



Harvesting Research and Innovation for Impact

**SUMMARIZED ANNUAL
PERFORMANCE REPORT 2021**

Message from the Executive Management Team

We are pleased to present the CGIAR Annual Performance Report for 2021, which honors our 50th year of delivering critical science and innovations to address food insecurity, inequality, and environmental degradation.

In the last five decades, CGIAR has expanded its initial aim of solving hunger to encompass some of the world's most important and intractable challenges — to which food, land, and water systems are central. The ongoing COVID-19 pandemic has demonstrated the vulnerability of food systems to shocks, the growing need for resilience, and the scale of ambition needed to address major challenges — making CGIAR's systems approach to tackling these issues ever more important.

For our 50th anniversary in 2021, we brought together a collection of our innovations that have changed the world over the years, demonstrating the breadth and reach of our work impacting food and nutrition security as well as livelihoods for millions worldwide. We invite you to explore our impacts, discover our

contributions, and see how they provide a solid foundation for our future work.

In 2021, we made important progress toward the One CGIAR transition. In March, the System Council endorsed our new operational structure encompassing Research Delivery and Impact, Global Engagement and Innovation, and Institutional Strategy and Systems. This structure will enable CGIAR to organize itself in a more powerful and interconnected manner to deliver on the new **2030 CGIAR Research and Innovation Strategy**, which is supported by increased financial investments in CGIAR. Another major milestone occurred in June, when the System Council approved the new System Board-recommended **2022–2024 Investment Prospectus**. The Investment Prospectus sets out CGIAR's new portfolio to deliver the CGIAR Research and Innovation Strategy, which comprises 32 Initiatives — major, prioritized areas of investment that bring capacity from within and beyond CGIAR to bear on well-defined, major challenges.

It is significant that 2021 is CGIAR's 50th anniversary year, and we are reminded that global problems are now known to be more complex and interrelated than perceived to be in 1971.

Importantly, it is the moment to rise to the challenge of demonstrating the essential need for CGIAR as One CGIAR — a bolder and more operationally integrated institution — we are a stronger global, regional and local partner, and at the forefront of creating solutions.”

– Juergen Voegelé, Chair of the System Council
Chair's summary of the **13th CGIAR System Council Meeting**, June 9–10, 2021

CGIAR reported important contributions to global food systems and climate change summits during the year, including the United Nations Food Systems Summit (UNFSS) and the 2021 United Nations Framework Convention on Climate Change Conference (UNFCCC) for the Conference of the Parties (COP) 26 held in Glasgow. Funders recognized the contributions CGIAR makes to food, land, and water system transformations, and climate solutions with pledges worth more than US\$1 billion in 2021. They made significant pledges at COP26, including a pledge by the Bill & Melinda Gates Foundation of US\$315 million for the next three years, and the United States Agency for International Development (USAID) of US\$215 million for the next five years. In addition, another major pledge was made by the European Commission, the Netherlands, and Belgium US\$256 million at the **Global Citizen Live** event.

In 2021, CGIAR researchers and a CGIAR Center were recipients of prestigious food awards recognizing their valuable contributions to global food security. Among the honors were Dr. Shakuntala Haraksingh Thilsted, who was named **World Food Prize Laureate**; Dr. Elliott Dossou-Yovo, who won the **Borlaug Field Award**; and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), which won the **Africa Food Prize**.

2021 marked the final year for CGIAR's Research Programs and Platforms (CRPs), which have left a legacy of enduring contributions to the United Nations' (UN) Sustainable Development Goals (SDGs). The 2021 Annual Performance Report provides examples of recent achievements from all the CRPs and Platforms, with in-depth reporting on 13 outcome cases.

The COVID-19 pandemic continued to evolve and impact health, economies, food system transformation, and food security in 2021. CGIAR continued its efforts to support pandemic responses in 2021, with the CGIAR **COVID-19 Hub**, which ended in December 2021, providing evidence, innovations, and tools from a range of expertise to policymakers and food system actors in a number of countries to help with their response and recovery efforts.

We invite you to explore the summary of reported results for the year and hope you enjoy reading CGIAR's 2021 Annual Performance Report.



**READ THE 2021 ANNUAL PERFORMANCE
REPORT ONLINE**

READ THE FULL MESSAGE FROM EMT




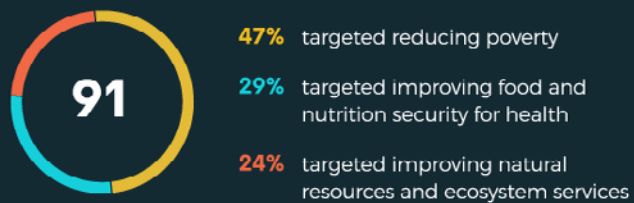
Claudia Sadoff




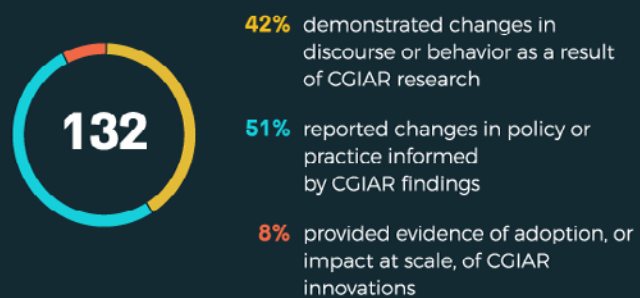
Elwyn Grainger-Jones

Highlights of 2021

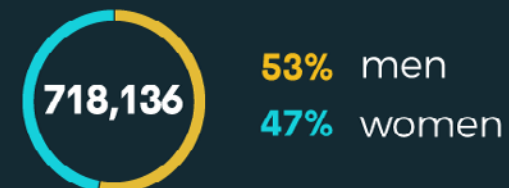
 **91** Cases of high-level, long-term, at-scale impact for sustainable development



 **132** Reports on the outcomes and impact of CGIAR research



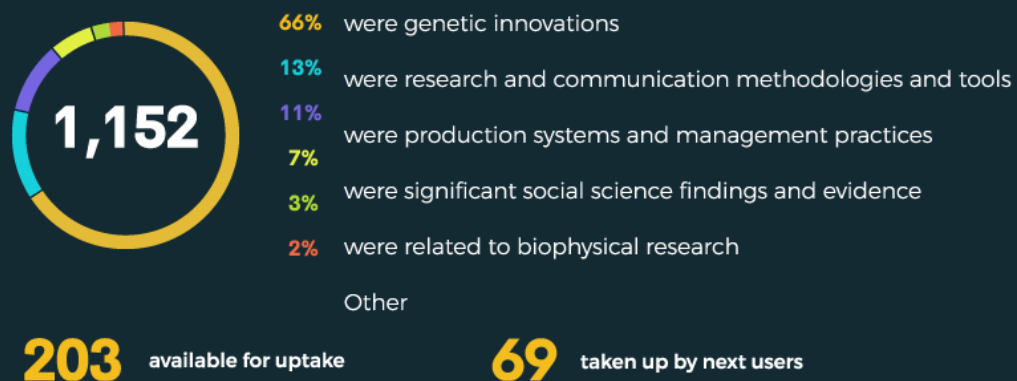
 **718,136** People trained by CGIAR



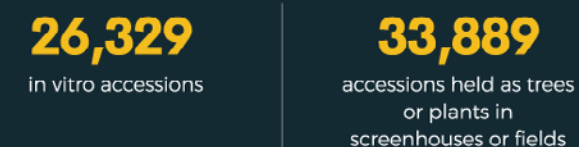
 **2,539** Peer-reviewed publications




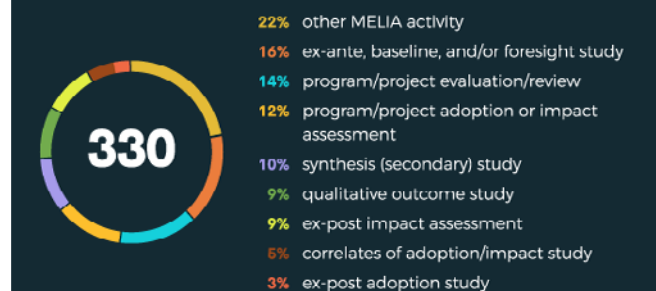
Innovations



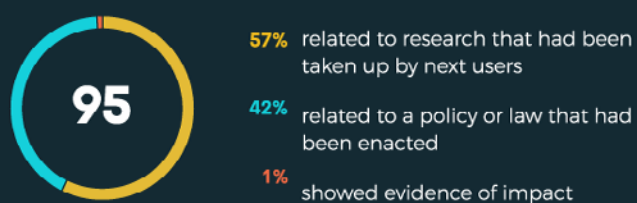
 **739,653** Crop, forage and tree accessions managed by CGIAR genebanks




 **330** Monitoring, evaluation, learning and impact assessment (MELIA) activities



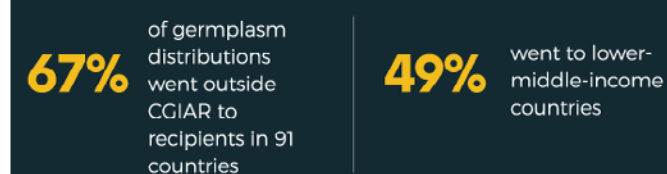
 **95** Policies




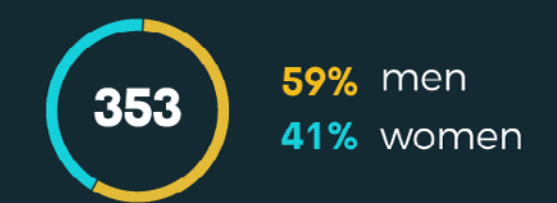
 **261** Highlighted partnerships



 **96,590** Germplasm samples (63,788 accessions) were distributed by CGIAR genebanks to users



 **353** PhD students contributing to CGIAR research



CGIAR Results Dashboard

The CGIAR Results Dashboard provides an overview of results achieved by CGIAR Research Programs and Platforms. It allows users to search data related to our results indicators, as well as information on monitoring, evaluation, learning, and impact assessment (MELIA) activities and key data related to our genebanks.

Figures and maps are clickable and link to offer additional levels of detail. We have quality assessed all data and information contained in the Dashboard, which aligns with **CGIAR's Annual Performance Reports**.

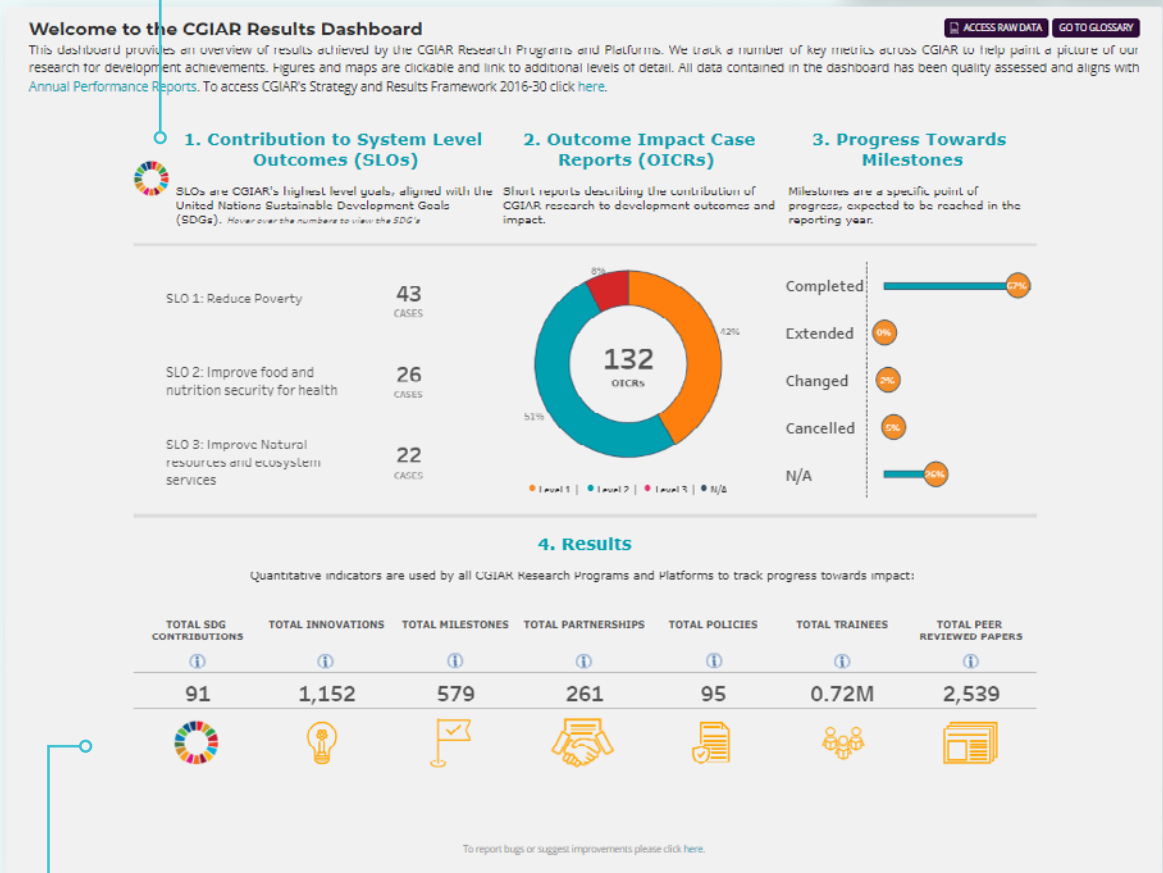
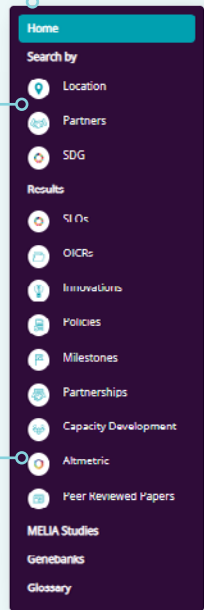


VISIT THE CGIAR RESULTS DASHBOARD

The data can be categorized by location, partner and SDG depending on what the user is searching for.

CGIAR has three goals, known as System-Level Outcomes (SLOs): reduce poverty; improve food and nutrition security; improve natural resources and ecosystem services.

The dashboard allows users to see data for specific CRPs and years dating back to 2017.



Explore 2021 results by indicators.

Click through to find more detailed information on each of the CGIAR quantitative indicators.

Our transition to a new research and innovation portfolio

2021 marked an important year for the One CGIAR process with the development of a new research and innovation **portfolio** comprising 32 CGIAR Initiatives aimed at transforming food, land, and water systems in a climate crisis. This new portfolio of Initiatives will deliver CGIAR’s current **10-year strategy**, which was launched in 2020.

CGIAR’s CRPs and Platforms closed at the end of 2021. The CRPs and Platforms developed a remarkable set of science-based innovations and contributions to impact aligned with the SDGs and the world’s most pressing challenges. The legacy of the CRPs and Platforms will continue to inform CGIAR’s future impact — and for this the work of all those involved is greatly appreciated and respected.

Read more about the CRPs and Platforms in their end-of-program summary reports:

- CGIAR Research Program on Agriculture for Nutrition and Health
- CGIAR Research Program on Climate Change, Agriculture and Food Security
- CGIAR Research Program on Fish Agri-food Systems
- CGIAR Research Program on Forests, Trees and Agroforestry
- CGIAR Research Program on Grain Legumes and Dryland Cereals
- CGIAR Research Program on Livestock
- CGIAR Research Program on Maize
- CGIAR Research Program on Policies, Institutions, and Markets
- CGIAR Research Program on Rice
- CGIAR Research Program on Roots, Tubers and Bananas
- CGIAR Research Program on Water, Land and Ecosystems
- CGIAR Research Program on Wheat
- CGIAR Platform for Big Data in Agriculture
- CGIAR Excellence in Breeding Platform
- CGIAR Gender Platform
- CGIAR Genebank Platform

The new **portfolio** designed in 2021 will create positive impacts in five areas: 1) **nutrition, health, and food security**; 2) **poverty reduction, livelihoods, and jobs**; 3) **gender equality, youth, and social inclusion**; 4) **climate adaptation and mitigation**; and 5) **environmental health and biodiversity**.

CGIAR Initiatives are major, prioritized areas of investment that bring capacity from within and beyond CGIAR to bear on well-defined, major challenges. All of CGIAR’s Initiatives can be found in the **Portfolio Explorer**, which outlines the scope and aims of the Initiatives.



READ MORE ABOUT OUR TRANSITION TO A NEW RESEARCH AND INNOVATION PORTFOLIO

Our response to the COVID-19 pandemic

In response to the global COVID-19 pandemic in 2020, CGIAR drew on its resources, assets, and tools to conduct COVID-19-relevant research as part of a rapid and impactful response plan. In 2021, CGIAR research addressed the ongoing impacts of the pandemic and evaluated effective responses to build resilience and foster recovery.

CGIAR made publicly available its analyses of the impact of COVID-19 and research-based solutions to enable informed decisions and guide public-sector programs seeking to improve food system responses and social protection.

At the global level, CGIAR continued working together with UN agencies and other development partners to understand the multifaceted impacts of the pandemic and form an effective and evidence-based response.

In 2021, CGIAR kept up its rapid response through the COVID-19 Hub, which:

1. Articulated a set of prioritized areas of work on COVID-19 response, recovery, and longer-term resilience.
2. Provided a systemwide entry point on COVID-19 for partners and funders.
3. Delivered an active intelligence service to the CGIAR System Board on COVID-19 impacts and priority responses.

The COVID-19 pandemic has highlighted the health, environmental, social, and economic risks generated by the global food system. CGIAR's role in helping to transform the food system remains more critical and urgent than ever.



**READ MORE ABOUT OUR RESPONSE
TO THE COVID-19 PANDEMIC**

Contribution to the SDGs

CGIAR's three System-level Outcomes (SLOs) — reduced poverty, improved food and nutrition security for health, and improved natural resources and ecosystems services — are matched to specific SDGs.

In 2021, CGIAR reported 91 contributions to the SLOs. Of the reported 2021 contributions to the SLOs, 47% were linked to poverty reduction (SLO1), 29% to improved food and nutrition

security (SLO2), and 24% to improved natural resources and ecosystem services (SLO3). Examples of at-scale contributions to the SLOs in 2021 are presented below.



READ MORE ABOUT CGIAR'S CONTRIBUTIONS TO THE SLOs AND SDGs

Pond and coastal restoration in Bangladesh

CRP: Fish Agri-food Systems (FISH)

GEOGRAPHIC SCOPE: Bangladesh

SDGs: 15 16 17

SLO TARGET: 3.3. Restore 55 million ha of degraded land area.

In Bangladesh, FISH-led interventions helped protect 264,413 ha through effective co-management in hilsa shad (*Tenualosa ilisha*) sanctuaries and coastal areas. By applying **better management practices for aquaculture**, 80,368 ha of pond area were restored. In addition, 344,781 ha of biologically significant areas were placed under improved **natural resource management**.



Dietary benefits of improved crops in Africa and Asia

CRP: Grain Legumes and Dryland Cereals (GLDC)

GEOGRAPHIC SCOPE: East and Southern Africa, West and Central Africa, South Asia

SDGs: 1 2 5 8 10 17

SLO TARGET: 2.2. Have 30 million more people, of which 50% are women, meet minimum dietary energy requirements.

The adoption of **improved GLDC varieties** has helped an estimated 19 million people — 50% of whom are women — meet their dietary energy requirements. These crops have assisted 38 million people — 48% women — in meeting their dietary protein requirements through the supply of additional nutrients. GLDC varieties have also helped 3.8 million women of reproductive age to meet their dietary protein requirements.

Reduction of greenhouse gas emissions from agriculture

CRP: Climate Change, Agriculture and Food Security (CAAFS)

GEOGRAPHIC SCOPE: Global **SDGs:** 13 15 17

SLO TARGET: 3.2 Reduce agriculturally related greenhouse gas emissions by 0.2 gigatons of carbon dioxide equivalent per year (Gt CO₂e/year) (5%) compared with the business-as-usual scenario in 2022.

CAAFS's research on **Low Emissions Development** aims to reduce greenhouse gas emissions from agriculture, while ensuring food security at a large scale. Over 10 years, CCAFS has generated impacts that hold the potential to reduce emissions by 196 million tons of CO₂e.

CAAFS-led mitigation includes avoided emissions (92%) and carbon sequestration above and below ground (8%). Emissions avoided include water and nutrient management in paddy-rice and other crops, and improved livestock systems.

Thirty-six million farmers have adopted mitigation technologies and practices or received agro-advisory services. These farmers are using these practices to promote low-emissions agriculture on 69 million hectares of land. Governments, global climate finance, the private sector, and bilateral and multilateral funding organizations have also committed to investments totaling more US\$4 billion.

Scaled-up adoption of high-zinc wheat in Pakistan

CRPs: Wheat (WHEAT) **GEOGRAPHIC SCOPE:** Pakistan **SDGs:** 2 5 12 17

SLO TARGET: 2.3 Have 150 million more people, of which 50% are women, be without deficiencies of one or more of the following essential micronutrients: iron, zinc, iodine, vitamin A, folate, and vitamin B12.

Within six years, HarvestPlus-led scaling efforts reached 1.4 million households, or 7 million people, with **high-zinc wheat**, including flour. These efforts are based on CGIAR-derived wheat varieties Zincol-16 (released 2016), Akbar-19 (2019) and Nawab-21 (2021). Akbar is currently set to overtake the leading variety of wheat, FD-08.

The scaling partnership involved many national and international partners, including Punjab Seed Corporation, CIMMYT, Family Farm Foods, and GAIN, as well as six funders of HarvestPlus and WHEAT. Combining high yield and high zinc has been a recent breeding success that will be sustained by future genetic discovery research. Research to improve **molecular breeding** for zinc is ongoing.

Growing adoption of biofortified crops

CRPs: CRP on Agriculture for Nutrition and Health **SDGs:** 2 5 12 17

GEOGRAPHIC SCOPE: Latin America and the Caribbean, East and Southern Africa, West and Central Africa, South Asia

SLO TARGET: 2.3. Have 150 million more people, of which 50% are women, be without deficiencies of one or more of the following essential micronutrients: iron, zinc, iodine, vitamin A, folate, and vitamin B12.

As a result of delivery efforts led by HarvestPlus, 12.8 million farming households were growing biofortified crops in 2021. This translates to 64 million people from these households consuming biofortified foods. These figures on biofortified crops and food are likely to be underestimated. In addition to the individual household members of the growing households, sales of biofortified products rose in 2021. This increase likely means that more people were consuming biofortified products obtained through markets, resulting in more people with reduced micronutrient deficiencies.

Fifty years of impact

For 50 years, CGIAR has been delivering critical science and innovation to feed the world and end inequality.

To mark the 50th anniversary, in 2021 CGIAR curated a **collection of innovations** — new ideas, products, services, and solutions driven by science — that have made a difference to some of the world's biggest development challenges. As part of the collection, CGIAR published a series

of deep dives into the following: innovations for **nutrition and growth; a climate crisis; food system transformation; a brighter future; a healthy world; and gender equality.**



**READ MORE ABOUT
CGIAR'S 50 YEARS OF IMPACT**



Global recognition

CGIAR scientists and a CGIAR Center received prestigious awards for their contributions in 2021. Dr. Shakuntala Haraksingh Thilsted was named **World Food Prize Laureate** for her contribution to improving the quality, quantity, and availability of food in the world through her scientific work on nutrition, fish, and aquatic food systems. This year's award to Dr. Thilsted represents the 25th time that an individual directly associated with CGIAR has been recognized by the World Food Prize in the award's nearly 40 years' existence. Dr. Thilsted was also awarded the **2021 Arrell Global Food**

Innovation Award for her innovative **nutrition-sensitive approaches**.

Also during the year, Dr. Elliott Dossou-Yovo, a scientist at AfricaRice, won the **Borlaug Field Award**, for innovative water management systems for rice production in the context of climate change, and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) won the **Africa Food Prize** for work that has improved **food security** across 13 countries in sub-Saharan Africa, helping more than 25 million farmers.



**READ MORE ABOUT
CGIAR'S GLOBAL RECOGNITION**



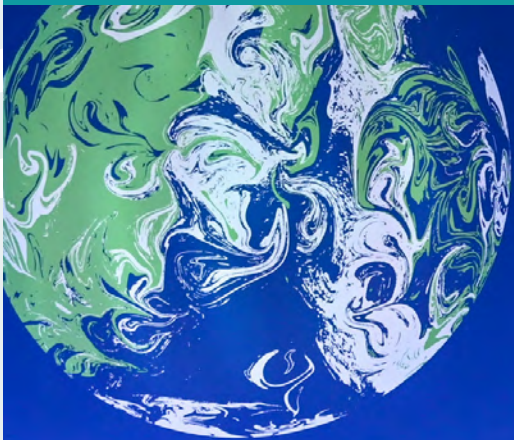
CGIAR at UNFSS

CGIAR was actively involved in the **United Nations Food Systems Summit (UNFSS)**, which included global dialogues at various levels, consultations with a variety of stakeholders, the dissemination of new studies and reports, and a **Pre-Summit** in July 2021. All of these activities contributed to UNFSS's main Summit held on September 23, 2021.

At the September Summit, CGIAR joined heads of state and global leaders to announce **its commitment to UNFSS's mission** of addressing such global challenges as hunger, climate change, poverty, and inequality through transformed food systems.



[READ MORE ABOUT CGIAR AT UNFSS](#)



UN CLIMATE CHANGE CONFERENCE UK 2021

IN PARTNERSHIP WITH ITALY



CGIAR at COP26

From October 21 to November 12, 2021, parties to the United Nations Framework Convention on Climate Change (UNFCCC) gathered for the Conference of Parties (COP) 26 in Glasgow. At what was widely considered among participants and the public as the most important climate summit since COP21 in 2015, where the Paris Agreement was adopted, CGIAR was recognized as a vital knowledge and science partner for climate action in food, land, and water systems.

During COP26, CGIAR leadership spoke in **high-level fora**, and CGIAR entities cohosted more than a dozen events on such topics as the development of **climate-smart agriculture investment plans, challenges and opportunities for climate adaptation, aquatic food systems**, water and climate smart agriculture, and sustainable livestock systems, with CGIAR researchers participating in many more events throughout the summit.



[READ MORE ABOUT CGIAR AT COP26](#)

Recent achievements

Our recent achievements are detailed in Outcome Impact Case Reports (OICRs), which are short reports describing the contributions of CGIAR research to outcomes and impact. In 2021, CGIAR reported 132 OICRs. Below is a selection of recent achievements from our research and innovation with partners around the world in 2021.



VIEW CGIAR'S OUTCOME IMPACT CASE REPORTS FOR 2021



[Read the full story >](#)

Sustainable rice-fish management in Cambodia helps to significantly improve nutrition and livelihoods

CRP on Fish Agri-food Systems

Research conducted by the CRP on FISH is contributing to the **Feed the Future Cambodia Rice Field Fisheries II project**, which has shown that well-managed community fish refuges (CFRs) can significantly improve the fish productivity of rice field environments. By producing high-value rice and fish in comanaged CFRs, the project aims to increase consumption of highly nutritious foods in malnourished areas. In addition to addressing multiple causes of malnutrition, the initiative also strives to improve resilience to climate change by protecting fish habitats and creating secure drinking and irrigation water.



[Read the full story >](#)

Improved grain, legume, and cereal crop varieties have been widely adopted across South Asia and Africa

CRP on Grain Legumes and Dryland Cereals

Research by CRP on Grain Legumes and Dryland Cereals (GLDC) indicates that 17.64 million households have adopted **improved GLDC crop varieties** on more than 15.37 million hectares of land in GLDC's 13 priority countries. Numerous studies have been conducted in the past to document the adoption of GLDC crops, but there have been gaps in the analysis and synthesis of these findings. To better understand these results, GLDC in 2021 carried out a review of 69 impact studies in 35 independent country crop combinations.

Wheat rust early warning works for Ethiopian farmers

CRP on Wheat

Working with national and international partners in Ethiopia, scientists from the CRP on Wheat collaborated to fight **wheat rust** through surveillance, advanced epidemiological modeling, and an alert system for farmers. Globally, wheat yellow rust is spreading, causing wheat yield losses of 10–70% and crop losses of 5.5M tons per year. All rust spores can migrate long distances and mutate quickly to produce diverse populations that are difficult to control. In Ethiopia, almost 5 million smallholder farming households that grow wheat struggle with virulent, rapidly evolving yellow and stem rust.



[Read the full story >](#)

Global agroforestry database supports decision-making for agroforestry research, planting, and restoration initiatives

CRP on Forests, Trees and Agroforestry

The CRP on Forests, Trees and Agroforestry's managing partner, **World Agroforestry Centre**, created the Agroforestry Species Switchboard, an **online resource containing more than 170,000 species** and corresponding information across geographies. The Agroforestry Species Switchboard connects **reliable species databases** that contain ecological information needed to develop and implement suitable restoration programs around the world. Researchers and practitioners worldwide have visited the Switchboard more than 350,000 times to support effective landscape restoration.



[Read the full story >](#)

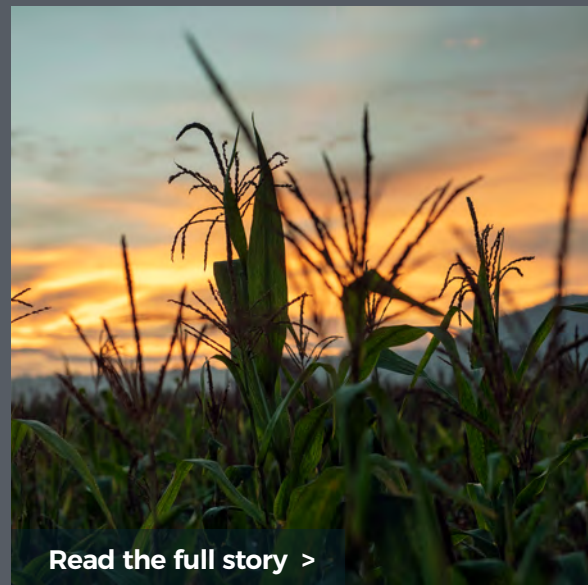


[Read the full story >](#)

Adoption of spineless cactus pear in Jordan and India enhances resilience and increases household income

CRP on Livestock

Research, advocacy, and trainings on **spineless cactus pear** (*Opuntia Ficus-indica*) across South and West Asia by the CRP on Livestock's partner International Centre for Agricultural Research in the Dry Areas and others has led to rapid adoption by smallholder farmers, who are benefiting from greater income. The cactus pear exhibits crassulacean acid metabolism, allowing it to successfully adapt to drought, erratic rainfall, and low soil fertility. The crop has attracted global attention for its capacity to grow with minimal cost and inputs, as well as its multiple benefits for food, livestock feed, and livelihoods.



[Read the full story >](#)

Better breeding research and partnerships help farmers grow more stress-tolerant maize in Africa

CRP on Maize

The CRP on Maize's innovations in rapid-cycle maize breeding and varietal replacements have delivered **improved maize varieties** to farmers across Africa. These innovations help maize systems adapt to increasing climate variability and facilitate a farmer-accessible, competitive seed sector. Stress-tolerant maize is a key intervention to improve the livelihoods of millions of resource-constrained smallholder farmers, offset potential losses under climate change, and sustainably meet the needs of future generations.

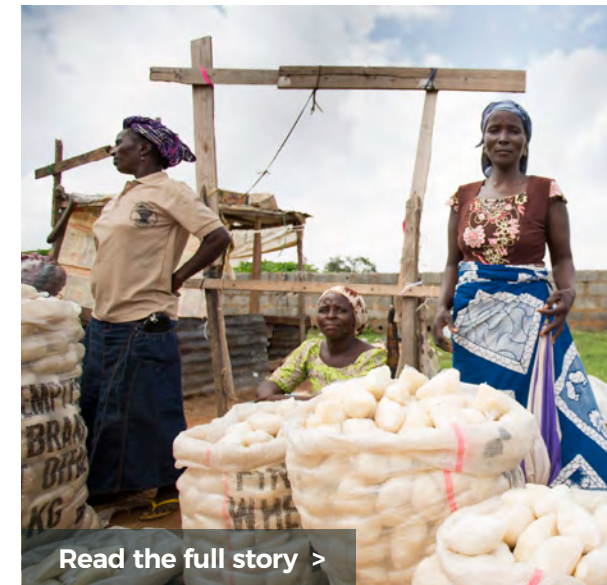
Improved rice increases productivity and market access for Bolivian rice farmers

CRP on Rice

Bioversity-CIAT Alliance, a lead center of the CRP on Rice, and the Latin American Fund for Irrigated Rice have disseminated germplasm through local partners across Latin America. This partnership has contributed to breeding hundreds of improved varieties, including the popular **MAC-18 variety**, that now support rice production. Within six years of being released, MAC-18 had been adopted by one out of four Bolivian rice producers. It is the first variety developed by a national breeding program to reach such high rates of dissemination.



[Read the full story >](#)



[Read the full story >](#)

Biofortified crops are sustainably integrated in Nigeria's food systems

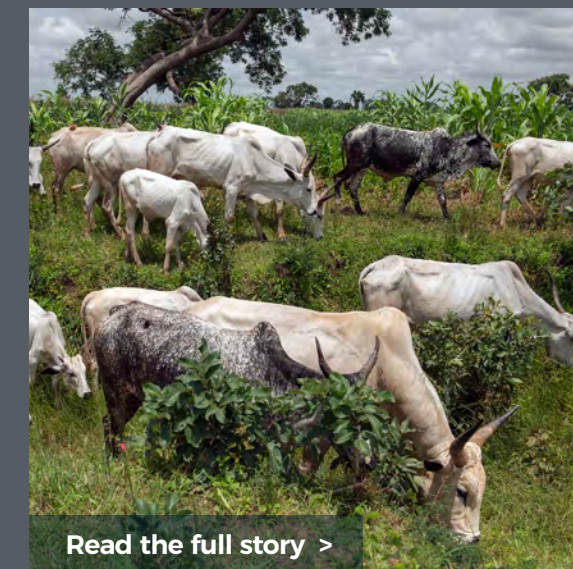
CRP on Agriculture for Nutrition and Health

A biofortification program led by HarvestPlus, a managing partner of the CRP on Agriculture for Nutrition and Health, has fully integrated **biofortified staple foods** into the country's food system, benefiting approximately 13 million consumers. In 2010, HarvestPlus began its biofortification program in Nigeria to help reduce vitamin A deficiency and transform the country's food systems to deliver accessible and affordable nutritious food for all. The program focused on biofortifying Nigeria's two key staples, cassava and maize, with vitamin A.

Climate services help farmers translate information into action in Latin America

CRP on Climate Change, Agriculture and Food Security

The CRP on Climate Change, Agriculture and Food Security has co-developed, tested, and scaled climate services approaches that have been used for agricultural decision-making by more than 420 institutions in 11 countries in Latin America, reaching 501,000 farmers. Local stakeholders and farmers in Latin America generally have limited access to agroclimatic information or mechanisms to relate this information to local climate impacts. This lack of access prevents stakeholders from translating information into actionable knowledge.



[Read the full story >](#)



[Read the full story >](#)

Improved capacity and management increases sales of potato for Kenyan farmers

CRP on Roots, Tubers and Bananas

The International Potato Center, the lead center of the CRP on Roots, Tubers and Bananas, and Kenyan partners implemented the Accelerated Value Chain Development (AVCD) program to strengthen the **capacities of potato farmers** and stakeholders. In Kenya, potatoes are produced by 800,000 smallholders, with another 2.5 million people involved in the value chain. Despite the importance of potatoes, yields plummeted from 22 tons per ha in 2010 to less than 10 tons by 2019. To address this challenge, the AVCD program reached 74,690 smallholder farmers with potato value chain agricultural and nutrition-related interventions.



[Read the full story >](#)

Technical assistance facilitates the development of oversight guidelines for genome editing in the agricultural sector

CRP on Policies, Institutions, and Markets

Genome editing encompasses various modern technologies that allow scientists to insert, remove, replace, or modify specific fragments of DNA of organisms or cells. It can provide new ways of addressing challenges related to food insecurity and climate change. The Program for Biosafety Systems, supported by the CRP on Policies, Institutions, and Markets, assisted four African countries in developing **oversight guidelines for genome editing** that accurately reflect the science and evolving regulatory trends for this game-changing, Nobel-prize winning technology.



[Read the full story >](#)

Successful piloting of bundled risk solutions leads to the scaling of new indexed crop insurance and technology practices in South Asia

CRP on Water, Land and Ecosystems

Working with partners across CGIAR, scientists at the CRP on Water, Land and Ecosystems piloted a bundled agricultural technologies innovation to reduce farmers' risks in producing maize, wheat, and rice. This CGIAR-led innovation included index-based flood insurance, climate-resilient seeds, and agroclimatic services. The program expedited payouts to more than 15,000 flood-affected farm households and indirectly benefited another 125,000 farmers in South Asia.

Digital database supports better fisheries management in Timor-Leste

CGIAR Platform for Big Data in Agriculture

WorldFish, the CGIAR Platform for Big Data in Agriculture's partner, developed the PeskaAS system (a digital data application) in response to a need for **information on small-scale fisheries**. Since 2017, WorldFish scientists have worked with the Government of Timor-Leste to develop a digital catch reporting system that could gather information on fisheries around the country in near real time. The system is now the platform for data-driven fisheries decision-making in Timor-Leste.



[Read the full story >](#)



**VIEW CGIAR'S OUTCOME IMPACT
CASE REPORTS FOR 2021**

Cross-cutting Platforms

Big Data in Agriculture

The CGIAR Platform for Big Data in Agriculture used big data to solve agricultural development problems faster, better, and at greater scale. In 2021, the Platform completed its fifth and final year of building CGIAR’s crosscutting digital capabilities, partnerships, and innovation strategy in digital agriculture.

The Big Data Platform was guided by the conviction that data standards, tools, open science infrastructure, digital partnerships, and technical communities of practice, and applied digital innovation can build powerful capabilities for accelerating impact in agricultural research for development.

In 2021, the Platform team continued contributing to CGIAR’s digital capabilities, innovations, and partnerships for impact, while also engaging in the design of a new CGIAR research portfolio and organization.



[READ MORE ABOUT THE BIG DATA PLATFORM](#)



[READ MORE ABOUT THE EIB PLATFORM](#)

Excellence in Breeding

The CGIAR Excellence in Breeding Platform (EiB) contributed to the modernization of crop breeding programs that target the Global South.

In 2021, the Platform made significant progress toward accelerating transformative change across CGIAR and National Agricultural Research and Extension Systems breeding. EiB worked toward the high-level goals of increased rates of genetic gain and reduced area weighted average age of varieties in farmers’ fields.

The Big Data Platform conducted a consultative process to formalize Open and Findable, Accessible, Interoperable, and Reusable (**FAIR**) data in support of a mature, data science-driven CGIAR. In 2021, this process resulted in the development and final delivery of the CGIAR **Open and FAIR Data Assets Policy**.

GENDER

In 2021, the CGIAR Generating Evidence and New Directions for Equitable Results (GENDER) Platform completed its first full year of operation, with a team of Module Leaders, Management Committee, and Program Management Unit in place and a wide-ranging portfolio of activities underway.

The Platform launched a **resource hub** that brings together gender research from across CGIAR, ranging from publications to methods and expertise. It also launched a series of activities to fill knowledge gaps and build a comprehensive database of gender research methodologies. It stepped up its outreach and capacity development through collaboration with **Gender-Responsive Researchers Equipped for Agricultural Transformation**

and **African Women in Agricultural Research and Development**, as well as through its first full-fledged conference, “**Cultivating Equality**.”



[READ MORE ABOUT THE GENDER PLATFORM](#)

Genebank

The CGIAR Genebank Platform supported the activities of the CGIAR genebanks and germplasm health units (GHUs) to conserve and make available crop, forage, and tree genetic resources, contributing to the SDGs, specifically Target 2.5.

In 2021, lockdown measures associated with the COVID-19 pandemic continued to affect CGIAR genebank operations and activities. These restrictions were especially limiting for the operations of the three CGIAR genebanks in Latin America and of IRRI. Other genebanks experienced restrictions in travel, meetings, procurement, and staffing that prevented the completion of improvements and work plans. Despite ongoing limitations, demand for germplasm and its distribution returned to familiar levels in 2021. CGIAR genebanks distributed

a total of 96,590 germplasm samples (63,788 accessions) to users. In 2021, 67% of germplasm distributions went outside CGIAR to recipients in 91 countries. Lower-middle income countries received the largest proportion (64%) of germplasm shipments in 2021.



[READ MORE ABOUT THE GENE BANK PLATFORM](#)

Gender research

In 2021, CGIAR's CRPs and Platforms further developed their gender research, policy, and capacity development contributions. Progress involved gender-transformative approaches, women's empowerment, gender integration in breeding programs, and resilience to climate change.

Building women's resilience to climate change

Climate change poses special risks for women farmers, who face greater workloads than men but have less access to information, technology, and decision-making. CGIAR and partners engaged in research and engagement to support gender-responsive climate policy that strengthens women's ability to adapt to climate change. Researchers provided insights on the different adaptive strategies and capacities of men and women, as well as the technologies, practices, and enabling environments that empower women.

Several CRPs and Platforms addressed the role of gender in responses to climate change. The CRP on FISH highlighted the need to **disrupt gender assumptions** to move toward gender

equality in climate change policy and practice. Research and engagement by the CRP on Forests, Trees and Agroforestry contributed to more **gender-responsive policies on climate change** and biodiversity, including policy documents and recommendations used to inform the processes in the **United Nations Convention on Biological Diversity (CBD)** and the **UNFCCC**. Scientists from the Platform on GENDER developed a **methodology** to identify hotspots of climate, agriculture, and gender inequity.



[READ MORE ABOUT CGIAR'S GENDER RESEARCH](#)

Youth and equity research

CGIAR research and outreach on intersectionality (which relates to intersecting and interacting identities, youth, and equity) developed significantly in 2021. CGIAR's CRPs and Platforms engaged in a range of issues, such as support for farmers in remote, marginalized areas; youth migration and employment; capacity

development and community engagement; and strategies to assist young agripreneurs.

Capacity development for youth in agriculture

Young people are vulnerable to the impacts of climate change, but they are equally agents of change for sustainable food systems. Effectively harnessing the skills and energies of youth to create a new generation of agripreneurs will require access to both education and information.

Digital media, such as videos, can make information rapidly available to many farmers, especially youth. But the digital divide means that digitally disadvantaged groups will lack access to this information, potentially increasing gender and social exclusion.

Transdisciplinary digital innovations and approaches that target marginalized populations can promote inclusion and help address

these challenges. The **Youth in Data** initiative, supported by the Big Data Platform, demonstrated that involving youth in reporting on data science and digital agriculture strengthened online engagement and built new digital connections across digital agriculture startups in East Africa and India.



[READ MORE ABOUT CGIAR'S YOUTH AND EQUITY RESEARCH](#)

Working together

Milestone achievements

In 2021, CRPs and Platforms reported progress against annual planned milestones. A total of 541 milestones were reported for the year. Of the total, 72% were reported as complete, 2% as changed, and 5% as canceled. For 21% of milestones, status was not provided. In 2021, 73% of milestones had principal or significant gender relevance.



READ MORE ABOUT CGIAR'S MILESTONE ACHIEVEMENTS

VIEW THE MILESTONES DASHBOARD

Gender, diversity and inclusion in CGIAR workplaces

In January 2020, a new cross-CGIAR **Function** was established to support the implementation of the **Framework** for Gender, Diversity and Inclusion (GDI) in CGIAR workplaces, through an ambitious two-year **Action Plan**. The new GDI Function provides expert support, guidance, training, and tools, working collaboratively to build on progressive efforts undertaken across CGIAR, as well as on past evaluations.



READ MORE ABOUT GDI IN CGIAR WORKPLACES

Innovation Catalogue

In 2021, the CRP on Roots, Tubers and Bananas (RTB) developed an online **Innovation Catalogue** that provides a comprehensive, single-entry point for documenting and exploring agricultural innovations.

The RTB Innovation Catalogue seeks to close the gap between research and development, while ensuring that innovations are properly documented and findable by public and private partners. It allows visitors to find suitable innovations quickly and easily.



READ MORE ABOUT THE INNOVATION CATALOGUE

Use of pooled funding

In 2021, the CGIAR Trust Fund provided pooled funding, received via Funding Windows 1 and 2 (W1/2), for programming carried out by CGIAR's CRPs and Platforms.

CRPs use W1/2 funding to provide approved budgeted programmatic funding for research and pathways to scale and impact. Activities funded by W1/2 during 2021 included the following: enhancing partnerships; establishing capacity development activities; running MELIA studies; developing and piloting innovations; promoting policy support and engagement; generating innovative research outputs; setting up gender, youth, and inclusion research and engagement; and updating public goods, such as tools and websites.

CRPs and Platforms also revised funding allocations to ensure sufficient resources were directed to COVID-19-related research and activities.



READ MORE ABOUT USE OF POOLED FUNDING

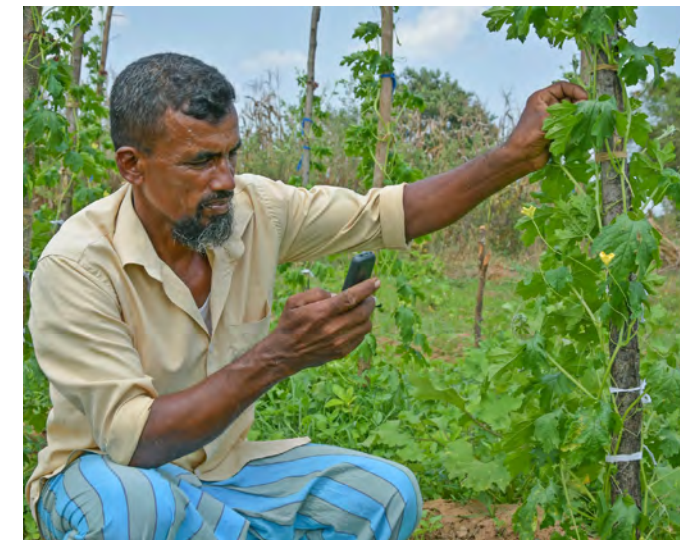
Monitoring, evaluation, learning and impact assessment

In 2021, the 12 CGIAR CRPs and four Platforms reported 330 monitoring, evaluation, learning, and impact assessment (MELIA) activities. MELIA studies are principally used to inform learning and adaptive management, meet accountability requirements, and inform the design of new initiatives.



[READ MORE ABOUT MELIA](#)

[VIEW THE MELIA DASHBOARD](#)



Open and FAIR data assets

CGIAR adheres to the principle that the results of its research and development activities are international public goods. It is committed to their widespread dissemination and use to achieve the maximum impact to benefit the poor, especially smallholder farmers in low- and middle-income countries. CGIAR is, therefore, committed to sharing outputs of its research that are as open as possible and always Findable, Accessible, Interoperable, and Reusable (**FAIR**), advancing CGIAR's aspirations to digital transformation and data-driven innovation.



[READ MORE ABOUT
OPEN AND FAIR DATA ASSETS](#)

Intellectual assets

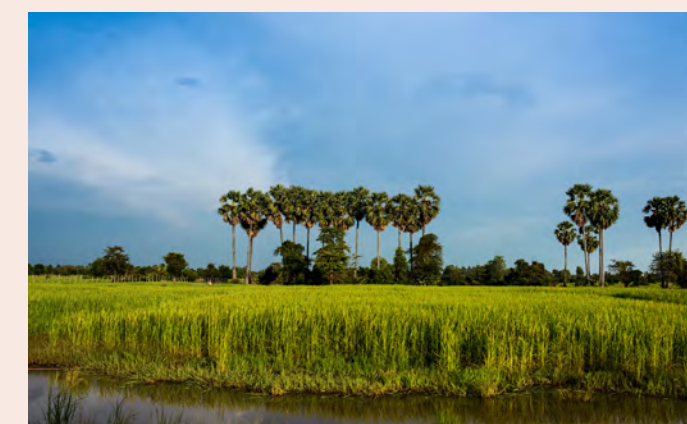
CGIAR Centers reported entering into a total of 55 Limited Exclusivity Agreements in 2021. A total of five patent applications and one plant variety protection application were reported in 2021. Two of these five patent applications were made on a provisional basis and, as such, require further filings to secure patent protection. No Restricted Use Agreements were reported in 2021.



[READ MORE ABOUT INTELLECTUAL ASSETS](#)

CGIAR Advisory Services

CGIAR Advisory Services (CAS) comprise three independent advisory functions: the Independent Science for Development Council; the Standing Panel on Impact Assessment; and the CAS/Evaluation Function; all supported by the CAS Shared Secretariat. In 2021, CAS provided external, impartial, and expert advice and evidence on strategy and positioning, impact assessment, and evaluation.



[READ MORE ABOUT CAS](#)

Internal audit



As the One CGIAR transition progressed in 2021, the internal audit began its own transformation to better serve its stakeholders. The vision for One CGIAR internal audit is an integrated, agile, and future-focused function that is closely aligned with business needs and leverages technology and data analytics.

In 2021, the internal audit conducted 47 engagements focusing on entity-specific assurance in addition to cross-CGIAR internal audit work, helping to improve efficiency and effectiveness of CGIAR operations.



[READ MORE ABOUT INTERNAL AUDIT](#)

Governance

2021 was a critical year for delivery of key milestones for One CGIAR, stewarded by the **Executive Management Team** and overseen by the **CGIAR System Board**. January 2021 saw the approval of an **integrated operational structure for One CGIAR**, designed to be a key enabler of CGIAR's capacity to deliver on its bold new **CGIAR 2030 Research and Innovation Strategy**.

Development of CGIAR's research portfolio was undertaken in a highly collaborative way during 2021, with the System Council approving membership of Investment Advisory Groups in February 2021 that brought together a wide range of stakeholder voices to advise the Executive Management Team on development of a 2022–2024 Investment Prospectus. The System Board in May 2021 approved the **prospectus of CGIAR Initiatives and Platforms**, which the System Council strongly endorsed at its June 2021 meeting.



Governance decision-making in the last quarter of 2021 was supported by a thoughtful, constructive, and rigorous independent review of an initial set of CGIAR Initiatives and a Companion Document to the Prospectus, moderated by CGIAR's Independent Science for Development Council.



[READ MORE ABOUT CGIAR GOVERNANCE](#)

Financial highlights

In 2021, CGIAR System revenue was \$839 million, a 14% increase from the previous year (\$736 million in 2020). System-level results improved from a net deficit of \$0.6 million in 2020 to a net surplus of \$0.2 million in 2021.

Figure 1. CGIAR revenue by source of funding, 2021 and 2020

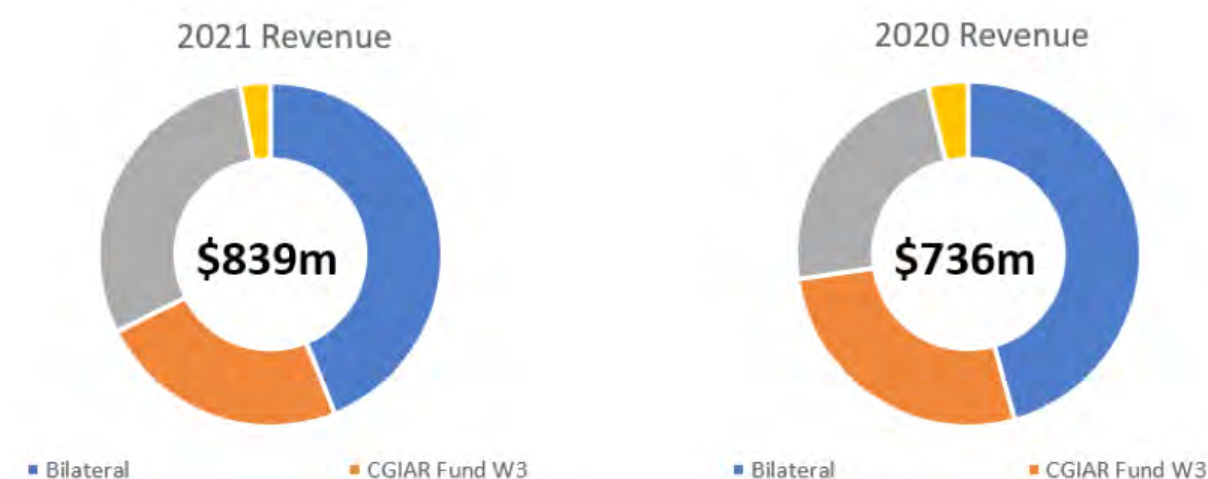
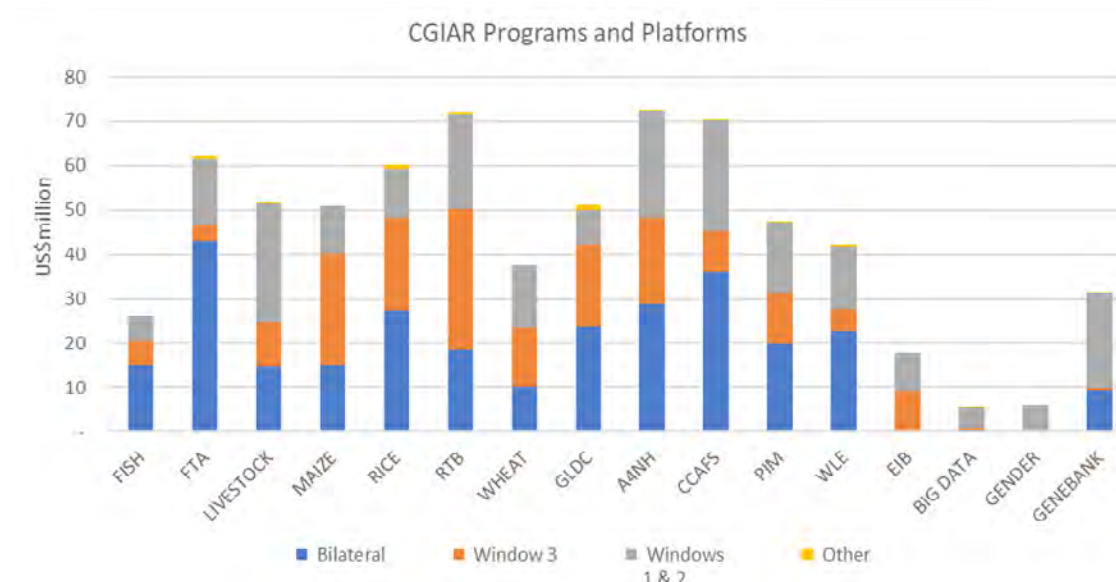


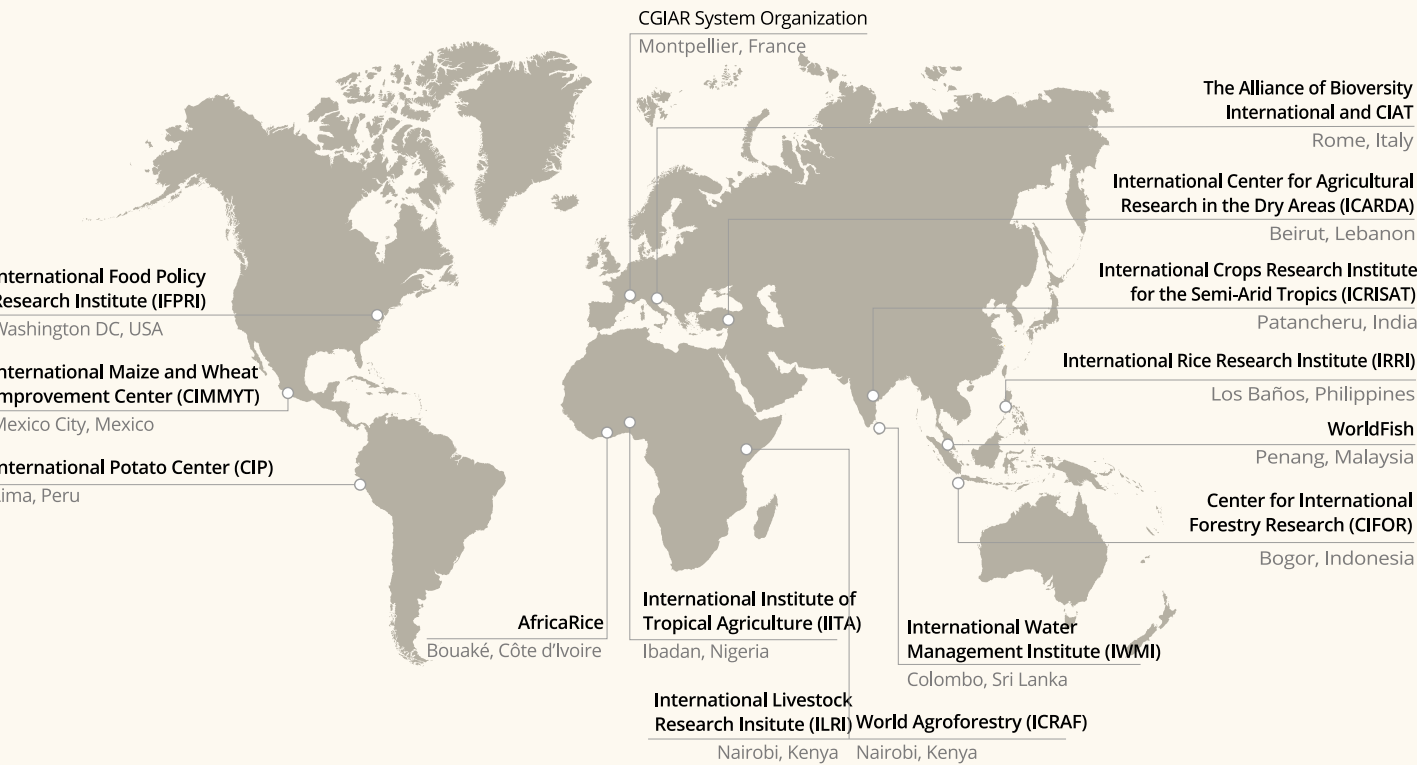
Figure 2 shows expenditure by CRPs and Platforms by funding channel. There is a wide range in the overall size of program funding: expenditure in 2021 varied from about \$26 million to \$72 million.

Figure 2. Funding to CGIAR Research Programs and Platforms by channel



[READ MORE ABOUT CGIAR'S FINANCIAL HIGHLIGHTS](#)

Our Centers across the World



CGIAR Trust Fund* contributors

CGIAR greatly appreciates the contributions made by all funding partners, without which none of our work would be possible, including investments to CRPs through targeted projects and bilateral investments in CGIAR Research Centers.



CONSULT THE FULL LIST OF CGIAR TRUST FUND CONTRIBUTORS AND BILATERAL CONTRIBUTORS



Africa Rice Center (AfricaRice)
www.africarice.org

Alliance



The Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT)
www.bioversityinternational.org/alliance/



Center for International Forestry Research (CIFOR)
www.cifor.org



International Maize and Wheat Improvement Center (CIMMYT)
www.cimmyt.org



International Potato Center (CIP)
www.cipotato.org



International Center for Agricultural Research in the Dry Areas (ICARDA)
www.icarda.org



International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)
www.icrisat.org



International Food Policy Research Institute (IFPRI)
www.ifpri.org



International Institute of Tropical Agriculture (IITA)
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International Livestock Research Institute (ILRI)
www.ilri.org



International Rice Research Institute (IRRI)
www.irri.org



International Water Management Institute (IWMII)
www.iwmi.org



World Agroforestry (ICRAF)
www.worldagroforestry.org



WorldFish
www.worldfishcenter.org



The CGIAR System Organization greatly values the ongoing support of the French Region 'Occitanie /Pyrénées-Méditerranée', and in particular, the Region's generosity in building the Organization's headquarters in Montpellier, France, on the Agropolis International site.

* Recognizing contributions to the CGIAR Trust Fund from March 2017.



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.



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