




CGIAR Research Initiative on **Climate Resilience**

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CGIAR Technical Reporting 2023

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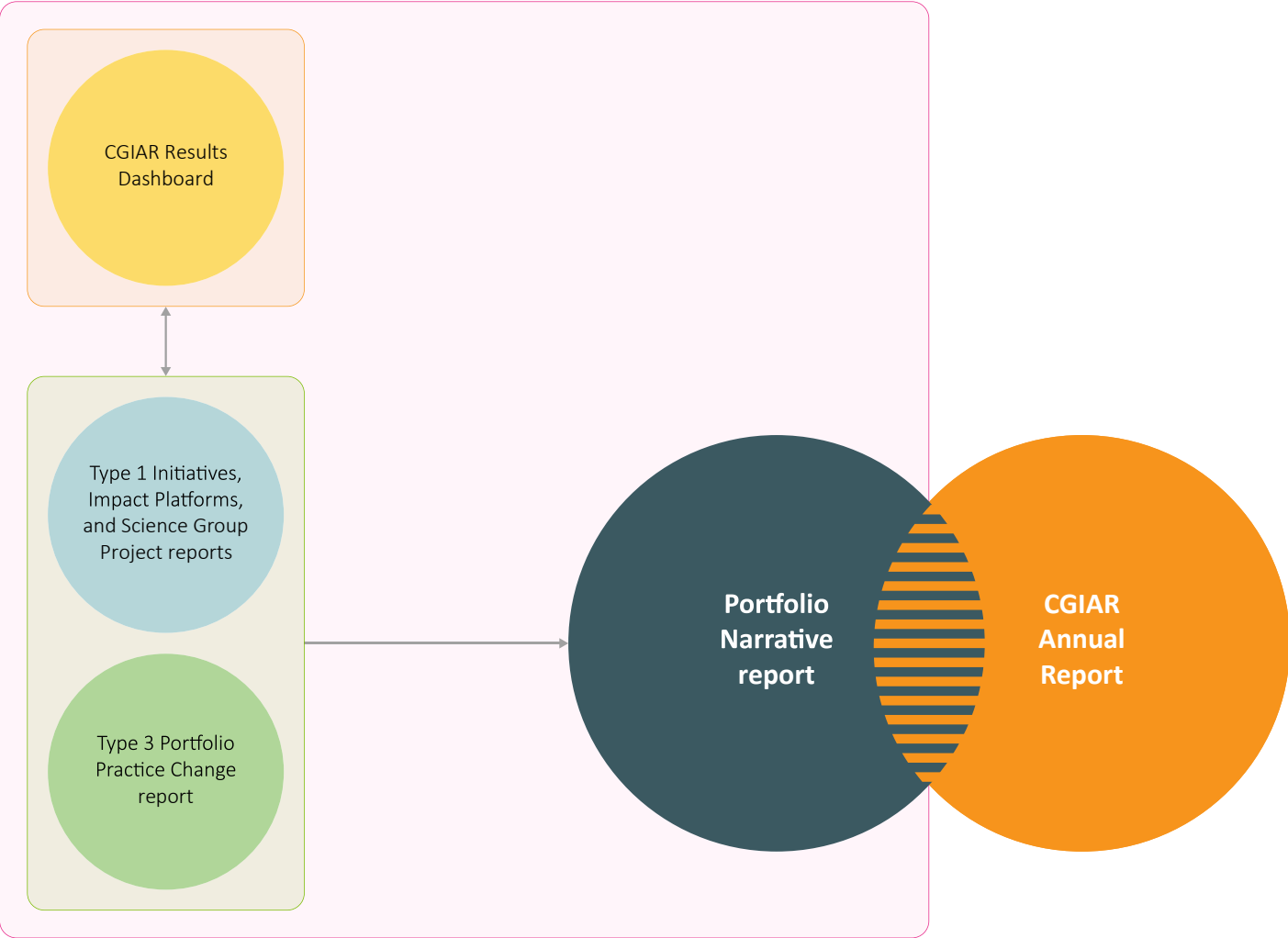
CGIAR Technical Reporting 2023

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

Initiative name	CGIAR Research Initiative on Climate Resilience
Initiative short name	Climate Resilience (ClimBeR)
Initiative Lead	Ana Maria Loboguerrero (a.m.loboguerrero@cgiar.org)
Initiative Co-lead	Jon Hellin (j.hellin@irri.org)
Science Group	Systems Transformation
Start – end date	01/01/2022 – 31/12/2024
Geographic scope	Regions Central and West Asia and North Africa · East and Southern Africa · Latin America and the Caribbean · Southeast Asia and the Pacific · West and Central Africa Countries Guatemala · Kenya · Morocco · Philippines · Senegal · Zambia
OECD DAC Climate marker adaptation score ¹	Score 2: Principal The activity is principally about meeting any of the three CGIAR climate-related strategy objectives—namely, climate adaptation and climate policy—and would not have been undertaken without this objective..
OECD DAC Climate marker mitigation score ¹	Score 1: Significant The activity contributes in a significant way to any of the three CGIAR climate-related strategy objectives—namely, climate adaptation and climate policy—even though it is not the principal focus of the activity.
OECD DAC Gender equity marker score ²	Score 1B: Gender responsive On the top of the minimum requirements for 1A, the Initiative/project includes at least one explicit gender equality outcome, and the Initiative/project team has resident gender expertise or capacity. The Initiative/project includes indicators and monitors participation and differential benefits of diverse men and women.
Website link	https://www.cgiar.org/initiative/climate-resilience/

¹ The Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) markers refer to the OECD DAC [Rio 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 adapted 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.

These scores are derived from [Initiative proposals](#), and refer to the score given to the Initiative overall based on their proposal.

EXECUTIVE SUMMARY

In 2023, the CGIAR Research Initiative on Climate Resilience (ClimBeR) continued to build the adaptive capacity of food, land, and water systems in low- and middle-income countries. ClimBeR shaped local, national, and regional adaptation policies; delivered bundled climate services to more than 1 million farmers in its focus countries; provided technical assistance to enable partners to access US\$250 million from the Green Climate Fund (GCF) in Kenya and the Philippines; and trained 1,500 stakeholders in topics related to climate resilience.

Most of ClimBeR’s 2023 results were achieved in six focus countries: Guatemala, Kenya, Morocco, the Philippines, Senegal, and Zambia, but there were spillovers such as demand-driven interventions requested by the government of Sri Lanka.

Key highlights include:

- In Guatemala, ClimBeR contributed to the dissemination of climate information to farmers and supported the National Institute for Seismology, Vulcanology, Meteorology and Hydrology (INSIVUMEH) to develop its National Framework on Climate Services.
- ClimBeR researchers co-designed bottom-up pathways for food systems transformation with Indigenous- and women-led organizations, along with other marginalized groups.
- In Kenya, the Ministry of Environment, Climate Change, and Forestry incorporated climate security into the third National Climate Change Action Plan (NCCAP 2023–2027). ClimBeR’s climate security researchers collaborated with the Ministry of Agriculture and Livestock Development, Climate-Smart Agriculture Multi-stakeholder Platform, and Jomo Kenyatta University to develop a training course to enhance communities’ understanding of climate security and climate-smart agriculture’s contributions to peacebuilding.

- In Morocco, scientists validated the feasibility of climate adaptation options such as agroforestry and conservation agriculture with farmers, the National Institute of Agronomic Research in Morocco (INRA), and other stakeholders in the Meknes region. ClimBeR also evaluated trade-offs between intensification options, including drought-tolerant varieties, and other environmental and sustainability pillars to help policymakers understand the potential impacts of intensification policies.
- In the Philippines, ClimBeR, the Philippine Rice Research Institute, and the Philippine Crop Insurance Corporation began to design an area-based yield index insurance with the potential to benefit 2.4 million farmers. ClimBeR is also co-developing the Rice Crop Manager Advisory Service (RCMAS) Climate+, a digital solution to provide farmers with actionable, climate-adjusted, and relevant crop management recommendations, based on a request from the Philippine government.
- In Senegal, gender-specific climate and nutrition information services were disseminated to more than 18,000 farmers (88 percent women) in collaboration with ClimBeR partners.
- In Zambia, the Ministry of Agriculture used the Zambia Drought Management System to effectively manage drought risks, and the [integrated Future Estimator for Emissions and Diets](#) (iFEED) framework on nutrition security under climate extremes informed the inclusion of beans in the Farmer Input Support Program (FISP).

ClimBeR scientists assessed [gendered credit constraints and uptake of risk-contingent credit](#) (RCC) to help smallholder farmers overcome barriers to accessing finance. ClimBeR examined best practices for [participatory program design for climate security](#) to support local communities to design climate adaptation strategies that contribute to sustainable peacebuilding. ClimBeR will continue to strengthen country-level coordination and engagement with policy partners to translate science into policies and impact, and integrate local voices to ensure top-down decisions are relevant to on-the-ground realities.

	2022	2023	2024
	▾	▾	▾
PROPOSAL BUDGET ▸	\$14.98M	\$14.98M	\$15.04M
APPROVED BUDGET ¹ ▸	\$9.48M	\$9.14M ²	\$6.78M ³

¹ The approved budget amounts correspond to the figures available for public access through the [Financing dashboard](#).

² This amount includes carry-over and commitments.

³ This amount is an estimation of the 2024 annual budget allocation, as of the end of March 2024.

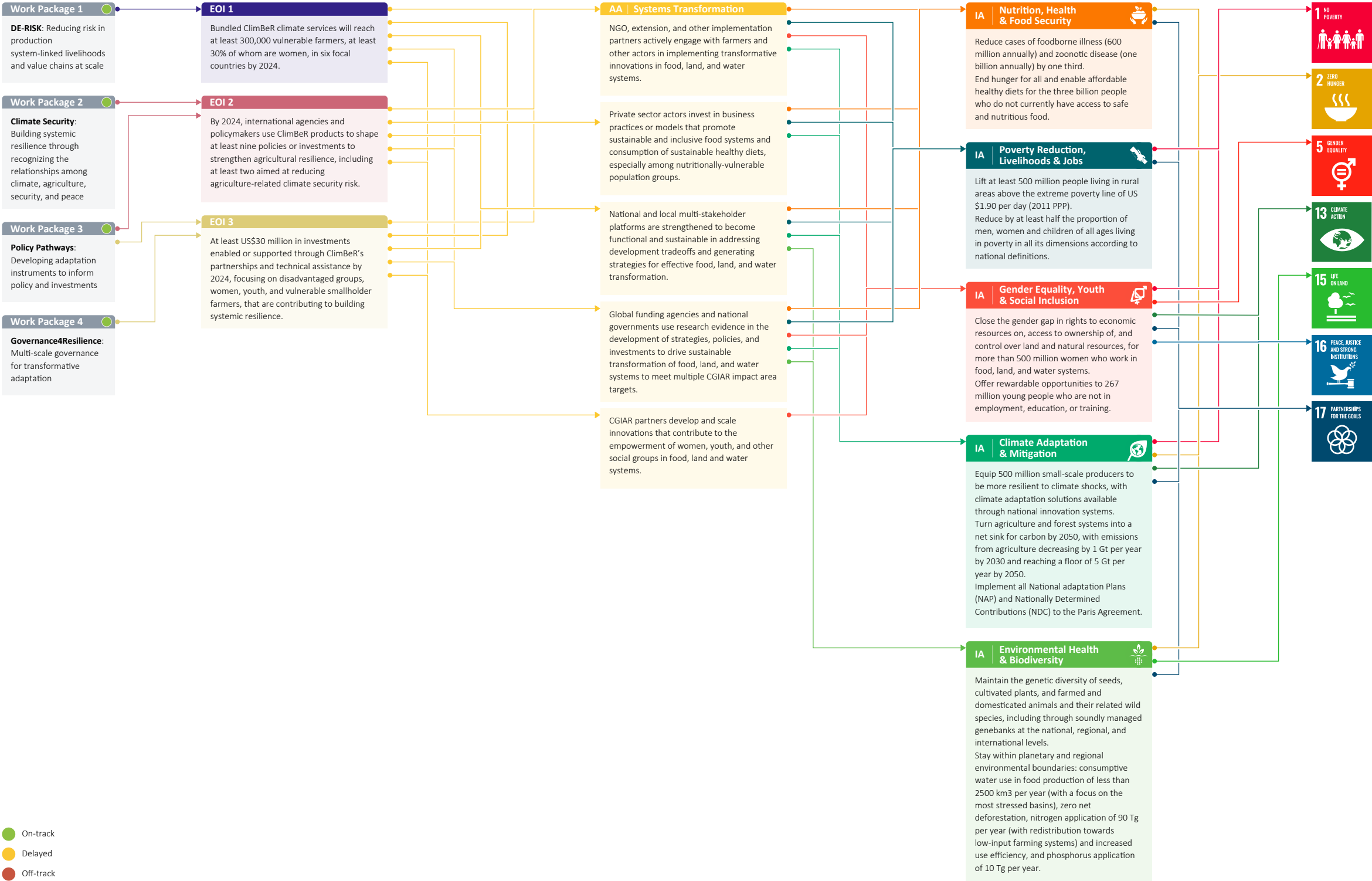


Droughts in Zambia’s southern province reduce water flow of the Lusitu River, part of the wider Zambezi River basin, which remains dry for most of the year. Credit: L. Medina/CGIAR

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

Note: A summary of Work Package progress ratings is provided in Section 3.



Summary of progress against the theory of change

In its second year of implementation, ClimBeR continued to build the adaptive capacity of food, land, and water systems in low- and middle-income countries. ClimBeR shaped local, national, and regional adaptation policies in four target countries and eastern Africa; delivered bundled climate services to more than 1 million farmers across five countries; provided technical assistance to enable partners to access US\$250 million from the GCF in Kenya and the Philippines; and trained approximately 1,500 stakeholders in various topics related to climate resilience.

The Initiative continues to generate evidence on transformative adaptation that addresses the root causes of vulnerability. For example, ClimBeR scientists assessed [gendered credit constraints and uptake of RCC](#) to help smallholder farmers overcome barriers to accessing climate finance. Our scientists also examined best practices for [participatory program design for climate security](#) to support local communities to design climate adaptation strategies that contribute to sustainable peacebuilding.

This year was productive for ClimBeR, marked by increased uptake of ClimBeR science and innovations by farmers, ministries, and nongovernmental organizations (NGOs). ClimBeR led or contributed to 355 results with the support of 64 staff across five CGIAR Centers and 236 partners. The Initiative developed 30 innovations and began to shape eight policies (reported as stage 1 and stage 2 policy change outcomes). ClimBeR scientists also trained approximately 1,500 stakeholders on topics such as climate security, GIS for climate-risk mapping, and index insurance. These results were largely achieved in ClimBeR's six focus countries: Guatemala, Kenya, Morocco, the Philippines, Senegal, and Zambia, with spillovers in their respective regions. Significant results achieved in each focus country are described below.

In Guatemala, ClimBeR continued to support INSIVUMEH to develop its National Framework on Climate Services to guide dissemination of climate information to farmers throughout the country. ClimBeR

researchers also co-designed bottom-up pathways for food systems transformation with Indigenous- and women-led organizations, along with other marginalized groups. The farmer organization Comité Campesino del Altiplano plans to use the transformation pathways in its 2024–2033 strategy.

In Kenya, the Ministry of Environment, Climate Change, and Forestry incorporated climate security into Kenya's third NCCAP. ClimBeR's climate security researchers are collaborating with the Ministry of Agriculture and Livestock Development, Climate-Smart Agriculture Multi-stakeholder Platform, and Jomo Kenyatta University to develop a [training course](#) to enhance communities' understanding of climate security and climate-smart agriculture's contributions to peacebuilding. In 2023, ClimBeR initiated an independent process evaluation in Kenya to assess the extent to which the Initiative is being implemented as planned. The evaluation will be completed by mid-2024.

In Morocco, scientists validated the [feasibility of climate adaptation options](#) such as agroforestry and conservation agriculture with farmers, INRA, and other stakeholders in the Meknes region. ClimBeR also [evaluated trade-offs](#) between intensification options, including drought-tolerant varieties of soft wheat and legumes, and other environmental and sustainability pillars to help policymakers understand the potential impacts of intensification policies.

In the Philippines, ClimBeR scientists partnered with the Philippine Rice Research Institute and the Philippine Crop Insurance Corporation to co-design an area-based yield index insurance with the potential to benefit [2.4 million farmers](#). Based on a request from the government of the Philippines, ClimBeR is co-developing RCMAS Climate+, a digital solution to provide farmers with actionable, climate-adjusted, and relevant crop management recommendations. RCMAS Climate+ is being institutionalized in the Philippines through government policies to enable the Department of Agriculture to provide climate-ready, tailored advisories to farmers.

In Senegal, gender-specific climate and nutrition [information services](#) were disseminated to more than 18,000 farmers (88 percent women) in collaboration with the Adaptation and Valorization of Entrepreneurship in Irrigated Agriculture (AVENIR) project. ClimBeR scientists also evaluated [best practices for co-production of decision-support frameworks](#) to bridge the science and policy gap, using climate information services in Senegal as one of several case studies.

In Zambia, multiple innovations were used to shape policy action. The Ministry of Agriculture used the [Zambia Drought Management System](#) to effectively manage drought risks in the country. iFEED modeled nutrition security under climate extremes in Zambia. Its findings demonstrated the importance of crop diversification to combat food insecurity from declining maize yields under climate change scenarios in 2050. iFEED informed the inclusion of beans in the FISP.

Based on ClimBeR implementation in 2022 and 2023, we learned to be nimble and adapt to policy opportunities as they arose. ClimBeR will continue to strengthen country-level coordination and engagement with policy partners to translate science into policies and impact, and integrate local voices to ensure top-down decisions are relevant to on-the-ground realities.

Social equity

ClimBeR's crosscutting research area on social equity provides a bird's-eye view of gender and social equity across the Initiative—an overarching vision and narrative for achieving Initiative outcomes and minimizing the risks of maladaptation. The team supports Work Packages to embed social equity and build synergies and also conducts stand-alone targeted research and operationalization.

Between November 2022 and April 2023, the Social Equity team implemented a Kenya "pilot" to support Work Packages to embed gender and social equity within their activities and build synergies across them. The Social Equity team supported Work Packages to conceptualize their narratives using the [social equity framework](#). This enabled teams to provide evidence on how ClimBeR actively works to create fair and sustainable transformational pathways for climate-resilient agriculture within the framework of social equity and inclusion.

The team's standalone research focused on multiple scales.

Community-level [Voices of Change](#) from Baringo in Kenya showcased audiovisual Indigenous communities' stories of climate adaptation, culminating in a [ClimBeR-led side event](#) and the development and dissemination of a [policy note](#) at the 28th Conference of Parties (COP28) in Dubai. In collaboration with the CGIAR Research Initiative on Livestock and Climate, the team designed and tested methodological social equity tools to understand how equity impacts adaptive capacity in smallholder and livestock communities in Kenya and the Philippines. The team is analyzing the Kenya and Philippines data. The Social Equity team also led an [article](#) that highlights the importance of social equity in relation to and for climate resilience.

Climate finance

Through ClimBeR's crosscutting research area on climate finance, the Initiative is making progress toward its 2024 investment target by effectively channeling scientific research into actionable strategies. ClimBeR's approach has been multifaceted—from developing a climate credit-scoring tool in collaboration with the Livestock and Climate Initiative, Financial Access Consulting Services, and other private sector partners to enhance access to finance in the livestock sector, to facilitating workshops with the United Nations World Food Programme (WFP) and the Ministry of Agriculture in Zambia to integrate credit and insurance, and to providing targeted training on index insurance in Zambia in collaboration with the CGIAR Research Initiative on Diversification in East and Southern Africa. These activities are part of ClimBeR's broader goal to fortify the agricultural sector against climate variability and increase smallholder resilience.

The Initiative is informing a concept note for a US\$50 million GCF project in Kenya through CGIAR's accreditation, focusing on innovative climate adaptation and mitigation strategies in partnership with the African Group of Negotiators Expert Support (AGNES) and the Global Green Growth Institute for the Government of Kenya. Similarly, ClimBeR informed proposed GCF investments in partnership with the International Union for Conservation of Nature (IUCN) in Uganda and Tanzania (with Livestock and Climate), amounting to more than US\$53.4 million and US\$49.2 million, respectively, which have been directed toward agricultural value chains and climate-risk analysis, ensuring that financial injections are both strategic and informed by scientific research.

As detailed in [CGIAR's position paper at COP28](#) through the Climate Impact Platform, the core of ClimBeR's advocacy is the strategic application of scientific research to influence policy and investment. This approach aims to not only direct climate finance but also maximize its effectiveness and impact. ClimBeR's collaboration in Senegal with the National Agricultural Insurance Company to promote index-based insurance demonstrates the Initiative's strategic application of scientific research to influence policy and investment. Through its commitment to infuse practical solutions with scientific insights and maximize its impact at multiple levels, ClimBeR is charting a course toward a more climate-resilient future for those most vulnerable.



Progress by End of Initiative outcome

EOIO 1: Bundled climate services developed by the Initiative will reach at least 300,000 vulnerable farmers, at least 30 percent of whom are women, in six focal countries by 2024.

Bundled climate services reached 1.5 million farmers, approximately 43 percent women in five countries in 2022-2023. Most of these climate services were disseminated through Shamba Shape Up in Kenya, which broadcasted bundled climate information and agro-advisories to 1.2 million farmers (approximately 41 percent women), in collaboration with Livestock and Climate, Diversification in East and Southern Africa, and Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA).

EOIO 2: By 2024, international agencies and policymakers use ClimBeR products to shape at least nine policies or investments to strengthen agricultural resilience, including at least two aimed at reducing agriculture-related climate security risk.

ClimBeR science began shaping eight policies in 2023. ClimBeR science on climate security risks informed the Intergovernmental Authority on Development (IGAD) Climate Adaptation Strategy (2023-2030) and Kenya’s third NCCAP 2023-2027. In collaboration with local partners, ClimBeR co-generated climate-risk maps that are being used to inform local adaptation plans in Guinayangan, Quezon, and Camarines Sur provinces in the Philippines. ClimBeR science also shaped Guatemala’s National Framework on Climate Services and the implementation of Zambia’s FISP. ClimBeR continues to engage in several policy processes in 2024 to achieve this End of Initiative outcome (EOIO).

EOIO 3: At least US\$30 million in investments enabled or supported through ClimBeR’s partnerships and technical assistance by 2024, focusing on disadvantaged groups, women, youth, and vulnerable smallholder farmers, who are contributing to building systemic resilience.

ClimBeR is providing technical assistance to partners to enable access to US\$50 million in Kenya and US\$200 million in the Philippines to invest in climate resilience-building activities. In addition, ClimBeR provided technical assistance to the IUCN, together with Livestock and Climate, to enable access to US\$100 million from the GCF.

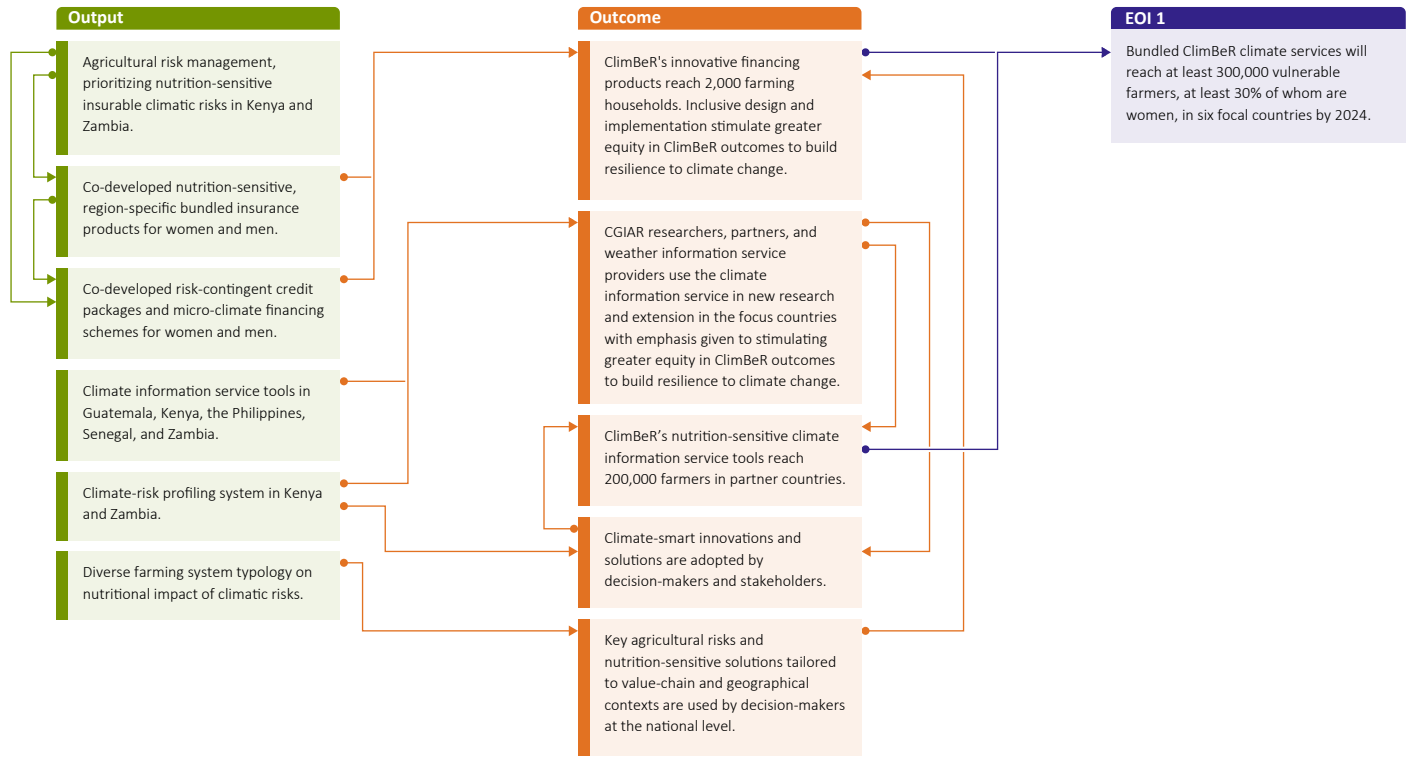


ClimBeR is catalyzing community-led climate adaptation in Monze’s Hanzila community through the community-led solar-powered borehole activity in collaboration with local authorities. Credit: ClimBeR

Section 3: Work Package progress

WP1: De-RISK

On track



Work Package 1 progress against the theory of change

ClimBeR's bundled climate services reached more than 1.5 million smallholder farmers. In Kenya, 1.2 million farmers (41 percent women) received climate information and agro-advisories through Shamba Shape Up, an edutainment series produced by Mediae, in collaboration with Livestock and Climate, Diversification in East and Southern Africa, and AICCRA. The series included information on climate-smart agricultural practices, crop insurance, and farming financial literacy. A [survey](#) found that 88 percent of respondents claimed to have made changes to their farming activities thanks to Shamba Shape Up, such as growing different crops and using manure.

In Senegal, 18,021 farmers (88 percent women) received weather forecasts bundled with nutrition information and agro-advisories in collaboration with AVENIR. Climate resilience agro-advisories reached 196,425 farmers (49 percent women) in Zambia through Mediae's Munda Makeover series produced in collaboration with Diversification in East and Southern Africa and AICCRA. A [survey](#) provides modest evidence that viewers increased their use of improved seeds and crop rotation as climate adaptation strategies as a result of the series.

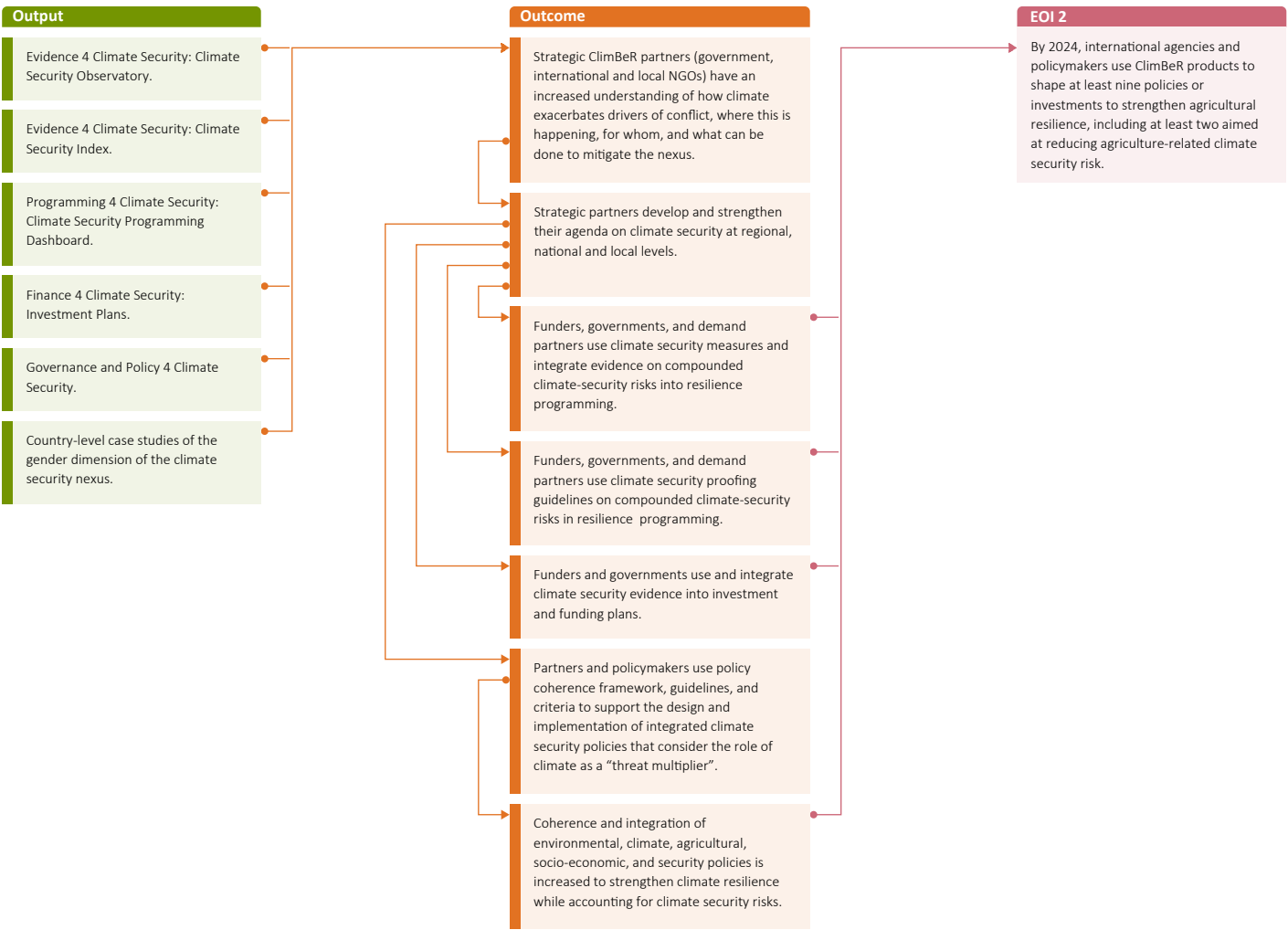
In Guatemala, an estimated 69,500 farmers received agroclimatic information through radio advertisements and 34,680 farmers

(50.5 percent women) received climate information and agro-advisories via local technical agroclimatic committees (LTACs) in collaboration with AgriLAC Resiliente, Livestock and Climate, and PRORESILIENCE. Through the LTACs, climate information experts and local stakeholders co-develop and disseminate climate forecasts and recommendations to farmers through bulletins and WhatsApp messages. ClimBeR is also developing [RCMAS Climate+](#) with the Philippines Department of Agriculture to provide climate-adjusted crop and nutrient recommendations to farmers through SMS and a one-page flyer.

ClimBeR continued to test the commercial viability of [RCC](#), a bundled credit and insurance product designed to reduce farmers' loan payments in case of drought. Using the [Reach-Benefit-Empower-Transform](#) framework and gender-specific training materials, ClimBeR trained approximately 3,000 farmers (39 percent women) to use RCC. Farmers were offered RCC via the [Digifarm](#) mobile app to reduce the transaction costs of delivery. In Machakos and Embu Counties in Kenya, 547 farmers were approved to receive RCC in partnership with Equity Bank, Family Bank, and APA Insurance. Initial findings show that farmers used RCC to purchase additional farming inputs. An evaluation will be conducted in 2024.

WP2: Climate security

On track



Work Package 2 progress against the theory of change

ClimBeR launched several innovations to strengthen capacity and knowledge on the climate security nexus. This includes the [Climate Security Observatory](#) (CSO), which hosts quantitative and qualitative analyses of the interactions between climate and conflict for 13 countries, in collaboration with the Fragility, Conflict, and Migration, Livestock and Climate, and AgriLAC Resiliente Initiatives; the [Climate Security Sensitivity Tool](#) and the [Climate Security Programming Dashboard](#), which were launched to help partners increase the peace potential of climate policies and programs and reduce the risks associated with climate investments in conflict and fragile contexts. Tailored capacity-building exercises were also carried out globally with the [Cairo International Center for Conflict Resolution, Peacekeeping, and Peacebuilding](#) and with the [AGNES Leadership Academy](#) in Kenya, [Mindanao State University](#), and United Nations Development Programme in the Philippines, reaching 256 men and 186 women.

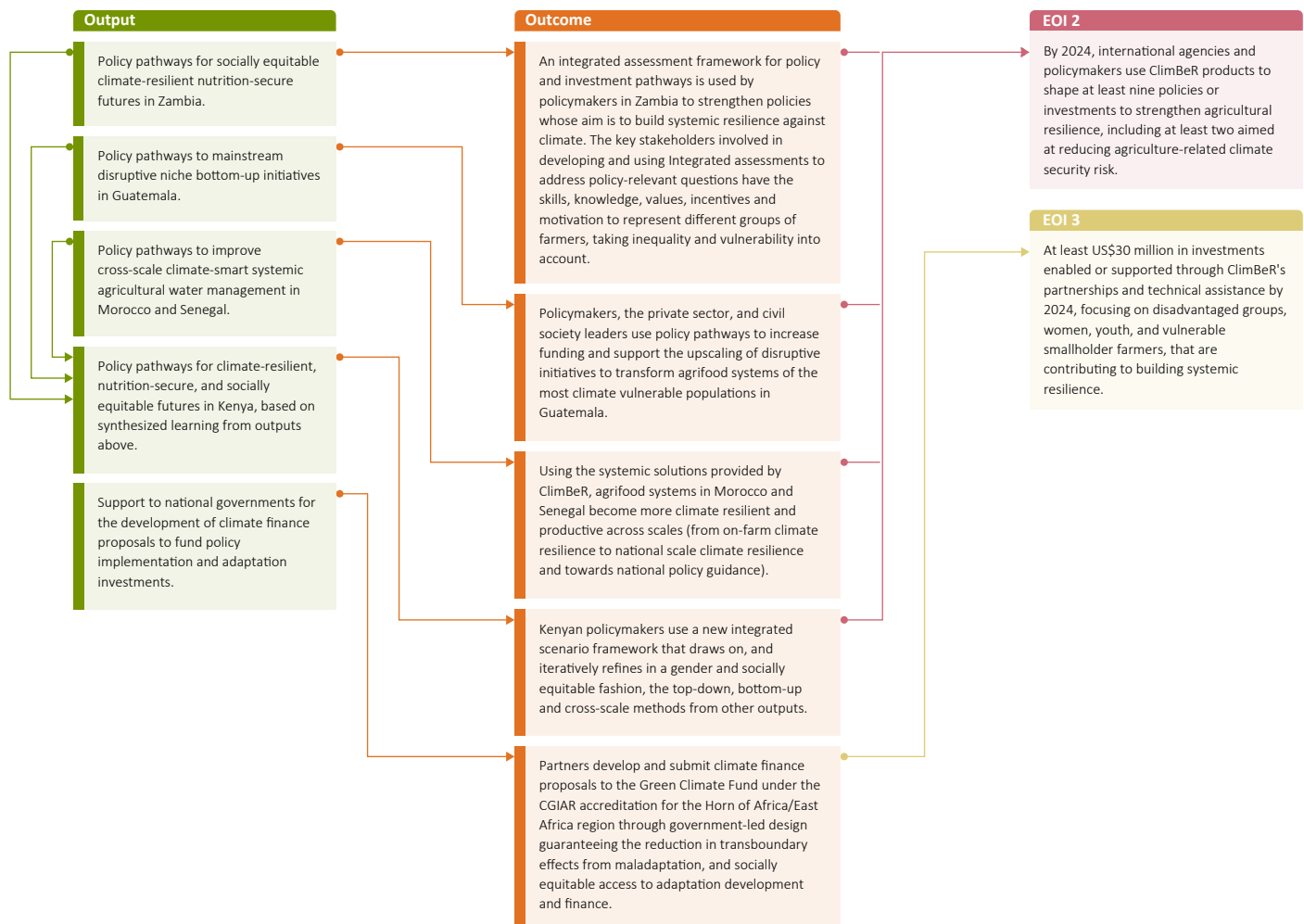
ClimBeR science strengthened strategic partners' climate security agenda to ultimately build systemic resilience of smallholder farmers and contribute to peace and security: (1) CSO evidence was used to raise awareness of the climate security nexus, and contribute to advocacy and policymaking at international, regional, and national levels, such as [the United Nations Security Council](#)

([1](#), [2](#)), AGNES ([1](#), [2](#)), IGAD-Centre of Excellence for Climate Change Adaptation and Environmental Protection (CAEP) ([1](#), [2](#), [3](#)), the [IGAD Climate Predictions and Applications Centre](#), [Pan-African Media Alliance for Climate Change](#), and the [African Centre for the Constructive Resolution of Disputes](#); (2) [Climate-Smart Agriculture Multi-stakeholder Platform](#) developed a training module on climate adaptation for peace in collaboration with Jomo Kenyatta University and ClimBeR in Kenya, to be piloted in 2024; (3) in Senegal, [Comité National Sur Les Changements Climatiques](#) held consultations for the inclusion of climate security in the Ministry of Environment and Sustainable Development's [Climate Change Division](#) based on an [analysis](#) by the [Ecological Monitoring Center](#); and 4) ClimBeR was invited to include a climate security lens in both the National Adaptation Plan and the Green Growth Strategy of the [Ministry of Green Economy and Environment](#) in Zambia.

ClimBeR also informed the development of the following policies and strategies: the [IGAD-CAEP Regional Strategy](#), [African Union Peace and Security Council African Climate Security Risk Assessment report to inform the Common African Position on climate security](#), the Central American Integration System Regional Climate Change Strategy, and Kenya's third NCCAP 2023–2027.

WP3: Policy pathways

On track



Work Package 3 progress against the theory of change

ClimBeR made significant progress in 2023, delivering scientific outputs according to the TOC. Using iFEED, ClimBeR modeled future pathways toward nutrition security in Zambia under climate extremes, publishing an [article in Nature Food](#) in January 2024. The Initiative showcased iFEED at a side event at COP28, highlighting its contributions to the Second-Generation Agriculture Policy via its FISP.

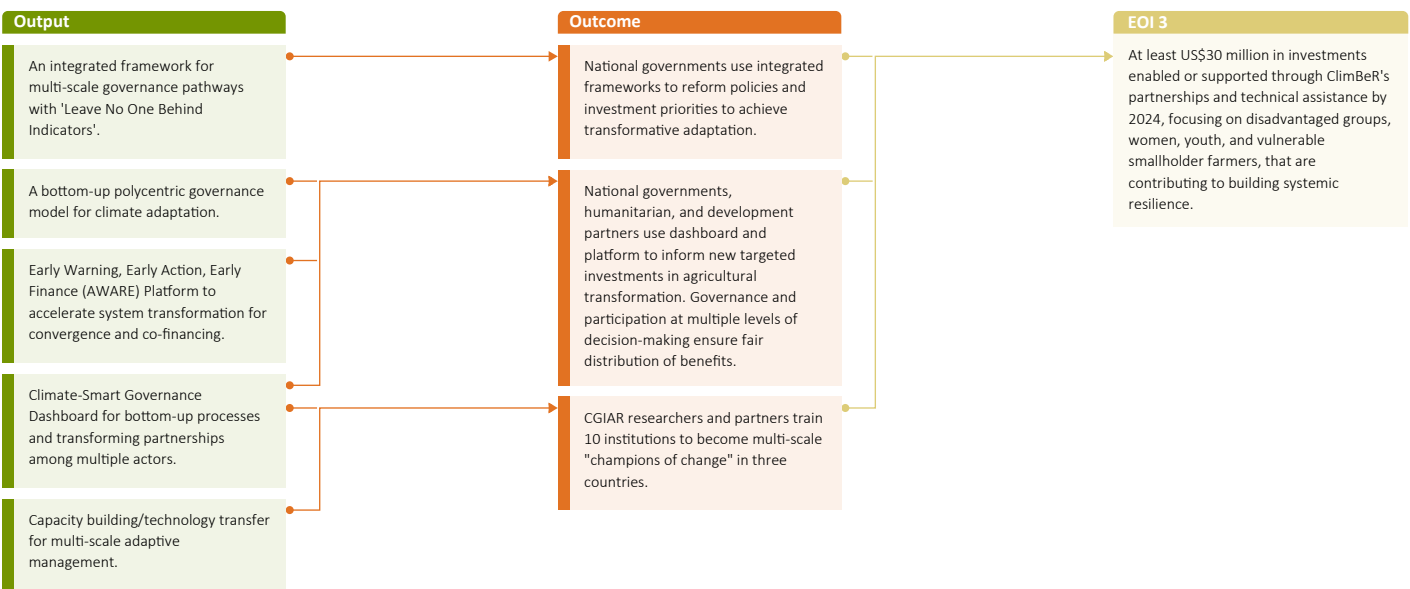
In Guatemala, ClimBeR established a community of actor coalitions in May 2023 to implement transformative pathways that scale niche, community-led initiatives known as “[Disruptive Seeds](#).” The Disruptive Seeds community co-developed and used explorative scenarios about possible futures to define recommendations for improving food systems transformation pathways in the face of future uncertainty. In February 2024, four community member organizations (Comité Campesino del Altiplano, Comité de Unidad Campesina, Nuevo Día, and Unión Verapacense de Organizaciones Campesinas) signed an agreement with President Arévalo to address priorities for rural development, which are part of the Disruptive Seeds transformation pathways. This includes conflict in rural areas, access to land, rural economy, and a permanent mechanism to facilitate engagement between the government and farmer organizations.

In Morocco, ClimBeR contributed to the [Rabat Declaration on Conservation Agriculture](#) to mainstream conservation agriculture. ClimBeR initiated several provincial-level multistakeholder working groups, connecting agriculture and water sector decision-makers to guide water-related climate adaptation programs (such as efficient irrigation for olive and citrus orchards, cereals and legumes, and groundwater). One basin agency (Sefrou) is building new capacity, using the aquifer co-management decision-support toolbox and Ground’Wag’Er serious game to facilitate their participatory foresight planning in 2024. A water-energy-food-environment nexus platform was established in Meknes to assess future resilience scenarios.

In Senegal, a [science-policy dialogue](#) conducted in December 2023 led to clear demand from several national agencies to improve coherence between crop diversification strategies related to Plan Senegal Emergent’s import substitution and national policies on climate adaptation on value chains such as rice and dryland cereals. Evidence from [studies on co-creation in multidisciplinary working groups](#) is helping the Senegal National Agency of Civil Aviation and Meteorology (ANACIM) advocate for better institutional support to deliver climate services (in coordination with Work Package 1). In Kenya, Work Package 3 is integrating Disruptive Seeds and catchment-scale water management approaches into iFEED scenarios.

WP4: Governance4Resilience

On track



Work Package 4 progress against the theory of change

ClimBeR launched the Early Warning, Early Action, Early Finance (AWARE) platform in Zambia in collaboration with the Disaster Management and Mitigation Unit for anticipatory action, and a Climate-Smart Governance Dashboard with the Ministry of Green Economy and Environment for national adaptation planning. These innovations aim to guide climate-risk management investments to mitigate climate shocks. ClimBeR also launched AWARE in Senegal with the support of ANACIM and trained other relevant agencies.

ClimBeR supported a [locally led adaptation program](#) in Zambia’s Monze district, providing a solar-powered borehole for more than 900 households, benefiting 6,000 individuals through clean water access for multiple uses. ClimBeR also conducted an [anticipatory action drill](#) using early-warning information from the AWARE platform with marginalized rural communities in Sri Lanka in collaboration with World Vision Lanka, the district-level Disaster Management Center, and the National Disaster Relief Services Centre. This demonstrates how the Initiative’s polycentric governance framework helps transform food, land, and water systems through partnerships

at multiple levels. ClimBeR spillover in Sri Lanka through Japan’s Ministry of Agriculture, Forestry, and Fisheries support is widely appreciated by government partners.

In Morocco, ClimBeR assessed [transformative adaptation options](#) to enhance climate resilience and rural well-being. This analysis also informed a multiscale polycentric governance tool guide for future interventions. In Sri Lanka, this framework was adapted by provincial and local government to analyze the transformative potential of tank cascade-based adaptation, with surveys completed and analysis ongoing. Results will inform improvements in transformative adaptation and future planning. The Initiative conducted institutional mapping and analyses of governance issues for sustainable water management at subnational levels in Sri Lanka. Meanwhile, in Senegal, ClimBeR conducted an institutional mapping analysis to understand the use of polycentric governance in transformative adaptation. The Initiative also analyzed data availability to track progress on “Leave No One Behind” indicators related to the 2030 Agenda for Sustainable Development.

Work Package progress rating summary

WORK PACKAGE	PROGRESS RATING & RATIONALE
1	<div><div></div><div>Progress rating</div></div> <p>Our progress so far has exceeded the theory of change (TOC) objectives; 1.5 million smallholder farmers have been reached compared to the initial target of 300,000 (including at least 13 percent more women than the target figure). These outcomes were jointly achieved with Diversification in East and Southern Africa, Livestock and Climate, AgriLAC Resiliente, AICCRA, AVENIR, and PRORESILIENCE. In particular, the synergy between CGIAR Initiatives and bilateral projects through Shamba Shape Up and Munda Makeover significantly contributed to this overachievement. However, our definition of “reach” only reflects delivery and does not capture behavior change and whether this translated into use. An impact assessment to measure use is planned for climate services in Latin America through the Alliance of Bioversity International and CIAT. Additional impact assessments will be carried out in the future, subject to availability of resources.</p>
2	<div><div></div><div>Progress rating</div></div> <p>Overall, progress is in line with the Plan of Results as well as the TOC objectives and assumptions.</p>
3	<div><div></div><div>Progress rating</div></div> <p>On track overall. Progress to outcomes in Kenya is slightly delayed, but Kenya is Work Package 3’s principal focus in 2024. We have multiple pathways to the outcome defined through the policy linkages at both national and regional levels.</p>
4	<div><div></div><div>Progress rating</div></div> <p>We made progress across outputs in Work Package 4’s annual work plan and TOC in four countries due to limited time and resource constraints. In 2024, we plan to provide the research approach and findings to national partners in Guatemala and the Philippines for scaling.</p>

Definitions

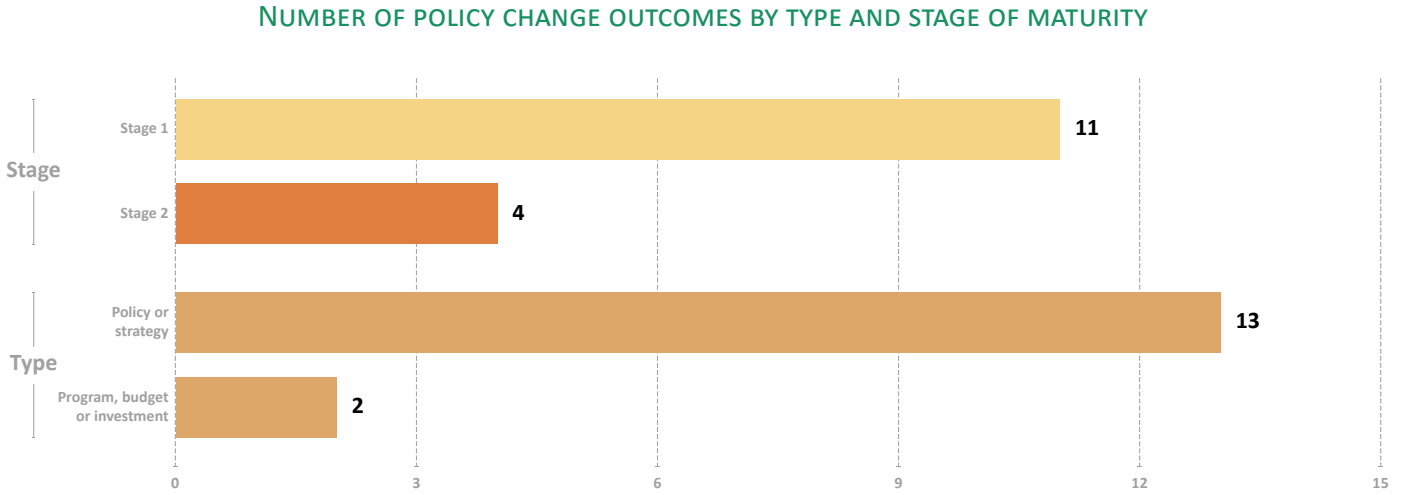
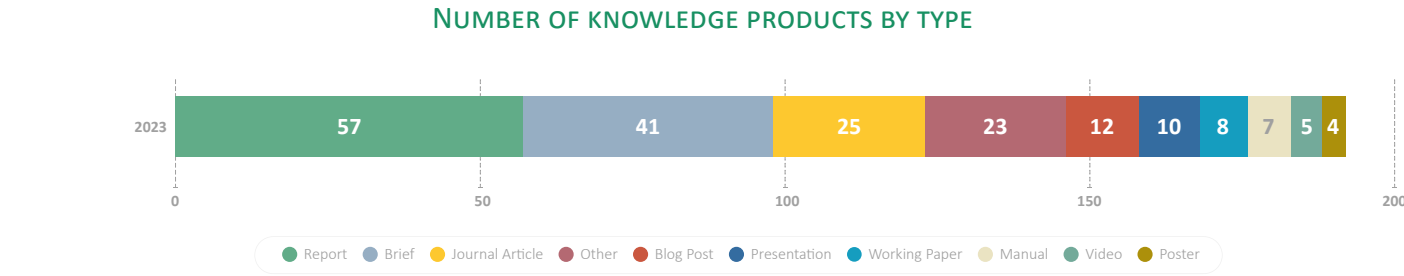
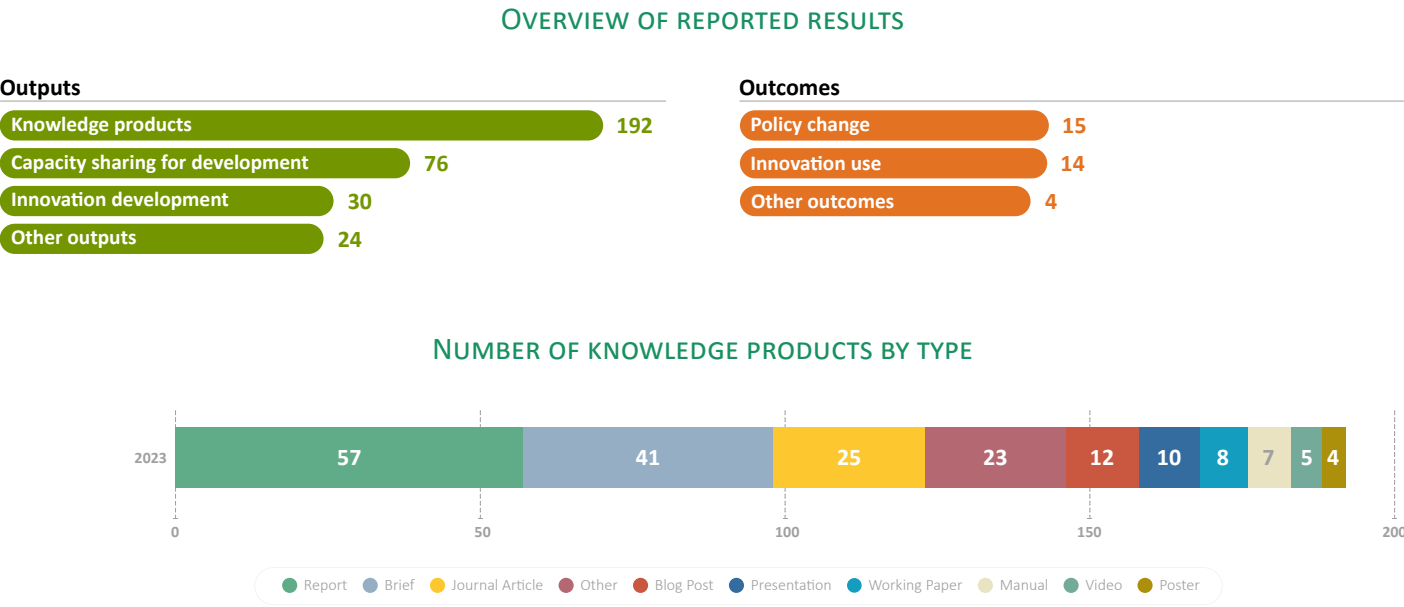
<div><div></div><div>On track</div></div> <ul style="list-style-type: none">Annual progress largely aligns with Plan of Results and Budget and Work Package theory of change.Can include small deviations/issues/delays/risks that do not jeopardize success of Work Package.	<div><div></div><div>Delayed</div></div> <ul style="list-style-type: none">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.	<div><div></div><div>Off track</div></div> <ul style="list-style-type: none">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.
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Public school in Zambia’s southern province.
Credit: L. Medina/CGIAR

Section 4: Key results

This section provides an overview of results reported by the CGIAR Research Initiative on Climate Resilience in 2023. These results align with the CGIAR Results Framework and Climate Resilience’s theory of change. Source: *Data extracted from the [CGIAR Results Dashboard](#) on 29 March 2024.*



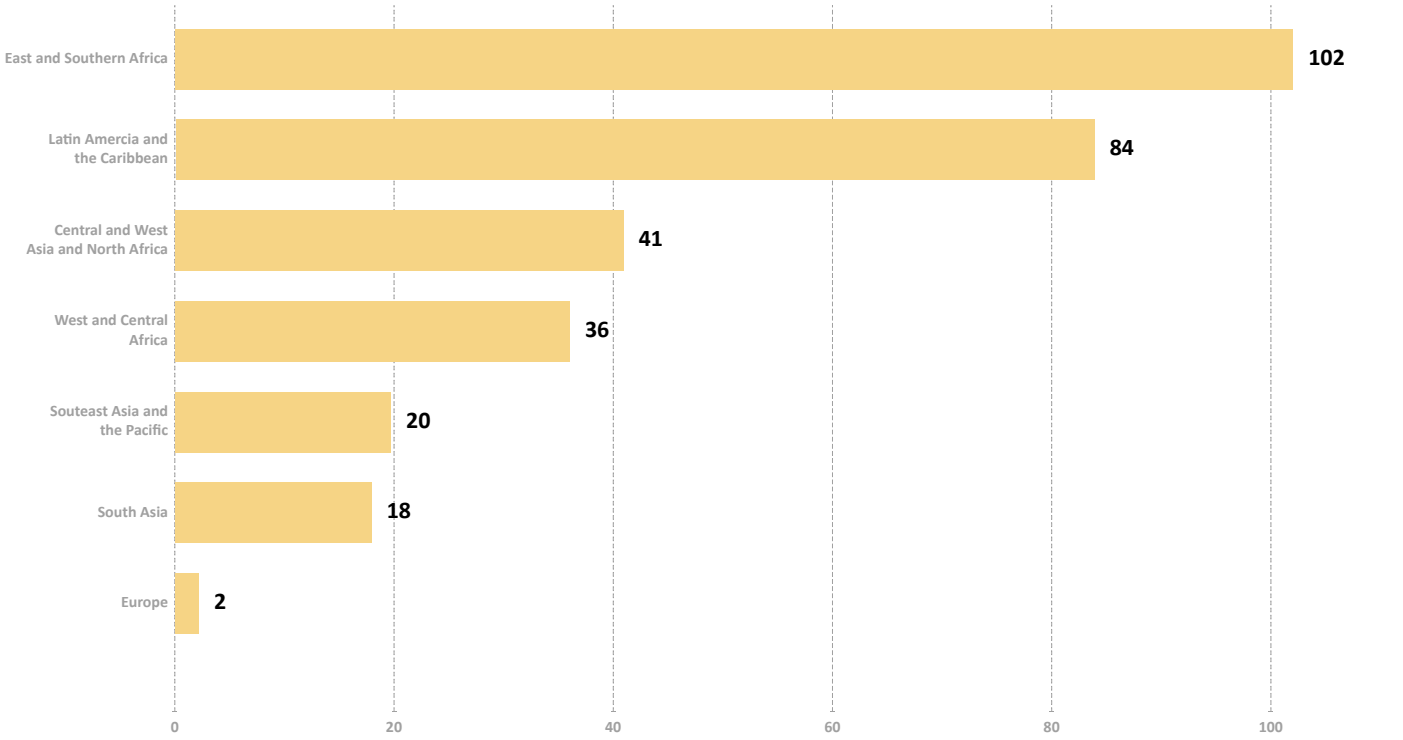
Stages

- **Stage 1:** Research taken up by next user, policy change not yet enacted.
- **Stage 2:** Policy enacted.

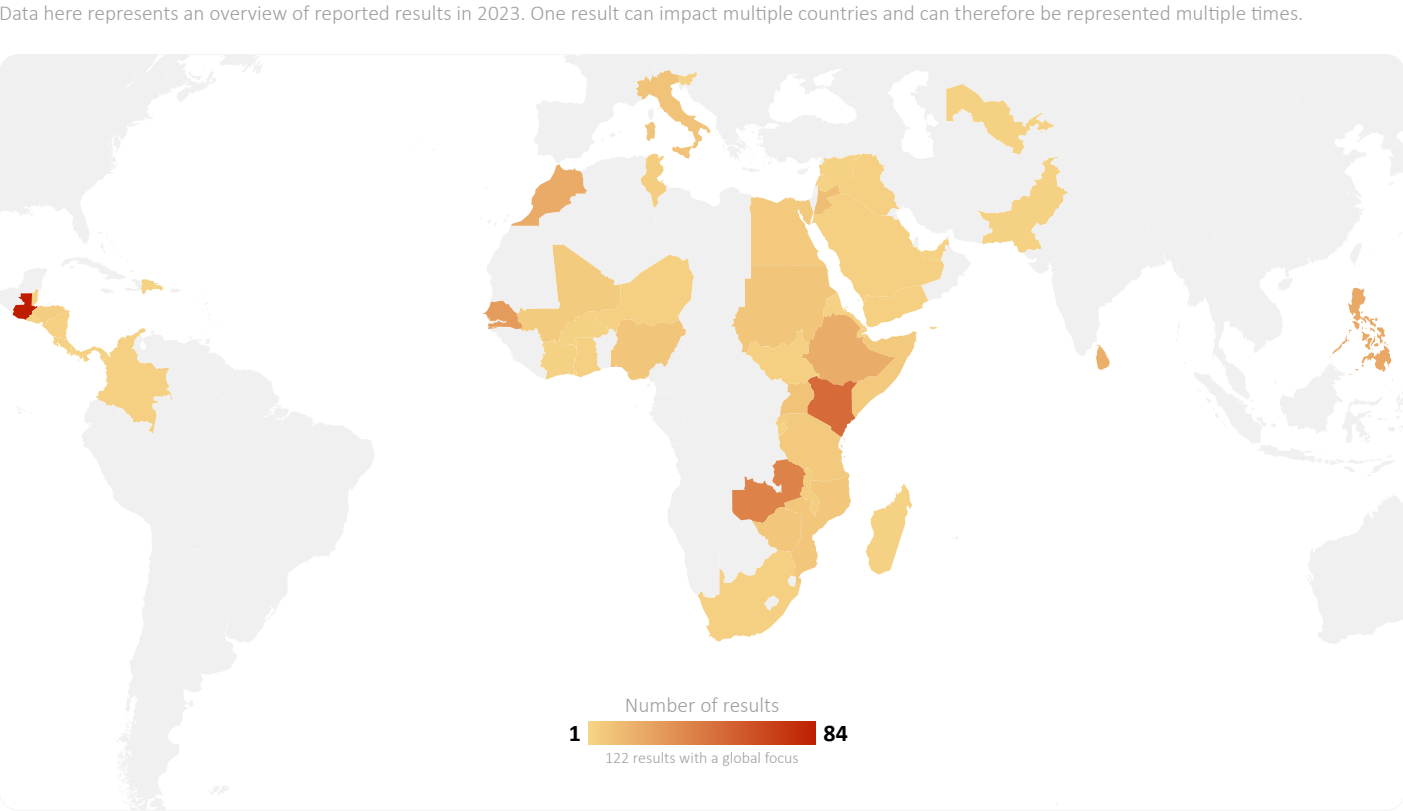
Policy types

- **Legal instrument:** Legal instruments include laws, which are defined as Bills passed into law by the highest elected body (a parliament, congress or equivalent); or regulations, which are defined as rules or norms adopted by a government.
- **Policy or strategy:** Policies or strategies include written decisions on, or commitments to, a particular course of action by an institution (policy); or a (government, NGO, private sector) high-level plan outlining how a particular course of action will be carried out (strategy). These documents show the intent of an organization or entity. Examples are country growth strategies, country agricultural policies, organization strategic plans or road maps. This could also be observed as information campaigns (e.g., for improved diets). These documents set the goalposts but then require other instruments for implementation.
- **Program, budget or investment:** These are implementing mechanisms that often follow from a strategy, policy or law. There is typically a well-defined set of actions outlined over a specific period of time and with a specific budgetary amount attached.

GEOGRAPHIC DISTRIBUTION OF RESULTS BY REGION



NUMBER OF RESULTS BY COUNTRY



NUMBER OF INNOVATIONS BY READINESS LEVEL

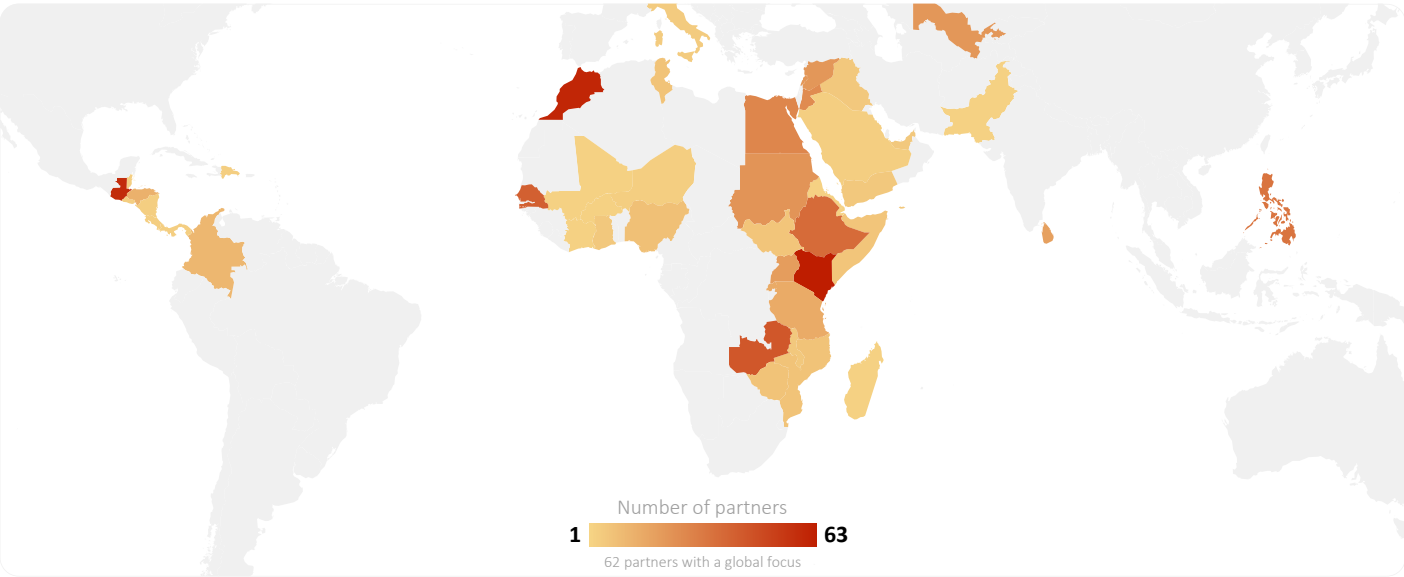
Pipeline overview		
# of innovations		
▼		
9	PROVEN INNOVATION The innovation is validated for its ability to achieve a specific impact under uncontrolled conditions	2
8	UNCONTROLLED TESTING The innovation is being tested for its ability to achieve a specific impact under uncontrolled conditions	4
7	PROTOTYPE The innovation is validated for its ability to achieve a specific impact under semi-controlled conditions	4
6	SEMI-CONTROLLED TESTING The innovation is being tested for its ability to achieve a specific impact under semi-controlled conditions	4
5	MODEL/EARLY PROTOTYPE The innovation is validated for its ability to achieve a specific impact under fully-controlled conditions	3
4	CONTROLLED TESTING The innovation is being tested for its ability to achieve a specific impact under fully-controlled conditions	5
3	PROOF OF CONCEPT The innovation's key concepts have been validated for their ability to achieve a specific impact	1
2	FORMULATION The innovation's key concepts are being formulated or designed	4
1	BASIC RESEARCH The innovation's basic principles are being researched for their ability to achieve a specific impact	1
0	IDEA The innovation is at idea stage	2



ClimBeR's ACTION grant programme in the Hanzila community of the Monze District in southern Zambia will also enable the community to experience and benefit from climate-smart practices, such as the distribution of quality seeds, enabling access to finance, which brings broader implications such as resilient development through greater economic power to cope with climate hazards and disasters, through the transformation of the community's land, water, and food systems. Credit: ClimBeR

Section 5: Partnerships

EXTERNAL PARTNERS CONTRIBUTING TO RESULTS, PER COUNTRY



Colors represent the number of different partners which collaborated on results achieved in a specific country. One result can impact different countries and therefore the same partner can be associated with more than one country. Source: Data extracted from the [Results Dashboard](#) on 29 March 2024.

Partnerships and Climate Resilience’s impact pathways

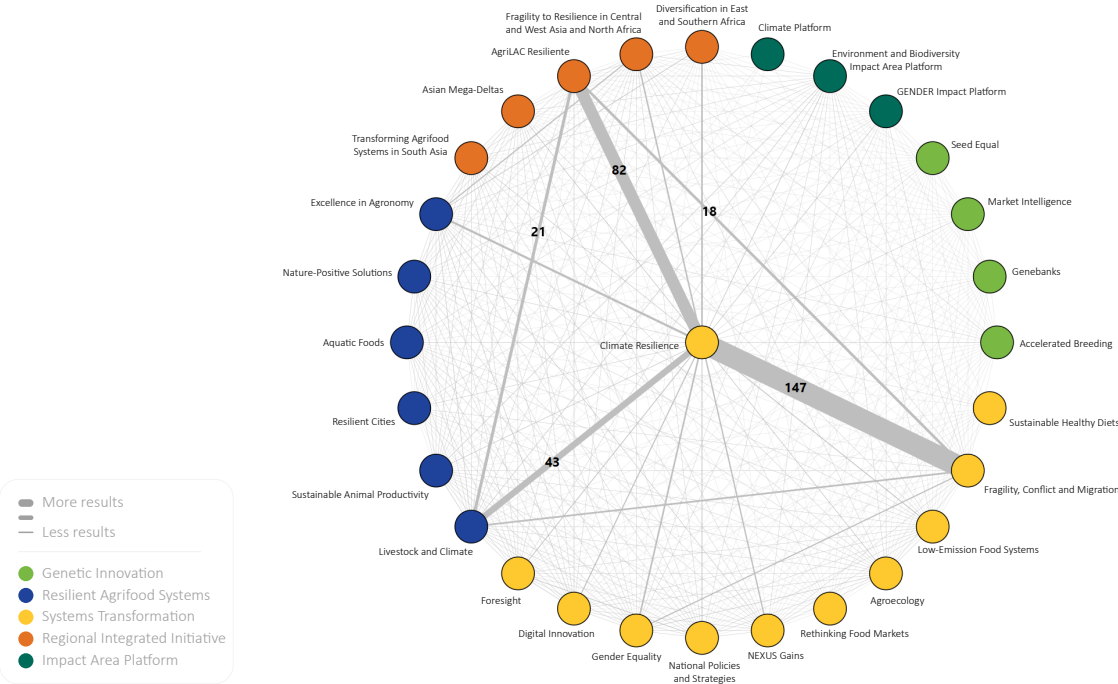
Building on a series of national workshops in 2022 in ClimBeR’s six focus countries (Guatemala, Kenya, Morocco, the Philippines, Senegal, and Zambia), ClimBeR worked to ensure that the work plan activities continue to be tailored to partners’ needs and opportunities for impact in each country. As a result of these approaches, the Initiative currently has a diverse portfolio of partners, including ministries, national and regional agencies, financial institutions, other private-sector organizations, farmer organizations, NGOs, and research centers. ClimBeR reported a total of 355 results in 2023 involving 236 partners. We also established several partnerships in 2023 with key organizations in the focal countries and regions where we work, including:

- A tri-partite partnership with the Philippine Crop Insurance Corporation, the Philippine Rice Research Institute, and IRR for the development and use of an area-based yield index insurance for rice in the Philippines, with the potential to benefit more than two million farmers.
- A partnership with the Kenya Ministry of Agriculture and Livestock Development’s Climate Change Unit and the Climate-

- Smart Agriculture Multi-stakeholder Platform to develop a training course on climate, peace, and security in the agriculture sector.
- Partnerships with ANACIM, Jokalante, and MLouma in Senegal; the Guatemala Ministry of Agriculture, Livestock, and Food; and INSIVUMEH to provide climate information and agro-advisories in Senegal and Guatemala.
- A partnership with the Zambia Ministry of Agriculture to develop and operationalize the [Zambia Drought Management System](#) to manage drought within the country.
- A partnership with the Centre for Minority Rights Development in Kenya to enhance social equity and engagement of Indigenous peoples in climate policies and action through advocacy tools such as the [Voices of Change](#) community stories of adaptation and resilience.
- A partnership with AGNES to support participatory processes and climate analyses to ultimately enable African countries such as [Kenya](#) and [Uganda](#) to access the GCF.

Section 6: CGIAR Portfolio linkages

CLIMATE RESILIENCE’S INTERNAL PORTFOLIO NETWORK



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

Portfolio linkages and Climate Resilience’s impact pathways

As part of the integration strategy within CGIAR’s research portfolio, ClimBeR collaborated with other Initiatives and bilateral projects on several innovations in the six focal countries (Guatemala, Kenya, Morocco, the Philippines, Senegal, and Zambia). This enabled us to map our activities with complementary research areas and capture synergies in Initiative outcomes to allow greater coordination, maximize CGIAR impact, and optimize the use of resources to avoid duplication. Some of the most significant advances in collaboration with other Initiatives and bilateral projects in 2023 include:

- Collaboration with Fragility, Conflict, and Migration on climate security research through CGIAR FOCUS Climate Security. CGIAR climate security research spans Work Package 2 (Climate security) in ClimBeR and Work Package 2 (BRIDGE: Conflict and emergency operations) in Fragility, Conflict, and Migration. This collaboration included co-developing the Climate Security Programming Dashboard and Climate Security Sensitivity Tool, as well as joint analyses on the climate security nexus in fragile and conflict-affected contexts.
- Collaboration with Fragility, Conflict, and Migration; AgriLAC Resiliente; and Livestock and Climate to provide evidence on the climate-peace-security nexus through policy processes and CGIAR’s CSO at a global, regional, and national level. This collaboration has resulted in several policy change outcomes at national and [regional](#) levels.
- Collaboration with Diversification in East and Southern Africa, Livestock and Climate, AgriLAC Resiliente, AICCRA, PRORESILIENCE, and AVENIR to extend climate resilience agro-advisories and nutrition advice to more than 1.5 million farmers in Guatemala, Kenya, Senegal, and Zambia.

- Collaboration with Promoting Resilience and Food Security through Risk-Contingent Credit in Africa, funded by BMZ, to extend RCC to more than 900 farmers in Ethiopia and Kenya, with plans to expand to Zambia.
- Collaboration with Excellence in Agronomy and Fragility to Resilience in Central and West Asia and North Africa in Morocco to provide evidence on conservation agriculture as an adaptation strategy.
- Collaboration with Transforming Agrifood Systems in West and Central Africa to scale AWARE in Nigeria and Rwanda, and collaboration with NEXUS Gains to scale the South Asia Drought Monitoring System with AICCRA in Zambia.
- Collaboration with the Fruit and Vegetables for Sustainable Healthy Diets Initiative to provide climate and agronomic services to increase fruit and vegetable intake and improve nutrition and health outcomes.
- Collaboration with Livestock and Climate to develop a climate-credit risk scoring system for livestock production systems to guide adaptation finance, and to develop a social equity tool for qualitative data collection to assess how social equity shapes adaptive capacity in smallholder and livestock communities.
- Collaboration with the CGIAR Gender Impact Platform to provide socially equitable policy inputs at a global scale. For example, during the [International Association for Feminist Economics Conference](#) in Cape Town, South Africa, the Gender Impact Platform organized a symposium on gender and social transformative change in agrifood systems, where ClimBeR presented research on [using an intersectionality lens](#) for a more nuanced understanding of factors affecting uptake of climate-smart agriculture.



The Manobo Indigenous Peoples within the Agusan Marsh Wildlife Sanctuary commonly live in elevated or floating houses as an adaptation mechanism to seasonal changes in water levels. Credit: L. Medina/CGIAR

Section 7: Adaptive management

RECOMMENDATION

Revise EOIO 2 to include the underlined text: “By 2024, international agencies and policymakers use ClimBeR products to inform and/or shape at least nine policies or investments to strengthen agricultural resilience, including at least two aimed at reducing agriculture-related climate security risk.”

Strengthen the role of country leads with financial resources and revised terms of reference to improve integration across Work Packages and coordinate policy engagement.

Develop country-level narratives to describe ClimBeR’s contributions in each country.

SUPPORTING RATIONALE

Since 2022, ClimBeR informed eight policies, including two that have been enacted (namely, stage 2 policy outcomes). The previous EOIO 2 assumed nine enacted policies would be shaped by ClimBeR research. This target proved to be very difficult to achieve in the three-year period due to challenges we did not foresee, such as identifying and engaging in relevant policy processes at the opportune time and delays in prolonged policymaking processes that are out of our control. The revision to include “inform and/or shape” allows the Initiative to capture when policymakers are using ClimBeR science in a policy process, but the policy has not yet been enacted (such as stage 1 policy outcomes). ClimBeR is engaged in several policy processes in 2024 to achieve the revised target.

During ClimBeR’s annual retreat in September 2023, the Initiative team and its partners reflected on implementation since February 2022. There was a consensus that we need to improve integration between Work Packages at the country level—through joint country-level work planning—and policy engagement. Country leads did not have dedicated financial resources to adequately coordinate activities and engagement in 2022 and 2023. In 2024, ClimBeR will allocate US\$10,000 per country lead and revise their terms of reference to strengthen their role to facilitate integration between Work Packages and engagement with policymakers.

During ClimBeR’s annual leadership team retreat in September 2023, participants identified the need to improve how the Initiative communicates its contributions and coherence between Work Packages at the country level. In 2024, ClimBeR’s communications team will prepare narratives that illustrate ClimBeR’s contributions and coherence in each country.

Section 8: Key result story

Putting climate security on African agendas

Evidence on climate security risks and best-bet resilience-building practices to inform common African agendas on climate, peace, and security.



Primary Impact Area



Other relevant Impact Areas targeted



Contributing Initiative

Fragility, Conflict, and Migration

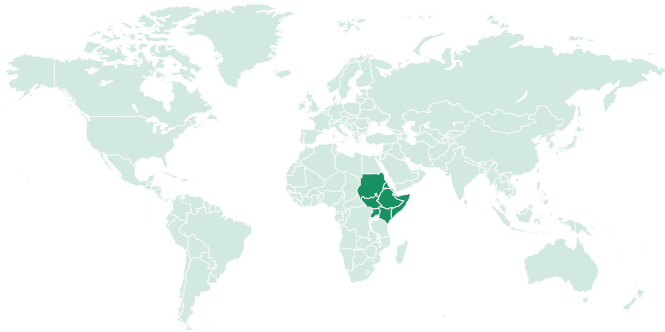
Contributing Centers

The Alliance of Bioversity International and the International Centre for Tropical Agriculture (CIAT)

Contributing external partner

Intergovernmental Authority on Development (IGAD)

Geographic scope



Country: Djibouti · Eritrea · Ethiopia · Kenya · Somalia · South Sudan · The Republic of the Sudan · Uganda

As climate impacts intensify and conflicts escalate, there is an increasing demand for evidence and capacity building on the linkages between climate, peace, and security. ClimBeR has contributed evidence on climate security risks and best-bet resilience-building practices to the African Union’s African Climate Security Risk Assessment and the IGAD-CAEP Climate Adaptation Strategy 2023-2030. ClimBeR has also briefed members of the UN Security Council and trained more than 250 policymakers and climate negotiators on how to build more resilient and peaceful societies.

In conflict-prone, marginalized areas across Africa, extreme climate variability amplifies existing risks and insecurities. Increasing pressure on limited resources causes social tensions, conflict, and potentially violence.

In response, ClimBeR has developed robust, localized, and policy-relevant evidence on climate security risks. Notably, its CSO pinpoints how, where, and who is impacted, and highlights risk mitigation options. This work has enabled ClimBeR researchers to respond to rising demand from national, regional, and international partners for evidence and capacity building.

In early 2023, ClimBeR was invited to contribute evidence on climate security risks to an African Climate Security Risk Assessment (ACRA) report, at the request of the African Union Peace and Security Council, to support the African Union and its member states in mobilizing a Common African Position on climate, peace, and security. ClimBeR researchers have contributed chapters to the report, outlining climate security risks in North, East, and Southern Africa and proposing best practices with the potential to address and mitigate these risks. An executive summary of the ACRA report was published in late 2023. The forthcoming complete report will inform the African Union Chairperson’s Report, which will serve as the foundation for the Common African Position on climate, peace, and security. The Common African Position will be used to discuss, negotiate, and advance the climate-peace-security nexus within member states and to identify opportunities to leverage climate

finance for adaptation projects in conflict-affected areas. It is slated to be developed in time for COP29 in 2024.

ClimBeR has also provided evidence and strategic input to the IGAD-CAEP in Eastern Africa as it developed its Climate Adaptation Strategy 2023-2030. ClimBeR researchers identified central challenges in the region and recommended measures to address climate security risks. The strategy—which was launched at COP28 in late 2023—is expected to support the IGAD member states to address their climate adaptation needs and priority actions, including climate security.

ClimBeR researchers have also shared evidence and insights with national and global stakeholders. In Kenya, ClimBeR ensured inclusion of the climate security dimension in the recently launched NCCAP. At the global level, ClimBeR researchers formally and informally briefed members of the UN Security Council in New York.

For policies and strategies to successfully address climate security risks in Africa, a greater, shared understanding of the issue among policymakers, leaders, and climate negotiators is essential. In 2023, ClimBeR researchers trained a total of 212 national climate negotiators, as well as representatives from the private sector and NGOs, as part of a Climate Governance, Diplomacy, and Negotiations Leadership Program hosted by the African Group of Negotiators Experts Support. The participants gained knowledge that enables them to identify and address climate security risks in their work. ClimBeR also worked with the Cairo International Center for Conflict Resolution, Peacekeeping and Peacebuilding to train 42 national policymakers on the role of food systems transformation in building peace and security.

These activities demonstrate how ClimBeR researchers have designed their interventions to prompt policy actors both across and beyond Africa to integrate climate security concerns into their programs and policy work to build more resilient and peaceful societies in the wake of the climate crisis.



I want to emphasize the importance of using sound scientific evidence, and that is why we are working with partners such as adelphi and CGIAR. This study will inform key decisions, and it will steer the direction of the African Group of Negotiators and different climate initiatives.

Tendai E. Kasinganeti, Climate Security Advisor at the African Union Commission



Front cover photo

Climate-smart village in Olopa, Guatemala. The villagers captured in this image are from the Chortí ethnicity and cultivate coffee and basic grains (maize and beans).
Credit: J.L.Urrea / CCAFS

Back cover photo

Senegal, 2015. Amy Ndiaye of Gnibi village is nicknamed Mme Météo, due to her enthusiasm for using and sharing climate forecasts in her community.
Credit: V.Meadu/CCAFS



INITIATIVE ON
Climate Resilience