CGIAR Research Initiative on
AgriLAC Resiliente

Annual Technical Report 2023
CGIAR Technical Reporting has been developed in alignment with the CGIAR Technical Reporting Arrangement. This Initiative report (“Type 1” report) constitutes part of the broader CGIAR Technical Report. Each CGIAR Research Initiative submits an annual “Type 1” report, which provides assurance on Initiative-level progress towards End of Initiative outcomes.

The CGIAR Technical Report comprises:
- Type 1 Initiative, Impact Platform, and Science Group Project (SGP) reports, with quality assured results reported by Initiatives, Platforms and SGPs available on the CGIAR Results Dashboard.
- The Type 3 Portfolio Performance and Project Coordination Practice Change report, which focuses on internal practice change.
- The Portfolio Narrative, which draws on the Type 1 and Type 3 reports, and the CGIAR Results Dashboard, to provide a broader view on Portfolio coherence, including results, partnerships, country and regional engagement, and synergies among the Portfolio’s constituent parts.

The CGIAR Annual Report is a comprehensive overview of CGIAR’s collective achievements, impact and strategic outlook, which draws significantly from the Technical Report products above. For 2023, the Annual Report and Technical Report will be presented online as an integrated product.
**Section 1: Fact sheet and budget**

<table>
<thead>
<tr>
<th>Initiative name</th>
<th>AgriLAC Resiliente: Resilient Agrifood Innovation Systems in Latin America and the Caribbean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiative short name</td>
<td>AgriLAC Resiliente</td>
</tr>
<tr>
<td>Initiative Lead</td>
<td>Deisy Martinez Barón (Deisy Martinez Barón)</td>
</tr>
<tr>
<td>Initiative Co-Lead</td>
<td>Bram Govaerts (<a href="mailto:b.govaerts@cgiar.org">b.govaerts@cgiar.org</a>)</td>
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<tr>
<td>Science Group</td>
<td>Resilient Agrifood Systems</td>
</tr>
<tr>
<td>Start – end date</td>
<td>01/04/2022 – 31/12/2024</td>
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<tr>
<td>Geographic scope</td>
<td>Latin America and the Caribbean</td>
</tr>
<tr>
<td>OECD DAC</td>
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</tr>
<tr>
<td>Climate marker adaptation score²</td>
<td>The activity is principally about meeting any of the three CGIAR climate-related strategy objectives – namely, climate mitigation, climate adaptation and climate policy, and would not have been undertaken without this objective.</td>
</tr>
<tr>
<td>OECD DAC</td>
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<tr>
<td>Climate marker mitigation score²</td>
<td>The activity is principally about meeting any of the three CGIAR climate-related strategy objectives – namely, climate mitigation, climate adaptation and climate policy, and would not have been undertaken without this objective.</td>
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<tr>
<td>OECD DAC</td>
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<tr>
<td>Gender equity marker score²</td>
<td>Gender equality is an objective, but not the main one. The Initiative/project includes at least two explicit gender specific outputs and (adequate) funding and resources are available. Data and indicators are disaggregated by gender and analyzed to explain potential gender variations and inequalities.</td>
</tr>
<tr>
<td>PROPOSAL BUDGET</td>
<td>$9.31M</td>
</tr>
<tr>
<td>APPROVED BUDGET¹</td>
<td>$4.00M</td>
</tr>
</tbody>
</table>

1. The organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) markers refer to the OECD DAC Policy Markers for Climate and the gender equality policy marker. For climate adaptation and mitigation, scores are: 0 = Not targeted; 1 = Significant; and 2 = Principal.
2. The CGIAR Gender Impact Platform has adopted the OECD gender marker, splitting the 1 score into 1A and 1B. For gender equality, scores are: 0 = Not targeted; 1A = Gender accommodative/aware; 1B = Gender responsive; and 2 = Principal.
3. These scores are derived from initiative proposals, and refer to the score given to the initiative overall based on their proposal.

**EXECUTIVE SUMMARY**

The AgriLAC Resiliente initiative has a clear goal: to foster connections among networks spanning Latin America, focusing on agrifood innovation systems. This ambitious endeavor builds upon the proven successes of CGIAR and its centers, which have forged robust partnerships and scaled impactful innovations – both technological and non-technological – across the region and beyond. AgriLAC Resiliente acts as a network of networks that integrates the science and practice of scaling through customized innovation packages. These packages are designed to address local demands and strengthen local capacities while simultaneously linking with agrifood innovation systems at subnational, national, and regional levels.

The above is evidenced through the progress made towards its End of Initiative outcomes (EOIOs) across Colombia, Guatemala, Honduras, Mexico, and Peru. In 2023, the initiative generated 122 knowledge products, with 99 developed internally and 23 in collaboration with five Global Thematic Initiatives. These partnerships, including NARS, governments, farmers associations, NGOs and private sector, have propelled new scientific research in sustainable agriculture, resulting in the publication of a book and three peer-reviewed articles addressing critical issues related to agricultural resilience, climate services, and women’s participation in agricultural production systems.

Progress towards EOIO1 was evident in Guatemala, Honduras, Colombia, and Mexico, where AgriLAC Resiliente focused on enhancing farmers’ access to climate-resilient and nutrition-sensitive technologies. The initiative validated improved crop varieties tailored to local conditions, benefitting over 2,000 households. Collaborative efforts established 17 research platforms and two biodiversity pilots, providing valuable insights for producers’ decision-making processes and developing tailored technological menus. Capacity-building initiatives engaged 1,584 individuals on key agricultural topics, resulting in the development of innovative tools such as protocols for biofortified rice processing.

AgriLAC Resiliente’s commitment to empowering organizations and improving climate information services (EOIO2) is evident in Guatemala, Honduras, and Mexico. Significant progress was made in enhancing Extract, Transform, and Load (ETL) data processes and implementing the e-Agrology innovation, an information system for capturing, storing, comparing, and visualizing data on agricultural production, facilitating the generation of recommendations for small-scale farmers. Efforts towards EOIO3 focused on integrating climate-change mitigation within sustainable development goals in Colombia and Peru. Insights into forest loss causes, and emissions’ characterization in cocoa and livestock value chains have informed targeted strategies aimed at mitigating climate change effects. Innovative initiatives like the Sustainable Cocoa Innovation Challenge and the Perumin Inspira Challenge fostered collaboration and skill enhancement among sector entrepreneurs, promoting climate action.

EOIO4 on the use of InnovationHubs learning to accelerate on farm uptake of SET innovations saw the establishment of four InnovationHubs in Guatemala and Honduras, serving as subnational innovation platforms. Annual meetings provided spaces for collaborative learning and interactive knowledge acquisition, engaging 25 institutions in Guatemala and 14 in Honduras. Capacity-building efforts emphasized practical application and knowledge exchange, exemplified by the establishment of a Digital Agriculture platform in Guatemala.

Barriers and opportunities for rural women in agricultural systems in Latin America were studied through collaborative efforts between WPS on Science informed policies, investments, and institutions, and the Monitoring, Evaluation, Learning, and Impact Assessment (MELIA) team, to progress towards EOIO5. As part of the engagement in the policyinterface interface, we have supported the Central America Agricultural Council (CACI) in activating the Technical Group of Innovation, which gathers NARS of eight countries. These have developed an innovation agenda, which we will support through AgriLAC to enhance their capacity in a variety of topics related to agricultural innovations in the context of climate change. The MELIA team is evaluating the initiative’s contributions across various levels, including farmer, stakeholder, and meso-macro levels, aiming to effectively inform future strategies and interventions.

In conclusion, AgriLAC Resiliente has achieved noteworthy progress in fulfilling its EOIOs by seamlessly integrating CGIAR science and evidence. Enhancing the capacity of over 4,800 individuals in addition to the generation of knowledge outputs and innovations use represent a robust pathway towards informing transformative, sustainable, and climate adaptation-friendly agrifood system (AFS)-related policies and initiatives. These endeavors are in alignment with broader development goals, underscoring the initiative’s dedication to advancing agricultural resilience and sustainable development throughout Latin America and the Caribbean.
Section 2: Progress on science and towards End of Initiative outcomes

Initiative-level theory of change diagram

This is a simple, linear, and static representation of a complex, non-linear, and dynamic reality. Feedback loops and connections between this Initiative and other Initiatives’ theories of change are excluded for clarity.

EOI: End of Initiative outcome
AA: Action Area
IA: Impact Area
SDG: Sustainable Development Goal

EOI
AA
IA
SDG

Note: A summary of Work Package progress ratings is provided in Section 3.
Summary of progress against the theory of change

The CGIAR Research Initiative on AgriLAC Resiliente has laid the groundwork for achieving its EOIOs in Colombia, Guatemala, Honduras, Mexico, and Peru through agricultural innovation system networks operating at local to regional scales. AgriLAC Resiliente connects with a variety of networks through the Local Technical Agricultural Committees (MTA in Spanish) placed at the subnational scale, which brings together local, national, and regional actors. The Initiative’s Innovahubs increased the number of actors involved in strengthening climate resilience and nutrition services, in addition to boosting farm productivity, from 68 to 131. The Initiative has also focused on developing resilient agricultural practices at InnovaHubs, while working closely with pivotal partner organizations.

In line with the Initiative’s goal of improving farmers’ access to climate-resilient and nutrition-sensitive technologies and validating improved varieties of Bioversity International and CIAT improvements, we have developed a case study, offering vital insights to inform future scaling strategies aimed at further extending the reach of MTA’s network (EOIO 2).

Progress towards EOIO 3 focused on work with stakeholders in agroforestry systems to integrate climate change mitigation with the Sustainable Development Goals (SDGs) in Colombia and Peru. Opportunities were identified for formulating public policies and supporting territorial peacemaking, mitigating the effects of climate change, and improving living conditions in conflict-affected areas.

Work has highlighted the primary causes of forest loss in Peru, including access to forests and demographic changes. The Initiative also characterized greenhouse gas emissions from coca and livestock value chains in Colombia’s Caquetá Department. Strategies for improving coca chains in Colombia and the Guianas’ coca value chain in Junín, Peru, will be scaled up and validated at governmental levels.

Innovative initiatives such as the Sustainable Cocoa Innovation Challenge in Colombia, the Buscando Inversa Challenge in Peru, and the “EncontrAR” knowledge platform have enhanced collaboration and skills among sector entrepreneurs, promoting climate action. An analysis of the endogenous innovation value chain, nutritional problems in Colombia and livestock revealed significant connections, offering opportunities to design strategies that both mitigate climate change and strengthen food security, particularly in highly deforestation areas in Colombia and Peru.

AgriLAC Resiliente Innovahubs link various approaches and scales, developed over years with innovation system actors to address sustainability and climate resilience in addition to productivity issues. In Guatemala and Honduras, Innovahubs have helped farmers and local organizations develop knowledge on topics such as agroecological data and soil conservation. Drawing on experience from sustained successes in the region, including MTAs and climate-smart villages, and using a multi-sector hub approach, similar to one implemented in Mexico, AgriLAC Resiliente aims to adapt and bundle innovations to improve climate resilience in food systems, and nutrition.

In 2023, the Initiative spearheaded a series of studies in Guatemala aimed at unraveling insights into climate resilience, migration dynamics, and gender roles. These efforts included creating tools to support informed decision making. The publications generated helped identify opportunities and feasible applications of an Integrated AgriFood System Initiative (IASI) methodology, resulting in tailored public policy recommendations. This mapping underpinning validation with stakeholders and significantly influenced deliberations at the Second National Forum on Migration and Climate Change in Guatemala. The Initiative published key programs and interventions in food security and nutrition, along with studies on women’s participation in agricultural activities and climate-induced migration, reflecting a strategic effort toward informed policy formulation and resource optimization in Guatemala.

To engage in the policy science interface, we have supported the CAC in activating the Technical Group of Innovation, which gathers the NARS of eight countries. Together they have developed an innovation agenda that AgriLAC will support by enhancing their capacity to design and scale agricultural innovations in the context of climate change. These initiatives signify progress toward EOIO 5.

We also developed a case study about the co-innovation and scaling processes of climate-smart agriculture country profiles, aiming to inform the scaling of climate-smart innovations and science-policy engagement processes (EOIO 5). The MELIA team is assessing EOIO 6 progress by conducting studies on AgriLAC Resiliente’s impact. In Guatemala, they’ve worked with...
Progress by End of Initiative Outcome

EOIO 1: Four LAC countries co-design SET innovations for nutrition-sensitive and climate-smart agrifood systems.

AgriLAC reached 2,207 farming households, benefiting some 8,800 people with more nutritious and climate-resilient biofortified seeds in Colombia, Guatemala, and Honduras.

A menu of technologies was adapted to local conditions for maize, rice, and beans and validated in Colombia, Guatemala, and Honduras.

A diagnostic study was made on establishing a rice processing plant to enhance productivity and quality for better access to markets—a prototype product was made with cocoa and a protocol for a prototype of food products was made with biofortified rice.

EOIO 2: 180,000 farmers and agrifood system actors in two LAC countries are empowered by a digitally-enabled ecosystem to manage climate risk more effectively.

AgriLAC Resiliente scaled information services in Honduras, Guatemala, and Mexico, reaching more than 100,000 farmers.

ETI processes – to change how partners manage data – are in place for partners in Guatemala and Honduras.

Well-established partnerships, including e.g. deploying weather stations with some partners to target blind spots for meteorological monitoring. Building from the bottom up, many technologies and capacities will underpin the Data Hub.

Data analysis with an innovative Explainable Machine Learning analytics workflow enabled the generation of the first set of recommendations for small-scale Guatemalan farmers, which will be disseminated through established delivery channels and as part of the technological menu of the Innova-Hub (with Work Packages 1 and 4).

EOIO 3: Two LAC countries integrate low-emission strategies with development goals in LAC agroecosystems and/or value chains.

AgriLAC Resiliente developed approaches to integrate climate change mitigation efforts and those aimed at delivering SDGs in Colombia and Peru.

In Peru and Colombia, we identified potential to reduce greenhouse gas (GHG) emissions from the production stage.

In Colombia, sustainability strategies for cacao chains were scaled up to governmental levels and have been validated in two departments, while a roadmap for the Guatemalan pig value chain will be validated in Peru.

AgriLAC Resiliente innovated mechanisms to share knowledge among stakeholders through a Sustainable Cocoa Innovation Challenge in Colombia and Perumira Inspira Challenge in Peru and established a knowledge platform (“EncontrAR”).

Analysis of the relationship between child nutritional problems in Colombia and livestock, to open opportunities to design strategies that simultaneously address objectives of climate-change effects mitigation and strengthened food and nutrition security, especially in areas with high deforestation rates in Colombia and Peru.

EOIO 4: Three LAC countries use Innova-Hub to accelerate on-farm uptake of SET innovations.

Dedicated efforts fostered collaboration and innovation among stakeholders at the subnational level in Guatemala, Honduras, and Mexico.

Characterization studies implemented in Guatemala and Mexico to map nutrition, market access, and technical information dissemination offered insights into Innova-Hub’s impact and challenges regionally.

Dedicated efforts were made to disseminate agroclimatic information through MTA’s in Guatemala and Mexico and to enhance the reach and usefulness of agroclimatic bulletins.

Annual Innova-Hub meetings were conducted to facilitate learnings among agrifood actors in Guatemala and Honduras.

EOIO 5: Three LAC countries use CGIAR science to inform and shape agrifood system-related policies, incentives, and initiatives.

Newly implemented or continued studies in Guatemala produced insights into climate resilience, migration, and the dynamics of gender roles, and also generated new tools.

Public policy mapping in Guatemala on food security, climate change, and migration was finalized and validated with stakeholders and informed discussions at a national forum.

Subnational mapping of key programs and interventions in food security and nutrition to identify areas with possible investment gaps and saturation of interventions in Guatemala caught the attention of a group of donors; development of an interactive platform is in process.

Two quantitative studies in Guatemala (one with MELIA) led to identifying and designing additional studies for Guatemala and Peru.

Section 3: Work package progress

WP1: Shaping nutrition-sensitive SET ‘best bets’ to operationalize local agrifood system transition to climate-resilient nutrition pathways

In 2023, to facilitate farmers’ access to climate-resilient and nutrition-sensitive technologies, locally adapted crop varieties such as maize, rice, and beans were validated with 1,207 households in Colombia, Guatemala, and Honduras. Seventeen research platforms (1 per Innova-Hub in Guatemala and Honduras; 5 in Chiapas, 5 in Oaxaca, and 3 in the North Pacific hub of Mexico) were implemented with local research partners to validate sustainable production technologies (output 1.1.1). Information on available climate-resilient, nutrition-sensitive technologies was summarized in technological menus for Oaxaca and Sonora and training materials produced on good postharvest practices to minimize grain loss. Two biodiverse plots (one of them involving an indigenous community) were implemented in northern Colombia to compare agroecological practices to conventional methods. The results will contribute to decision-making by producers and to the technological menus (Output 1.1.1).

Moreover, 1,584 people participated in AgriLAC Resiliente capacity building on topics including seed systems, agricultural practices, postharvest food processing (four training sessions), and markets (Output 1.1.2). A diagnostic study was carried out for establishing a rice processing plant, aiming to enhance productivity and quality for better access to markets. Additionally, 11 workshops were conducted to strengthen marketing strategies as part of the scaling pathway.

The Work Package also developed a prototype product made with cocoa and a protocol for a biofortified rice food product prototype (Output 1.1.3).

Researchers from Colombia, Guatemala, Honduras, and Mexico exchanged knowledge and experience during the symposium of the Latin American Agronomic Research Network at CIMMYT headquarters in April. The strengthened capacities of local research partners were reflected in three joint products published in 2023: a review of agronomic research in the traditional milpa system, a book summarizing a decade of agronomic research in Oaxaca, and a summary of work to promote hermetic metal silos in Mexico to minimize grain storage losses (Output 1.1.2).
Work Package 2 progress against the theory of change

AgriLAC Resiliente’s Work Package 2 is driving a major digital transformation in agri-climate information service delivery and scaling in Latin America. Work Package 2 made substantial progress in all outputs, intermediary outcomes, and research questions. Related to output 2.1.1, ETL processes to fundamentally change assumptions hold thus far. New partnership models with Agricultural Rural and medium enterprises (Ag. SMEs), AgriTech companies, and the public sector (to improve scale and robustness Information and Communications Technologies (ICTs)).

Work Package 3 progress against the theory of change

During 2023, we combined our efforts with agrifood system stakeholders to develop approaches that integrate climate change mitigation efforts with those aimed at achieving relevant SDGs. In Colombia and Peru, the work package also generated data, knowledge, and innovations to address the challenges posed by climate change in territories affected by armed conflict. This was achieved through collaboration and the contribution of a knowledge platform named “InnovOriente”, which promotes learning and growth among sector entrepreneurs and fosters climate action. This is achieved through collaboration and the contribution of individuals with diverse skills and profiles, providing them with opportunities to improve their technical and business management skills, evaluating potential markets, analyzing financial instruments, and designing a roadmap for accessing sources of funding.

Lastly, we have analyzed the relationship between child nutrition problems in Colombia and livestock, finding a significant connection for integrating climate change mitigation strategies and SDGs. This generates big opportunities for designing effective strategies that simultaneously address climate change mitigation and food and nutrition security objectives, especially in areas in Colombia and Peru with high deforestation rates.
On track

Work Package 4: Innovahub networks for agrifood innovation and scaling

Work Package 4’s annual report on Innovahubs documents collaborations and innovations in Guatemala, Honduras, and Mexico, with intensified characterization studies in Central America. In Guatemala, emphasis is on nutrition and market access, while in Mexico, an infographic guide details Innovahubs’ regional impact. Communication and outreach are critical for scaling innovations and fostering stakeholder engagement through in-field achievements (output 4.1.1).

A targeted training strategy bolsters local stakeholder capacities within Innovahubs, fostering communities of practice among professionals, extensionists, farmers, and scientists to exchange knowledge and best practices (output 4.1.2). The dissemination of agroclimatic information via the Meso-American e-roaming network in Guatemala and Mexico aims to improve accessibility and comprehension among the communities, fostering engagement through in-field achievements (output 4.1.3).

Local partners in Innovahubs provide technical support for farmers through co-learning spaces and extension areas, facilitating the adoption of field recommendations for improved agriculture practices. Furthermore, in Daxau, Mexico, the agriculture ministry aligns interventions with Innovahubs, resulting in over 20,000 registered farmers’ fields with researcher support (output 4.1.3 and output 4.1.4). A Digital Agricultural plot was established in Guatemala in partnership with the Digital Innovation Initiative, serving as a testing ground for advanced agricultural technologies, benefiting small-scale farmers in the dry corridor (output 4.1.4).

Annual Innovhub meetings in Guatemala and Honduras facilitate knowledge exchange among agrofood actors, fostering innovation through collaborative learning and adaptation to local contexts. In November 2023, the second round of these meetings occurred in diverse locations across Guatemala and Honduras, gathering 25 and 14 institutions respectively. These gatherings identified local needs and research priorities, strengthening positive impacts, and advancing strategies to support capacity development in each Innovhub’s operational space, promoting regional agricultural advancement (output 4.1.5).

WP5: Policies, investments, and institutions based on science

In 2023, the Work Package 5 conducted and continued several studies in Guatemala focused on producing insights into climate resilience, migration, and the dynamics of gender roles, and creating tools.

Work Package 5 finalized the public policy mapping in Guatemala on food security, climate change, and migration. This identified opportunities and the most feasible applications of the Iasi1 methodology that should lead to customized public policy recommendations. This document underwent a validation process with government, academic, and civil society stakeholders to identify opportunities to improve investments in agrifood systems.

Work Package 5 progress against the theory of change

Output 5.1.1. Two quantitative studies were finalized in Guatemala: i) Cultural and economic barriers and opportunities for the participation of women in agricultural and livestock activities (a collaboration with MEUA published in a special issue and presented at various forums, output 5.1.5), and ii) Climate stresses and migration (presented at the Second National Forum of Climate Change and Migration in Guatemala and published as a scientific article). Authors of the gender study included staff of the Ministry of Agriculture, while the climate study generated additional studies: one more granular study in Guatemala and a new study in Peru on internal migration push factors (a collaboration with Work Package 3, Output 5.1.2).

The subnational mapping of key programs and interventions in food security and nutrition to identify areas with possible investment gaps and saturation of interventions caught the attention of a group of 13 donors in Guatemala and a related exercise is being performed with them, including developing an interactive platform. This will help to better coordinate and complement efforts between stakeholders and streamline effective use of resources for implementing food security and nutrition actions and programs across the country (output 5.1.3). Two quantitative studies were finalized in Guatemala: i) Cultural and economic barriers and opportunities for the participation of women in agricultural and livestock activities (a collaboration with MEUA published in a special issue and presented at various forums, output 5.1.5), and ii) Climate stresses and migration (presented at the Second National Forum of Climate Change and Migration in Guatemala and published as a scientific article). Authors of the gender study included staff of the Ministry of Agriculture, while the climate study generated additional studies: one more granular study in Guatemala and a new study in Peru on internal migration push factors (a collaboration with Work Package 3, Output 5.1.2).
Work Package progress rating summary

<table>
<thead>
<tr>
<th>WORK PACKAGE</th>
<th>PROGRESS RATING &amp; RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Progress rating</td>
</tr>
<tr>
<td></td>
<td>The team optimized available (reduced) resources to collaboratively deliver a streamlined research approach that developed nutrition-sensitive and climate-smart technologies. This was done with local agrifood system actors in four countries. Working together in a research network is enhancing local capacities from production to market access. It is forming the base of innovation and adaptation in the InnovaHubs (Work Package 4).</td>
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<tr>
<td>2</td>
<td>Progress rating</td>
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<tr>
<td></td>
<td>Progress was made according to plans, with all theory of change assumptions still holding. All four major Work Package 2 outputs are on track, namely, Data Hubs and data architecture modernization, new partnerships and partnership models, a climate risk management toolkit, and improved information services for farmers and small- and medium-sized agricultural enterprises (Ag. SMEs). In particular, we highlight the data management and analysis transformation in INSIVUMEH, ICC, and CENAOS-COPED, as well as several farmer organizations, and the continued delivery of agro-advisories that stem from MTAs and are scaled through digital channels.</td>
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<tr>
<td>3</td>
<td>Progress rating</td>
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<td></td>
<td>The annual progress in Peru and Colombia is largely aligned with the Plan of Results and Budget and the theory of change of Work Package 3. This is evidenced by the development of low-emission sustainable development strategies that integrate the SDGs and help foster the participation of local stakeholders. Progress has also been made in developing instruments to promote markets for investments in climate change mitigation at the value chain level. Planned outputs have been developed, such as those associated with the methodological framework, digital innovations, and science- and market-based solutions.</td>
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<tr>
<td>4</td>
<td>Progress rating</td>
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<tr>
<td></td>
<td>InnovaHubs in Guatemala, Honduras, and Mexico have been consolidated and established. They form the operational base for the subnational actors, including farmers and their associations, local governments, and civil society to operate around a common goal, which includes establishing field infrastructures. Here, technicians and farmers work together to implement and validate best-bet recommendations related to agronomy and climate advisory and digital extension services, as well as local action towards social inclusion. Capacity development schemes are being implemented around this infrastructure and integrate the MTAs’ experiences but at a local agroecology scale. Within these, local actors connect and exchange experiences to establish collaborative plans and priorities.</td>
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<tr>
<td>5</td>
<td>Progress rating</td>
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<td></td>
<td>Work Package 5 successfully met its objectives for 2023, completing all the planned studies on climate change, migration, and gender, as well as conducting a comprehensive national mapping of public policies in Guatemala. Additionally, Work Package 5 effectively engaged with InnovaHubs partners, providing valuable information to support decision-making processes following a bottom-up approach. The subnational mapping exercise of interventions has garnered interest from key stakeholders in the country, significantly contributing to the achievement of the Initiative’s outcomes. Overall, the Work Package is on track and all major theory of change assumptions remain valid.</td>
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Definitions

- On track
  - Annual progress largely aligns with Plan of Results and Budget and Work Package theory of change.
  - Can include small deviations/issues/delays/risks that do not jeopardize success of Work Package.

- Delayed
  - Annual progress slightly falls behind Plan of Results and Budget and Work Package theory of change in key areas.
  - Deviations/issues/delays/risks could jeopardize success of Work Package if not managed appropriately.

- Off track
  - Annual progress clearly falls behind Plan of Results and Budget and Work Package theory of change in most/all areas.
  - Deviations/issues/delays/risks do jeopardize success of Work Package.
Section 4: Key results

This section provides an overview of results reported by the CGIAR Research Initiative on AgriLAC Resiliente in 2022 and in 2023. These results align with the CGIAR Results Framework and AgriLAC Resiliente’s theory of change. Source: Data extracted from the CGIAR Results Dashboard on 29 March 2024.

To date, AgriLAC Resiliente has produced a total of 392 results, with 330 being accomplished in 2023. These results are categorized in two groups: outputs (354) and outcomes (37), as outlined in Figure 1 above. Notably, within the outputs category, there was a significant uptick in the production of knowledge products (125 more than in 2022) and in capacity sharing for development (145 more than in 2022). Moreover, 5 additional innovations were developed in 2023. In the outcomes category, 21 more CGIAR innovations were used in 2023 than in 2022 and 5 new policy changes were documented.

The chart above reflects how results of AgriLAC Resiliente reported in 2022 and 2023 have significantly contributed to the five CGIAR impact areas, policy changes were documented. Additional innovations were developed in 2023. In the outcomes category, 21 more CGIAR innovations were used in 2023 than in 2022 and 5 new policy changes were documented.

The central topics that underpin AgriLAC Resiliente’s knowledge products are climate change, agriculture, farmers, climate services, climate change adaptation, food systems, resilience, climate variability, deforestation, climate change mitigation, gender equity and equality, peace building, capacity building, and participatory research, among others.

Over the past two years, AgriLAC Resiliente has produced a diverse range of knowledge products, including 70 reports, 11 briefs, 9 journal articles, 6 manuals, 5 working papers, 5 case studies, 3 posters, 2 books, and 1 dataset. These resources serve as valuable repositories of insights into agricultural resilience. Moreover, it has also developed 37 dissemination products, such as presentations, blog posts, videos, audio recordings, brochures, press items, infographics, and newsletters.
AgriLAC has developed 14 innovations, comprising 7 technological, 6 capacity development, and 1 policy, organizational, or institutional innovation. These innovations span incremental (10), disruptive (3), and radical (1) categories. Incremental innovations denote existing innovations undergoing constant progress and improvement, built upon previous CGIAR work in the region. Disruptive innovations introduce new concepts necessitating significant reconfiguration of farming, market, and policy/business models. Radical innovations introduce entirely new products, systems, or services without necessitating major reconfiguration of existing models.

AgriLAC Resiliente strengthened the agricultural, climate resilience and market capacities of 4,833 individuals across Latin America and the Caribbean, collaborating with 64 partners (Figure 6) and three CGIAR initiatives: Digital Innovation (104), Climate Resilience (119), and Nature Positive Solutions (314). In 2022, 372 people, including 116 women and 256 men, underwent training, while in 2023, 4,461 individuals — 1,541 women and 2,920 men — undertook short-term courses lasting three months or less. The trainings primarily took place in Guatemala (73) and Honduras (49), with Colombia (20), Mexico (1), and Peru (1) also benefitting from the trainings.

Source: Data extracted from the CGIAR Results Dashboard on 7 March 2024.
Section 5: Partnerships

External partners contributing to results, per country

Top 10 partner typologies that contributed to delivering 2023 results

Partnerships and AgriLAC Resiliente’s impact pathways

The AgriLAC Resiliente external partner network responds to the systemic and on-demand approach of the Initiative. This network of partners has strong experience and capacities at different levels throughout the Latin America and the Caribbean agrifood system. AgriLAC Resiliente’s external partners have been selected based on their previous and current successful collaborations and partnerships with CGIAR as well as their expertise and skills, farmer outreach and delivery capabilities, and capacity to influence public policy.

The extensive external partner network boasts an impressive array of over 150 organizations strategically distributed throughout the region. These partnerships are primarily concentrated in key locations such as Guatemala (59), Honduras (31), Mexico (32), Colombia (23), Peru (8), Nicaragua (7), and El Salvador (7), forming a robust collaborative framework. These institutions are broadly classified in several categories, including NARS and universities, governmental bodies, local NGOs representing farmers, private enterprises, financial institutions, and various other entities.

NARS and universities stand as the forefront champions of knowledge and innovation, spearheading cutting-edge research and development initiatives. Partnerships with NARS and universities are indispensable for validating and adapting AgriLAC Resiliente’s innovations, such as climate-resilient and nutrition-sensitive technologies, diverse varieties of biofortified crops, and climate information services (CIS), ensuring the sustainability of interventions (EOIO 1 and EOIO 2).

AgriLAC Resiliente has forged significant collaborations with respected NARS, including AGROSAVIA in Colombia, the Directorate of Agricultural Science and Technology in Honduras, and the Institute of Agricultural Science and Technology in Guatemala. These partnerships are pivotal for advancing agricultural research, fostering innovation, and promoting sustainable practices across the region.

To scale AgriLAC Resiliente’s innovations, we collaborate with local and national NGOs such as Asociación Regional de Servicios Agropecuarios de Leticia, Asociación de Productores de Cacao de La Jagua De Iibirico, and Cacaoriente. In Guatemala, partnerships extended to ICC, Universidad Rafael Landívar, and Centro Universitario de Oriente, while in Honduras, collaboration included Comisión de Acción Social Menonita.

AgriLAC Resiliente has collaborated with government institutions to strengthen their institutional capacities and respond to the demands of public policy with science-driven initiatives (EOIO 2, EOIO 3, EOIO 5). Key collaborations include the ministries of agriculture in Colombia, Guatemala, Honduras, and Mexico, as well as the meteorological services in Guatemala and Honduras. These partnerships are essential to ensure that agricultural policies and strategies are backed by robust scientific evidence and implemented effectively to promote sustainable development in the region.
Section 6: CGIAR Portfolio linkages

**AgriLAC Resiliente’s internal portfolio network**

![Network Diagram](Image 35x475 to 561x727)

Connections are sized by the number of reported results. Collaborations where only one result was reported with a link between two initiatives are excluded.

**Portfolio linkages and AgriLAC Resiliente’s impact pathways**

In 2023, AgriLAC Resiliente partnered with nine other CGIAR Initiatives to make progress toward its EDIDs. We collaborated most closely with Climate Resilience, Low-Emission Food Systems, Livestock and Climate, Digital Innovation, and Fragility, Conflict and Migration, and also with National Policies and Strategies, Excellence in Agronomy, Nature Positive Solutions, and Diversification in East and Southern Africa. Most of this collaboration has focused on generating knowledge products (67 percent), followed by promoting the use of CGIAR innovations (11 percent) and other types of outputs (11 percent), the development of innovations (8 percent), policy changes (3 percent), and other types of outcomes (1 percent). We have also partnered in the development of capacities (not reflected in these numbers).

With Climate Resilience, we generated knowledge products related to agroclimatic information through the work of the MTAs, together with the Livestock and Climate Initiative. The information generated by the MTAs increasingly allows more people (especially farmers) access to agroclimatic data, enabling them to make informed and timely field decisions. This information has been disseminated through different mechanisms, such as radio adverts, characterized by their reach to remote rural areas, with easily understandable messages, thanks to the comprehensive approach inherent in the human-centered design methodology, WhatsApp, and technicians using this information when supporting farmers.

From our collaboration with the Low-Emission Food Systems and National Policies and Strategies Initiatives, we generated knowledge product tools addressing deforestation. This has been through assessing and designing instruments that enabled the construction of two strategies for the sustainability of the cocoa value chain in Cesar and Caquetá in Colombia. These were complemented by a financial analysis of the potential of carbon markets for cocoa production systems, leading to the design of a mixed-financial mechanism and evaluation of its potential. These partnerships have been key to promoting the use of innovations, which include biofortified seeds and climate information services among other innovations. Some of the innovations we generated, together with the Digital Innovation Initiative, include the *In situ monitoring system in the dry corridor of Guatemala*, which provides precise information about climate and soil to enable producers to overcome their unique challenges.

Several results were achieved through the contribution from non-pooled projects. With the Fortalecimiento de Resiliencia de la Producción de Maíz en Guatemala project (International Cooperation and Development Fund), we were able to develop an R package to provide users with convenient access to a wide range of agroclimatic forecasts offered in the *Climate platform*. This is a knowledge product that proposes an approach of agricultural extension and climate services. This product helps farmers to formulate plans and decisions adapted to individual farmer contexts according to their production system. This highlights the importance of collaborating with other components of CGIAR portfolio, to increase our reach and impact.

Source: Data extracted from the CGIAR Results Dashboard on 7 March 2023.

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Section 7: Adaptive management

<table>
<thead>
<tr>
<th>RECOMMENDATION</th>
<th>SUPPORTING RATIONALE</th>
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<tbody>
<tr>
<td>Modify EDID 2 by increasing the number of countries from two to three.</td>
<td>The adjustments stem from the scaling efforts undertaken by the Agriculture Secretariat (SADER) in Mexico. These efforts have enabled Work Package 2 to leverage the MTAs and the InnovaHub network of agroclimatic information services, thereby gaining deeper insights into the network and collaborating with partners to improve the delivery of agroclimatic services. Furthermore, the adjustments align with a more precise identification of the capacities of organizations capable of participating in digital agriculture initiatives.</td>
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<tr>
<td>Modify EDID 3 by adjusting the narrative to incorporate two strategies instead of two countries.</td>
<td>We are giving more emphasis to the number of strategies than the number of countries. These changes are proposed in the context of budgetary changes, and our capacity to align bilateral funding toward accomplishing the outcome.</td>
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<tr>
<td>Modify EDID 5 by decreasing the number of countries from three to two.</td>
<td>The adjustment in the EOID stems from budget reallocations, which necessitated prioritizing specific activities within certain countries, and the time needed to produce essential outputs such as knowledge products, instruments, and tools. These outputs play a crucial role in informing local stakeholders and have the potential to shape initiatives and policies in the designated countries.</td>
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**RECOMMENDATION:**

1. **Modify EDID 2 by increasing the number of countries from two to three.**

   **EDID 2:** Producer associations, AgriTech companies, government agencies, NGOs, and public extension services in three LAC countries are empowered by a digitally enabled ecosystem to offer agro-advisory services to at least 180,000 farmers and other value chain actors to manage climate risk more effectively and sustainably intensify production and value chains.

   **SUPPORTING RATIONALE:**

   The adjustments stem from the scaling efforts undertaken by the Agriculture Secretariat (SADER) in Mexico. These efforts have enabled Work Package 2 to leverage the MTAs and the InnovaHub network of agroclimatic information services, thereby gaining deeper insights into the network and collaborating with partners to improve the delivery of agroclimatic services. Furthermore, the adjustments align with a more precise identification of the capacities of organizations capable of participating in digital agriculture initiatives.

2. **Modify EDID 3 by adjusting the narrative to incorporate two strategies instead of two countries.**

   **Two national or local governments or key stakeholders in LAC countries integrate low-emission strategies with development objectives at the agro-ecosystem or value chain level, with an expected impact of around 150,000 ha.**

   **SUPPORTING RATIONALE:**

   We are giving more emphasis to the number of strategies than the number of countries. These changes are proposed in the context of budgetary changes, and our capacity to align bilateral funding toward accomplishing the outcome.

3. **Modify EDID 5 by decreasing the number of countries from three to two.**

   **Public and private institutions in two LAC countries use CGIAR science, evidence, and tools to inform and shape agrifood systems-related policies, incentives, and initiatives that are more transformative, sustainable, mitigation-comprehensive, and climate adaptation-friendly (2024–2030).**

   **SUPPORTING RATIONALE:**

   The adjustment in the EOID stems from budget reallocations, which necessitated prioritizing specific activities within certain countries, and the time needed to produce essential outputs such as knowledge products, instruments, and tools. These outputs play a crucial role in informing local stakeholders and have the potential to shape initiatives and policies in the designated countries.

![Credit: Juan Pablo Marín.](Image 595x-1 to 1192x389)

**Cacao training on harvest and post-harvest processes, San Vicente Chucurí, Colombia. Credit: Juan Pablo Marín.**
Section 8: Key result story

Peacebuilding co-benefits through Climate Action in Colombia’s Cacao sector

Strengthening the cocoa value chain: consolidating more resilient, competitive, and sustainable environmental, social, and economic systems.

In Colombia, strengthening the cocoa value chain not only boosts cocoa production and stimulates the economy but also promotes environmental sustainability and social development for peace building. Collaboration between public and private entities and communities has formalized processes, improved production, and helped preserve the environment. Coordination among key actors and a focus on climate-smart agriculture have been fundamental in contributing to rural, economic, equitable and sustainable development in the country.

For many years, the states of Cesar and Caquetá in Colombia have suffered severely from armed violence. This has led to forced displacement and a slowdown in various economic activities, with coordination between public and private entities and farmers’ associations to implement effective development plans in the cocoa value chain hindered.

A sustainable land use system (SLUS) project and CGIAR’s AgriLAC Resiliente and Low-Emission Food Systems Initiatives have worked together to i) consolidate and empower communities through cocoa committees, ii) coordinate interinstitutional interactions, and iii) formalize processes to position cocoa cultivation as an alternative way to reforest and restore degraded landscapes. These activities have supported land re-stocking and formalization, forest conservation, and the development of sustainable business models based on cocoa cultivation to increase carbon storage and improve rural livelihoods.

Establishing close coordination between the key local and national actors in Colombia’s cocoa sector was an imperative. The Ministry of Agriculture, the Ministry of the Environment, the Departmental Secretariats, the National Cocoa Council, the cocoa industry, research institutions, marketers and producers continue to work together to i) consolidate and empower communities through cocoa committees, ii) coordinate interinstitutional interactions, and iii) formalize processes to position cocoa cultivation as an alternative way to reforest and restore degraded landscapes. These activities have supported land re-stocking and formalization, forest conservation, and the development of sustainable business models based on cocoa cultivation to increase carbon storage and improve rural livelihoods.

Establishing close coordination between the key local and national actors in Colombia’s cocoa sector was an imperative. The Ministry of Agriculture, the Ministry of the Environment, the Departmental Secretariats, the National Cocoa Council, the cocoa industry, research institutions, marketers and producers continue to work together to further scale and improve the value chain with a clear and sustainable strategic plan. In it, work continues to expand training to improve crop management but also institutional measures that strengthen and improving the livelihoods of cocoa farmers.

Furthermore, the exchange of technical knowledge and institutional strengthening is crucial for identifying and prioritizing needs and establishing specific actions that contribute to the sustainable development of the region, thus fostering local economic growth and improving the livelihoods of cocoa farmers. By strengthening the coordination among actors in the production chain, a solid foundation is created that facilitates continuous strengthening and effective management. This strategic collaboration not only benefits farmers by improving their practices and increasing their productivity but also promotes sustainable practices and more responsible management of natural resources.

Thus, the sustainable development of crops and rural communities depends to a large extent on the promotion of economic activities such as cocoa cultivation carried out in productive and environmentally friendly ways. This requires not only efficient crop management but also institutional measures that strengthen infrastructure and generate equitable opportunities for all involved. By prioritizing sustainability and equity in rural development, we can build a more prosperous and harmonious future for communities, where agriculture and environmental conservation go hand in hand.

Cocoa has become an opportunity to generate income, to put down roots, and to start over—with more knowledge, more care for the environment, more sense of belonging and more trust in farmers, including those who were displaced by violence.

Jhon Jairo Hurtado. Researcher, Alliance of Bioversity International and CIAT. Member of Work Package 3, AgriLAC Resiliente Initiative
Schelling processing post harvest practices training, Chiquimula, Guatemala.
Credit: Daniela Arce Gómez, Alliance of Bioversity International and CIAT

Practice sessions for rain gauges measure, Choluteca, Guatemala.
Credit: Elsi Herrera, Alliance of Bioversity International and CIAT.