recorded that contributed to SDG 10 on reduced inequalities.

326 innovations



Research produced around **326 innovations** supporting greater equality between men and women, and inclusion of youth and other minorities in food systems.



Nutrition

1 million people



Almost **1 million people** used CGIAR innovations to support nutrition, health, and food security.

1,741 partners



We worked with **1,741 partners** to combat hunger and malnutrition, and improve well-being.

2,587 results



Our research produced **2,587 results** contributing to better health, and enhanced food and nutrition security.

394 innovations



We produced **394 innovations** to support health and combat hunger.

[Explore the CGIAR results dashboard](#)

[Explore the CGIAR results dashboard](#)



Poverty

2.3 million people



Close to **2.3 million people** used CGIAR innovations to support poverty reduction, livelihoods and jobs.

1,728 partners



As many as **1,728 partners** worked with us on transforming food systems to provide better jobs, income, and stable livelihoods.

2,454 results



We recorded up to **2,454 results** that contributed to Sustainable Development Goal 1 on ending poverty in all its forms.

364 innovations



Our research produced **364 innovations** to reduce poverty and improve livelihoods.



Measurements at the experimental agriculture plot at pepiniere nord in Yangambi, DRC.

[Explore the CGIAR results dashboard](#)

Our Impact Areas



Women involved in a Newcastle Disease vaccination program with a CGIAR partner in Mayurbhanj district, Odisha state, India. Photo by P. De/Global Alliance for Livestock Veterinary Medicines

Together with partners, CGIAR contributes to the Sustainable Development Goals across five key Impact Areas. In 2022, a Platform was established for each Impact Area to focus efforts on research and innovation that can have real, lasting, and positive impact, and be brought to scale to meet the urgent challenges of the climate crisis.

How we will achieve impact



Gender



A climate change solution that doesn't work for women is not a climate change solution.

Dr Nicoline de Haan
Director, CGIAR GENDER Impact Platform

The CGIAR GENDER (Generating Evidence and New Directions for Equitable Results) Impact Platform puts equality at the forefront of agricultural research for development to kick-start a process of genuine change toward more equitable and just food systems.

By synthesizing and amplifying research, filling evidence gaps, building capacity and setting strategic directions for research, GENDER is supporting the entire CGIAR portfolio to maximize its contributions to the collective, global targets for gender equality, youth and social inclusion. Through its research partnerships and engagement in global policy and development dialogues, the Platform charts pathways toward impact for CGIAR and its partners.

[Learn more: CGIAR GENDER Impact Platform](#)



A vegetable farmer who uses solar pumps for irrigation in Kamalpur, Nepal. Photo by N. Baral / IWMI

FEATURED STORY

Hotspot mapping charts path for women's climate resilience

The CGIAR GENDER Impact Platform developed a methodology for mapping climate, agriculture, and gender inequality hotspots.

The CGIAR GENDER Impact Platform has identified climate-agriculture-gender inequity hotspots where women are hit the hardest by climate change impacts. This knowledge helps decision-makers target their climate and agricultural investments, policies, and actions to benefit the worst impacted women in the most affected regions of the world.

Guidance on precise targeting is needed because women in food systems often are more negatively affected by climate change impacts than men. Most women do not have the same opportunities and abilities to respond to droughts, floods, soaring temperatures, and other shocks. They tend to have fewer and lower-value assets than men, and they have less access to the resources—such as capital, labor, information and training—that make it easier for men to adapt. Women are especially poorly off in areas where they are highly engaged in agricultural labor, where climate hazards are significant and where structural gender inequalities prevail.

To be successful, climate change adaptation and mitigation actions, policies and investments must therefore take such differences into account—and they must reach women, and men, who are in greatest need of support. If the root causes of women's excess risk to climate change impacts are addressed, women can be agents of change in building climate resilience for everyone.

This research was particularly timely as it followed on the heels of a coalition of international leaders, at COP26 in 2021, recognizing that women and girls both face a disproportionate burden from climate change, and represent unfulfilled potential in adapting to its consequences. By engaging with global stakeholders, including at COP27 in 2022, GENDER generated interest for its hotspot research. It is being put into use by the Africa Group of Negotiators Expert Support (AGNES), to support African nations' adaptation goals, and the Overseas Development Institute (ODI), which plans to adapt it to strengthen water governance under climate change.

[Learn more](#)



Field visit to a climate-smart village in Ludhiana, India.
Photo by L. Sebastian/IRRI-CCAFS



Climate



We need to find a place for innovative science and solutions in global discussions on climate change, and proactively inform these processes to the benefit of smallholder farmers and others experiencing its impacts from the frontline.

Aditi Mukherji

Director, CGIAR Climate Impact Platform

Climate change threatens every aspect of the world's food systems, posing risks to food production, livelihoods and nutrition. At the same time, food systems are a major contributor of greenhouse gas emissions, causing climate change. Through research and innovation, CGIAR aims to address these challenges and advance both climate adaptation and mitigation.

The CGIAR Climate Adaptation and Mitigation Platform coordinates efforts to contribute to collective global targets to:

- Implement all National Adaptation Plans and Nationally Determined Contributions to the Paris Agreement.
- Equip 500 million small-scale producers to be more resilient to climate shocks, with climate adaptation solutions available through national innovation systems.
- Turn agriculture and forest systems into a net sink for carbon by 2050, with emissions from agriculture decreasing by 1 Gt per year by 2030 and reaching a floor of 5 Gt per year by 2050.

Building on work over the past decade, CGIAR Initiatives have already begun to make progress toward these objectives in their first year of implementation.

A deep dive into our climate impacts of 2022



Nutrition



I will ensure that the CGIAR Nutrition Impact Platform contributes to the global goals by building on the right to diverse, nutritious and safe foods for all, leaving no one behind. Focus must be given to the poor and vulnerable, including women and children in the first 1,000 days of life, and also adhering to the principles of social justice and equity.

Shakuntala Haraksingh Thilsted
Director, CGIAR Nutrition Impact Platform

Established in 2022, the CGIAR Nutrition, Health and Food Security Impact Area Platform will support the CGIAR to deliver on UN Sustainable Development Goal targets for action to: End hunger for all and enable affordable healthy diets for the 3 billion people who do not currently have access to safe and nutritious food (SDG 2); and reduce cases of foodborne illness (600 million annually) and zoonotic disease (1 billion annually) by one third (SDG 3). This is increasingly critical as diets are becoming less diverse, nutritious and affordable for many, exacerbated by disruptions caused by climate change, conflicts and COVID-19.

To realize these goals, the Nutrition Impact Platform will deliver on four key functions: convening communities of practice; deepening CGIAR and partner capacities; amplifying external profile and pathways to impact; and advising portfolio-level management and strategy. These key functions are integrated across all five Impact Platforms.

Further to these functions, the Nutrition Impact Platform also aims to achieve the following:

- Inform the global agenda through CGIAR research, evidence and success stories; and lead global thinking on food systems transformation;
- Showcase knowledge, evidence, metrics and methods from CGIAR, in themes including One Health, nutrition and food security;
- Build new and strengthen existing partnerships, as well as capacities of CGIAR and partners; and
- Support CGIAR portfolio through analyses of gaps, trade-offs and synergies, guided by communities of practice to steer research towards outcomes and impacts.

In order to generate evidence and influence the high-level global agenda, the Nutrition Impact Platform must foster strong working relationships with CGIAR researchers and partners, across the six regions. The Nutrition Impact Platform will reach out to all CGIAR Centers and Initiatives, especially the 11 CGIAR Initiatives that deliver primarily on the Nutrition, health & food security Impact Area, to convene communities that will contribute strongly to measuring, evaluating, learning and assessing the impacts of CGIAR work, in this area.



Women fish processors in Cambodia.
Photo by WorldFish



Environment



The work of the CGIAR Environment and Biodiversity Impact Platform is crucial to ensure that we stay within the environmental boundaries at both planetary and regional levels while preserving and restoring ecosystem services.

Cargele Masso

Director, CGIAR Environment and Biodiversity Impact Platform

Agriculture plays a major role in the loss of forests and biodiversity, which in turn affects the quality of diets and nutrition. Approximately one-third of the world's soils are degraded, and agriculture is responsible for around 70% of global freshwater withdrawals. Additionally, it significantly contributes to pollution in terrestrial and water ecosystems.

The CGIAR Environment and Biodiversity Impact Platform is collaborating with strategic partners to develop practical and policy solutions to tackle these challenges. In its first year, the platform has brought together communities of practice, strengthening the research capabilities of CGIAR and its close partners. It has also expanded the reach of innovative solutions and policy tools. Key performance indicators, metrics, and shared approaches are being jointly developed and tracked to evaluate the effectiveness of interventions aimed at reducing environmental degradation and biodiversity loss. These assessments also inform the prioritization of investments.

A significant advantage of the platform is its ability to synthesize and analyze data from diverse sources, identify knowledge gaps and research needs, and develop effective solutions. This has been instrumental in guiding CGIAR's contribution to the Kunming-Montreal Global Biodiversity Framework in December 2022, as well as its subsequent advisory role. The platform is also actively involved in the Transformative Partnership Platform (TPP) on Agroecology of FAO.



The platform's objective is to ensure that we strike effective trade-offs, enabling us to achieve the collective targets of other CGIAR impact areas aligned with the UN Sustainable Development Goals, while always operating within the planetary and regional environmental limits. The process of developing an inclusive roadmap for the platform has begun, building upon a strong theory of change, impact pathways, and a results plan. These elements are being co-developed with key stakeholders from food systems and beyond. This is a critical step in the right direction towards achieving the impact area targets by 2030.



Sita Kumari, farmer, working at the farmers' cooperation in Surkhet village, Nepal.



Poverty



Transforming our food systems means supporting the jobs, livelihoods and wellbeing of people at every stage of our agri-food value chains.

Jean Balié

CGIAR Poverty, Livelihoods & Jobs Impact Platform

CGIAR science has lifted millions out of poverty over the past half-century. But these gains are now reversing due to conflict, climate change, COVID-19 and other threats and disruptions. Rural and agricultural areas are disproportionately affected – meaning that those who grow the world's food are often the least able to meet their own needs.

Transforming our food systems means supporting the jobs, livelihoods and wellbeing of people at every stage of our agri-food value chains – especially small-scale farmers and producers – sharing benefits more equally, and ending hunger and poverty for all.

The CGIAR Poverty, Livelihoods and Jobs Impact Platform coordinates research and innovation that aim to contribute to global targets to:

- Lift at least 500 million people living in rural areas above the extreme poverty line of US\$1.90 per day.
- Reduce by at least half the proportion of men, women, and children of all ages living in poverty in all its dimensions according to national definitions.

Through CGIAR's new portfolio of Initiatives, efforts are being channeled through policy research and engagement for greater inclusion, solutions for climate resilience and environmental sustainability with a focus on women and youth, as well as improved crop varieties and livestock breeds to drive higher and more stable incomes.



COP27

At COP27 in Sharm El-Sheikh, Egypt.
Photo by UNFCCC

Reflections on how CGIAR can be better engaged in global climate processes

Authored by Aditi Mukherji, Director, CGIAR Climate Adaptation and Mitigation Impact Area Platform. This piece was written at the end of COP27 in 2022, reflecting on the significant contributions of CGIAR scientists.

Today is the last official day of COP27, though the rumour is that negotiations will stretch into the weekend, given that many texts remain open in the [cover document](#). The main objectives of these UNFCCC COPs are “to stabilize greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system, in a time frame which allows ecosystems to adapt naturally and enables sustainable development.” Yet, the

recent [IPCC WGI report](#) and [UNEP emission gaps report](#) show that GHG emissions are still on the rise, and we are on a pathway to exceed 1.5°C as soon as by the middle of the next decade. [Profound and unprecedented impacts](#) are being felt in several natural and human systems.

Most impacted is the agriculture sector, where smallholder farmers, pastoralists, and fisher folks in the Global South, where the CGIAR works, are disproportionately

affected as they are most climate exposed and vulnerable. Losses and damages have already happened, and some systems and regions are seeing soft and hard adaptation limits being reached. Smallholder farmers — CGIAR’s primary constituency — are already facing soft limits, such as a lack of finance, capacity and technology to adapt to climate change. These realities have made the [Loss and Damage](#) and [Global Goal on Adaptation](#) elements of the COP27 agenda particularly urgent, with the vulnerable countries demanding that they be compensated for these losses and damages and provided finance for adaptation and mitigation.

While the negotiations have not yet yielded agreements on finance or even global goals on adaptation, what stands out in the cover document of this COP is the multiple references to the importance of scientific knowledge in informing these processes. For example, IPCC science is referred to frequently in the document as a justification for the content of the cover document.

This brings me to what I wanted to discuss in this blog. How can we, the CGIAR scientists, ensure that our science and solutions find a place in these global discussions and we proactively inform these processes? I know many of us are deeply involved in these processes, e.g., in the [Koronovia Joint Work on Agriculture](#) and the [IPCC](#) as authors, and possibly several other processes that I am not yet aware of. An internal community of practice to discuss and organize our collective engagement will help us to engage more deeply and effectively. CGIAR’s newly-established Impact Area Platform on Climate Adaptation and Mitigation, which I have been appointed to lead, can serve us in this regard.

Meanwhile, what can we as scientists do that embeds the knowledge we generate into these global processes going forward?

The Africa Group of Negotiators negotiating Global Goals on Adaptation wants an IPCC report on this topic. There is indeed a vast knowledge gap on adaptation metrics, i.e., how to measure the effectiveness of

adaptation in reducing climate risks; or if adaptation remains effective at higher levels of global warming. Assuming there is a Special IPCC Report on this topic, they will look towards peer-reviewed articles for evidence. I was involved in the Sixth Assessment Report (AR6) cycle, where I participated in a Global Adaptation Mapping Initiative, and we concluded that evidence on adaptation effectiveness was sparse. This is an excellent opportunity for us to fill this research gap by publishing high-quality peer-reviewed articles that particularly look at adaptation metrics and effectiveness, among other things. These peer-reviewed publications will then find a place in any assessment of Adaptation Goals.

[The Global Stocktake](#), which is currently still accepting inputs before it finalizes its Technical Report in March, is another opportunity for us to contribute proactively to their process by holding workshops and feeding the information to them for their Technical Report. This is one of the tasks that the Impact Area Platform on Climate is happy to engage with CGIAR scientists on over the next few months.

Many CGIAR scientists have also been involved in some of the COP Presidency Initiatives, e.g., [FAST](#) and [AWARe](#), where we have provided inputs into their formulation and then participated in the launch events. We must find ways to keep ourselves involved in those initiatives as they further develop, to ensure that they are evidence- and data-driven, in the lead-up to the next COP in Dubai.

What are the other ways in which One CGIAR scientists can remain involved in these global processes? I would love to hear your ideas and suggestions, and I look forward to working with the CGIAR climate community in my new role as the Director of the Climate Adaptation and Mitigation Impact Area Platform of the CGIAR.

Learn more about CGIAR’s Climate Adaptation and Mitigation Impact Area [here](#).

Aditi Mukherji can be reached at a.mukherji@cgiar.org.

Partnerships and Regions

Partnerships are crucial to the way we work – whether with small-scale farmers and associations, national universities and governments, or networks that span the globe. CGIAR works with a network of partners in six key regions to jointly address challenges to food, land, and water systems posed by climate change, matching CGIAR capabilities to regional demand.

OVERVIEW

Partnerships for impact

In 2022, we strengthened the way we work with others to meet common goals.

Partnerships are fundamental to the way we work. Our innovations are co-designed and co-delivered together with almost 3,000 active partners across 79 countries to respond to real-world demand, driving food, land, and water system transformation to meet the challenges of the climate crisis, and accelerate achievement of the Sustainable Development Goals (SDGs).

In 2022, we took steps to further strengthen our partnerships and have even greater impact.



Purposeful, strategic partnerships are fundamental to CGIAR's ability to deliver transformative outcomes that drive food, land and water systems transformation.

Juan Lucas Restrepo
Global Director, Partnerships and Advocacy

*Farming brothers Mohen and Raj Narayin Singh are partners in a CIMMYT project in Bihar, India, where they trial new practices and share their successes with other farmers.
Photo by P. Kosina/CIMMYT*



Building on a legacy of engagement with partners around the world, our continued transition to a unified and integrated **One CGIAR** has highlighted the need for more systemic and coordinated collaboration, to better capture opportunities and synergies across the organization, and forge purposeful, strategic partnerships.

Early in the year, we launched the new **Engagement Framework for Partnerships & Advocacy**, setting out guiding principles, systems, and approaches for CGIAR and partners to work together to achieve common goals. The new Framework informs how we work with others, from national agricultural research and extension systems (NARES) to UN agencies, universities, research institutions, civil society organizations, and small, medium and large enterprises, delivering solutions that benefit millions. Our System Board appointed an independent **High-Level Advisory Panel** that brought together respected leaders from the

fields of government, academia and civil society, representing deep and diverse experience in agricultural science and innovation in the Global South. The Panel oversaw consultations with country and regional partners across Asia, Africa and Latin America and the Caribbean, and issued a **set of recommendations** for improved strategic engagement.

Advocacy efforts in 2022 focused on integrating food systems into the work and negotiations of the Rio Conventions on biodiversity, desertification, and climate change. This included mapping stakeholder positioning on key issues and proposals within the negotiations, providing the Parties with evidence-based recommendations on the importance of food systems transformation to achieving the goals and targets of the Conventions, and convening negotiators to raise awareness of the importance of increasing multi-sectoral collaboration between the agricultural and environmental sectors. We also for the first time convened Food Days during the Conferences of Parties of the three Conventions (**UNCCD COP15**, **UNFCCC COP27** and **UNCBD COP15**) along with key partners such as FAO, WWF International, and the Crop Trust.

Together with FAO and WWF International we advocated for implementation of the recommendations of Koronivia Joint Work in Agriculture (**KJWA**), the agenda item of UNFCCC tasked to address issues related to agriculture. In this context, we called all Parties to adopt an evidence-based action plan with clear objectives and milestones. Through joint communiqués, side events and meetings with negotiators, we also highlighted the benefits of adopting of a food systems approach to tackling climate change in agriculture, that takes into account not only the way food is produced, but also the way it is consumed.

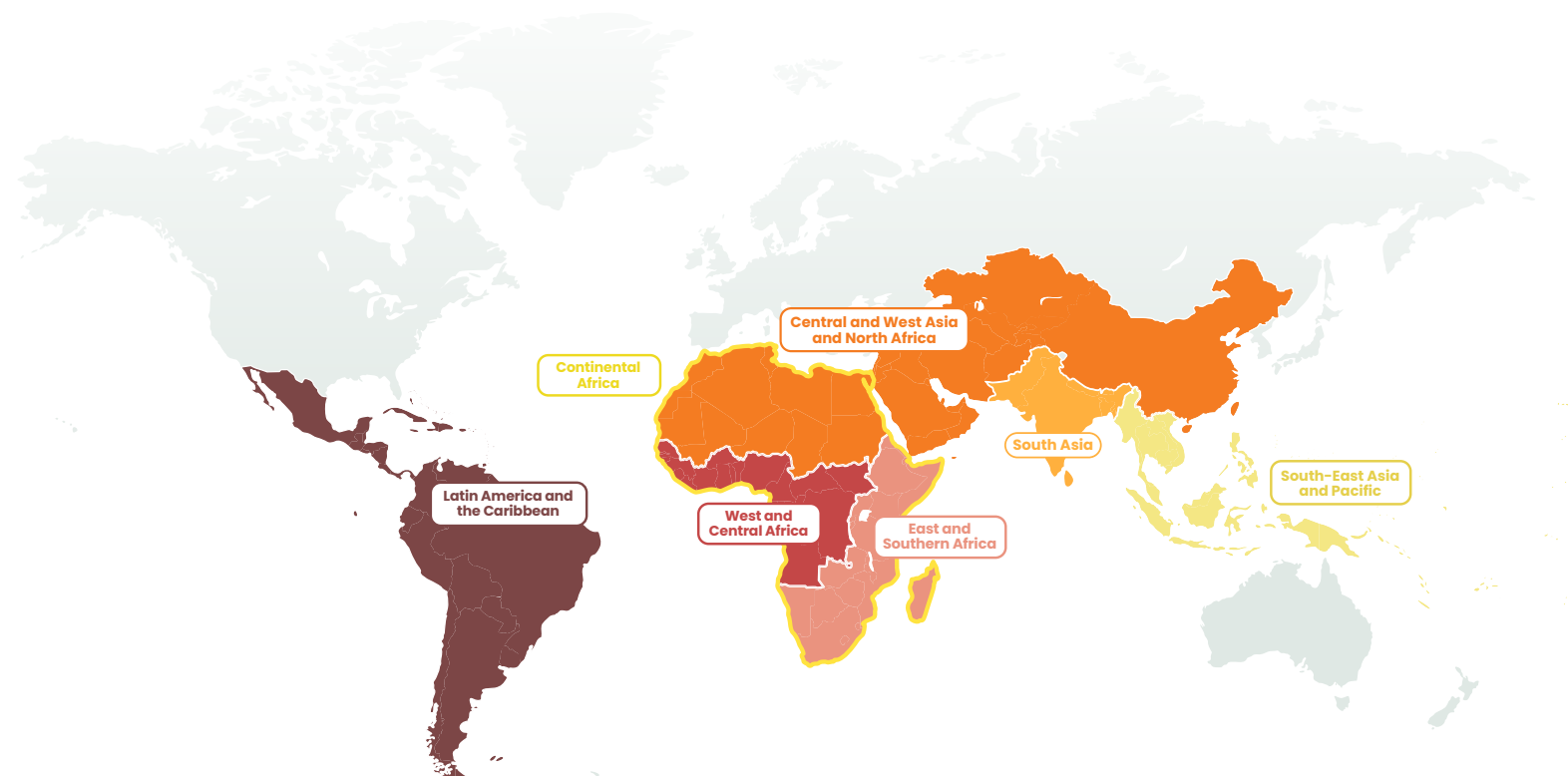
At COP27, the concept of food systems was included for the first time, in decision **FCCC/CP/2022/L.4**, which established the four-year Sharm el-Sheikh Joint Work on Implementation of Climate Action on Agriculture and Food Security, responsible for implementing the recommendations previously elaborated by the KJWA. Sharm el-Sheikh Joint Work on Implementation of Climate Action on Agriculture and Food Security, responsible for implementing the recommendations previously elaborated by the KJWA.

In December, a Private Partnerships for Impact (PP4I) unit was established within the Partnerships & Advocacy division to harness the potential of market-driven partnerships with the private sector, and to foster a culture of innovation, with a strong focus on impact acceleration. The PP4I team initiated the joint development of a digital tool for Intellectual Property management, and participated in two Genetic Innovation-led projects: (1) Developing a framework for licensing elite germplasm to third parties; and (2) In-licensing of genome-editing technologies.

Finally, 2022 saw the development of a new “Capacity Sharing for Development” mechanism – titled CapSha – that aims to promote multi-directional sharing of knowledge and skills between CGIAR and partners. In contrast to the traditional unidirectional approach of transferring knowledge and skills from lab to field, and from CGIAR to partners, CapSha fosters mutual learning, co-development, and sharing and exchange of evidence, innovations and technologies between CGIAR and its partners at all levels. The mechanism is now being used in collaboration with NARS partners in the Global South to jointly define research directions and co-deliver impact outcomes for CGIAR’s portfolio.

[Learn more](#)

Regions



Latin America and the Caribbean (LAC)

In **Latin America and the Caribbean (LAC)**, climate change risks are exacerbated by widespread forest and pasture degradation, threatening the region's rich agrobiodiversity and the livelihoods of millions. The region is already seeing shorter growing seasons, higher peak temperatures and flash floods, causing damage to food systems.

The CGIAR Regional Office for LAC, established in 2022, aims to act on these threats by strengthening partnerships at the country and regional levels, including with multilateral bodies such as the Central American Bank for Economic Integration (CABEI), the Economic Commission for Latin America and the Caribbean (ECLAC), the Food and Agriculture Organization of the United Nations (FAO), the Inter-American Development Bank (IDB), the Inter-American Institute for Cooperation on Agriculture (IICA) and the World Bank.

Milestones have included the signing of a letter of intent with FAO-LAC to advance science and innovation in agrifood systems in the region, and joint work with IICA and the World Bank to create a space for regional dialogue to discuss the role of science and innovation in strengthening agrifood systems in LAC.



To transform food systems in our region, we need to value our unparalleled biodiversity, our rich local resources, and our traditional food system practices, and their contributions to food and nutrition security.

Joaquin Lozano

Regional Director, Latin America and the Caribbean

The Regional Office has ensured a fluid dialogue with LAC governments through a network of country conveners. CGIAR's visibility in the region was promoted through 4 workshops presenting the portfolio of 17 CGIAR Initiatives working in the region, including the Regional Integrated Initiative, **AgriLAC Resiliente**.

The Initiative aims to enhance the resilience of agrifood systems in LAC, following the updated CGIAR strategy of leveraging expertise and networks of national and regional stakeholders, in close discussion with the Regional Director.

[Learn more](#)

Abidjan II: African Development Bank, African Union Commission, CGIAR, Forum for Agricultural Research in Africa Join Forces to Strengthen Africa's Food Systems



Agreement boosts efforts to equip farmers with much-needed technologies

Sharm el-Sheikh, November 14, 2022 – Four organizations have come together to strengthen Africa's food systems. The [African Development Bank](#), the [African Union Commission \(AUC\)](#), the [Forum for Agricultural Research in Africa \(FARA\)](#), and [CGIAR](#) have signed an agreement, aligning their efforts to boost food and nutrition security on the continent.

Following [consultations](#)* earlier this year, the “Abidjan II” [communiqué](#) posits that Africa must urgently transform its food, land, and water systems to ensure food and nutrition security despite multiple threats, including from climate change, conflict, and pandemic. The four signatories will work together to build Africa's resilience to future shocks by bolstering agricultural research and innovation systems at the national, sub-regional, and continental levels and by equipping farmers with the science and technologies they need to thrive. They will also align institutional structures, funding, strategy, and capacity.

Welcoming the agreement, African Development Bank President, Dr. Akinwumi Adesina, said “I am fully confident that we should be able to reach zero hunger in Africa. To do so, we must accelerate action, take technologies to the scale of millions of farmers, and drive the agenda towards zero hunger — that's the key. The role of CGIAR becomes even more important in that drive because of the technologies, because of the need to support research and development, and because we need more climate resilient agricultural systems.”

H.E Ambassador Josefa Sacko, Commissioner for Agriculture Rural Development Blue Economy and Sustainable Environment at the African Union Commission, welcomed the initiative, stating that “This agreement will heighten agriculture research and knowledge, help us to identify gaps, analyze them, and find solutions to build resilient food systems on the continent, while responding to the needs and commitments, made by our heads of states and governments in the Malabo declaration, to transform agriculture and improve the livelihoods of our people”.

According to FARA's Executive Director, Dr. Yemi Akinbamijo, Africa urgently needs a pathway that meets major threats to food, land and water systems with science, technology and innovation.

“This agreement brings us all on to the same page and presents us the best opportunity to equip farmers with appropriate technologies and policy instruments to meet these challenges, known and unknown, head on,” Akinbamijo said.

FARA will use its forums — including the [Africa Agribusiness Science Week \(AASW\)](#) — the [Science and Partnerships for Agriculture Conferences](#) and the [Knowledge Management for Agricultural Development Challenge](#), to support the new partnership.

CGIAR Executive Managing Director, Dr. [Claudia Sadoff](#) said alignment with the organization's partners in Africa allowed CGIAR to “move ahead with reforms aimed at equipping farmers in Africa and beyond with the science and innovations they need, and at boosting investment that supports resilient food, land, and water systems.”

The agreement recognizes African governments and partners' historical and continuing support for Africa-based CGIAR Research Centers. It also affirms support for ongoing reforms they are undertaking to better align with the needs of African farmers and food systems.

The partner organizations are developing an action plan to be released this year. It will see these commitments transformed into action that will benefit farmers across the continent.

* Participating organizations included the Alliance for a Green Revolution in Africa (AGRA), the African Union Development Agency-New Partnership for Africa's Development (AUDANEPAD), and sub-regional research organizations, CORAF, ASARECA, CCARDESA, NAASRO, the Africa Forum for Agricultural Advisory Services (AFAAS), FAO and AKADEMIYA2063.



West and Central Africa (WCA)

The **West and Central Africa (WCA)** region spans dry savanna in the north to wetter coastal and forested areas in the south. Climate change affects these agroecological zones differently – driving more frequent and severe droughts in the drier north, and hotter growing seasons and shorter rainy seasons in the south. This in turn impacts food and nutrition security, livelihoods, and migration patterns across the region.

CGIAR Initiatives and bilateral projects, such as the **CGIAR Initiative on West and Central African Food Systems Transformation** and the **Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA)** project, aim to increase resilience to climate change, as one of the key threats to agri-food systems in Africa.

Through a novel dissemination approach, AICCRA has facilitated more than 300,000 farmers' access to climate-smart agriculture and climate information services in Ghana, Mali, and Senegal. New technologies have enabled specialists to better advise farmers to improve crop yields.

Transforming agri-food systems to attain food and nutrition security in the face of climate change in this region requires further strengthening and broadening of networks of partnerships. CGIAR is working with a broad network of upstream and downstream research and development partners, from National Agricultural Research and Extensions Systems (NARES) to regional institutions, international development partners, farmers' associations, and the private sector.



“The complexity of the food and nutrition security issue in the face of climate change in West and Central Africa requires CGIAR to efficiently utilize its extensive network to make meaningful contributions on the ground.

Dr Manneh Baboucarr
Regional Director, West and Central Africa

[Learn more](#)

Central and West Asia and North Africa (CWANA)

Climate change poses severe threats to Central and West Asia and North Africa (CWANA), as the most water-stressed region in the world. At the same time, this region offers huge potential for research and innovation because of its unique biodiversity adapted to harsh conditions, and its long cultural traditions and local expertise in dryland farming.

The CGIAR Regional Office for CWANA has been tasked with a bold mandate to lead the development of a Global Dryland Strategy. The participatory design of the strategy aims to generate the technology, new agri-approaches, and policies needed to address climate change mitigation and adaptation across the world's most water-scarce regions.

Research and innovation are taking place through CGIAR Initiatives launched in 2022, including the CGIAR Initiatives on Fragility to Resilience in Central and West Asia and North Africa (F2R-CWANA), Excellence in Agronomy (EiA), and Genebanks.

Regular partner-led consultations with regional national agricultural research and extension systems (NARES) ensure that our integrated research packages remain effective, demand-driven, affordable, and relevant to the increasing climate impacts faced by the dryland communities we serve.

High-tech agri-solutions to revolutionize climate-smart farming in the region are being advanced through the CGIAR-mandated Integrated Desert Farming Systems Platform, in collaboration with partner agricultural ministries and NARES leaders.

Maintaining CGIAR's high-level partnerships with Egypt for COP27, as well as with the United Arab Emirates (UAE) in preparation for COP28, remains vital to highlight the urgency of, and our expertise in, dryland agri-food system transformation under an intensifying climate crisis.



Learn more



“It is crucial to optimize the unique expertise, capacity, and extensive dryland networks of CGIAR Centers operating in CWANA to provide a potent and effective One CGIAR offer to our partners. Together we can transform business-as-usual approaches into smart, resilient, and climate-adapted dryland food systems.

Aly Abousabaa
Regional Director, Central and West Asia and North Africa

East and Southern Africa (ESA)

The region of East and Southern Africa (ESA) is home to some of the world's fastest-growing economies, and some of the most fragile communities as a result of frequent climate shocks and conflicts. Climate challenges, such as shorter and more unreliable growing seasons, are preventing the region from fully leveraging the potential of agriculture to drive sustained economic growth.

The CGIAR Regional Office for ESA, established in 2022, aims to work collaboratively through partnerships forged within countries across the region since the early days of CGIAR in the 1970s to enhance food and nutrition security in the face of a climate crisis. The new Regional Office has the largest number of projects, Initiatives, and funding within the CGIAR portfolio, across 19 countries from South Africa to Ethiopia.



Camels at a water point near Wajir, Kenya.
Photo by R. Gangale/ILRI

A critical aspect of work in ESA is engaging and nurturing partnerships with regional and national organizations across the region. The ESA office engaged with regional partners like the AU on the continental CAADP process. This included strategic engagements with the African Union on the Comprehensive Africa Agriculture Development Programme Partnership Platform (CAADP-PP). At the CAADP-PP of 2022, a joint event with the AU focused on “Forging collaborative engagement between CGIAR and CAADP”. The objectives were to: a) Encourage stronger participation of CGIAR in the CAADP process at country and regional levels; b) Strengthen knowledge among CGIAR regional directorates and country convenors on where the CAADP process is; c) Strengthen the ability of CGIAR to identify potential entry points for collaborative engagement at regional and country level. This has led to the development of a proposed modality for AU-CGIAR collaborative engagement that can now be leveraged to strengthen partnerships across different levels from country, regions and continental levels leveraging CAADP as an entry point for stronger AU-CGIAR collaborations towards impacts. This has opened opportunities for AU-CGIAR collaboration on the AU Common Position on Food Systems Transformation that uses CAADP as the framework.

A Regional Integrated Initiative on **Diversification in East and Southern Africa** (also known as Ukama Ustawi) was **launched** in 2022 to boost climate-resilient agriculture and livelihoods in 12 countries in the region, by helping smallholders intensify, diversify and reduce risks in maize-based farming systems through better access to agricultural diversification input support and services. Climate-smart innovations in agrifood systems are being identified for scaling-up throughout the region via the **CGIAR Food Systems Accelerator** program, launched in 2022 in partnership with **2SCALE**. The combined outcomes of the Ukama Ustawi Regional Integrated Initiative and **other Initiatives active in the region** are already starting to show. A **country focus on Kenya** is included in CGIAR’s technical reporting for 2022.



“ Our collaborative work in the ESA region contributes to the vision for food, land, and water, in a climate crisis by contributing to sustainable management of these resources to ensure food security for the most vulnerable, enable adaptation to climate shocks, while contributing to economic development in the region.

Namukolo Covic
Regional Director, East and Southern Africa

[Learn more](#)

South Asia (SA)

South Asia (SA) faces unique challenges in a climate crisis. As one of the world’s most densely populated regions – home to one-quarter of humanity – it is faced with the urgent task of ensuring food and nutrition security for billions, while overcoming deep inequalities, environmental degradation and climate risks such as heatwaves, floods and drought. At the same time, the region holds immense potential through its biodiversity, food traditions, heritage crops and advanced innovation.

Building on 50 years of trusted partnerships and cooperation, CGIAR in 2022 established a Regional Office for South Asia and a new portfolio of **Initiatives in South Asia** that aim to respond to escalating threats to food, land, and water systems. Research and innovation are now coordinated under a new Regional Integrated Initiative, on **Transforming Agrifood Systems in South Asia (TAFSSA)**.

In mid-2022, TAFSSA and other related Initiatives were introduced through a series of stakeholder dialogues in **Nepal, India and Bangladesh**, providing the opportunity to collaborate with partners, affirm common objectives and co-create the research and innovation agenda. Results from the Initiatives are projected to positively impact livelihoods, productivity, and health for tens of thousands of smallholder farmers, indigenous fishers, and food-insecure families over the coming three years.

In its first year, TAFSSA worked with partners to produce several pivotal pieces of research, including outputs such as **agrifood systems assessments, mapping exercises, business models** and **climate information services** that will help guide activities through 2024, and progress food systems transformation across the region.



“ South Asia has the energy, imagination and know-how to transform its food systems and meet the challenges of the climate crisis.

Temina Lalani-Shariff
Regional Director, South Asia

[Learn more](#)



Farmer Sita Kumari and CIMMYT researcher Pratima Baral using a mobile app in the field, to better connect with climate information and markets. Photo by C. de Bode/CGIAR



Southeast Asia and the Pacific (SEAP)

Southeast Asia and the Pacific (SEAP) faces multiple challenges from climate change, particularly in relation to water. Flooding, sea level rise and salinization threaten the region's coastal areas and major deltas, such as the Mekong and Irrawaddy, putting people and food systems at risk.

CGIAR worked actively throughout 2022 in facilitating decisions, chairing meetings, and encouraging dialogues to strategically position the CGIAR Regional Hub for Southeast Asia and the Pacific to work for the countries and partners in the region.

We take great pride in the active involvement and leadership roles of our scientists in activities such as the [CGIAR Initiative on Asian Mega-Deltas](#) to create resilient, inclusive, and productive deltas. In its initial year, the Initiative produced 84 knowledge products, mostly accessible online. Their contents focus on building learning alliances on diversified production systems, promoting nutrition-sensitive interventions, and developing digital climate advisory and bundled services, among other areas. The innovations were integrated into policies, and the AMD Initiative has attracted significant investment in the deltas from notable institutions.

In 2022, the Philippines, Vietnam, and Fiji joined six other countries as signatories to the [Seeds Without Borders](#) agreement. Fiji is the first Pacific Island nation to join the initiative, marking the expansion of the agreement to the Pacific Islands.

The team of the CGIAR regional hub for Southeast Asia and the Pacific presented the [ASEAN-CGIAR Innovate for Food Regional Program](#) at the 44th ASEAN Ministers on Agriculture and Forestry (AMAF) Meeting in Laos. This regional cooperation for research will help make ASEAN agri-food systems more resilient to climate change and fit for the purpose of delivering better livelihoods for food producers along the food value chain. The ASEAN-CGIAR Innovate for Food Regional Program is a cross-disciplinary and demand-driven program that intends to scale up and out bold integrated innovations for the ASEAN agri-food systems and has been co-created and co-designed with the ASEAN Member States.

These initiatives aim to support human prosperity and address urgent challenges in the Asia-Pacific region. In the coming year, CGIAR and the regionally based International Rice Research Institute (IRRI) will continue to pursue dialogues to bolster opportunities for more collaborations vital for creating pragmatic and feasible approaches that work across borders, cultures, and disciplines.



In the face of climate change in Southeast Asia and the Pacific, success is not possible without partnership.

Jean Balié
Regional Director, Southeast Asia and the Pacific

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CGIAR Centers: Success Stories

The World Bank-funded AICCRA project increases yield & income for more than 150,000 farmers in Mali

Mali has multiple vulnerabilities to climate variability and change. It is one of the least developed countries with an economy that relies heavily on cereal production. Farming and fishing account for 45% of the gross domestic product (GDP) and employ about 80% of the workforce while rice contributes around 5% of the country's GDP.

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A Green Light for Desert Farming Collaboration

At a High Level KIADPAI/CGIAR side-event during the 7th International Date Palm Conference in Abu Dhabi in 2022, regional ministers, NARS representatives and key stakeholders gave a thumbs up to the ICARDA-led Integrated Desert Farming Innovation Platform.



Family farming - Tunisia, Farmer families depend on various sources to make a living in marginal lands where rainfall is extremely low and unreliable, and survival difficult.

The event was carried out under the patronage of His Highness Sheikh Khalifa bin Zayed Al Nahyan, President of the United Arab Emirates, and opened by Her Excellency Mariam bint Mohammed Saeed Hareb Almheiri, United Arab Emirates' Minister of Climate Change and Environment, and Dr. Abdelouahab Zaid, Secretary-General of KIADPAI

The Integrated Desert Farming Innovation Platform was presented by Mr. Aly Abousabaa, CGIAR Regional Director of CWANA and Director General of ICARDA, alongside Mr. Elwyn Grainger-Jones, CGIAR's Managing Director of Institutional Strategy and Systems, Mr. Andre Zandstra, Global Director, Innovative Finance and Resource Mobilization, CGIAR, Ms. Temina Lalani-Shariff, CGIAR Regional Director South Asia at the CGIAR at a KIADPAI / CGIAR side-event on March 14-15 during the 7th International Date Palm Conference in Abu Dhabi.

The Integrated Desert Farming Innovation Platform boosts a new phase of international and regional collaboration, sharing knowledge and assets to accelerate agricultural innovations along field-to-fork value chains. The Platform builds on established foundations such as improved water management, the development of climate-smart crops, integrated crop/livestock systems, and efforts to reduce desertification while boosting pillar industries such as date palm production. It will also fast-track technology innovation breakthroughs in water and soil productivity and accelerate the adoption of innovative information technology, artificial intelligence, integrated pest management, and digital extension services.

[Read More](#)

Amid Climate Change, Biofortified Wheat Offers A Solution For Food Security in Pakistan

Authorities in Pakistan anticipate considerable climate-related decline in wheat production for the 2022-2023 season. And yet, food and agriculture experts are hopeful that production of zinc-enriched biofortified wheat will rapidly increase to approximately 5.4 million metric tonnes (MT) in the wheat cropping season of 2023, up from 3.5 MT in 2022.

Zinc wheat has the potential to help bring food security to Pakistan, as well as help overcome widespread and preventable zinc deficiency in the larger population.

“Pakistan is leading the way globally when it comes to scaling zinc wheat production,” said Jenny Walton, HarvestPlus Head of Commercialization and Scaling, following a recent visit to Pakistan during which she inaugurated zinc wheat flour production at a chakki mill in Faisalabad. “Zinc wheat has commercial benefit for all supply chain players and results in a nutritious product that consumers need and want,” she added.

[Read More](#)

IAA prioritizes smallholder farmers with climate-smart and GAP training

Since 19 July 2019, the USAID-funded Feed the Future Nigeria Integrated Agriculture Activity's (IAA) major goals have been to improve food security, increase agricultural incomes, and improve resilience among smallholder farmers and their families in Adamawa and Borno states. Working in seven Local Government Areas of Adamawa State and five in Borno State, the Activity has reached about 60,000 smallholder farmers with the Climate Smart and Good Agricultural Practices (GAP) Training.

In May and June 2022, the Activity, under the facilitation of the National Seeds Council (NASC), organized a refresher training in Climate Smart and GAP in preparation for the 2022 wet season farming. The training rounds started with a training-of-trainers session for the Extension Agents (EAs) supporting the Activity, after which it was stepped down to smallholder farmers in the communities.

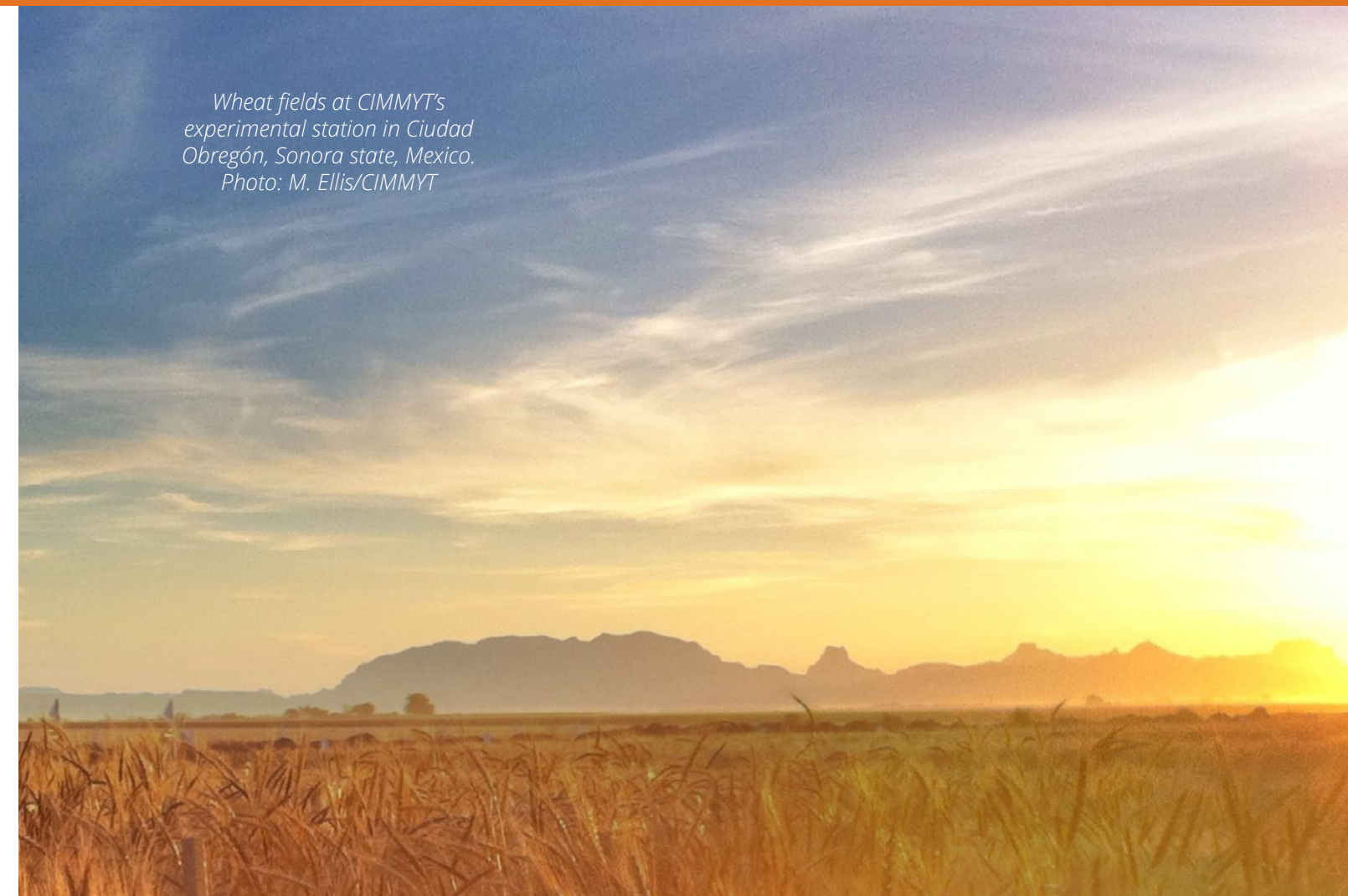
During the training, emphasis was placed on the Activity's seven focus crops—rice, maize, groundnut, soybean, millet, cowpea, and sorghum. The topics included differentiating seeds from grains, general and agronomic principles of seed production, harvesting, postharvest handling, and management.

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Shedding light on African livestock systems' greenhouse gas emissions to mitigate their environmental impact

Ruminants play a vital role in the economic and nutritional fabric of sub-Saharan Africa. However, cattle have faced criticism for their disproportionately large negative environmental impact, particularly regarding greenhouse gas emissions.

The true extent of African livestock systems' contribution to global emissions remains poorly understood, however, primarily due to a lack of evidence-based research. At the International Livestock Research (ILRI) [our research](#) has shown that the amount of greenhouse gases emitted by smallholder livestock farms in Africa varies significantly. Surprisingly, we found that around half of the farms sampled have emission levels similar to those seen in European countries. Specifically, they measured emissions of 2.1–5.0 kilograms of CO₂-equivalent per kilogram of animal product, which is comparable to the emission levels in Ireland and globally.

[Read More](#)

Wheat fields at CIMMYT's experimental station in Ciudad Obregón, Sonora state, Mexico.
Photo: M. Ellis/CIMMYT

Climate change slows wheat breeding progress for yield and wide adaptation, new study finds

Nearly four decades of repeated crossing and selection for heat and drought tolerance have greatly improved the climate resilience of modern wheat varieties, according to new research emerging from a cross-continental science collaboration.

At the same time, climate change has likely slowed breeding progress for high-yielding, broadly adapted wheat, according to the new study, published recently in *Nature Plants*.

"Breeders are usually optimistic, overlooking many climate change factors when selecting," said Matthew Reynolds, wheat physiologist at the International Maize and Wheat Improvement Center (CIMMYT) and co-author of the publication. "Our findings undermine this optimism and show that the amplified interaction of wheat lines with the environment due to climate change has made it harder for breeders to identify outstanding, broadly adapted lines."

[Read more](#)

Change agents and better seeds lead to sweetpotato success in Tanzania



Mary Samson (left) and Margaret McEwan of CIP (right) celebrate a successful sweetpotato harvest at a recent farmer field day in Namonge, Tanzania. Photo by N. Kwikiriza/CIP

In any field, change needs leaders – even in agriculture.

Mary Samson may appear like an ordinary farmer, toiling in her fields to grow sweetpotato, among other crops, for her family's dinner table and the market place. But she is anything but ordinary. Samson is an agent of change, helping farmers in Bukombe district, Tanzania, to improve their sweetpotato yields with certified healthy seed.

The SweetGAINS project, supported by the International Potato Center (CIP) in collaboration with the Tanzanian Agriculture Research Institute (TARI), seeks to improve the lives of all Africans by developing systems to improve sweetpotato varieties and production and build value chains that ensure this nutritious crop reaches vulnerable families.

[Read More](#)

New countries from Asia and the Pacific join Seeds Without Borders Initiative

(Thimphu, Bhutan, 23 November 2022) – During the two-day workshop on “Seeds Without Borders,” nine countries from Asia and the Pacific signed an agreement to strengthen the region's seed sector.

Seeds Without Borders is a regional seed policy agreement that speeds up the distribution of modern rice varieties across countries in Asia, particularly in South and Southeast Asia. In 2014, the International Rice Research Institute (IRRI) facilitated the agreement signed by India, Bangladesh and Nepal. To date, the agreement also includes Bhutan, Cambodia, and Sri Lanka.

This year, the Philippines, Vietnam, and Fiji are joining the agreement. Fiji is the first Pacific Island nation to join Seeds Without Borders, marking the expansion of the agreement from South and Southeast Asia to the Pacific Islands.



On Tuesday, senior agricultural officials from Bangladesh, Bhutan, Cambodia, Fiji, India, Nepal, Philippines, Sri Lanka, and Vietnam signed an agreement called the Thimphu Protocol of Discussion that would help improve the process of implementation of the previous agreements under Seeds Without Borders, such as those that were signed in Dhaka, Bangladesh (2013) and Kathmandu, Nepal (2014), and Siem Reap, Cambodia (2017).

Among the discussion points talked about in Thimphu is how each country could work together with IRRI who serves as the convenor of the agreement. The latest agreement also intends to add roots, tuber crops, and fruit crops to the current ones covered by the agreement such as rice and other cereals, pulses, oil seeds, vegetables, sugarcane and fiber crops.

[Read More](#)

Turning the tide on drought in Jordan, Lebanon and Morocco

You don't need to read the latest reports to know that droughts have increased in frequency and severity over the last decades. Just ask the farmers. They are the ones on the frontline of both the rising temperatures and the irregular rainfall that are devastating their crops and incomes. Those same reports tell us that the number and duration of droughts have risen by almost 30% since 2000 and that 2.3 million people are already experiencing water scarcity.

With climate change expected to increase drought risks in many vulnerable regions, including the Middle East and North Africa (MENA) region, that picture is not likely to improve any time soon.

Drought is about much more than unpredictable rain and water shortages. Its impacts cut across environmental, social, and economic dimensions. It drives migration, threatens food security, contributes to land degradation and biodiversity loss, depletes freshwater supplies, and impacts rural livelihoods and economic growth. Its effects are both immediate and long-term. This is why the results that we are starting to see from MENAdrought in Jordan, Lebanon, and Morocco are so important for other countries too, especially as governments around the world urgently seek ways to build resilience to climate change.

MENAdrought is a multi-country project led by my organization, the International Water Management Institute (IWMI). It is helping to empower countries in one of the driest corners of the world to prepare, adapt, mitigate, and respond to the impacts of droughts, for example, through development of early warning systems. It is supported by the United States Agency for International Development (USAID).

Advances in digital sciences and technology are changing the landscape when it comes to predicting and monitoring droughts. We are increasingly able to look further into the future with the help of freely available data coming from earth observation satellites. Countries can now get a three-month warning that drought is coming and that drought-readiness plans need to be enacted.



Drying Water pond surrounded with dry land from one side and tree from the other at the Azraq Basin (Qa 'Al-Azraq). Photo by Seersa Abaza / IWMI

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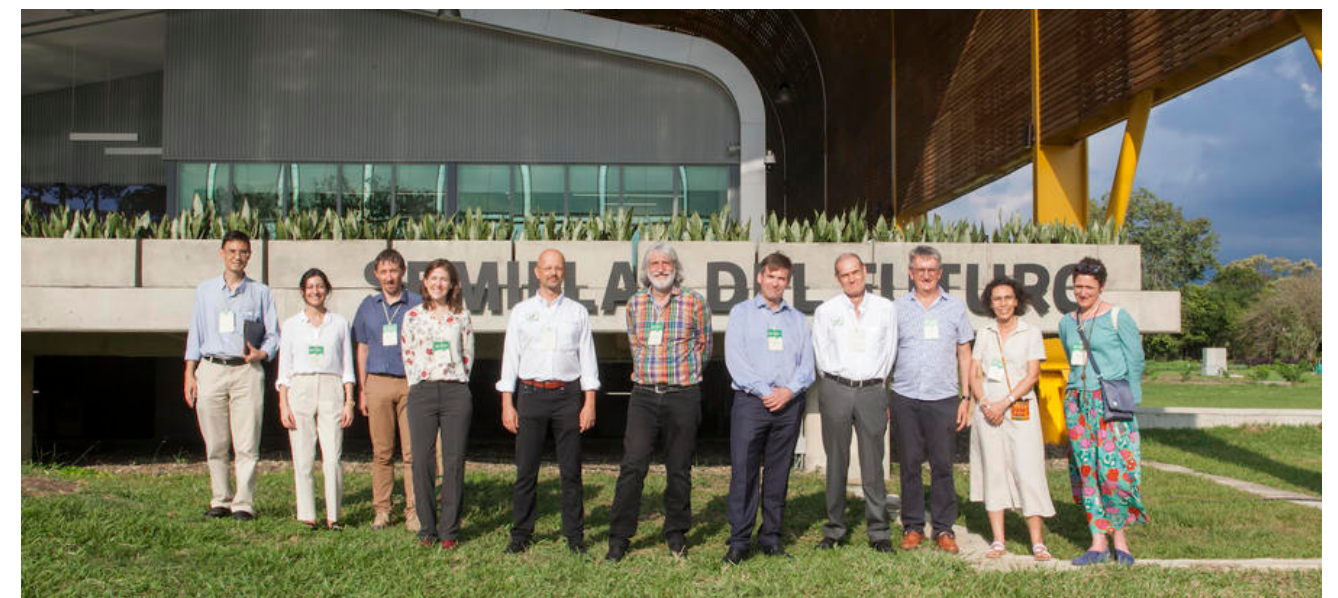
Ground-breaking new genebank unveiled in Colombia to help climate proof food systems across the tropics

The world's largest genetic library for beans, cassava and tropical forages has been officially opened in Colombia to preserve plant biodiversity and support cutting-edge agricultural research.

The **Future Seeds** genebank, situated near Cali, provides long-term conservation of the world's largest collections of crops, including two of the most important staples in the Global South along with the plants eaten by livestock.

The facility, managed by CGIAR's Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT), also provides plant genetic material free of charge for researchers to breed new varieties that can withstand the impacts of rising temperatures and extreme weather conditions. Climate change alone is predicted to continue reducing crop productivity by an estimated **five per cent** for every degree of warming above historical levels.

Future Seeds builds upon the Alliance's decades-long record of maintaining global collections of tens of thousands of varieties of crops, which had outgrown its capacity. The collection includes more than 37,000 samples of beans from 114 countries, 6,000 cassava samples from 28 countries and 22,600 samples of tropical forages from 75 countries. Ranging from grasses to trees, forages are critical to smallholder livestock farmers across the globe.

[Read More](#)



Climate-adapted livelihoods and nutrition with Artemia in Bangladesh

Bangladesh is one of the most climate challenged nations in the world, with Cox's Bazar along its coast particularly vulnerable. The region produces 95 percent of the salt in Bangladesh but provides only minimal incomes to some 1.5 million people working in the industry. Fish farming in the region also struggles with poor productivity. This leaves many unable to attain fruitful livelihoods and access to healthy food. To address these interlinked challenges, WorldFish introduced Artemia or brine shrimp pond culture through the Artemia4Bangladesh project.

[Read More](#)

Awards

Explore a selection of CGIAR Centers and researchers awarded for their outstanding work in 2022.

In 2022, CGIAR received many prestigious awards for its contributions to food and nutrition security and sustainable livelihoods around the world. CGIAR Centers and researchers were recognized for the outstanding quality of their work, and the significant impacts they continue to have on transforming food, land, and water systems in a climate crisis.

Explore below our pick of CGIAR Centers and researchers awarded for their outstanding achievements in 2022.



Highlights

Norman Borlaug Field Award – Dr. Mahalingam Govindaraj



*Dr. Mahalingam Govindaraj.
Photo by World Food Prize
Foundation*

Dr. Mahalingam Govindaraj, Senior Scientist for Crop Development at HarvestPlus and the Alliance of Bioversity International & CIAT, was awarded the 2022 Norman E. Borlaug Award for Field Research and Application, which recognizes individuals under the age of 40 who have made exceptional scientific contributions to international agriculture and food production.

Dr. Govindaraj was recognized for his groundbreaking work on the development of Dhanashakti, the world's first biofortified pearl millet variety. Enriched with higher iron content, **biofortified pearl millet** has made significant contributions to food and nutrition security, particularly for women and children. It is estimated that by 2024, more than 9 million people in India will be consuming iron- and zinc-rich pearl millet and living healthier lives as a result.

“ It has never been more important to get nutrition security onto the agenda across the world through agricultural intervention.

Dr. Mahalingam Govindaraj

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2022 Arrell Global Food Innovation Award Delia Grace Randolph



Delia Grace, Joint Appointed Scientist for the Animal and Human Health Program at ILRI. Photo by Dinesh/ILRI

Delia Grace Randolph, Joint Appointed Scientist for the Animal and Human Health Program at the International Livestock Research Institute (ILRI), was awarded the 2022 Arrell Global Food Innovation Award in the category of research innovation, which recognizes unique approaches and achievements of individuals and organizations contributing to food systems worldwide.

A trained veterinarian and epidemiologist, Grace works in the interconnections between animal, human and environmental health, with a focus on improving food safety in informal markets in developing countries. She was recognized for the transformative impact of her work helping communities build capacity and improve food access and safety. Due to her work, the panel of judges said, “millions more people can have safer and better access to food while also protecting the planet and incorporating important cultural and societal roots.

“There is a very critical relationship between animal, human and environment health and I hope we can continue to research and find ways to help improve food safety and thus the health of humans and animals.

Delia Grace

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2022 World BioProtection Awards: Best Innovative Research Project – Aflasafe



IITA Plant Pathologist Alejandro Ortega-Beltran (center) received the award on behalf of the Institute. Photo by IITA

Aflasafe, a CGIAR-developed aflatoxin biocontrol technology, was named Best Innovative Research Project at the World BioProtection Awards 2022, which recognizes remarkable achievements in biocontrol and biological agriculture.

Aflasafe was recognized as an outstanding innovation that has reduced the problem of aflatoxin contamination in crops such as maize, soybean, and groundnut. Under an IITA program operating in 21 African countries, the dry spore innovation is already being used in 12 countries to treat hundreds of thousands of hectares of cropland, producing tons of high-quality, aflatoxin-safe crops – supporting food safety, health and livelihoods.

“Aflasafe currently has activities in 21 African countries and supports aflatoxin management programs in various countries in the Americas, Asia, and Europe. We look forward to expanding our activities and contributing towards greater impact in food safety in additional countries in Africa and beyond.

Alejandro Ortega-Beltran,
IITA Plant Pathologist

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Grand Prize winners: Seeding the Future Global Food Systems Challenge – IRRI and WorldFish



Fish and rice in Phnom Penh, Cambodia
Photo by P. Dugan/WorldFish

CGIAR Centers IRRI and WorldFish were two of the three Grand Prize winners in the inaugural **Seeding the Future Global Food Systems Challenge**, which aims to inspire and support innovative, diverse, and multidisciplinary teams to create game-changing innovations that will help transform our food systems. The awards are hosted by the Institute of Food Technologists and the Seeding the Future Foundation.

IRRI was awarded for its **arsenic-safe rice project**, which addresses the problem of arsenic contamination in rice by testing, validating and distributing rice cultivars that absorb less arsenic from soil and water, keep arsenic content within safe limits for human and livestock health, and meet market requirements for quality. WorldFish was awarded for its **on-farm aquaculture project**, which aims to bring sustainable, nutrient-rich small fish production to small-scale actors, especially for consumers who need it most, such as young children, pregnant and lactating women. The winning innovations were chosen from among 900 applications from 60 countries.



We are excited to announce the winners of this first Challenge and support their innovative solutions that will sustainably improve our food system, provide safe and nutritious food that is safe, affordable, and accessible to consumers, and benefit human and environmental health.

Bernhard van Lengerich,
founder of Seeding the Future
Foundation

[Read More](#)



Norman Borlaug, Sanjaya Rajaram
and Arthur R. Klatt visiting wheat
fields in Mexico in 1968
Photo by N. MacLellan/CIMMYT

CGIAR legacy

Padma Bhushan Award: Science and Engineering (posthumous) - Sanjaya Rajaram, CIMMYT

India conferred posthumously its prestigious 2022 Padma Bhushan Award in Science and Engineering in recognition of “distinguished service of high order” to Sanjaya Rajaram, 2014 World Food Prize laureate and former wheat breeder and Director of the Wheat Program at the International Maize and Wheat Improvement Center (CIMMYT).

[Read More](#)

Top-cited research

Six CGIAR researchers were listed among Clarivate's Highly Cited Researchers in 2022



M. Iqbal R. Khan,
IRRI



Jill E. Cairns,
CIMMYT



José Crossa,
CIMMYT



Matthew P. Reynolds,
CIMMYT



Philip K. Thornton,
ILRI



Edward Hugh Allison,
WorldFish

CIMMYT scientists rank in top 1% of highly cited papers

WorldFish scientist named among top researchers for third year running

Awards and achievements

21st Century Hope Prize: 7th Niigata International Food Award–Kazuki Saito, AfricaRice

Agricultural and Applied Economics Association (AAEA) Awards 2022

- Quality of Research Discovery Award– Aminou Arouna, AfricaRice
- Best Paper Award, International Section– Kibrom Abray, IFPRI
- Quality of Communications– Derek Headey, IFPRI

Ain Shams University Innovates Award – Rania Gamal, ICARDA

American Society for Nutrition: Global Nutrition Early Career Scholar Award– Sattvika Ashok, IFPRI

ArbNet Arboretum Accreditation Program and Morton Arboretum: Level II Accreditation
– IITA Tree Heritage Park

Borlaug Global Rust Initiative (BGRI) Gene Stewardship Award– team led by Julio Huerta, CIMMYT

Circularity Africa: Awards of Excellence– IITA and its Director General, Nteranyan Sanginga

Cultivating Equality Conference: Best Poster Award– Devis Mwakanyamale, IITA

Derek Tribe Award– Lisa-Maria Rebelo, IWMI

Hallbars Sustainability Research Institute: Best of World Sustainability Reports Award
– IRRI 2021 Annual Report

Institute of Agricultural Research: Exhibitions Awards– IITA

International Conference on Sustainable Fisheries (ICSF): Award from Sylhet Agricultural University–
Shakuntala Thilsted, WorldFish

International Integrated Pest Management (IPM) Symposium: Award for Excellence
– Integrated Pest Management Innovation Lab, IRRI

International Fertilizer Associated (IFA) Emerging Scholar Award
– Jean-Martial Johnson, AfricaRice

Japan International Award for Young Agricultural Researchers
– Leonardo Crespo-Herrera, CIMMYT

Leadership in Energy and Environmental Design (LEED) Certification
– Future Seeds, Alliance of Bioversity International & CIAT

Maize Association of Nigeria: Award– IITA

Mediterranean Phytopathological Union (MPU 2022): Young Scientist Poster Award
– Abd-Al Rahman Moukahel, ICARDA

Nigeria Farmers and Agribusiness Award (NFAA)– IITA

Peter Ellis ISVEE Award for the Application of Veterinary Epidemiology and Economics in Development
– Delia Grace Randolph, ILRI

Sh. VS Mathur Memorial Award 2022– Ravi Singh, CIMMYT

Transformative Research Challenge: Special Prize– Sidra Kahlid and Najeeb Ullah, IWMI

Winning bid to host International Institute of Fisheries Economics and Trade (IIFET) Conference 2024
– WorldFish

Our Operations

In 2022, our operations teams fine-tuned our performance, from more transparent funding and governance to greater diversity and inclusion, and better use of digital and data assets.

Our Finances

In 2022, CGIAR Center Boards and leadership developed the [Integration Framework Agreement \(IFA\)](#) to confirm and clarify the path to [One CGIAR](#), a reformulation of the way we work for greater integration and impact. Twelve Centers signed the agreement, while three remained CGIAR Centers but operated outside the IFA. The agreement was approved by all CGIAR Centers and their Board Chairs in early 2023.

In 2022, CGIAR revenue and expenses reflects the aggregated revenue of the 12 Centers who signed the IFA and the comparative 2021 information. Within the CGIAR System (CGIAR Centers, System Organization and System Council advisory bodies), revenue in 2022 was \$771 million, a 10% increase from the previous year (\$702 million in 2021). System-level results improved from a surplus of \$1.7 million in 2021 to a net surplus of \$2.5 million in 2022.

Explore below the highlights of our financial performance and funding in 2022 or search our [dashboards](#) to more closely examine our books.

Financial highlights

Funding channels

Investments in CGIAR may be delivered through the multi-funder **CGIAR Trust Fund** and/or directly to specific projects at CGIAR Research Centers (outside the Fund), which is called **Bilateral Funding**. Funding for the CGIAR Trust Fund is channeled through two funding Windows (W1, W3) with increasing levels of funder support. A third Window (W2) was discontinued in 2022 as part of One CGIAR reforms.

Window 3 (W3) – Project investments: funding allocated by Funders individually to projects that are defined by the Funders (with partners) and aligned with System-wide investments.

Window 2 (W2) – The Window 2 funding window of the Trust Fund has been discontinued as part of the One CGIAR reforms. Previous program-specific funding to Window 2 is now contributed to Window 1.

Window 1 (W1) – Under the One CGIAR reforms, Window 1 now receives all pooled funding. Within Window 1, Funders may a) contribute investments, with funding allocated to the entire CGIAR Portfolio of approved System-wide investments prioritized and allocated by Funders collectively through the [System Council](#), supporting CGIAR as a whole; b) designate part of their Window 1 funding toward specific CGIAR Initiatives or Impact Area Platforms.

See a comparison of 2022 and 2021 funding in **Figure 1** below.

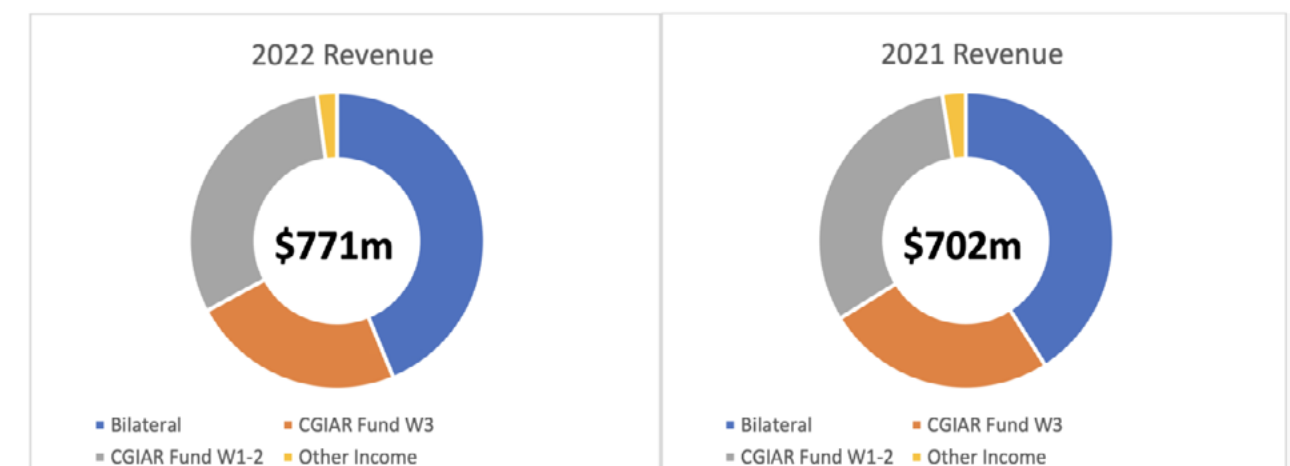


Figure 1. CGIAR revenue by source of funding, 2022 and 2021



Members of a women's group deposit money into a shared savings box. Photo by C. de Bode/CGIAR

Further analysis of System revenue since 2011 by funding source is shown in **Figure 2** below. W1 in 2022 remained at the same level as in 2021.

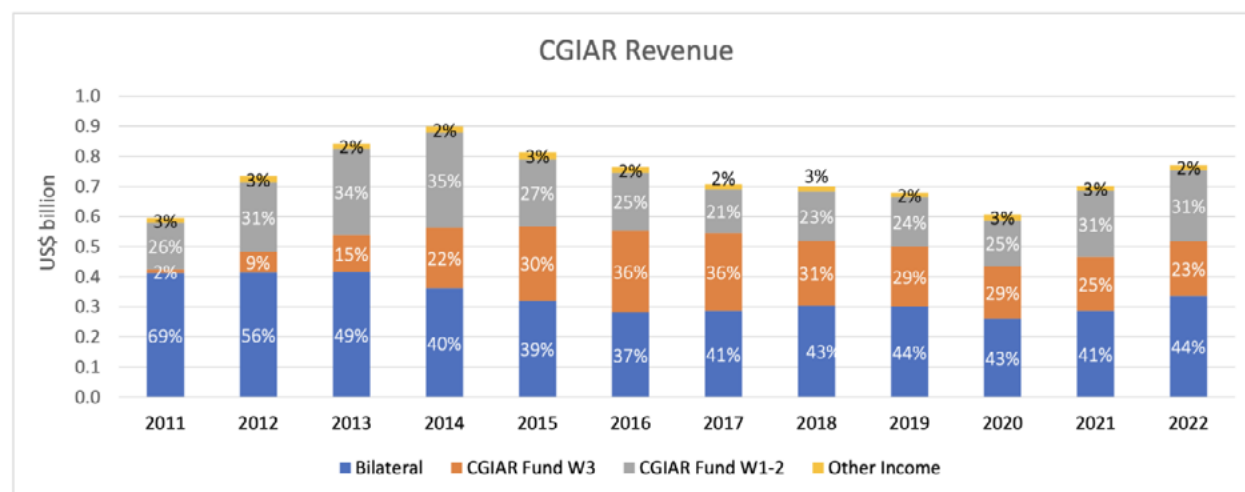


Figure 2. CGIAR System revenue by source of funding, 2012–2022

Figure 3 shows the main categories of expenditure. Overall, expenses in 2022 increased by 10% to \$769 million from \$701 million in 2021. In 2022, 83% of expenditure was on research and collaboration costs, and 17% was on general, administrative, and System-level costs.

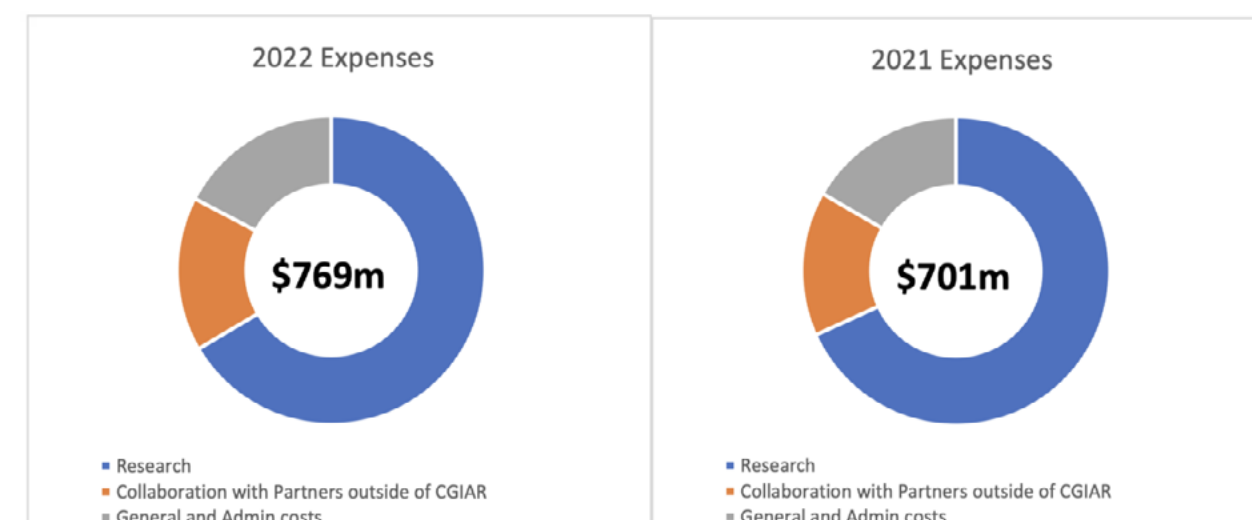


Figure 3. Expenditure by main category, 2022 and 2021

Figure 4 shows expenditure by CGIAR Science Groups/Action Areas by funding channel.

Genetic Innovation had the highest W1 spending at 34% followed by Resilient Agrifood Systems with 29% and Systems Transformation with 23%.

In 2022, CGIAR dedicated Window 1 program funding entirely for Portfolio Initiatives and Impact Area Platforms.

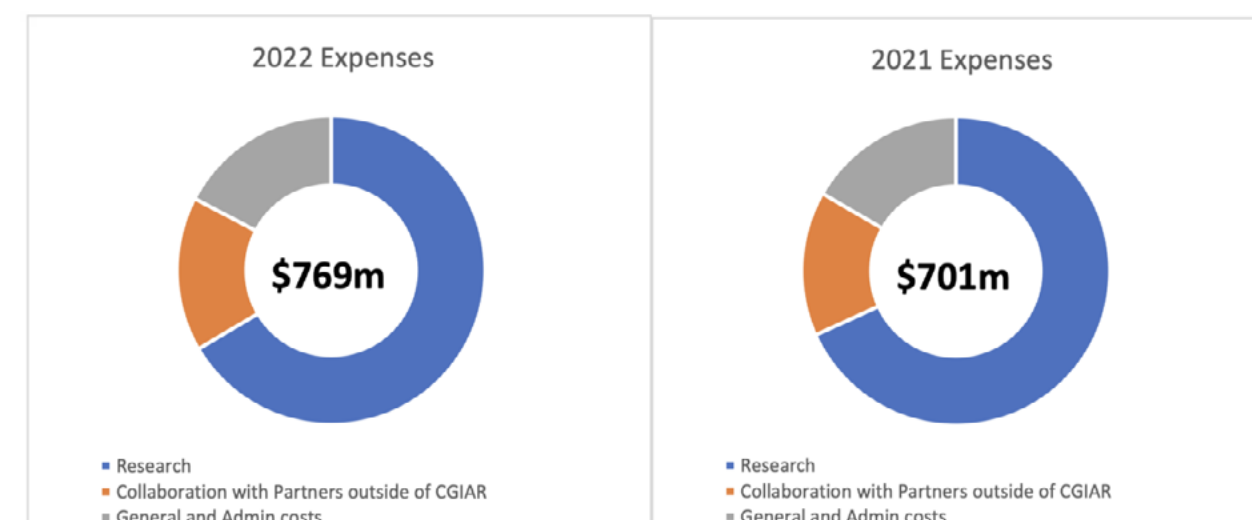


Figure 4. Funding to CGIAR Research by Science Group and Funding Channel

Resources

For access to more detailed information on funding and expenditure by Center, Program, or Funder, visit the [CGIAR Financial Report dashboards](#).

Our Intellectual Assets

We want the benefits of our research to reach as many people as possible and have the greatest possible impact towards our vision – a world with sustainable and resilient food, land, and water systems that deliver diverse, healthy, safe, sufficient, and affordable diets, and ensure improved livelihoods and greater social equality, within planetary and regional environmental boundaries.

The [CGIAR Principles on the Management of Intellectual Assets](#) (CGIAR IA Principles) require that CGIAR Centers manage acquired and generated Research for Development (R4D) innovations – or Intellectual Assets – in ways that maximize their global accessibility and/or ensure that they have the broadest possible impact on target beneficiaries in furtherance of [CGIAR's 2030 Research and Innovation Strategy](#).

The CGIAR IA Principles consider that CGIAR Centers may apply terms and conditions limiting global access to ensure targeted positive impact, as long as justifications for such restricted arrangements are met and reported on, on an annual basis.

In 2022, with respect to restricted arrangements, CGIAR Centers reported entering into a total of 33 agreements which granted limited exclusivity to third parties for the commercialization of Center-derived crop varieties, with the International Maize and Wheat Improvement Center (CIMMYT) reporting 31 out of the 33 such Limited Exclusivity Agreements, and the Alliance of Bioversity International and CIAT reporting the remaining two. Two agreements on the access and use of restrictive third-party technologies (i.e., genomic and digital information tools) for the development of specific R4D innovations, known as Restrictive Use Agreements, were reported respectively by CIMMYT and the International Center for Agricultural Research in the Dry Areas (ICARDA).

In addition, CGIAR Centers reported three types of applications for the protection of intellectual property rights, termed IP Applications. The International Potato Center (CIP), the International Livestock Research Institute (ILRI), and the International Rice Research Institute (IRRI) reported a total of three patent applications, all concerning innovations reported in previous years, either changing status or advancing to a national phase.

CIP also reported obtaining a plant variety protection certificate for a potato variety, and one trademark associated with a digital tool for predicting pest distribution and risk. Lastly, the Alliance of Bioversity International and CIAT reported applying for one trademark associated with irrigated rice in several Latin American countries.

The justifications provided by CGIAR Centers for entering into restricted arrangements, or for IP Applications, as well as their achievements in the context of their management of Intellectual Assets, are being reviewed by the System Council Intellectual Property Group, and the CGIAR System Organization, with the support of the genetic resources policy group of the CGIAR Initiative on Genebanks, to ensure that they are consistent with the CGIAR IA Principles.

A report on the outcome of this review will be available on the CGIAR website in the last quarter of 2023.

Market vendor
Photo by C. de Bode/CGIAR



Pratima Baral, researcher at the International Maize and Wheat Improvement Center (CIMMYT) using Plantex app
Photo by C. de Bode/CGIAR



A key decision supported by formal research and diagnosis conducted in 2022, means that we will move forward with a program of data integration and analytics as a key priority and a critical enabler for achieving CGIAR's strategic goals and advancing toward more integrated professional services. When data is integrated and made accessible to global, regional and Center teams, it can be leveraged to gain insights, optimize processes, improve performance, and create value. For this reason, building data integration, visualization, and analytics capabilities and platforms are among the highest priorities for this coming business cycle.

The team also continued the development of the 2030 Digital and Data Strategy for CGIAR and its roadmap for Digital Transformation, Digital Business Optimization, and building the enabling technology infrastructure. Through this process, the team collaborated closely with the [CGIAR Initiative on Digital Innovation](#) to strategically assess and analyze global and digital trends, science, technological needs, priorities and challenges, and to identify potential synergies. This included reviewing the evaluation and recommendations of the [CGIAR Platform for Big Data in Agriculture](#), and subsequently developing the [management response](#) to build on the platform's work.

While progressing on strategy development, the Digital and Data team continued to support CGIAR's transition and various teams to deliver their work and support the new [portfolio of Research Initiatives](#). Additionally, a global security improvement program launched in early 2022 managed to drastically reduce security risks across CGIAR shared technology infrastructure.

Our Digital Future

In 2022, Digital Services became the Digital & Data Group to lead CGIAR's digital transformation. The team continued its support of CGIAR's transition and business integration plans while developing a global strategy to deliver on CGIAR's ambition of making the digital revolution central to its ways of working.

Meeting this ambition means digitally optimizing CGIAR's operating model, at the same time as harnessing the power of technology to achieve impact through science and innovation. This is not just a business management change, but one that will fundamentally transform the organization's approach.

To reflect this change in thinking we changed the name of the global group from 'Digital Services' to the 'Digital and Data Group' and revised the team structure to include dedicated units for digital and data science for research, and for innovation and product development. As a science and research delivery organization, CGIAR's capability in data science is a significant differentiator, which can be harnessed to strategically grow, solve problems, and accelerate innovation. The team was delighted to attract internal talent from across the CGIAR Centers and filled most of its leadership roles before the end of 2022.





Farmers are trained in improved crop and soil fertility management.
Photo by GeorginaSmith/CIAT

Our People and Culture

At CGIAR, we actively seek to create and sustain workplaces that are inclusive and enabling. We believe that diversity enriches the quality of our decision-making, deepens the relevance of our advice and outputs, and enhances our efficiency and effectiveness. Treating everyone with dignity and fairness is at the core of our values.

CGIAR's Gender, Diversity and Inclusion (GDI) Function supports the implementation of our first [GDI Action Plan](#) (2020-2021). In 2022, a [new Action Plan](#) was prepared for 2023-2024, which was launched in May 2023.

Explore below some of the highlights of 2022.

Inaugural Inclusive Workplace Awards

In early June 2022, a call for nominations went out across CGIAR for the inaugural Inclusive Role Model, Inclusive Leader, and Inclusive Team Awards, each with clearly stated selection criteria. When the nomination period closed in July 2022, more than 150 staff had submitted nominations – indicating the value of CGIAR's collective work towards creating ever more inclusive workplaces.

Hundreds of staff from Peru to Penang came together to celebrate the winners in a virtual awards ceremony in September 2022. CGIAR's "GDI Oscars" recognized the stars who demonstrated their personal commitment to advancing gender, equity and inclusion in our workplaces.

Two Year Progress Report Shows Delivery of GDI Action Plan

In September 2022, the [GDI Two Year Progress Report](#) was published, showing that CGIAR made progress on 101 of 108 targets set forth in its GDI Action Plan, making more progress towards gender parity in the two-year period (2020-2021) covered by the Plan than in the whole decade prior.

In its approach to GDI, the People & Culture function looked at evidence-based research, spoke to experts and a broad range of stakeholders, and concluded that to make a real difference, CGIAR couldn't be traditional and focus on a few select areas. The organization had to innovate, take a holistic approach, and set targets across all elements of the employee life cycle.

CGIAR built capacity through events, training, toolkits and materials created for easy adaptation to local contexts. A GDI Network was established; members completed an eight-month long bespoke training program and continuously advocated and cascaded ideas and feedback on what worked and what didn't. CGIAR established a GDI Knowledge Hub offering e-Learning, guidance notes, and a wealth of other resources to staff.

CGIAR Scoops CDR Award

CGIAR took top prize in the "Diversity and Inclusion" category at the 2022 Career Development Roundtable (CDR) Awards. The prestigious award is given by one of the leading professional communities of senior HR specialists in the global multilateral sector.

After being shortlisted from among 11 strong submissions for an application encapsulating our journey to advance [gender equity, diversity and inclusion in CGIAR's workplaces](#), CGIAR saw off tough competition from the other two finalists, FAO (the Food and Agriculture Association of the United Nations) and EPSO (European Personnel Selection Office), capturing over 50% of the votes from CDR members at the awards ceremony on December 12, 2022.

Claudia Sadoff, CGIAR's Executive Managing Director, commented on the award: "While changing corporate culture can be challenging, our People and Culture team and GDI champions around the world have shown that with perseverance and professionalism it is possible for ways of working to evolve and for mindsets to shift. We are very proud of their work and of this award, which recognizes the tremendous progress we have made towards creating a workplace that is diverse, inclusive, respectful and full of opportunity for all our people."

Our people delivering the One CGIAR strategy and structure

The year 2022 brought important and keenly anticipated news: the initial set of Phase 3 and 4 appointees to our One CGIAR integrated operational structure.

From the outset of the process to appoint these key positions, CGIAR was committed to an inclusive and transparent approach, focused on our internal talent pool. The inclusivity of the process yielded positive results for gender and other diversity dimensions.

Of the 30 appointments announced in 2022:

- 14 (47%) were female and 16 (53%) male, putting us above our target of 40% female in professional roles;
- 19 appointees (63%) were from the Global South and 11 (37%) from the Global North;
- Nine Centers/Alliance were represented;
- Of the 72 roles posted over the time period, only 10 were advertised externally, highlighting the wealth of talent across CGIAR.

We recognize the hard work of the People & Culture team members who progressed these appointments.

Progressing Integration and Shared Ways of Working

Across CGIAR, over 3,300 roles are engaged in the portfolio of Research Initiatives, helping deliver innovative solutions across 5 impact areas aligned with the Sustainable Development Goals.

The Initiatives are powered by collaboration and integration, principles that guided the People & Culture teams engaged in the Initiatives staffing process: in 2022, 100% of Initiatives brought together CGIAR scientists from at least three Centers.

“Our Initiatives are far more integrated than ever before with 94% of Initiatives bringing together CGIAR scientists from at least four Centers. Enabled by this more integrated way of working, the portfolio is breaking ground in areas from vegetables to conflict and fragility, from urban agriculture to the circular economy,” said EMD Claudia Sadoff.

[Learn more](#)

Oversight and Assurance

As we continue our transition to One CGIAR, our Internal Audit and Advisory Services teams provide valuable oversight and assurance, ensuring best practice both within our organization, and in our engagement with others.



Advisory Services

Our Advisory Services team provides relevant, accessible, and timely independent evaluation and advice.

In 2022, the efforts of CGIAR's [Independent Science for Development Council \(ISDC\)](#), the [Standing Panel on Impact Assessment \(SPIA\)](#), and the [Independent Advisory & Evaluation Service \(IAES\)](#) contributed to the System's effectiveness, its culture of continual learning, and its transition to One CGIAR.

[Read the combined ISDC, SPIA and IAES report](#)

Highlights of ISDC in 2022 included:

- Completion of 14 independent reviews of CGIAR Research Initiatives with pooled CGIAR funding. This included an initial [review of 12 Initiative proposals](#), followed by another review on [accelerating crop improvement through genome editing](#) and one on the latest Initiative on [Fragility, Conflict, and Migration](#).
- Quality of Research for Development was bolstered through four discrete sets of activities: (i) gathering lessons about the ISDC-moderated [CGIAR Research Initiative review](#); (ii) ISDC technical notes related to [inclusive innovation](#); (iii) ISDC technical notes related to [comparative advantage](#); and (iv) the return of the [ISDC Science Forum](#) in 2022.

Highlights of SPIA in 2022 included:

- Two [matchmaking events](#) on CGIAR campuses that brought together CGIAR and academic researchers to jointly develop impact assessment studies focused on testing key assumptions of the Theory-of-Change of CGIAR's new Research Initiatives.

- Technical guidance and close monitoring provided by SPIA for the 19 impact assessment studies in the portfolio that are on track to deliver results by 2024 despite COVID-19 delays, with results being shared on an ongoing basis through SPIA webinars.
- Data collection and analysis ongoing at a national scale in four CGIAR priority countries (Ethiopia, Uganda, Vietnam, and Bangladesh) to document the reach of CGIAR-related innovations. Results of work-in-progress were shared and discussed with System Council, CGIAR leadership and researchers, including through in-person presentations at ILRI, IRRI, WorldFish and the Alliance of Bioversity International & CIAT.

Highlights of the IAES/Evaluation function in 2022 included:

- CGIAR governance bodies endorsed the new CGIAR Evaluation Framework and Policy. To operationalize these documents, two evaluation guidelines were launched (i) Conducting and Using Evaluability Assessments within CGIAR (in English and in Spanish); and (ii) Applying the QoR4D Framework to Process and Performance Evaluations.
- Science-Metrix (an Elsevier company) co-developed a technical note on the use of bibliometrics in evaluating CGIAR performance. Lessons from the 2020 independent evaluative reviews of 12 CGIAR Research Programs informed this effort.
- A brief, drawn from evaluations of Excellence in Breeding and Big Data in Agriculture platforms (2022 and 2021, respectively) featured evaluation learning and recommendations on cross-cutting themes, e.g., governance, gender, partnerships, and monitoring, evaluation and learning.

During the year, IAES maintained its strong focus on supporting the three mandate areas and the communication of relevant, accessible, and timely independent advisory and evaluation products to stakeholder groups.



Internal Audit

Aligned with the One CGIAR transition in 2022, the CGIAR System Internal Audit Function (Internal Audit) has continued to strengthen a business-partnering approach. This approach emphasizes collaboration, communication, and assurance aligned with CGIAR strategic objectives and operations.

Specifically:

1. Strategic alignment: Internal audit has closely aligned its activities with the strategic initiatives of One CGIAR. By understanding and supporting the organization's goals, Internal Audit has positioned itself as a valuable contributor to the transformation process.
2. Strategic initiatives and advisory support: Internal Audit has expanded its role beyond traditional audit activities by providing advisory services and engaging with strategic initiatives, such as the Internal Rules Framework.
3. Alignment with AFRC and senior management expectations: Internal auditors have built relationships with key stakeholders, such as the Audit, Finance and Risk Committee (AFRC) focal points and management teams. Regular meetings have been established to foster open communication, gain insights, and address any concerns or issues.
4. Integrated resource model: The Internal Audit community is working towards an increasingly integrated and harmonized internal audit model. Resources were shared for several CGIAR-wide engagements, and the objective is to further build on this initiative.
5. Impactful communications: Recognizing the importance of effective communication, Internal Audit has simplified its audit conclusions and made its assessments more rigorous. By using clear and user-friendly ratings, audit findings are communicated in a manner that is easily understandable and actionable for stakeholders.
6. Collaborating with other functions: Internal Audit has actively collaborated with other functions within the organization to strengthen the level of assurance it delivers. This includes partnering with the Risk Management Function to conduct funding risk assessments, providing input into policies developed by the Ethics and Business Conduct team, collaborating with other stakeholders on Environmental, Social and Governance (ESG) requirements, and working closely with the Independent Evaluation and Advisory Service on an advisory engagement on the One CGIAR Performance and Result Management System (PRMS).

In 2023, the CGIAR System Internal Audit Function will continue its journey, including through plans to define a new vision and operating model to support the ambitions set by One CGIAR, and to unlock the combined capabilities of the internal audit community to achieve greater impact.

Delivery in 2022

In 2022, the Audit plan consisted of 46 engagements, of which 33.5 were delivered, five were cancelled as requested by management, and 8.5 were carried forward to 2023.

Two types of engagements were conducted by Internal Audit in CGIAR:

1. Cross-CGIAR engagements: These types of engagements involved Internal Audit assurance or advisory activities that responded to CGIAR-wide risks. They encompassed multiple CGIAR Centers and were designed and delivered through close collaboration among the CGIAR Internal Audit teams.

In 2022, the main focus of cross-CGIAR engagements was on:

- Review of oversight processes for regional/country office operations contributing to, or strengthening, second-line monitoring activities.
 - Review of cost-recovery methodologies applied by CGIAR Centers, offering recommendations for improvements to manage Center financial positions.
 - Review of IT and financial key controls, to baseline basic first-line assurance.
 - Funding risk assessment in collaboration with the Risk Management community to identify and help manage key drivers of funding risks.
 - PRMS study in close collaboration with the IEAS to provide real-time advice and input as the PRMS project evolved.
2. Center-specific engagements: These types of engagements focused on Internal Audit assurance or advisory activities that responded to risks specific to individual Centers. The scope of these engagements was typically limited to the systems and processes of a particular Center.

In 2022, Center-specific engagements primarily revolved around three main areas:

- Project management
- Budget management
- Country operations

In total, seven investigations into misconduct were carried out by Internal Audit in response to specific requests from management in close collaboration with the CGIAR Office of Ethics and Business Conduct.

On a biannual basis, Internal Audit follow-ups are carried out on agreed management actions to indicate the progress of bridging identified gaps in governance, risk management, and internal control.

Resources

As of the end of 2022, the CGIAR System Internal Audit Function comprised 22 auditors, with a gender distribution of 13 males and 9 females (approximately 40% female). The auditors operated within seven teams across 11 countries.

The diverse composition of the team brings together a range of professional qualifications, including Certified Internal Auditor (CIA), Certification in Risk Management Assurance (CRMA), Certified Information Systems Auditor (CISA), and Certified Public Accountant (CPA).

At the end of 2022, there were seven job vacancies within the Internal Audit Function, presenting opportunities to further strengthen and expand the team. To enable delivery of engagements, the CGIAR Internal Audit Function is co-sourcing some of its activities.

A combination of diverse backgrounds, professional qualifications, and geographical presence ensures a comprehensive and well-rounded Internal Audit team within CGIAR. This diversity allows for a broader perspective in assessing risks, providing assurance, and delivering value to the organization. The CGIAR Internal Audit Function will continue to strengthen its digital skill set in 2023, becoming more digitally enabled.

[Learn more](#)

Farmer Sita Kumari examines corn in the field in Surkhet, Nepal. Photo by C. de Bode/CGIAR



CGIAR is a global research partnership for a food-secure future. CGIAR science is dedicated to reducing poverty, enhancing food and nutrition security, and improving natural resources and ecosystem services. Its research is carried out by 14 CGIAR Centers in close collaboration with hundreds of partners, including national and regional research institutes, civil society organizations, academia, development organizations and the private sector.



CGIAR System Organization

1000 Avenue Agropolis
34394 Montpellier
France

Tel: +33 4 67 04 7575

Fax: +33 4 67 04 7583

Email: contact@cgiar.org

www.cgiar.org