



INITIATIVE ON
Rethinking
Food Markets



CGIAR Research Initiative on **Rethinking Food Markets**

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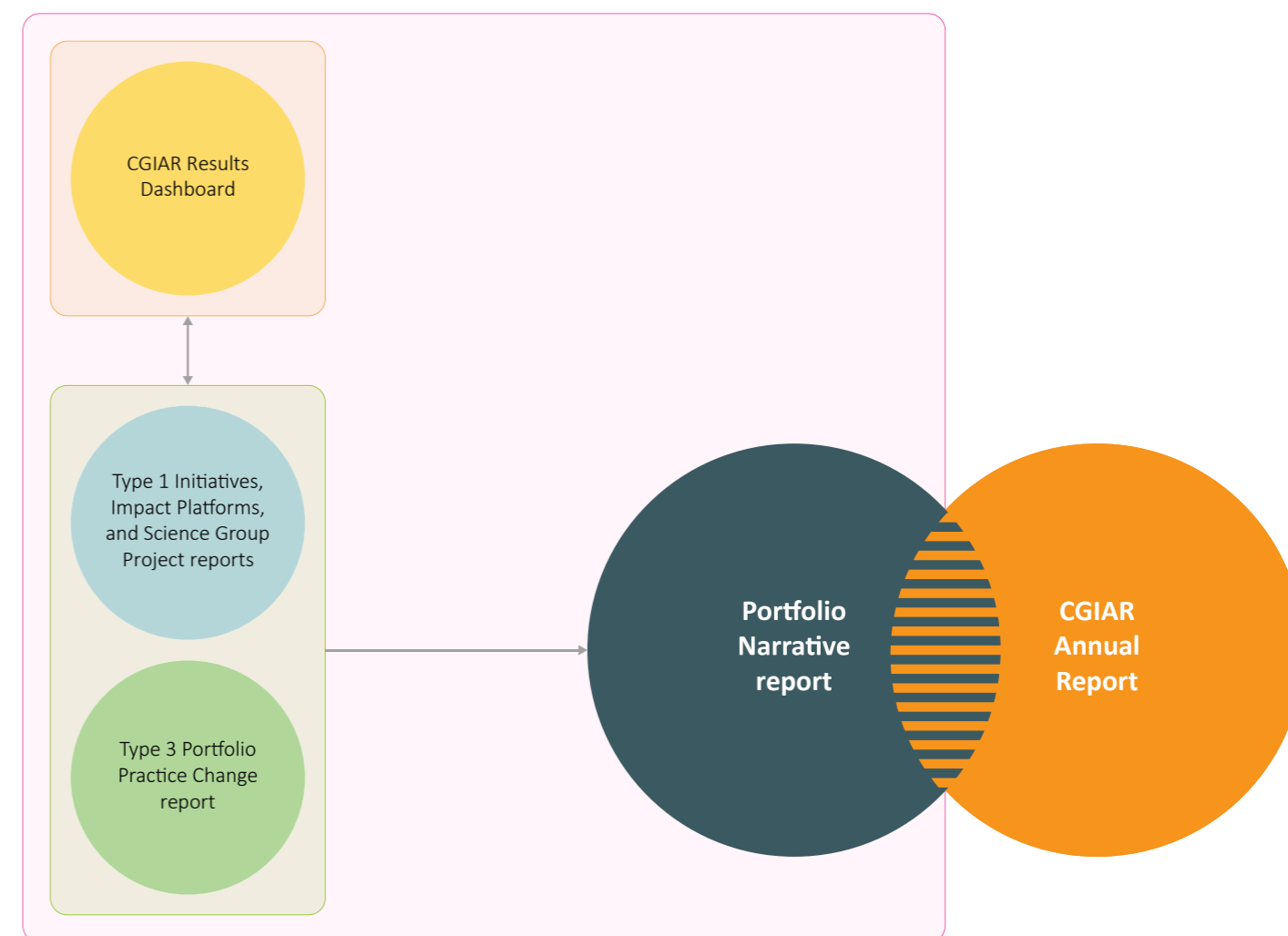
CGIAR Technical Reporting 2023

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 | Rethinking Food Markets and Value Chains for Inclusion and Sustainability |
| Initiative short name | Rethinking Food Markets |
| Initiative Lead | Rob Vos (r.vos@cgiar.org) |
| Initiative Co-lead | Christine Chege (c.chege@cgiar.org) |
| Science Group | Systems Transformation |
| Start – end date | 01/01/2022 – 31/12/2024 |
| Geographic scope | <p>Regions Central and West Asia and North Africa · East and Southern Africa · Latin America and the Caribbean · South Asia · West and Central Africa</p> <p>Countries Bangladesh · Ethiopia · Honduras · Nigeria · Uganda · Uzbekistan</p> |
| OECD DAC Climate marker adaptation score¹ | Score 0: Not targeted The activity does not target the climate mitigation, adaptation and climate policy objectives of CGIAR as put forward in its strategy. |
| OECD DAC Climate marker mitigation score¹ | Score 1: Significant The activity contributes in a significant way to any of the three CGIAR climate-related strategy objectives – namely, climate mitigation, climate adaptation and climate policy, even though it is not the principal focus of the activity. |
| OECD DAC Gender equity marker score² | Score 1A: Gender accommodative/aware 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. |
| Website link | https://www.cgiar.org/initiative/29-rethinking-food-markets-and-value-chains-for-inclusion-and-sustainability/ |

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

Many of the world's poor depend on the food system for their livelihoods, in terms of income and employment, and increasingly in off-farm food sector activities. However, despite increasing agricultural productivity and technological and institutional innovations along value chains, most workers employed in the agrifood sector and their families remain poor and cannot afford the cost of a nutritious diet. Many women and youth who work in the food system face hurdles in accessing resources and receiving decent pay. Further, the agrifood sector's current operations are leaving a major environmental footprint, contributing to climate change and depletion of natural resources. To address these major food system challenges, the **Rethinking Food Markets Initiative** is generating evidence on the innovations, incentives and policies most effective for steering food market functioning towards the creation of equitable income, employment, and business opportunities for smallholders, small businesses (SMEs) and workers, and especially for women and youth amongst them, along agrifood value chains, while also reducing the food sector's environmental footprint.

Initiative researchers are working with local researchers and food sector stakeholders in six focus countries to provide new knowledge on combinations of innovations and policies to leverage sustainable growth and income opportunities in agrifood supply chains and support services (like logistics and finance). During 2023, the Initiative generated 39 knowledge products, 23 innovation designs and 11 capacity development activities. Together with local stakeholders, innovations were fielded to be pilot tested in seven value chain cases in five of the target countries. These included innovations to raise product quality, improve market information, and/or organize farmers in the export-oriented value chains for shrimp in Bangladesh, sesame oil seeds in Ethiopia, and coffee in Honduras; bundles of process innovations related to inclusive business models, product quality upgrading, improved market information and/or cold chain development for the domestic market-oriented value chains for maize and beans in Honduras, fruits and vegetables in Nigeria, and dairy in Uganda, as well as inclusive business models for e-finance and logistics supporting food value chain development in Bangladesh, Nigeria and Uganda. To promote broader knowledge sharing, stakeholder engagement and scaling preparedness, the Initiative launched a Knowledge Platform (KISM) in early 2023.

The Initiative is on track to reach more than the initial target of 40,000 beneficiary smallholders and workers in agrifood SME businesses and fellow members of the households they belong to. The targets of inclusion of 45 percent women and 20 percent youth as direct or indirect beneficiaries are also within reach. The impacts of the piloted interventions on food security, poverty reduction, employment and sustainability gains, along with potential for scalability will be assessed in 2024.

| | 2022 | 2023 | 2024 |
|---------------------------------------|---------|----------------------|----------------------|
| PROPOSAL BUDGET ▶ | \$9.21M | \$9.99M | \$10.80M |
| APPROVED BUDGET ¹ ▶ | \$5.64M | \$7.40M ² | \$4.68M 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.

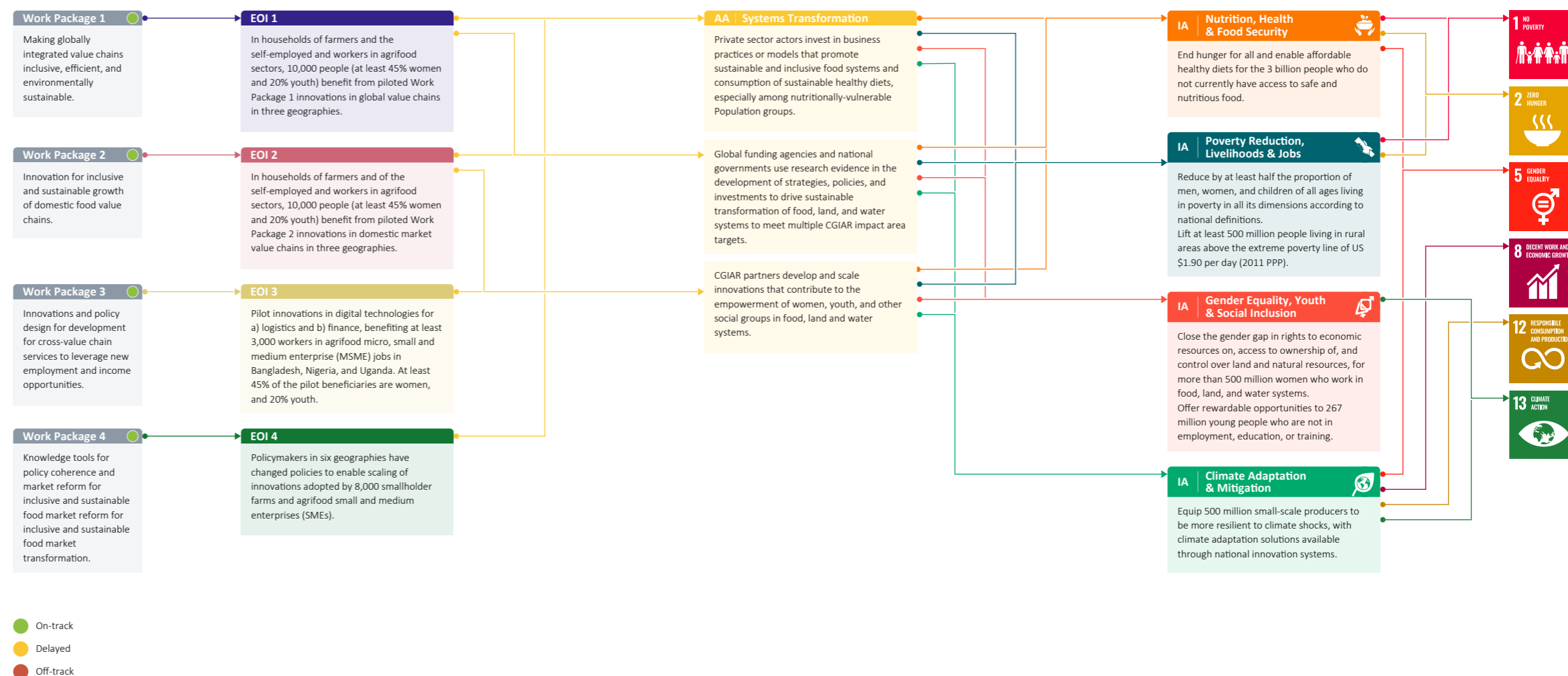


A cow purchased for livestock fattening is being measured by staff of WeGro, a partner in the project.
Credit: Kate Ambler, Senior Research Fellow, Markets, Trade, and Institutions Unit, IFPRI

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.



Tomatoes rearranged into plastic crates from traditional baskets in a market in Jos, Nigeria. Credit: Dauda Bawa, Professor, Department of Agriculture, University of Jos

WP2: Innovation for inclusive and sustainable growth of domestic food value chains

Innovations being tested in WP2 are on track to be evaluated by research teams before the end of the year. Implementation of innovations in three countries across different domestic market-oriented value chains in Nigeria (product upgrading and cold chain development for fruits and vegetables), Uganda (an inclusive business model and quality control for milk and other dairy) and Honduras (product upgrading and improved market information for beans and maize) is ongoing. So far, 16,200 smallholders and agrifood SMEs are benefiting. Endline data collection is planned for Q4 of 2024 for work in the three countries. While the need to convene scaling discussions with stakeholders in each country before the end of the year will not give us much room to evaluate findings in depth, we anticipate being able to convene scaling discussions which are informed by new empirical evidence about the performance of the tested innovations.

WP3: Innovations and policy design for development of cross-value chain services to leverage new employment and income opportunities

Through the strong partnerships with local intermediary food sector operators that WP3 has developed since 2022, researchers are working to evaluate three separate interventions across our three case studies in Bangladesh, Uganda, and Nigeria. In [Bangladesh](#), the work entails partnership with WeGro, a local pioneer in private-sector e-financing for development, to evaluate an innovative financing scheme for livestock fattening with benefits targeted at women. In [Uganda](#), the researchers have developed a partnership with EzyAgric, and are engaging with agro-dealers and farmers for the uptake of digital agricultural services, including finance and improved logistics. The [Nigeria](#) work entails partnership with Crop2Cash, a digital finance and logistics services startup, to provide flexible financing for farmers who are collaborating in the use of cash top-up loans.

Follow-up data collection rounds will be conducted in the second half of 2024 across the three case studies. This work and learning contributes to both the Work Package outcomes and EOIO3. Intervention implementation through collaborative work has meant that challenges and barriers to scaling are encountered together

and overcome, enabling faster scalability of the innovations once evaluation results are available. Additionally, the scale of the pilot programs will easily reach the targets of 3,000 beneficiaries across the case studies.

WP4: Knowledge tools for policy coherence and market reform for inclusive and sustainable food market transformation

Researchers here are working to fill pressing knowledge gaps by establishing (a) research syntheses and a global knowledge platform that – with active engagement of stakeholders – collects and shares evidence on the effectiveness of policies and innovations for inclusive and sustainable food system transformation; and (b) a new integrated global database and modeling tools that measure and analyze the potential for income and employment generation, reducing environmental footprint and prioritizing policy support across value chains and markets. In early 2023, the [knowledge platform](#) was launched in partnership with the International Social and Environmental Accreditation and Labelling (ISEAL) Alliance. Three research syntheses (meta-studies) were completed that have helped inform the design of the innovations being piloted in the different contexts studied by WPs 1-3. As part of the global database, an updated set of [internationally comparable policy indicators](#) that help assess the type of incentives provided to agricultural producers and value chain actors was expanded and enhanced in partnership with the Food and Agriculture Organization of the United Nations (FAO), the Inter-American Development Bank (IDB), the Organisation for Economic Co-operation and Development (OECD) and the World Bank and was applied for global scenario analysis showing potential win-win-win outcomes of repurposing existing support for better food system outcomes through poverty reduction, increased accessibility of healthy diets, and lower greenhouse gas emissions. The knowledge platform, database and global and country-level modeling tools will be deployed for assessments of the scalability of the innovations tested under WPs 1-3 and to inform policies and public and private investment decisions in support of the creation of inclusive and sustainable food value chains and markets. This way, the Initiative expects to have enabled policymakers and food system actors in the six target geographies to make well-informed policy and regulatory reform decisions facilitating the scaling up and value-chain adoption of the piloted innovations.

Summary of progress against the theory of change

Food systems make up about one-fifth of the global economy and are the world's largest source of employment. Many of the world's poor depend on the food system for their livelihoods, in terms of income and employment, and increasingly in off-farm food sector activities. However, despite increasing agricultural productivity and technological and institutional innovations, most of the rural and urban workers employed in the agrifood sector and their families remain poor and cannot afford the cost of a nutritious diet. Many women and youth who work in the food system face hurdles in accessing resources and receiving decent pay. Further, the agrifood sector's current operations are leaving a major environmental footprint, contributing to climate change and depletion of natural resources.

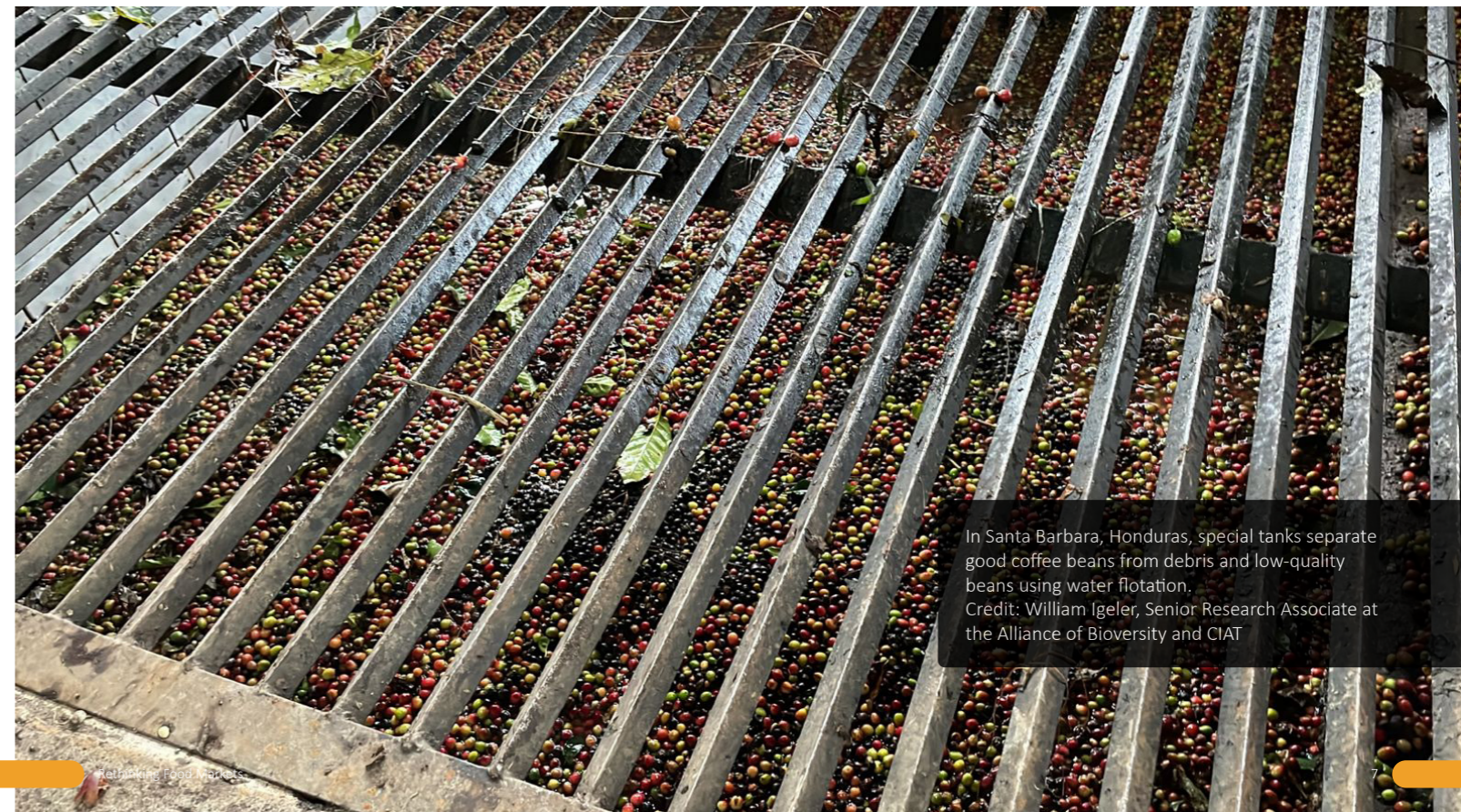
To address these major food system challenges, the CGIAR Research Initiative on Rethinking Food Markets is generating evidence on the innovations, incentives and policies most effective for steering food market functioning towards the creation of equitable income, employment, and business opportunities for smallholders, small and medium-sized enterprises (SMEs) and workers, and especially for women and youth amongst them, along agrifood value chains, while also reducing the food sector's environmental footprint.

Initiative researchers are working with local researchers and food sector stakeholders in six focus countries to provide new knowledge on combinations of innovations and policies to leverage sustainable growth and income opportunities in agrifood supply chains and support services (like logistics and finance).

During 2023, the initiative generated 39 knowledge products, 23 innovation designs and 11 capacity development activities. The innovations were fielded to be pilot tested in seven value chain cases in the five main target countries, comprising the shrimp export value chain in Bangladesh; sesame oil seeds in Ethiopia; coffee, maize and bean value chains in Honduras; fruits and vegetables in Nigeria; dairy in Uganda; and e-finance and logistics innovations supporting food value chain development in Bangladesh, Nigeria and Uganda. To promote broader knowledge sharing, stakeholder engagement and scaling preparedness, the Initiative launched a Knowledge Platform (KISM) in early 2023.

WP1: Making globally integrated value chains inclusive, efficient, and environmentally sustainable

In collaboration with local partners, researchers carried out baseline surveys in 2023 and are implementing interventions in export-oriented value chains in Honduras (coffee), Ethiopia (sesame), and Bangladesh (shrimp). The interventions vary across countries, but most are designed to raise product quality, improve market information, and/or organize farmers to reduce costs. The endline surveys will be conducted in the second half of 2024, leaving a tight schedule to analyze the results, disseminate key findings, and promote scaling of the successful interventions. Across the three studies, we expect the direct beneficiaries of the interventions to be roughly 4,360 farm households. To the degree that the successful interventions are scaled up, the number of eventual beneficiaries would be much larger.



In Santa Barbara, Honduras, special tanks separate good coffee beans from debris and low-quality beans using water flotation. Credit: William Igeler, Senior Research Associate at the Alliance of Bioversity and CIAT

Progress by End of Initiative outcome

EOIO1: Making globally integrated value chains inclusive, efficient, and environmentally sustainable.

In households of farmers and of the self-employed and workers in agrifood sectors, 10,000 people (at least 45 percent women and 20 percent youth) benefit from piloted WP1 innovations in global value chains in three geographies.

The research is on track to achieve this EOIO. Innovations have been introduced currently benefitting 4,360 smallholders and agrifood SMEs in Honduras, Ethiopia, and Bangladesh, thus the research is on track to reach over 20,000 beneficiaries when including other members of the households these beneficiaries belong to. The targets for women and youth – as direct or indirect beneficiaries – are also within reach. The magnitude of actual welfare, employment and sustainability gains will be measured in 2024.

EOIO2: Innovation for inclusive and sustainable growth of domestic food value chains.

In households of farmers and of the self-employed and workers in agrifood sectors, 10,000 people (at least 45 percent women and 20 percent youth) benefit from piloted WP2 innovations in domestic market value chains in three geographies.

The research is on track to achieve this EOIO. Innovations have been introduced currently benefitting 16,200 smallholders and agrifood SMEs in Honduras, Nigeria, and Uganda, thus reaching over 80,000 people when including other members of the households these beneficiaries belong to. In addition, over 30,000 rural households are expected to directly benefit from higher quality and cheaper fruit and vegetable supplies in Nigeria thanks to the innovations introduced by the Initiative. The targets for women and youth – as direct or indirect beneficiaries – are also within reach. The magnitude of actual welfare, employment and sustainability gains will be assessed in 2024.

EOIO3: Innovations and policy design for development for cross-value chain services to leverage new employment and income opportunities.

Pilot innovations in digital technologies for a) logistics and b) finance, benefitting at least 3,000 workers in agrifood micro, small and medium-sized enterprise (MSME) jobs in Bangladesh, Nigeria, and Uganda. At least 45 percent of the pilot beneficiaries are women and 20 percent youth.

The research is on track to achieve this EOIO. Innovations are targeting 1,175 beneficiary smallholder farms and agrifood SMEs in Bangladesh, Nigeria, and Uganda, thereby reaching over 5,600 people when including other members of the households these beneficiaries belong to. The targets for women and youth – as direct or indirect beneficiaries – are also within reach. The magnitude of actual welfare, employment and sustainability gains will be assessed in 2024.

EOIO4: Knowledge tools for policy coherence and market reform for inclusive and sustainable food markets and value chains.

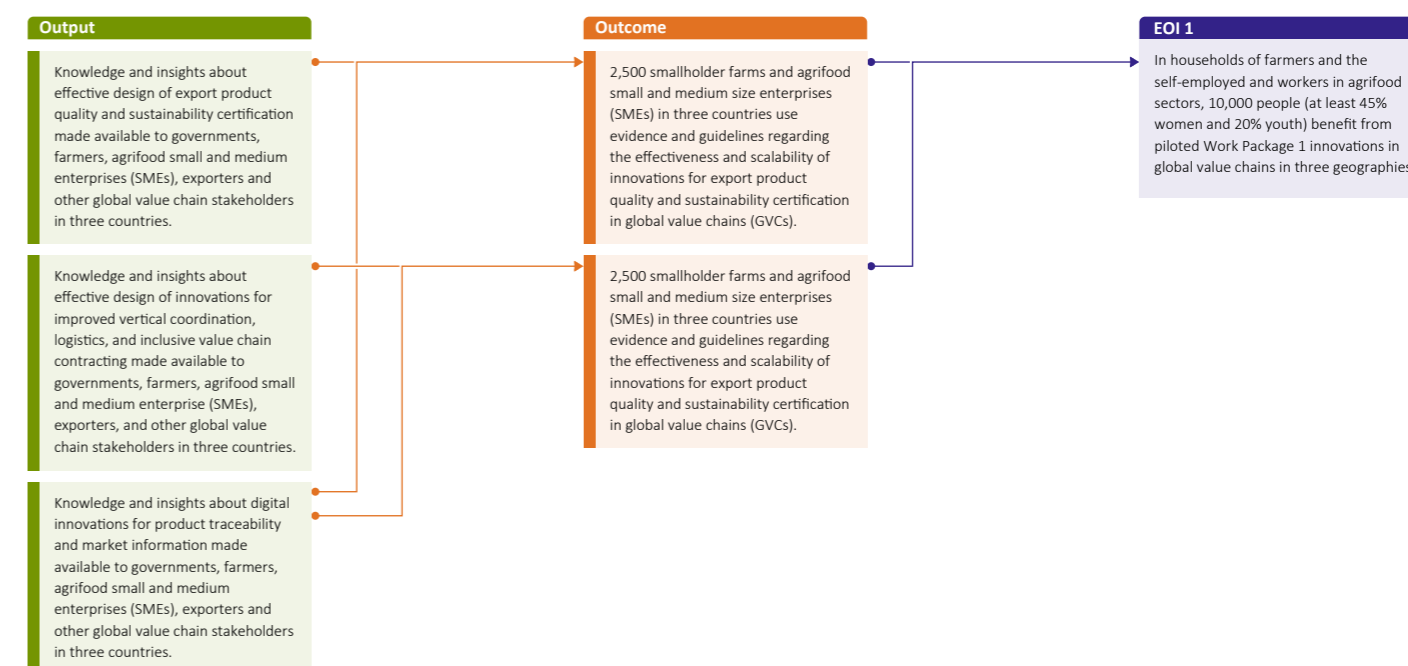
Policymakers in six geographies have changed policies to enable scaling of innovations adopted by 8,000 smallholder farms and agrifood SMEs.

With the progress made towards the number of beneficiary smallholder farms and agrifood SMEs, the target for EOIO4 will also be reached in terms of the outreach of the Initiative's innovations. Showcasing the actual impacts of the innovations and the policy dialogues based on the scaling assessments to be undertaken, during 2024 the Initiative will identify the enabling policies needed to ensure broader uptake and the impacts at scale. The latter will be key to the Initiative's ability to influence policies based on evidence.

Section 3: Work Package progress

WP1: Making globally integrated value chains inclusive, efficient, and environmentally sustainable.

On track



Work Package 1 progress against the theory of change

The objective of WP1 is to identify and test promising innovations to improve selected global value chains by making them more efficient, more inclusive, and/or more sustainable. WP1 focuses on studies of coffee in Central America, sesame and vegetable oil in Ethiopia, shrimp in Bangladesh, and fruits and vegetables in Uzbekistan.

The theory of change is that, by selecting promising innovations, working with local partners, and rigorously demonstrating the benefits of these innovations, the Initiative will maximize the likelihood that they will be widely adopted by value chain participants in target countries and elsewhere. In 2022, stakeholder workshops were carried out in Honduras, Guatemala, and Ethiopia (two), while individual meetings with stakeholders were conducted in Bangladesh and Uzbekistan. In addition, scoping studies were drafted for the coffee value chain in Honduras and for the sesame and oil seeds sector in Ethiopia.

In 2023, the country studies moved from gathering information on key actors and perceived constraints in each sector to identifying promising interventions, designing impact evaluation studies, and implementing baseline surveys. In **Honduras**, two stakeholder workshops were carried out, one on removing bottlenecks and the other on connecting technical assistance and coffee markets, each resulting in a report. In addition, a webinar summarized the efforts to use digital technology to support coffee farmers in the

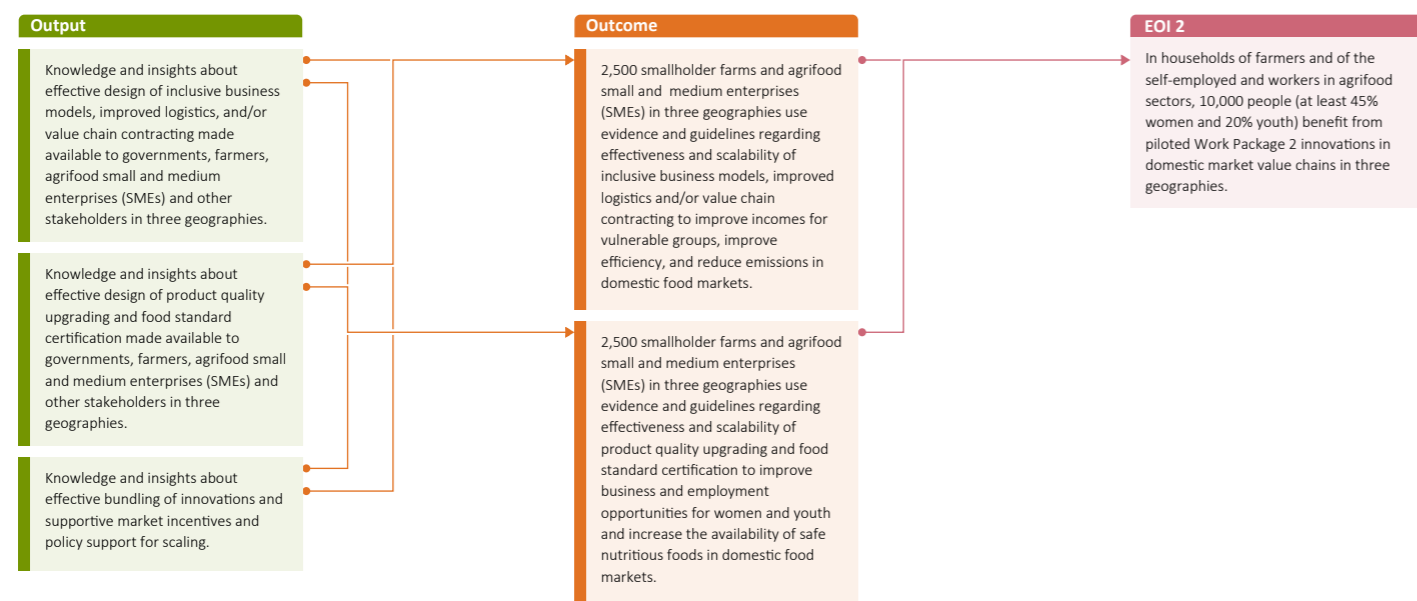
region. A report on European Union (EU) deforestation regulations and traceability was also published. Finally, the team conducted a baseline survey of **1,600 coffee growers**. This will be part of a Randomized Controlled Trial study with three interventions: technical assistance, feedback on coffee quality, and a combination of the two.

In **Bangladesh**, a stakeholder consultation workshop was carried out in January, followed by the finalization of a scoping report in June and a webinar on aquaculture in November. In addition, the team implemented a baseline survey of **1,200 shrimp growers**. This will be part of an RCT study of the impact of three types of intervention involving aggregating production and marketing, improved input delivery, and promotion of traceability.

In Ethiopia, the scoping study was revised and updated, and a webinar was offered on the implications of foreign currency controls on the incentives for sesame and coffee production in Ethiopia. The team also conducted a baseline survey of **1,560 sesame growers** in northwest Ethiopia. This will be part of an impact evaluation of a system to deliver market and weather information to growers and the same information plus training on collective action.

In **Uzbekistan**, progress was made on the scoping study on fruit and vegetable production for export, which will be completed in Q1 of 2024 (no impact evaluation is planned for this study).

WP2: Innovation for inclusive and sustainable growth of domestic food value chains.



Work Package 2 progress against the theory of change

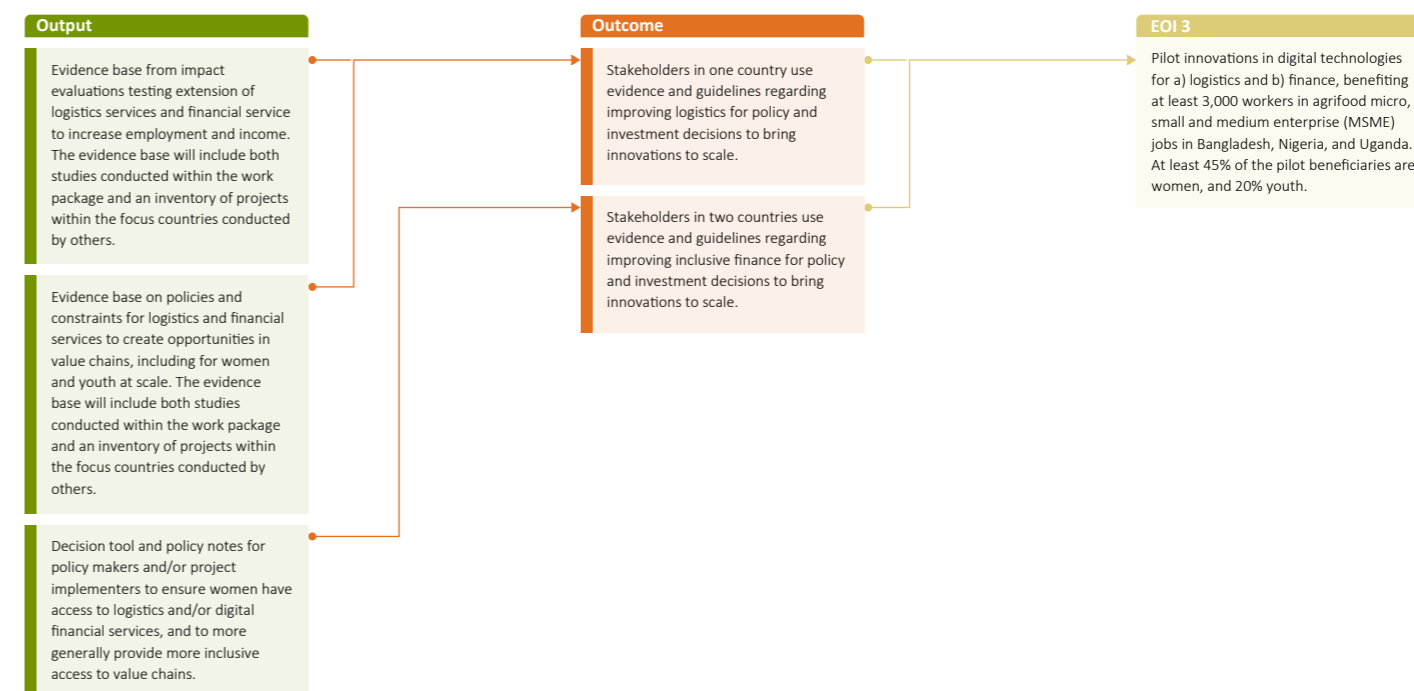
The objective of WP2 is to identify and test promising innovations to improve selected domestic value chains by making them more efficient, more inclusive, and/or more sustainable. WP2 is comprised of case studies focused on the fruits and vegetables value chain in Nigeria, the dairy value chain in Uganda, and maize and bean value chains in Honduras. The overarching objective of WP2 is to provide guidance on effective and scalable transformation of domestic agrifood value chains, to include innovation in business models, logistics and infrastructure, production technologies, contracting, and certification, and other institutional arrangements that facilitate quality upgrading, reduced environmental impacts, and increased benefits for farmers and SMEs.

In 2023, Initiative researchers were able to implement at least one experimental evaluation of a bundled set of innovations per country and value-chain, as planned. The tested innovations were defined through scoping activities in the first year of the Initiative, in consultation and collaboration with local and national stakeholders in each country (Nigeria, Uganda and Honduras). The innovation tested in **Uganda** focused on two sets of innovation bundles delivered at different value chain levels: (i) milk quality measurement equipment (“lactoscans”) and electronic record keeping at the milk collection center (MCC) level; and (ii) improved extension at the farmer level, with information content designed to clarify the distinction between different milk quality parameters, and the management options that could influence these outcomes. The trial is designed to evaluate whether these innovations enable quality incentives in fluid milk

value chains to emerge in the form of quality-based price differences. The pilot is projected to reach **14,000 smallholders** in around 70 milk collection centers. In **Nigeria**, a set of four separate RCTs were conducted on different innovations in the fruit and vegetable value chain: (i) refrigerated transport and cold storage and labeling; (ii) solar dryers and marketing/logistics support; (iii) plastic crates and marketing/logistics support; and (iv) improved seed bundled with branding. Testing focuses on identifying impacts on value chain efficiency and decreases in food wastage. These innovations are benefiting **120 wholesale traders, 450 retail traders, and 1,200 smallholder farmers**, while an estimated 33,750 households in the areas targeted for the interventions are expected to benefit directly through access to better quality but cheaper fruits and vegetables. In **Honduras**, the Initiative is testing the effects of quality certification and improved market price information in the bean value chain on the supply of higher quality beans and the impacts on incomes of farmers and intermediaries and on bean consumption among the local population. The piloted innovations are directly benefiting **438 farm households** in Honduras. In all three cases, the impacts of the innovations will be evaluated in consultation with local stakeholders and assessed for scalability in 2024.

In addition, analyses of several other issues were initiated. This work includes detailed diagnostic work on information-related and other constraints to effective management of ticks and tick-borne diseases in Uganda; as well as willingness to pay studies for new maize value-addition opportunities in Honduras.

WP3: Innovations and policy design for development for cross-value chain services to leverage new employment and income opportunities.



Work Package 3 progress against the theory of change

WP3 seeks to provide rigorous evidence on the need for and impact of innovations in financial services and logistics that can create employment and income opportunities in value chains, with a focus on opportunities for women. Work in 2023 continued the development of case studies that began in 2022 in Bangladesh, Uganda, and Nigeria.

In **Bangladesh**, researchers partnered with WeGro, a local pioneer in private-sector financing for development, to evaluate an innovative financing scheme for livestock fattening. In 2023, the baseline survey and the provisioning of a first round of livestock financing were completed. The second round of financing and endline evaluation are to be completed in 2024. The intervention is reaching **700 direct beneficiaries**, targeting women in particular. Access to finance is expected to empower women in their ability to operate within the value chain, another key element of the theory of change.

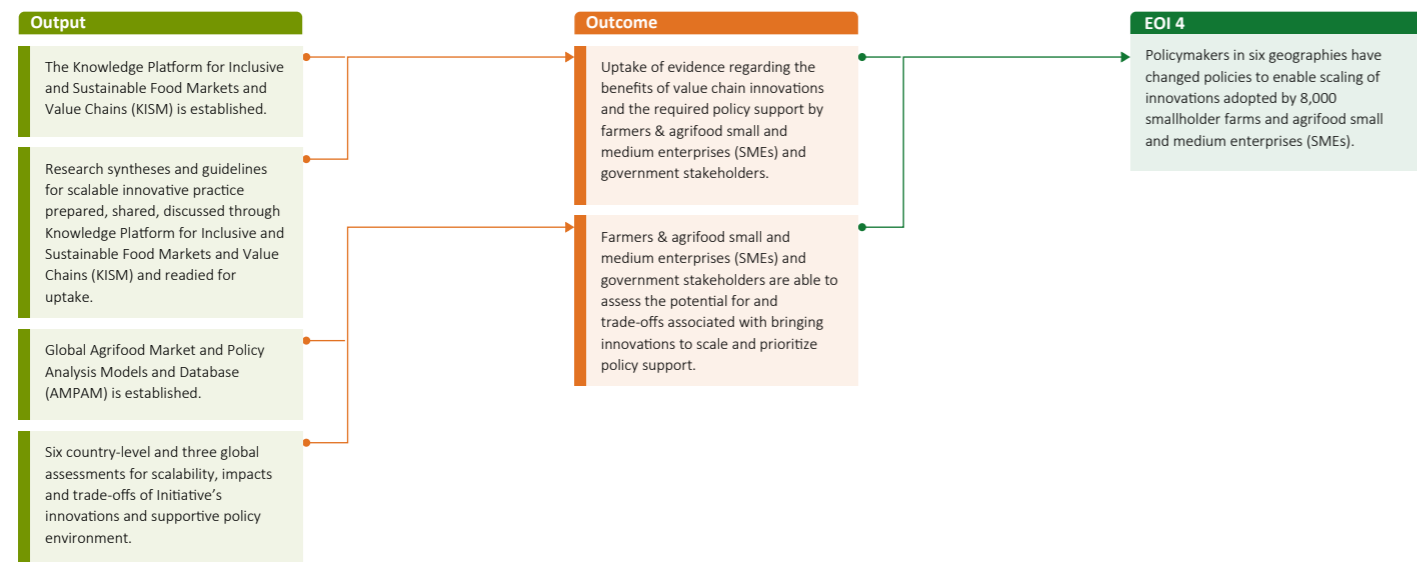
In **Uganda**, researchers are partnering with EzyAgric, and engaging with **275 agro dealers and farmers** for the uptake of digital

agricultural services, including finance and improved logistics. Baseline surveys were completed in 2023, with evaluation activities to conclude in 2024. Baseline findings and partner and stakeholder engagement have revealed important lessons about the [barriers to uptake of these services](#), in particular for women and other marginalized groups.

In **Nigeria**, the Initiative is working with Crop2Cash, a digital finance and logistics services startup, to provide flexible financing for **200 farmers**, who are collaborating in the use of cash top-up loans. This innovation is still in a proof-of-concept pilot phase. In all cases, active engagement with local partners provides important lessons about the potential for, and the hurdles to the eventual scaling of the interventions. Additional work undertaken in 2023 includes a research synthesis of [descriptive evidence](#) of financial needs in the midstream of agricultural value chains and how to assess those needs through innovative surveying techniques.

WP4: Knowledge tools for policy coherence and market reform for inclusive and sustainable food market reform for inclusive and sustainable food market transformation.

On track



Work Package 4 progress against the theory of change

WP4 aims to enable farmers and agrifood SMEs and policymakers to use evidence on the benefits of value chain innovations and the required policy support through the establishment of a Knowledge Platform for stakeholder dialogue (KISM) (output 1), research syntheses and guidelines (output 2), food market-wide databases and modeling tools (output 3), and model-based scenario and policy analyses of scalability of value chain innovations and benefits and trade-offs of smart repurposing of existing agricultural policy support (output 4).

In year two, the Initiative formally launched the [KISM platform](#) on 7 March, 2023. KISM is serving as the hub for knowledge exchange between researchers and the Initiative's stakeholders. Evidence gathered from Initiative's case studies across the four Work Packages (WP1, WP2, WP3, WP4), is shared with internal (researchers and partners engaged in the Initiative) and external stakeholders through different channels such as KISM webinars, to influence decision-making and practice in food value chains. In 2023, six webinars were held reaching close to 1,000 participants consisting of researchers, private sector stakeholders and policymakers. The new evidence generated by the Initiative, as well as a broad body of existing evidence on innovations and policies that help make agrifood value chains inclusive and sustainable are being made accessible to users using the Initiative's theory of change. Three research syntheses (meta-studies) were completed, of which one – on employment

benefits of value chain innovation and supportive policies – was published both in form of a [report](#) in July 2023 and a [policy brief](#) in January 2024. Two others, respectively, on the [dynamics of food value chain innovations](#) in the midstream of [agrifood value chains](#), and on the role of informality in food system change, were completed but are to be published in 2024. These studies were undertaken in close consultation with researchers and stakeholders engaged in the design of innovations and interventions for the case studies undertaken under WPs 1-3.

The [analytical frameworks](#) for the global and country-level model-based scenario analyses (MIRAGRODEP, RIAPA) were adapted further to fit the purposes of the Initiative (output 3) and one global scenario analysis on repurposing of agricultural support and impacts on employment, poverty, food security and climate change mitigation was undertaken and published (output 4). In support of this analysis, a policy indicator database ([AgIncentives](#)) was updated, while a start was made with the estimation of indicators measuring the degree of inclusivity and sustainability of agrifood systems worldwide – but it is awaiting completion in Q1 of 2024. The country-level model-based scenario analysis for assessing the potential for and economywide impacts of value chain innovations and supportive policies was delayed awaiting further progress with the research under WPs 1-3. This work has now been geared up for full delivery in 2024.

Work Package progress rating summary

| WORK PACKAGE | PROGRESS RATING & RATIONALE |
|--------------|--|
| 1 | <p>Progress rating</p> <p>In each of the three countries, one or more stakeholder consultation workshops has been carried out and at least one scoping study produced. Furthermore, an intervention has been designed and a baseline survey completed in each of the three.</p> |
| 2 | <p>Progress rating</p> <p>The delivery of outputs is on track, with final analytical outputs and informed scaling discussions planned before the end of 2024.</p> |
| 3 | <p>Progress rating</p> <p>Implementation of pilot activities has begun in all three countries, with plans to complete evaluation in 2024.</p> |
| 4 | <p>Progress rating</p> <p>Delivery on outputs 1, 2 and 3 (KISM, meta studies, and global and country model frameworks) continued to be on track, while country-level model-based scenario analysis for assessing impacts of scaled innovations and supportive policies (output 4) is delayed in 2023.</p> |

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.



Common beans in display in a market in Danli, El Paraíso, Honduras.
Credit: Mirian Colindres, Senior Research Associate, Alliance Bioversity-CIAT

Section 4: Key results

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

OVERVIEW OF REPORTED RESULTS

Outputs



Outcomes



PERCENTAGE OF REPORTED RESULTS TAGGED TO CGIAR IMPACT AREAS



● **Principal:** The result is principally about meeting any of the Impact Area objectives, and this is fundamental in its design and expected results. The result would not have been undertaken without this objective.
● **Significant:** The result has made a significant contribution to any of the Impact Area objectives, even though the objective(s) is not the principal focus of the result.
● **Not targeted:** The result did not target any of the Impact Area objectives.

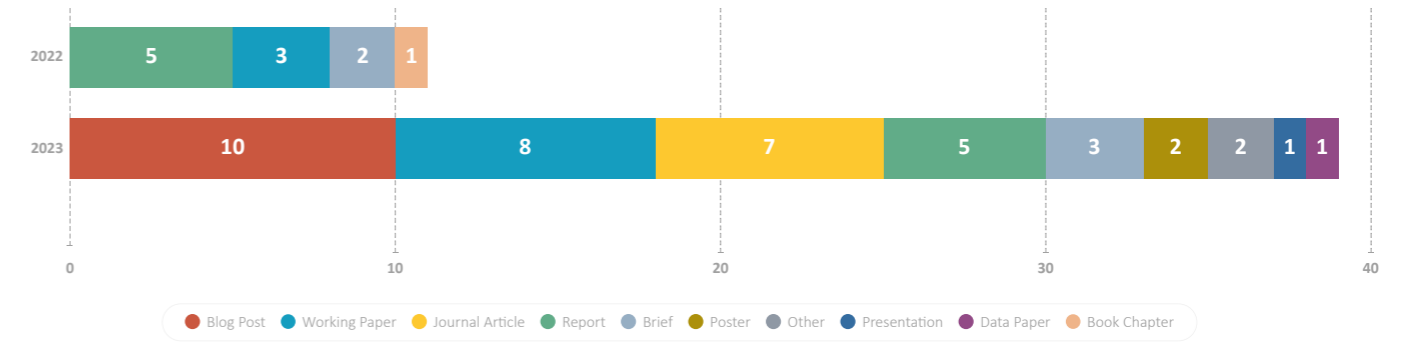
CONTRIBUTIONS TO THE UN SUSTAINABLE DEVELOPMENT GOALS



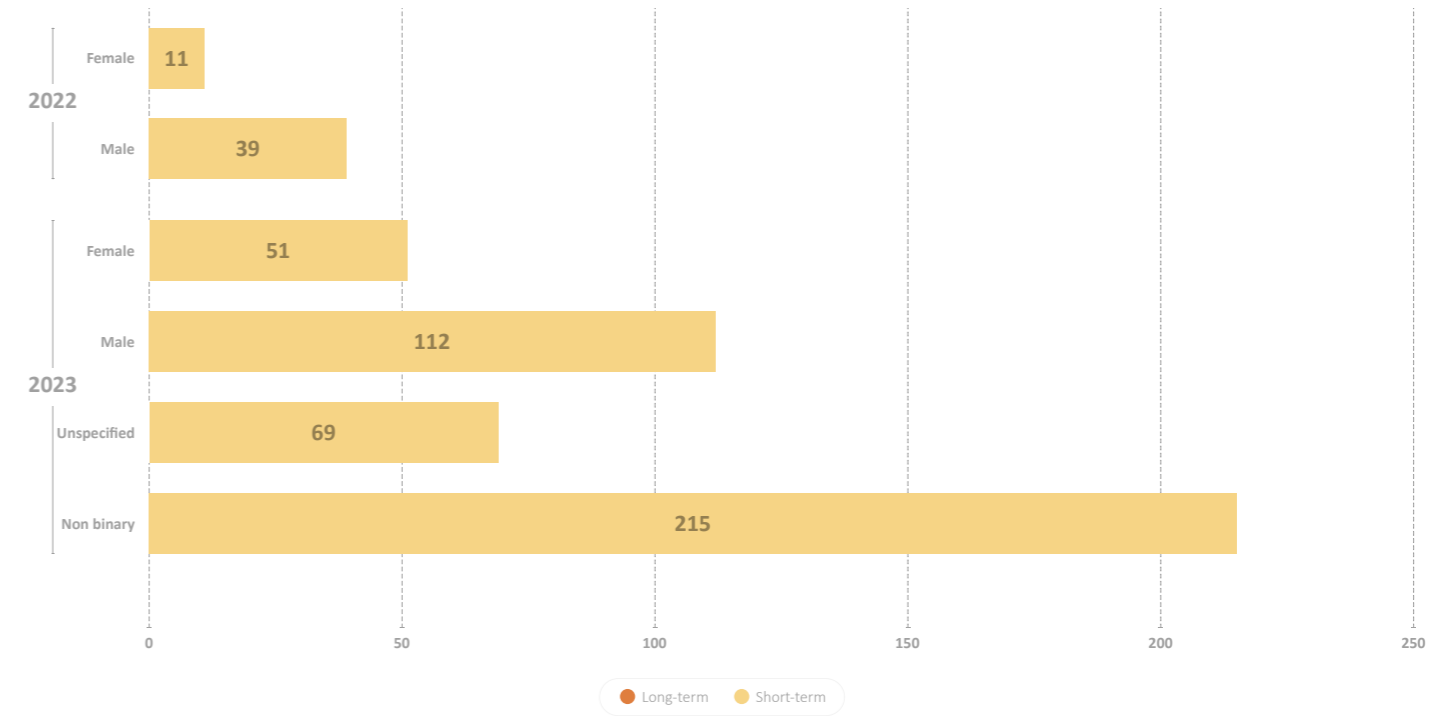
NUMBER OF INNOVATIONS BY READINESS LEVEL



NUMBER OF KNOWLEDGE PRODUCTS BY TYPE

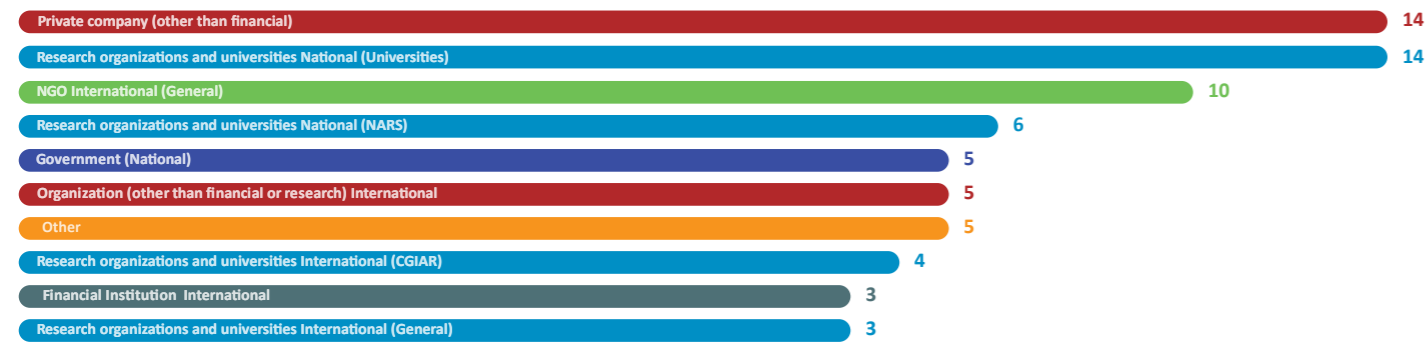


NUMBER OF INDIVIDUALS TRAINED BY THE INITIATIVE



Section 5: Partnerships

TOP 10 PARTNER TYPOLOGIES THAT CONTRIBUTED TO DELIVERING 2023 RESULTS



Partnerships and Rethinking Food Markets' impact pathways

The Initiative works with a broad range of partners. These vary depending on the needs of the research portfolio of each WP. For the design of the bundles of process and product innovations for the selected value chains, in each case a combination of international and local innovation, scaling and demand partners are involved, including private sector partners. The [2022 Annual Technical Report](#) of the Initiative showcased the example of partnerships developed for the introduction of bundled innovations in the fruit and vegetable value chain in Nigeria. Providing another example, in Bangladesh, the Initiative is partnering under WP3 with private sector developers for e-finance platforms to provide better access to credit for smallholder farmers and promote women's economic empowerment.

[WeGro Technologies](#) is the key partner in this case. WeGro is an agricultural fintech platform based in Bangladesh, facilitating connections between individuals/institutional financiers and smallholder farmers. This empowers farmers by granting them access to finance, inputs, and markets. WeGro offers livestock farmers a

profit-sharing contract for raising livestock specifically for fattening purposes. This model also represents an innovative form of asset-based financing as WeGro purchases livestock directly for farmers instead of providing cash credit, thus aligning with the principles of asset-based microfinance. This approach is advantageous not only for the farmers but also for the financiers, as it is less risky due to the less liquid and fungible nature of the assets relative to cash. The Initiative is currently evaluating the "financing for livestock fattening scheme". The scheme works as follows: WeGro offers a contract to farmers in which WeGro purchases a cow, and the farmer then feeds and fattens the cow until it is ready to sell as meat. WeGro and the farmer then split the profits from the livestock fattening evenly, after some small, additional costs (e.g., insurance) are paid. As shown in the graphic below, WeGro engages in different activities for linking smallholder farmers with financial services. This type of partnership network is exemplary for the other selected value chain cases as well.



Section 6: CGIAR Portfolio linkages

Portfolio linkages and Rethinking Food Markets' impact pathways

The Initiative has established linkages with several other Initiatives within the CGIAR Research Portfolio. The main collaborations are with the following Initiatives:

- **Foresight:** Sharing of the country-modeling framework (RIAPA) and co-development of the agrifood economic database.
- **National Policies and Strategies (NPS):** Sharing experiences with policy dialogues based on model-based scenario analyses (RIAPA).
- **Sustainable Healthy Diets and Fruit and Vegetables for Sustainable Healthy Diets:** Sharing of research approaches and innovation design in supply chains for nutrition-rich and high-value foods (specifically, dairy and fruit and vegetables)

- **Digital Transformation:** Collaboration on research design for inclusive business models for digital platforms.
- **Low-Emission Food Systems:** Joint development of an emission-intensity database for selected value chains.
- **Gender Equality:** Sharing of approaches for inclusive business model design and institutional frameworks to overcome constraints in access to resources and income and employment opportunities for women and youth.

Even though the Rethinking Food Markets Initiative does not overlap with these other Initiatives in value chain or country focus, the sharing of research approaches and methodologies, databases and experience with researchers, and policy and stakeholder dialogues are of mutual benefit.



Tomatoes rearranged into plastic crates from traditional baskets in a market in Jos, Nigeria. Credit: Dauda Bawa, Professor, Department of Agriculture, University of Jos

Section 7: Adaptive management

The Initiative Management Team met for a reflect process during a retreat held on 21-23 February, 2024. The full research team across the seven countries and several external resource people advising the Initiative actively participated in the retreat. In addition, project partners joined on day two to share insights with the participants on their role in the different case studies as well as areas of improvements. A total of about 50 researchers and experts took part. The retreat served to take comprehensive stock of the progress made so far, share progress and experiences/lessons learned over the past two years of implementation and the process of innovation design, discuss engagement with stakeholders, collaboration with other CGIAR Initiatives and a thorough review of the Initiative's theory of change.

Discussions held during the reflect process confirmed the overall assessment made in this report, which is that the Initiative is well on track towards the targeted EOIOs. With respect to the 2023 work plan, there has been some delay on some activities, especially with conducting the global and country policy analysis and modeling which requires input from all the WPs and kick-starting

implementation of some of the case studies, especially in Ethiopia due to conflicts. Some of the country-modeling work to assess potential impacts and trade-offs of scaled innovations and policy support was delayed, but from the end of 2023 this work has picked up again and is still on track for completion in 2024.

Underspending on the approved 2023 budget plus 2022 carryover has been mainly due to the delayed implementation of the aforementioned activities. The Initiative team is confident that it can accelerate activities and finalize the planned implementation and evaluation activities by the end of 2024. This, however, would require availability of the approved 2024 budget plus the full carryover from 2023.

The reflect process confirmed the validity of the stated theory of change and, hence, this will continue serving as the Initiative's guide for the work moving forward. The main challenge ahead will be accelerated implementation, keeping rigor in research methods, assessments of potential for scalability and policy analysis, and ensuring sharing of knowledge and capacities with and buy-in by stakeholders. To this end, the Initiative adjustments are as follows:

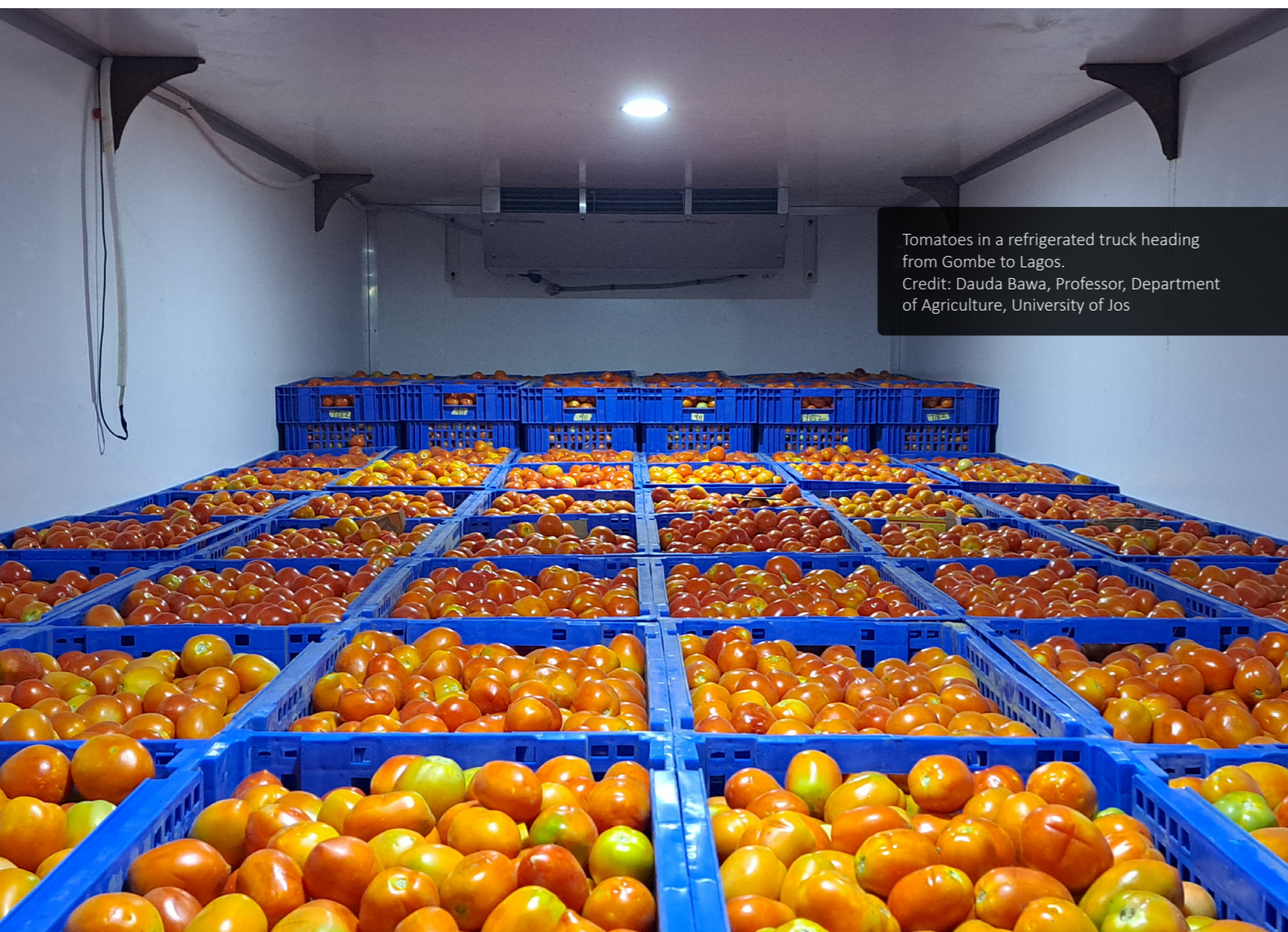
| RECOMMENDATION | SUPPORTING RATIONALE |
|---|---|
| Theory of change (TOC) confirmed – no change. | The TOC is working well, and output development seems well on track towards the stated EOIOs. |
| Increase visibility of the Initiative's work. | The Initiative is producing several outputs from the ongoing studies and more products are expected as we get closer to the end of the Initiative's phase 1. The team discussed several channels, in addition to those currently being used, that we could use to disseminate our work to various stakeholders. These include a special issue in a journal to target the academic community, policy forums to target policymakers, building a Community of Practice (CoP) under KISM and using this as one of the vehicles for active engagement of partners and stakeholders, preparing regular newsletters that capture ongoing work, success stories as well as products for sharing with development agencies, the private sector, academia, donors, project partners and stakeholders and other teams interested in such work. |
| Decreased focus on Uzbekistan and Guatemala. | Due to budget cuts in 2023, the Initiative will have less focus in Guatemala and Uzbekistan in 2024. In Latin America, WP1 and WP2 work will be implemented in Honduras only. The strong partnerships and collaborations among partners created in Honduras will support successful implementation of the activities. In South Asia, WP1 and WP3 activities will be implemented in Bangladesh. The change is not foreseen to affect the overall delivery of the Initiative. |

| RECOMMENDATION | SUPPORTING RATIONALE |
|--|--|
| Decreased number of EOIO numbers. | <p>Due to budget cuts in 2023, the Initiative adjusted the country case studies in terms of implementation and number of target beneficiaries. As a result, the targeted overall number of beneficiaries across the different EOIOs were decreased as follows:</p> <p>EOIO1: In households of farmers and of the self-employed and workers in agrifood sectors, 10,000 people (reduced from 15,000) (at least 45 percent women and 20 percent youth) benefit from piloted WP1 innovations in global value chains in three geographies.</p> <p>EOIO2: In households of farmers and of the self-employed and workers in agrifood sectors, 10,000 people (reduced from 15,000) (at least 45 percent women and 20 percent youth) benefit from piloted WP2 innovations in domestic market value chains in three geographies.</p> <p>EOIO3: Pilot innovations in digital technologies for a) logistics and b) finance, benefiting at least 3,000 workers (reduced from 4000 workers) in agrifood MSME (changed from SME) jobs in Bangladesh, Nigeria, and Uganda. At least 45 percent of the pilot beneficiaries are women and 20 percent youth.</p> <p>EOIO4: Policymakers in six geographies have changed policies to enable scaling of innovations adopted by 8,000 smallholder farms (EOIO3: Pilot innovations in digital technologies for a) logistics and b) finance, benefiting at least 3,000 workers (reduced from 4000 workers) in agrifood MSME (changed from SME) jobs in Bangladesh, Nigeria, and Uganda. At least 45 percent of the pilot beneficiaries are women and 20 percent youth.</p> <p>EOIO4: Policymakers in six geographies have changed policies to enable scaling of innovations adopted by 8,000 smallholder farms (reduced from 10,000) and agrifood SMEs.) and agrifood SMEs.</p> |
| Adding scaling reports as new deliverable. | The scaling reports would include assessments of scaling preparedness among stakeholders and – based on the country-model based assessments – assessments of the potential for scaling, expected value-chain and economy-wide impacts of scaling, the required policy support and the possible trade-offs that could emerge. As such, the scaling reports should inform the stakeholder workshops and policy dialogues to be held in each of the focus countries, thereby enhancing likelihood of uptake and obtaining required policy support. |
| Ending collaboration with WorldFish. | WorldFish could no longer meet its committed research contributions to the Initiative after a key expert moved from WorldFish to IFPRI. After several attempts to find suitable alternatives did not work out, it was decided to end the institutional collaboration with WorldFish under this Initiative and shift the related research responsibilities to IFPRI. |

Section 8: Key result story

Cold transportation reduces food losses and improves income and welfare in Nigeria

More than 450 traders and 1,200 producers are benefitting from off-grid cooling and transportation innovations in Nigerian fruit and vegetable value chains.



Tomatoes in a refrigerated truck heading from Gombe to Lagos.
Credit: Dauda Bawa, Professor, Department of Agriculture, University of Jos

Farming households in the north-eastern part of Nigeria are often affected by violent conflict which causes market disruptions and results in significant income losses for these households. The lack of temperature management technologies (at harvest stage and in transit) results in spoilage of food. This directly impacts the livelihood and income of farmers as well as for actors in the supply chain. To address this challenge, the Rethinking Food Markets Initiative partnered with ColdHubs. ColdHubs provides bundled innovations for off-grid cooling, transportation, and solar-powered cold storage for vegetable value chains. This service is currently benefitting over 450 traders and 1,200 producers in north-eastern Nigeria. This improvement in the country's vegetable value chain creates ripple effects in the south of Nigeria by addressing food security issues in that region.

In many developing countries, including Nigeria, most of the fruit and vegetables produced are lost largely due to lack of an adequate cold chain, including postharvest handling, cold storage, and temperature-controlled transportation. As a result, local consumers often experience limited access to highly nutritious perishable foods such as fish, fruit, vegetables, milk, eggs, and meat. The lack of cold chain infrastructure also affects safety and nutritional content of foods. In addition to these losses faced by consumers, actors throughout the supply chain such as farmers suffer from income reductions. The main causes of this food loss are inadequate development of value chains and high costs associated with cooling systems.

The Rethinking Food Markets Initiative addressed this challenge by providing cool transportation access to tomato wholesalers at three horticultural markets in the states of Plateau, Bauchi and Gombe (Farin Gada, Muda Lawal, and Yan Gwari markets, respectively) in eastern Nigeria. The Initiative focuses on reducing food loss, increasing incomes for all supply chain actors and producers, and creating more employment opportunities for local people. With access to temperature-controlled storage and transportation, local tomato farmers are able to reach buyers in Lagos with minimal food losses. This supply chain innovation is helping solve vegetable supply shortages and lowering prices in the markets of Lagos.

CGIAR researchers from the Rethinking Food Markets Initiative implemented the intervention in collaboration with the private

sector, with strong support from wholesalers and producers, as well as from the Federal Ministry of Agriculture and Food Security, state ministries, the House of Assembly, and the governor's office. The intervention is helping reduce food losses significantly in the fruit and vegetable sector. Previously, 40-60 percent of total food was lost owing to a lack of developed cold chain. Reduced food losses and improved preservation of food quality is expected to raise incomes for wholesalers and smallholders in the origin states, while solving supply shortages, conserving nutrient value of highly perishable vegetables, and improving affordability of nutritious foods for consumers in the destination states. Allocative efficiency, that is, supply and demand efficiency, between northern and southern states is also expected to improve with the scaling of the innovations along the entire value chain.

As a supplementary intervention, the Initiative is also experimenting with certification of product quality by attaching quality certificate labels to a random sample of tomatoes. The aim is to test consumer preferences for quality and willingness to pay a price premium on quality.

Furthermore, in Jos, a 100-ton solar-powered cold storage facility was set up for wholesalers and producers to precool products prior to cool transportation. An earlier randomized control trial following the establishment of 3-ton solar powered cold storage facilities already found substantial benefits in terms of food loss reduction, value-chain efficiency, and income improvements for smallholders and wholesale and retail traders. Through the present intervention, cool transportation and cold storage are vertically integrated along the supply chain, in turn, improving logistics and quality control of fresh produce. There are 120 wholesalers who join the randomized control trial on a rotating basis with 33,750 plastic crates (20 kilograms each) of tomatoes in three trucks transported to Lagos over 15 round trips. About 450 traders and 1,200 producers (mainly smallholders but also some large-scale producers) directly benefit from the intervention. The solar-powered storage facilities are mostly managed by women from the local beneficiary communities. Stakeholders have indicated interest in sustaining the interventions beyond 2024 and bringing these to scale to boost the number of beneficiaries.



The ColdHubs ecosystem will not only provide refrigeration solutions for tomato and other perishable food but will also help build the capacity of traders and farmers ... The cost of access or affordability of the storage facility will be minimal as compared to previously recorded losses which occurred due to a lack of effective storage to prolong shelf life of perishable products ... Partnership with and using services provided by ColdHubs will guarantee sustainable income for farmers and traders by reducing the pressure on sellers to sell right after harvest and extending the shelf life of fresh produce.

Nnaemeka Ikegwuonu, CEO, Coldhubs

Primary Impact Area



Other relevant Impact Areas targeted



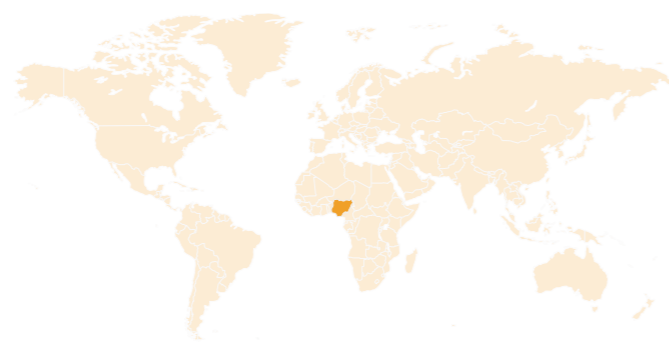
Contributing Center

IFPRI

Contributing external partner

Coldhubs Ltd.

Geographic scope



Country: Nigeria



Front cover photo

A roadside fruit and vegetables market in Matunga,
Mumbai, India
Credit: IITA

Back cover photo

Farin Gada Vegetable Market in Jos, Plateau State,
Nigeria. Credit: Dauda Bawa, Professor, Department
of Agriculture, University of Jos



INITIATIVE ON
Rethinking
Food Markets