



POVERTY + INCLUSION



Harnessing Digital
Technologies for Timely
Decision-Making Across Food,
Land and Water Systems



Harnessing Gender
and Social Equality for
Resilience in Agrifood
Systems

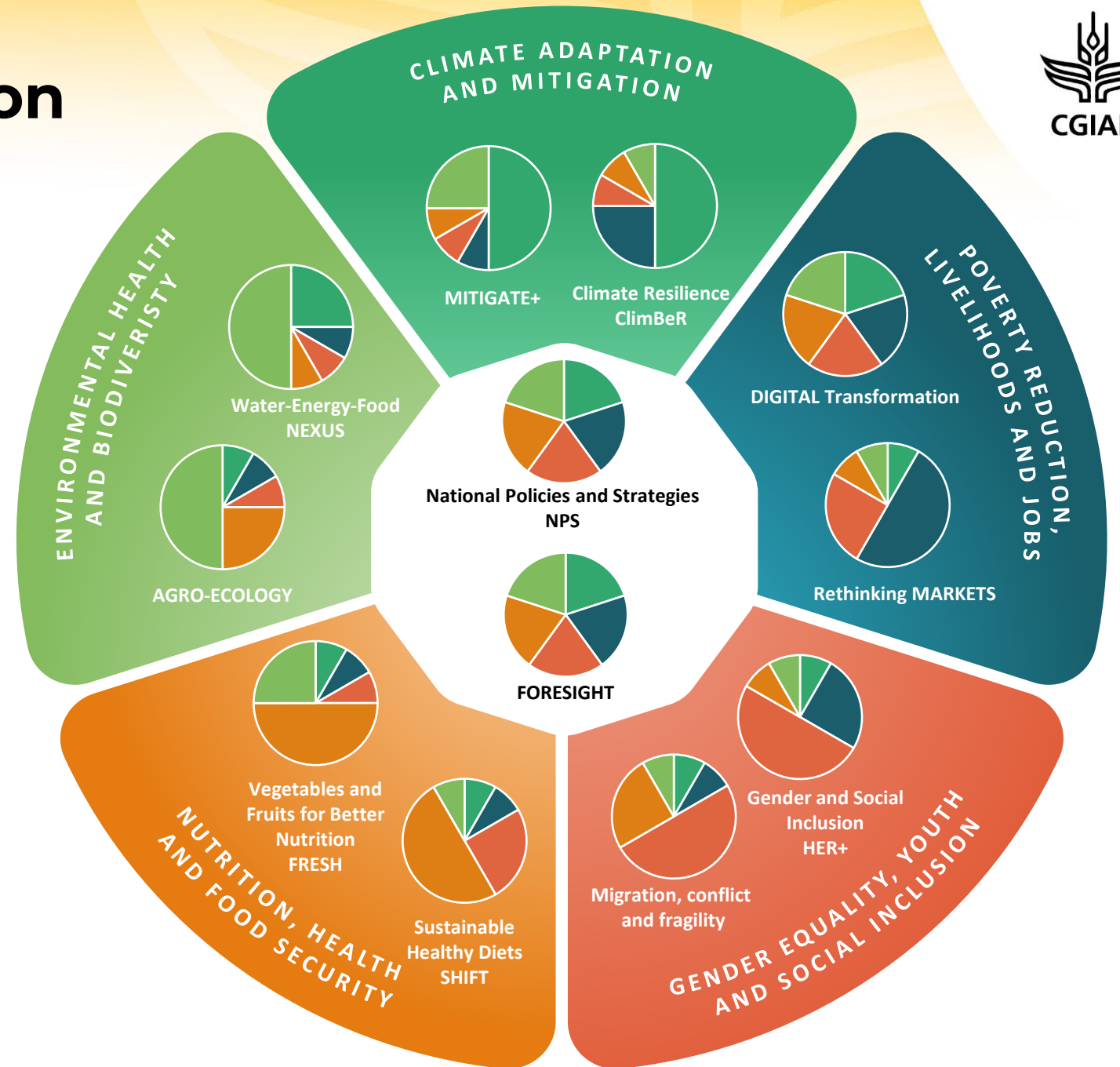


Rethinking Food Markets
and Value Chains for
Inclusion and Sustainability

Migration, Conflict, and
Fragility (MCF)

Systems Transformation

Policy & Institutional Solutions





Rethinking Food Markets
and Value Chains for
Inclusion and Sustainability

Rethinking Food Markets and Value Chains for Inclusion and Sustainability

Rob Vos and Jenny Wiegel,
co-leads

8 June 2022

Objective, approach & focus

Key objective:

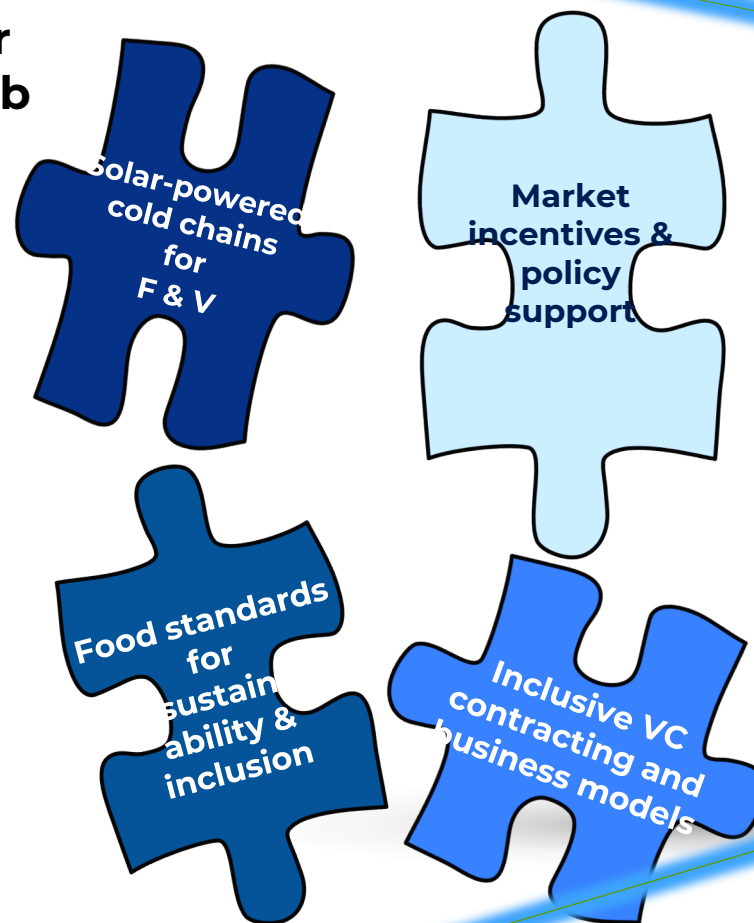
Influence policies and market behavior for efficient, inclusive value chains, greater job creation, and adoption of sustainable practices

Research approach:

- **Bundled innovations in food markets, VCs and cross-VC services**
- **Scaling up through market-wide incentives**
- **Model-based scenario analysis and stakeholder dialogues for policy coherence**

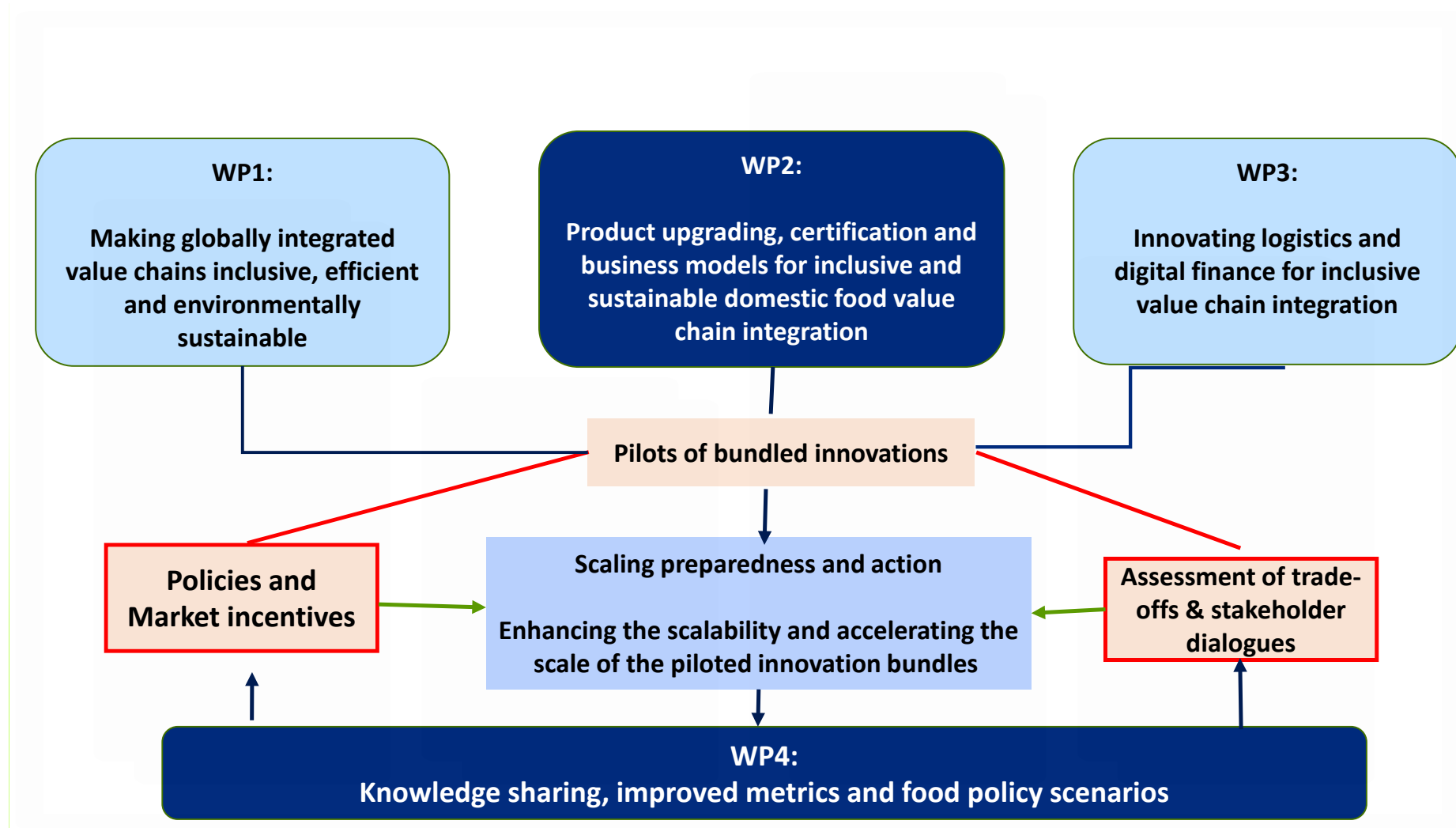
Geographic focus

- **East Africa – Ethiopia, Uganda**
- **West Africa - Nigeria**
- **South Asia - Bangladesh**
- **Central America – Guatemala, Honduras**
- **Central Asia – Uzbekistan (scoping)**



- *More employment and higher incomes (esp. for women & youth)*
- **Less food loss**
- *Affordable healthy diets*
- **Lower GHG emissions**

Four key areas of research and innovation



Responses to ISDC comments

| ISDC Recommendation | Response |
|--|--|
| #1 <i>...three years is too short for meaningful impact at scale of such interventions</i> | Outcome statements revised to clarify three-year outcomes (at pilot level) and expected impacts by 2030 (after scaling) |
| #2 <i>The specific challenges of reaching women should be addressed in greater depth</i> | Initiative concept note and operational workplans now address more explicitly how women and youth are being targeted in the design phase, giving due consideration to constraints and tradeoffs. |
| #3 <i>Define more specific and relevant impact indicators</i> | Impact indicators follow closely those of the One CGIAR Impact Areas. Refined metrics have been introduced as part of the Initiative's M&E framework |
| #4 <i>Clarifying hypotheses on market structure, (speed of) adoption or adaptation of technologies, ability to reach women ... and environmental impacts, would help strengthen the risk framework</i> | Analysis of existing market structures and incentives for adoption will be part of scoping assessments for intervention design and scaling-readiness assessments. |
| #5 <i>Include postharvest scientists, agronomists, and/or food scientists in the core team</i> | These have been included (from CGIAR and partnership with WUR) |

Partner engagement

Design process:

- Country level: 150+ stakeholders across spectrum of food system actors engaged across seven selected countries (Bangladesh, Ethiopia, Nigeria, Uganda, Guatemala, Honduras, and Uzbekistan)
- Global level: consultations with prospective partners at global level, including funders (USAID, BMGF, European Commission, Netherlands and others) and potential research and/or scaling partners (ISEAL, Wageningen Research, MSU, World Bank, SNV, East-West Seed, private sector partners).

Implementation:

- Reengaging with selected stakeholders during implementation (in progress)



Inception meetings

- Initiative launch meeting scheduled for 13-14 June 2022
- Country launches & stakeholder engagements to be held between June 20 and August 15 2022



Coordination with other initiatives

- Consultations during design and implementation with 8 other CGIAR initiatives to augment impact and avoid duplication, including HER+, NPS, SHIFT, MITIGATE+, CLIMBER, regional initiatives



Rethinking Food Markets
and Value Chains for
Inclusion and Sustainability

Implementation highlights

Initiative level:

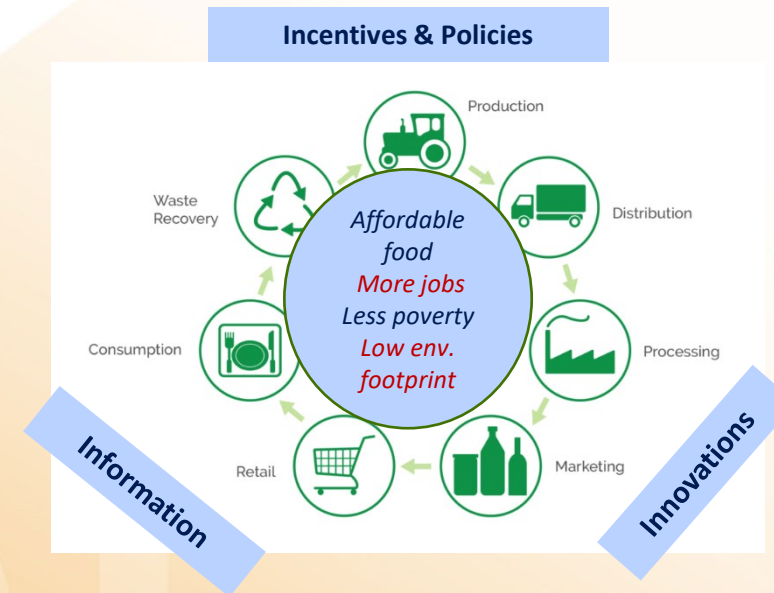
- Initiative concept note and 2022 WP operational plans completed
- Staffing and budget plan completed
- MELIA/SPA plan developed and ready for implementation
- Initiative launch organized

Work packages 1-3:

- Specific research design in progress
- Scoping and market assessments initiated
- Stakeholder engagement under way
- Key partner agreements being completed

Work package 4:

- Knowledge platform (KISM) design started in collaboration with partners (ISEAL Alliance and global stakeholders)
- First meta-study on META-study on “Evidence on Bundling of Process Innovations in Agri-food Value Chains” under way
- Conceptual framework for Agri-food database and modeling tools being completed



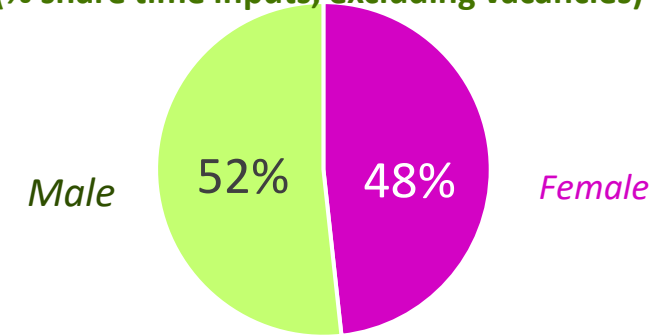
Initiative People Resourcing Diversity Data

- 58 CGIAR staff with assignments
- 8 vacancies posted to the internal recruitment site
- 7 CGIAR centers represented
- 4 CGIAR centers represented at leadership level
- 48% of CGIAR labor time for **women** researchers and 76% for researchers from **Global South**

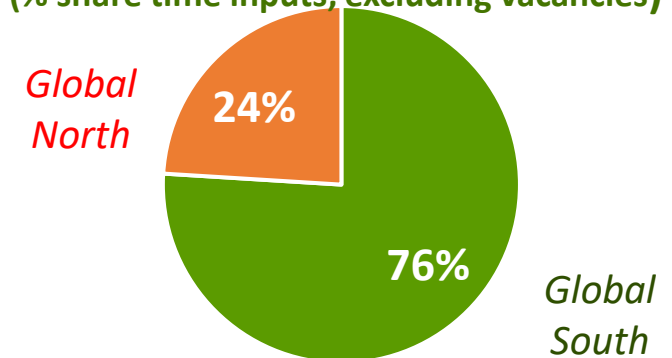
Key Research Partners

- MSU, WUR, FAO
- National research institutes in focus countries

Diversity by gender
(% share time inputs, excluding vacancies)



Diversity by global N and S
(% share time inputs, excluding vacancies)





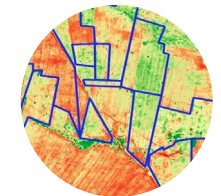
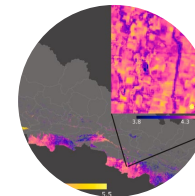
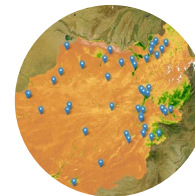
Digital Innovation
and Transformation

A CGIAR RESEARCH INITIATIVE

Harnessing digital technologies for timely decision-making across food, land, and water systems

DI/DX

A CGIAR Research Initiative on
Digital Innovation and Transformation



Can **Digital Innovation** lead to **Systems Transformation**?

OPPORTUNITIES

Digital Innovations provide timely insights and services that can improve productivity, and profitability and manage risks across food, land, and water systems.

Evidence is required to inform current and future digital transformation processes through research.

DI/DX in ST offers an opportunity to coordinate digital research across CGIAR Initiatives and synergize their R4D efforts.

CHALLENGES

▪ **The digital divide**

The potential of digital innovation is clear, yet its reach is far from universal. The Global South, especially women and rural areas, is underserved by digital technologies.

▪ **Inadequate information**

Real-time monitoring of food-land-water systems is possible at a lower cost and higher accuracy than ever before, yet decision-makers lack access to timely, reliable, and actionable information.

▪ **Limited capabilities**

Digital literacy and skill levels across the Global South remain low, particularly among the most marginalized and food-insecure individuals, such as women, youth, and indigenous groups.



REQUIREMENTS

To realize the transformative potential, digital innovations should be _____.

1. **Inclusive**

to reach and benefit all

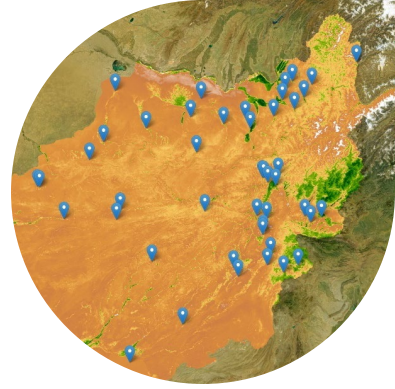
2. **Action-oriented**

to support informed decisions

3. **Human-centered**

to meet actual needs and improve people's lives

Our Research Focus



CORE RESEARCH QUESTION

How can digital innovations be **transformative** and **accelerate** the transformation of food, land, and water systems in the Global South inclusively and sustainably?

OBJECTIVE

Generate research-based evidence and innovative digital solutions that are inclusive, action-oriented, and human-centered to advance the transformation of food, land, and water systems inclusively and sustainably.

| Key Challenge Area | Main Research Question |
|-------------------------------|---|
| The Digital Divide | In what ways can policymakers and investors effectively address the lack of digital infrastructure in rural areas, the gender digital divide, and limited digital capabilities across food, land, and water systems? |
| Inadequate Information | How can digital service providers and information systems improve their services and information products to be more timely, accurate, actionable, and inclusive? |
| Limited Capabilities | What capacity-building strategies can CGIAR, NARES, and partners use to enhance the digital literacy and capabilities of women and youth and empower them in food, water, and land systems? |

Our Formula for Impact



Digital Innovation
and Transformation

CGIAR

SCIENCE

CGIAR's multidisciplinary R4D expertise and knowledge products across food, land, and water systems.

PARTNERSHIPS

CGIAR's trusted partnerships with NARES, local digital innovators, and global technology leaders.

DIGITAL SERVICES

Supporting Research Initiatives by providing data management, computing infrastructure, and recruiting technical expertise.



DI/DX

FIVE WORK PACKAGES

Coordinated activities on the enabling environment, gender digital divide, system dynamics modeling, real-time monitoring, and digital platforms.

INITIATIVE PROJECTS

A portfolio of specific R4D activities that address partners' challenges and deliver toward Impact Area outcomes.

COORDINATION ACROSS THE CGIAR RESEARCH INITIATIVES

Identifying synergistic and strategic opportunities to coordinate digital innovation research for impact.



ACCELERATED FOOD, LAND, AND WATER SYSTEMS TRANSFORMATION

OUR OUTPUTS/OUTCOMES

Initiative outputs and outcomes collectively contribute to the knowledge of digital impacts toward sustainable agrifood systems, leading to the *accelerated* transformation of food, land, and water systems.

CGIAR's ENHANCED DIGITAL CAPABILITIES

CGIAR's digital capabilities are elevated to develop digital innovations that are human-centered, inclusive, and empowering.

Human-Centered Innovation Process | Example 1

Enhancing partners' digital services

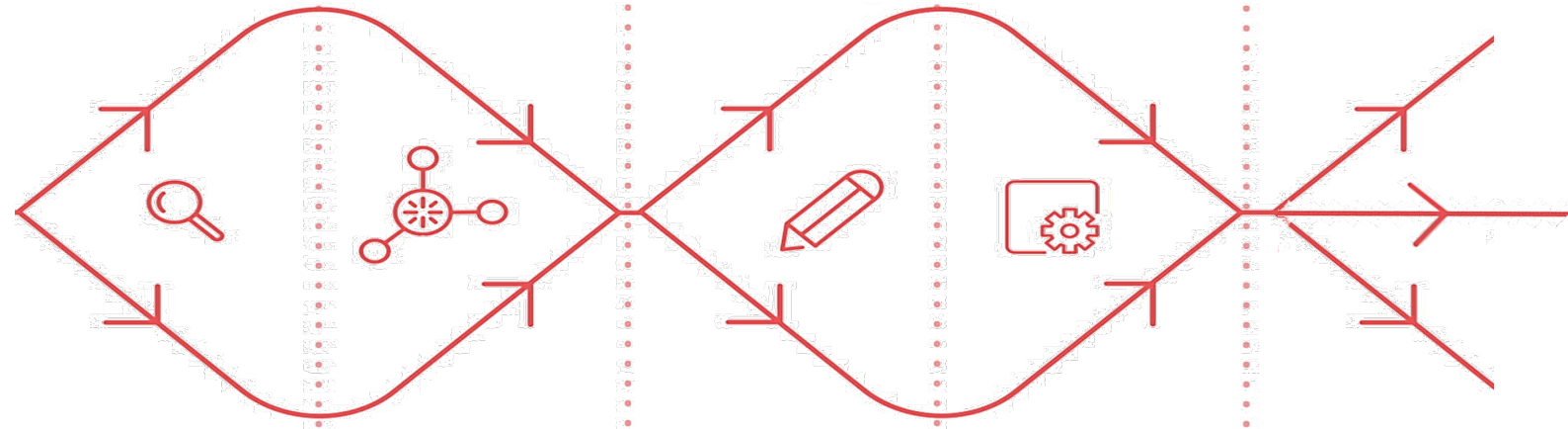


Digital Innovation
and Transformation



An international non-profit organization focused on using radio to help African farming communities help themselves.

- Collaborates with CGIAR to disseminate extension contents.
- Radio shows are found effective and inclusive in reaching farmers.
- Interactive engagement with farmers is feasible yet resource-demanding and technically challenging.



DISCOVER

We engaged with **Farm Radio International** and learned about the challenges of having too many voice messages to handle.

DEFINE

We identified an opportunity to develop an **A.I.-based audio analytics workflow** and address the challenge.

DEVELOP

In partnership with **CGIAR Digital Services** and **Amazon Web Services**, our data scientists/engineers will prototype research-based solutions.

DELIVER

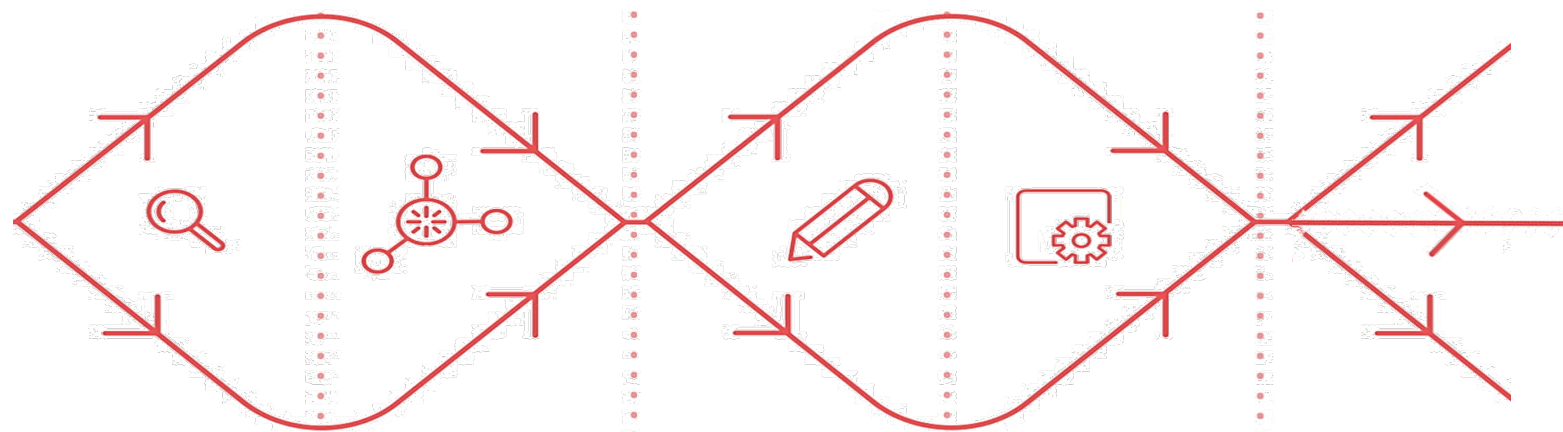
Farm Radio Int'l will test the solutions, evaluate, and provide feedback to **iterate** the development and refine the prototype in an agile way.

EVOLVE

While we help Farm Radio Int'l develop the next steps, we will **monitor share the learnings** and engage with others to **scale up the solutions**.

Human-Centered Innovation Process | Example 2

Ensuring high-quality digital/data science in CGIAR



Multiple CGIAR Research Initiatives can benefit from remote sensing-based analytics.

- Relying on partner institutions to outsource remote sensing analytics can lead to costly, inefficient, and ineffective results, resulting in a low impact.
- It will be more efficient and strategic to generate remote sensing-based intelligence internally and ensure its scientific rigor.

DISCOVER

Jointly with **the Initiatives**, we will assess the challenges of **sourcing remote sensing-based analytics** in reliable, affordable, and actionable ways.

DEFINE

We will identify opportunities to develop **open science-based analytics** and make them **actionable** to CGIAR stakeholders.

DEVELOP

In partnership with **Digital Services, SERVIR, NASA, ESA, Google/X, and academic institutions**, our spatial data science team will prototype solutions.

DELIVER

Multiple Initiatives will test the prototype solutions locally, evaluate, and provide feedback to **iterate** the development and refine the solutions in an agile way.

EVOLVE

While we help Initiatives implement the services and develop the next steps, we will **monitor and share the learnings**.

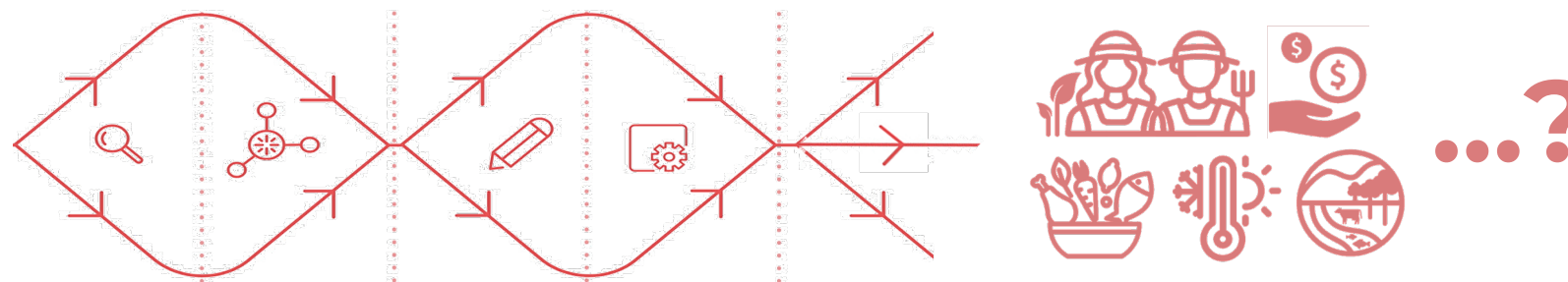
Human-Centered Innovation Process | Example 3

Analyzing impacts of digital innovations



Digital Innovation and Transformation

| Group | Initiative | Potential Synergy | Joint Activity (Proposed) |
|-------|--------------------------------|---|---|
| GI | Market Intelligence | Market Intelligence platform/dashboard | Real-time monitoring data to support market segmentation analyses. |
| | One Health | Data analytics on sensitive animal health data | Prototype a data analytics workflow to securely manage/analyze sensitive data. |
| | Asian Mega Delta | Digital climate information services | Localize actionable weather/seasonal climate forecasts and scale with partners. |
| | F2R CIMANA | Digital climate information services | Localize actionable weather/seasonal climate forecasts and scale with partners. |
| | Ukama Utawai (ESA) | Digital climate information services | Localize actionable weather/seasonal climate forecasts and scale with partners. |
| | TAFS WCA | Digital climate information services | Localize actionable weather/seasonal climate forecasts and scale with partners. |
| | Livestock Climate LCSR | Digital climate information services | Localize actionable weather/seasonal climate forecasts and scale with partners. |
| RAIS | Excellence in Agronomy | Responsible data management workflow | Prototype tools to enable responsible management of sensitive research data. |
| | NARSUR+ | Evidence of increased HSP adoptions | Assess the impact of digital technologies to lower adoption barriers. |
| | Plant Health | Data analytics on sensitive phytosanitary data | Prototype a data analytics workflow to securely manage/analyze sensitive data. |
| | AgrILAC | Evidence of digital climate advisory impacts | Assess the impact of digital advisory services to manage climate/market risks. |
| | Aquatic Food Systems | Real-time monitoring of water quality | Prototype an IoT-based water quality monitoring and decision-support system. |
| | SARLING | Data analytics on animal registry data | Analyze animal registry data to support climate-smart livestock management. |
| | ClimateR | Climate security observatory | Knowledge graph-based mining of causality and real-time data analytics. |
| | HER+ | Digital Inclusion Index | Metric and best practices to promote gender-responsive digital innovations. |
| | National Policies & Strategies | Digital crisis response framework | A policy framework to share data/intelligence rapidly in response to emergencies. |
| ST | NEXUS Gains | Limpopo information system | Co-designed natural resource management decision-support system. |
| | Revitalizing Food Markets | Food traceability pilot | Prototype a food traceability application using blockchain and IoT devices. |
| | SHIT | Food flow mapping using remote sensing | Prototype a remote sensing-based rapid mapping of food flow and diet quality. |
| | MITIGATE+ | Soil carbon sequestration mapping | Prototype a satellite-based carbon monitoring workflow for carbon financing. |



Multiple (20+) CGIAR Research Initiatives plan to pilot digital innovations.

- We will consult with the digital-minded Initiatives to identify needs/gaps and opportunities for synergies.
- In partnership with CGIAR Digital Services, we will support them in implementing their digital R&D activities in sustainable, inclusive, and scientifically rigorous ways.
- In parallel, we will investigate the causal impact of digital innovations on the livelihood of people who engage with CGIAR.

#1

Citizen Science Impact Assessment

Assessing whether and how participating in CGIAR's citizen science projects empowers women and youth and contributes to improving social inclusion and job opportunities.

#2

Digital Advisory Impact Assessment

Assessing the impacts of using CGIAR-led/contributed digital advisory services on gender equality and social inclusion outcomes. Providing support for the service providers to improve key GESI outcome metrics.

2022 Progress & Plan



Initiative-level Activities

| | |
|------------|---|
| <i>Jan</i> | <ul style="list-style-type: none"> High-level draft work plans and budget developed with the Leadership Team. |
| <i>Feb</i> | <ul style="list-style-type: none"> ISDC review feedback received. Co-presented management responses on CGIAR Platform for Big Data in Agriculture evaluation report with CGIAR Digital Services. |
| <i>Mar</i> | <ul style="list-style-type: none"> Proposal revision process initiated. Submitted the 1st batch of 39 TORs (>20% FTE) to P&C. |
| <i>Apr</i> | <ul style="list-style-type: none"> Confirmed 32 staff through the P&C Process. Held the Leadership Team workshop (Nairobi). |
| <i>May</i> | <ul style="list-style-type: none"> Drafted the Initiative response to the ISDC review and revised the Theory of Change accordingly. Launched the process of designing Initiative Projects to address specific problems. Introduced DI/DX at the partnering Initiatives' launch events and other global/regional digital agriculture forums (e.g., ADB, SDSN). Organized the Initiative Onboarding Meeting (Online) with 64 (confirmed) team members. |

Work Package/Project-level Plan

| | |
|-----------|--|
| <i>Q2</i> | <ul style="list-style-type: none"> In-region WP-level inception workshops and stakeholder meetings are being organized. Lead the consultation with other Initiatives with major digital components, in partnership with CGIAR Digital Services, to scope collaborations and synergies. Project-level work plans will be finalized for launch. A global Initiative launch meeting will be organized virtually. |
| <i>Q3</i> | <ul style="list-style-type: none"> Define/collect the baseline for the impact evaluations (quantitatively or qualitatively). Conduct the gap/needs assessments with partners. Establish formal agreements with key partners. Participate in the regional Initiative meetings and stakeholder engagement activities (LAC, ESA, SA). Initiative Projects will start implementing, aiming to harvest "low-hanging fruits". |
| <i>Q4</i> | <ul style="list-style-type: none"> Finalize 2022 outputs/deliverables. Report WP/Project progress against the Results Framework. Communicate the Initiative progress with partners, collate feedback, and refine plans for 2023-2024. |

Our Responses to the ISDC Review



Digital Innovation
and Transformation

| Comment (Summarized) | Our Response |
|---|--|
| <p>1 Clearly define “digital technologies.” The meaning of this term is nuanced and value-laden.</p> | <ul style="list-style-type: none">• We recognize that digital innovations in themselves are not solutions. We aim to conduct research on how best digital technologies can contribute to the system’s transformation.• We will clarify different approaches to achieve the goal by selectively using more specific terms that can convey our intent better within the context of each Work Package. |
| <p>2 Couple technologies with science and extension and improve linkages with CGIAR Impact Areas. New technologies and innovations must be coupled with appropriate science and extension that will enable the delivery of benefits across Impact Areas.</p> | <ul style="list-style-type: none">• The scope of our work goes beyond the supply of technologies. We assess the need for digital innovations and their ecosystem that can contribute to the system-level transformation – both with partners and other CGIAR Initiatives.• Our team of 70+ scientists with diverse multidisciplinary backgrounds will work to ensure scientific rigor and develop research-based digital innovations.• To improve the linkage with CGIAR Impact Areas, we designed Initiative Projects that are mapped to five Impact Areas. Collectively, these projects will demonstrate how we deliver benefits toward impacts to different systems and contribute toward the Impact Area outcomes. |
| <p>3 Be more specific about the design of Work Packages. More specifics would help readers better grasp the background, intent, and proposed methods.</p> | <ul style="list-style-type: none">• Our work is driven by real challenges faced by stakeholders. Our starting point is the need for (digital) innovations to address Impact Area-level challenges. Our Theory of Change assumes that the digital ecosystem develops as technologies benefit the most vulnerable without increasing the digital divide.• To be more specific, we designed 17+ Initiative Projects that address system-level problems using a diverse set of innovative digital tools and approaches. |
| <p>4 Iteratively refine innovations. More effort on the iterative refinement with next- and end-users during the life of the Initiative (as opposed to only at the end) may help ensure that innovations translate into impact.</p> | <ul style="list-style-type: none">• Applying the human-centered design approach, our work will initiate through engagement with partners and stakeholders and iterate. We will use the forums to keep checking back with partners and stakeholders to co-design prototypes and implement them. This will ensure uptake and impact.• In partnership with CGIAR Digital Services, we will employ the Lifecycle Approach that will iteratively design prototype solutions, and deliver them to partners for evaluation, and redesign. |

Our Responses to the ISDC Review



Digital Innovation
and Transformation

| Comment (Summarized) | Our Response |
|--|---|
| <p>5 Targets of gender diversity, inclusivity, and equity may not be achievable.</p> <p>Add risk mitigation measures to address scenarios in which women do not effectively engage in this Initiative. Scope for engagement beyond women.</p> | <ul style="list-style-type: none">• We revised MELIA metrics to be grounded on the latest baseline data and reflect a coherent GESI focus.• We will iteratively co-design and co-develop prototypes, evaluate, and redesign digital innovations throughout the life of our Initiative to early detect any potential risks and address them in time.• Beyond Work Package 2, our design of innovations will focus on the wider issues of inclusivity relating to youth and marginalized sectors of society, prioritizing simpler, localized solutions with low entry barriers. |
| <p>6 Budget assumptions and justification are missing.</p> <p>Details underpinning budget assumptions seem completely absent. Consider adding cost-benefit analyses to determine financial benefits.</p> | <ul style="list-style-type: none">• We <u>did</u> submit the budget narrative as a separate document following the submission guideline, but we found that it was not delivered to the reviewers. The budget narrative document provided assumptions.• We have added a cost-benefit analyst to the team, who will lead a series of cost-benefit analyses on the Initiative Projects (e.g., the cost-benefit of farmers' use of digital advisory services). We will also explore the well-being of society and the environment as given by the five Impact Areas. |
| <p>7 Outline processes for ensuring the legacy of tools after the Initiative ends.</p> <p>Present plans on who and how these tools will be maintained after the Initiative ends.</p> | <ul style="list-style-type: none">• Digital innovations provide opportunities to be more sustainable than non-digital outputs. We will support demand partners to enhance their existing services and develop a research-based sustainable business model. For public sector partners, our capacity-strengthening programs will support embedding the tools institutionally. Our team has successfully demonstrated this with the Ministries of Agriculture.• We are partnering with CGIAR Digital Services to scope on the provision of infrastructure to centrally serve some of the services that are required by multiple Initiatives/partners (e.g., digital climate services). |
| <p>8 Address challenges of attributing the Initiative's impact.</p> <p>Account for other technological developments that will co-occur during the life of the Initiative.</p> | <ul style="list-style-type: none">• We will reflect on the challenge in the design of our causal impact assessments, employing “best practices” from the digital development communities. For example, rather than isolating the control group, we will explore the “pipeline delays” approach to approximate the counterfactuals over time.• We will engage with SPIA to explore innovative impact assessment approaches suitable for digital innovations whilst adhering to ethical considerations. |

Our Team

We have the **highest concentration of digital talents** in the portfolio of CGIAR Research Initiatives.

- **70+** researchers with multidisciplinary backgrounds, including **data scientists** specializing in climate, nutrition, remote sensing, **information science** in human-centered design and ontology, and **social science** and **development economists** on gender, socio-technical systems, cost-benefit analysis, and impact evaluation.
- We identified collaboration opportunities with **20 Research Initiatives** to co-design/co-develop digital innovations.
- We are best positioned to **coordinate CGIAR's digital R&D partnerships** with technology leaders.

WORK PACKAGES

1. Enabling environment for digital ecosystems / [Guatemala, Kenya, Ethiopia](#)
2. Bridging the gender digital divide / [Guatemala, Kenya, Indonesia](#)
3. System dynamics modeling for NRM / [Mozambique, Zimbabwe, South Africa](#)
4. Real-time monitoring of food systems / [Guatemala, Egypt, Rwanda, India](#)
5. Enabling digital platforms and services / [Kenya, India, Ghana](#)

TEAM EXPERTISE

Data Scientist (Climate and Weather)
Data Scientist (Nutrition and Diet)
Data Scientist (Causal Inference)
Data Engineer (Blockchain)
Spatial Analyst (Remote Sensing)
Spatial Analyst (UAV & USV)
Information Scientist (Ontology)
Information Scientist (Human-Centered Design)
System Dynamics (Digital Twin)
Water Systems Researcher
Regional Crop Modeler
Livestock Systems
Business Scientist (Innovative Partnership)

Development Economist (Digital Finance)
Development Economist (Cost-Benefit Analysis)
Development Economist (MEL)
Social Scientist (Digital Divide)
Social Scientist (Gender Equality)
Scaling Specialist
Policy Analyst
Research Analyst (Early Warnings)
Research Analyst (Digital Technology)
Research Analyst (Information System)
Research Analyst (Innovation System)
Capacity Building Coordinator
Partnership Coordinator



LEADERSHIP TEAM

LEAD

Jawoo Koo ^{IFPRI} j.koo@cgiar.org

CO-LEAD

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WP LEADERS

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Deepa Joshi ^{IWMI}

Chris Dickens ^{IWMI}

Daniel Jimenez ^{Alliance Bioversity-CIAT}

Steve Kemp ^{ILRI}

Ram Dhulipala ^{ILRI}

Sheetal Sharma ^{IRRI}



Digital Innovation
and Transformation

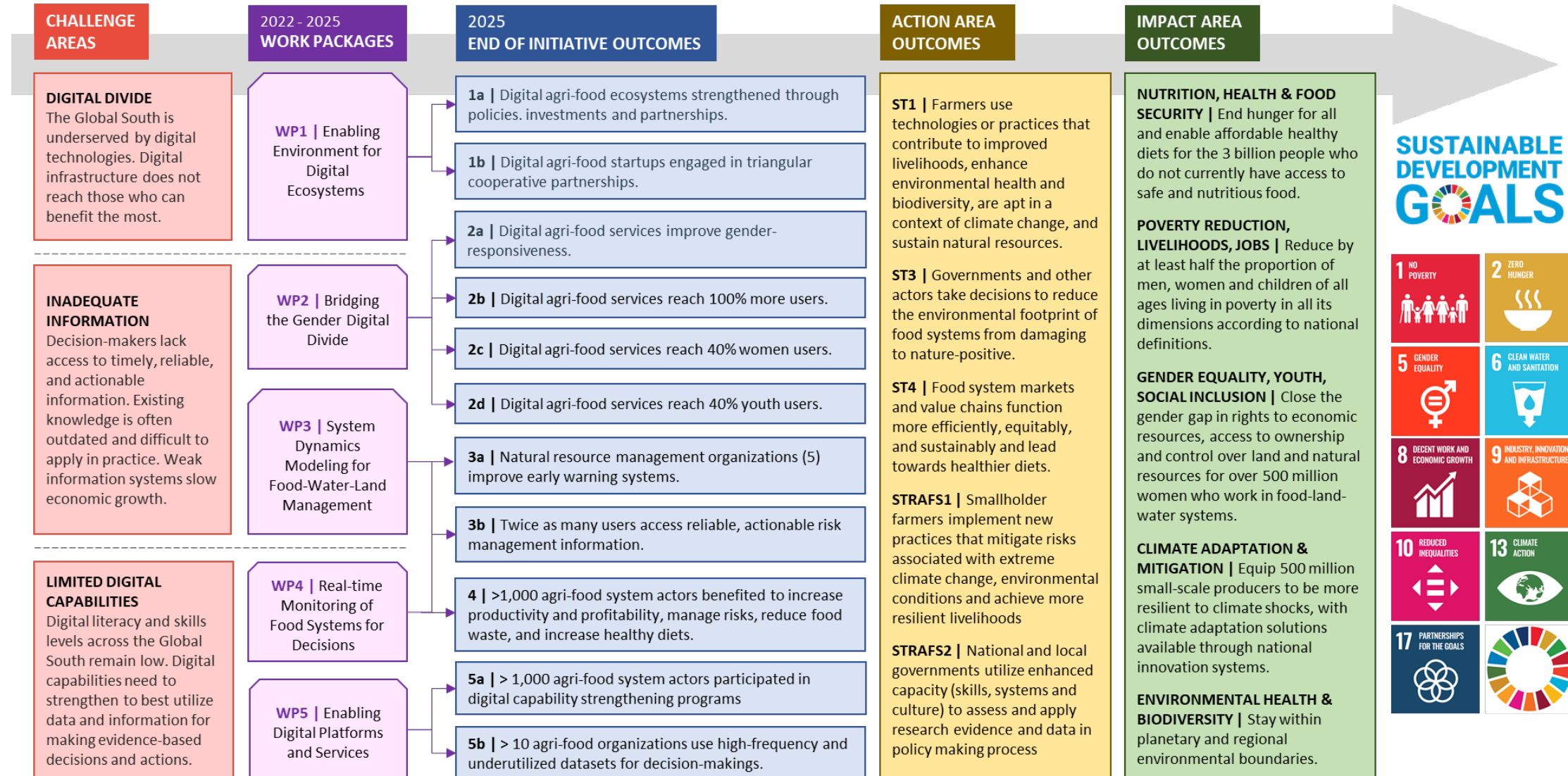
Work Packages



Digital Innovation
and Transformation

| | 1 ENABLING ENVIRONMENT FOR DIGITAL ECOSYSTEMS | 2 BRIDGING THE GENDER DIGITAL DIVIDE | 3 SYSTEM DYNAMICS MODELING FOR NRM MANAGEMENT | 4 REAL-TIME MONITORING OF FOOD SYSTEMS | 5 ENABLING DIGITAL PLATFORMS AND SERVICES |
|------------------|--|---|---|---|---|
| Leads | Andrea Gardeazabal, Carlo Azzarri | Simon Langan, Deepa Joshi | Jawoo Koo, Chris Dickens | Daniel Jimenez, Steve Kemp | Sheetal Sharma, Ram Dhulipala |
| Focus | Support policymakers and investors to build enabling environments (including policies, investment plans, innovation support systems, and public-private partnerships) for strengthening local digital ecosystems . | Support digital innovators by measuring and assessing the gender-responsiveness of their services and providing research-based solutions that can lead to reducing the gender digital divide and empowering users . | Support natural resource management authorities by co-developing a real-time decision-support system to monitor water use across food, land, and water systems and issue actionable early warnings for timely management of risks. | Support food value-chain stakeholders by generating and incorporating real-time monitoring of food production and supply system dynamics data into information systems and developing strategies toward climate-smart agrifood systems. | Support digital innovators (CGIAR and partners) by coordinating the delivery of enabling data and analytics on underutilized data assets, improving the quality and efficiency of digital innovations, and generating new insights for impacts. |
| Countries | Guatemala, Kenya, Ethiopia | Guatemala, Kenya, Indonesia | Mozambique, Zimbabwe, South Africa | Guatemala, Egypt, Rwanda, India | Kenya, India, Ghana |

Theory of Change



SUSTAINABLE DEVELOPMENT GOALS



Theory of Change (cont'd)



Digital Innovation
and Transformation

ASSUMPTIONS

- **Policymakers** recognize the potential of digital technologies, although investments in digital ecosystems and infrastructure are constrained by limited resources and insufficient evidence to prioritize investments.
- **Digital innovators** are open to partnering with CGIAR and incorporating real-time data and new analytics workflow to provide actionable information and inclusive services.
- **Communities of food-land-water system actors** are willing to learn how best to use digital technologies, engage in local digital ecosystems, and take data-driven decisions.

PRE-CONDITIONS

We leverage CGIAR's top-notch agrifood systems science and multidisciplinary research expertise, trusted partnerships with national agricultural research and extension systems (NARES) and digital innovators to innovate and transform food, land, and water systems, and the portfolio of CGIAR Research Initiatives are coherently managed and coordinated to deliver impacts.

IMPACT PATHWAYS

Through the implementation of specific **Initiative Projects**, we will prepare a series of outputs that inform policymakers' efforts to **reduce the digital divide**, support digital innovators to **improve information systems**, and provide marginalized communities in the global South with opportunities to **enhance digital capabilities**, collectively leading to the inclusive and sustainable transformation of food, land, and water systems.

Key Outputs and Outcomes



Digital Innovation
and Transformation

KEY OUTPUTS

Policymakers & Investors

- Research-based policy options for supporting digital ecosystems.
- Impact evidence to facilitate investments that address the digital divide effectively.
- South x South collaboration to facilitate shared learning and scale digital innovations.

Innovators & Practitioners

- Inclusive, gender-responsive digital services that reach marginalized communities.
- Timely, accurate, actionable information systems to help manage risks.
- Underutilized data mobilized for generating new insights for climate-smart decisions.
- Automated analytics workflow for timely detection of risks and informing stakeholders.

End-users (esp. Women and Youth)

- Training programs to raise digital literacy and engage in the digital ecosystem.
- Citizen science programs designed to acquire digital skills for analyzing data while groundtruthing research and empower participants for accessing resources and job opportunities.

KEY OUTCOMES

Informed **policymakers & Investors** formulate enabling policies for locally-led digital ecosystems, develop digital strategies, establish public-private partnerships, and attract strategic investments toward bridging the digital divide.

Improved **digital services and information systems** provide more timely, accurate, and actionable information that helps agrifood system actors manage climate and food security risks.

Empowered **women and youth** use digital technologies, leading to improved livelihoods and job opportunities.

Initiative Projects*



| Impact Area | | Project Title | Primary Focus Area | Primary WP |
|--|--|--|--------------------------------|------------|
| Nutrition, Health, Food Security | | Text Analytics for Digital Extension | Enhancing Digital Capabilities | 4 |
| | | Audio Analytics for Digital Extension | Enhancing Digital Capabilities | 5 |
| | | Crop Analytics for Policymakers | Improving Information Systems | 4 |
| | | Monitoring Diet Quality for Nutrition Security | Improving Information Systems | 4 |
| Poverty Reduction, Livelihoods, Jobs | | South x South Innovation Lab | Bridging the Digital Divide | 1 |
| | | Digital Policy Toolbox | Bridging the Digital Divide | 1 |
| | | Digital Infrastructure Impact Assessment | Bridging the Digital Divide | 1 |
| Gender Equality, Youth, Social Inclusion | | Digital Advisory Impact Assessment | Bridging the Digital Divide | 2 |
| | | Citizen Science Impact Assessment | Enhancing Digital Capabilities | 5 |
| | | Human-Centered Design for Digital Inclusion | Improving Information Systems | 2 |
| Climate Adaptation & Mitigation | | Monitoring Soil Carbon Dynamics | Improving Information Systems | 3 |
| | | Million Climate-Smart Cows | Improving Information Systems | 4 |
| | | High-Frequency Mapping of Climate Adaptation | Improving Information Systems | 4 |
| | | Actionable Weather and Climate Forecasts | Improving Information Systems | 3 |
| Environmental Health & Biodiversity | | Next Generation E-Flow | Enhancing Digital Capabilities | 3 |
| | | Empowering Water Management Authorities | Enhancing Digital Capabilities | 3 |
| | | Rapid Mapping of Crop Fields | Improving Information Systems | 4 |

*Initiative Projects are being developed to address partners' specific problems and deliver toward Impact Area outcomes, addressing [the ISDC review comment #3](#)

Human-Centered Innovation Process | Example 2



Digital Innovation
and Transformation

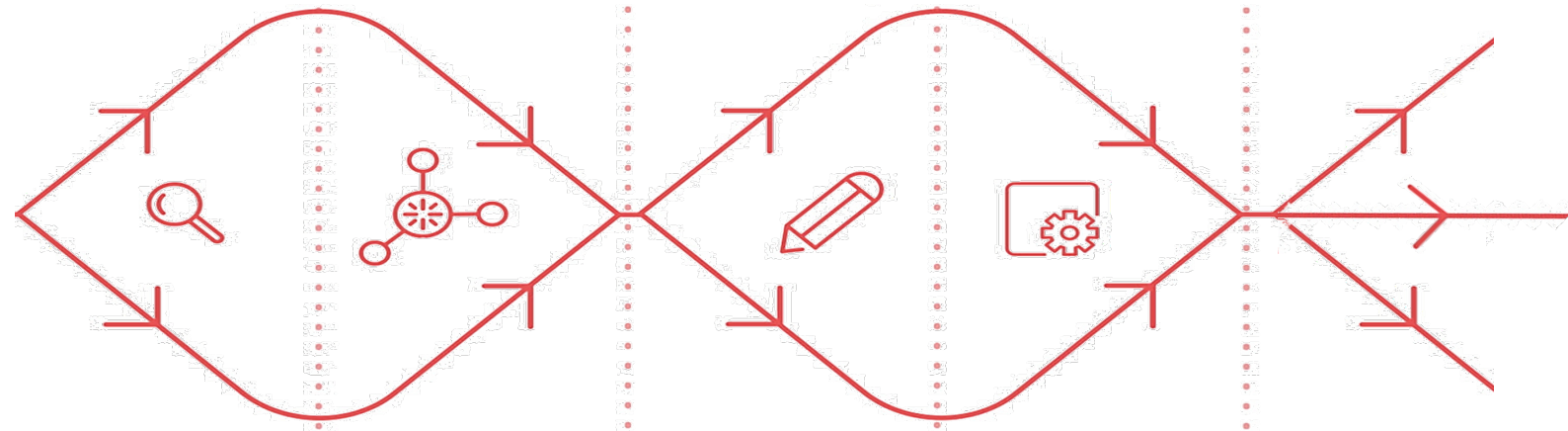
Designing inclusive and empowering digital services



Digital Agri Hub

A knowledge broker and matchmaking platform, which tracks and monitors digital agriculture solutions in the Global South.

- Data from 541 digital agriculture solution providers shows that the share of women in users is about 20% (or much less).
- Anecdotal evidence exists on why women farmers don't register to use these solutions, yet more research is needed to assess the cause.



DISCOVER

We engaged with digital innovators and users to assess the challenges for women to use digital services and the **opportunities for impact**.

DEFINE

We will identify opportunities to collaborate with select partners to set “Design Challenges” to improve their service inclusivity and develop plans.

DEVELOP

In partnership with **CGIAR Digital Services** and **local digital innovators**, our GESI and HCD experts will iteratively prototype solutions and assess impacts.

DELIVER


Partnering digital innovators will test the prototype, evaluate the performance, and provide feedback to iterate the development and refine the solutions.


EVOLVE

We will assess the **impacts on women's use of digital services and empowerment** and share the learnings with other digital innovators for scaling.


Two vehicles for implementing the CAS recommendations*

- The **Digital Services** unit will lead the design and development of e-infrastructure, and analytics platforms, curating data and digital assets, and establishing data management standards.
- The **Digital Innovation and Transformation Initiative** will lead the design of research processes, identify demands from research Initiatives, co-develop digital innovation and data analytics use-cases within those Initiatives' Theories of Change, and iteratively provide feedback and contribute to the further development and provision of enabling digital services.


Advisory Services



External Evaluation of CGIAR Platform for Big Data in Agriculture
 CAS/Evaluation Function, CGIAR Advisory Services Shared Secretariat
 Khuloud Odeh - Global Director for Digital Services; Brian King - BDP Platform Lead;
 Jawoo Koo - (Interim) Lead, One CGIAR Initiative "Harnessing Digital Technologies for timely Decision-making Across Food, Land, and Water Systems"
 10 February 2022


Advisory Services

| MR | Recommendation |
|--------------------|--|
| Fully Accepted | 1. Prioritize specific digital solutions for specific data (domains) ...to demonstrate the value of the answer that (big) data can provide to support CGIAR's key priorities. |
| Fully Accepted | 2. Prioritize and advance the interoperability agenda , building on CGIAR's datasets. |
| Fully Accepted | 3. Strengthen the conceptualization (theory of change [ToC]) of how the impact of agricultural [R4D] can be increased by embracing big data and ICT approaches... |
| Partially Accepted | 4. Raise CGIAR Entities' engagement to ensure technology solutions uptake : this can be achieved by an inclusive governance system, leveraging existing tools and incentives. |
| Fully Accepted | 5. Build a new harmonized and interoperable analytical environment in CGIAR based on accumulated knowledge from the experience of the Platform's implementation. |
| Partially Accepted | 6. Improve grant scheme management, monitoring, and governance to foster the Platform's (or successors') relevance to contribute to solving agriculture development challenges. |

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One CGIAR Management Response (MR)- Summary



- Two primary vehicles for implementing the recommendations
- Digital innovation and data analytics use-cases within Initiatives' Theories of Change
- Building internal solid partnerships and collaborative design
- 4 out of the 10 recommendations require additional funding



| |
|---|
| 8 Recommendations Fully Accepted |
| 2 Recommendations Partially Accepted |
| No Recommendation Rejected |

Management Response(MR) to the Recommendations: One CGIAR Management



| MR | Recommendation |
|----------------|---|
| Fully Accepted | 7. Develop a One CGIAR (research) digital capability model and ensure the funding for a long-term digital plan with successive phases and a clear mandate building on the Strategic Research on Digital Transformation assessment . |
| Fully Accepted | 8. Lead the way in hosting open data and providing analytic tools for CGIAR and its partners as well as increasing the data and funding (by showing its value). |
| Fully Accepted | 9. Develop data synthesis tools that are amenable for use by decision-makers to support data co-curation. |
| Fully Accepted | 10. Develop a data curation and transformation dashboard to enable CGIAR and partners to access tools and technical support to undertake data harvesting, data harmonization, and visualization. |

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* Full report available at the CAS website.

Strategic Synergies with Other Initiatives



Digital Innovation
and Transformation

| Group | Initiative | Potential Synergy | Joint Activity (Proposed)* |
|-------|--------------------------------|---|---|
| GI | Market Intelligence | Market intelligence platform/dashboard | Real-time monitoring data to support market segmentation analyses. |
| | One Health | Data analytics on sensitive animal health data | Prototype a data analytics workflow to securely manage/analyze sensitive data. |
| | Asian Mega Deltas | Digital climate information services | Localize actionable weather/seasonal climate forecasts and scale with partners. |
| | F2R CWANA | Digital climate information services | Localize actionable weather/seasonal climate forecasts and scale with partners. |
| | Ukama Ustawi (ESA) | Digital climate information services | Localize actionable weather/seasonal climate forecasts and scale with partners. |
| RAFS | TAFS WCA | Digital climate information services | Localize actionable weather/seasonal climate forecasts and scale with partners. |
| | Livestock Climate LCSR | Digital climate information services | Localize actionable weather/seasonal climate forecasts and scale with partners. |
| | Excellence in Agronomy | Responsible data management workflow | Prototype tools to enable responsible management of sensitive research data. |
| | NATURE+ | Evidence of increased NPS adoptions | Assess the impact of digital technologies to lower adoption barriers. |
| | Plant Health | Data analytics on sensitive phytosanitary data | Prototype a data analytics workflow to securely manage/analyze sensitive data. |
| | AgriLAC | Evidence of digital climate advisory impacts | Assess the impact of digital advisory services to manage climate/market risks. |
| | Aquatic Food Systems | Real-time monitoring of water quality | Prototype an IoT-based water quality monitoring and decision-support system. |
| | SAPLING | Data analytics on animal registry data | Analyze animal registry data to support climate-smart livestock management. |
| | ClimBeR | Climate security observatory | Knowledge graph-based mining of causality and real-time data analytics. |
| | HER+ | Digital inclusion index | Metrics and best-practices to promote gender-responsive digital innovations. |
| ST | National Policies & Strategies | Digital crisis response framework | A policy framework to share data/intelligence rapidly in response to emergencies. |
| | NEXUS Gains | Limpopo information system | Co-designed natural resource management decision-support system. |
| | Rethinking Food Markets | Food traceability pilot | Prototype a food traceability application using blockchain and IoT devices. |
| | SHiFT | Food flow mapping using remote sensing | Prototype a remote sensing-based rapid mapping of food flow and diet quality. |
| | MITIGATE+ | Soil carbon sequestration mapping | Prototype a satellite-based carbon monitoring workflow for carbon financing |

*Activities will be jointly designed/implemented with CGIAR Digital Services, following [the CAS Evaluation of CGIAR Big Data](#).

Consulting Partners



Digital Innovation
and Transformation

Other Initiatives (18)

- ClimBeR
- MITIGATE+
- NEXUS Gains
- Rethinking Markets
- HER+
- SHIFT
- Foresight and Metrics
- National Policies and Strategies
- ESA
- TAFSSA
- AMD
- LAC
- Aquatic Foods
- EiA
- Plant Health
- One Health
- Enabling Tools
- Market Intelligence

Nat'l Organizations (7)

- JIRCAS (Japan)
- Indonesia Ministry of

- Agriculture
- Indonesian Agency for Agricultural Research and Development (IAARD)
- CEPPAG (Mozambique)
- ATA (Ethiopia)
- ATO (Kenya)
- Rural Development Administration (Korea)

Private Sector (18)

- Amazon Web Services
- Bayer
- 60 decibels
- Facebook
- Farm Radio International
- Viamo
- X the Moonshot Company (Google)
- ODX (Yara)
- Corteva

- SoilTech
- Datawheel
- Yara International
- Syngenta
- Manobi
- Yapu
- Plantix
- Mediae
- iCow

Non-Profit, NGO (16)

- Land Portal Foundation
- GSMA
- Resilient Waters (USAID)
- Radiant Earth Foundation
- Grow Asia
- NASA Harvest
- PRIDA
- Women Connect (USAID)
- CGAP

- Mercy Corps
- Research ICT Africa
- Amplio
- GFRAS
- DIAL
- HarvestPlus
- MapPH
- AKADEMIYA 2063

Academia (7)

- WUR
- U. Florida
- U. Maryland
- Griffith University
- MIT
- IRI (Columbia University)
- ITC (University of Twente)

Funders (5)

- FCDO
- USAID
- SDC

- BMGF
- ACIAR

Multilateral Organizations (11)

- World Bank
- FAO
- UNDP
- UN Women
- IFAD
- AGRA
- SEARCA
- World Economic Forum
- IIASA
- ZAMCOM
- LIMCOM



Harnessing Gender
and Social Equality for
Resilience in Agrifood
Systems

HER+

Harnessing Gender and Social Equality for Resilience in Agrifood Systems

Nicoline de Haan (ILRI)

Dan Gilligan (IFPRI)

Steve Cole (IITA)

Ranjitha Puskur (IRRI)

Shalini Roy (IFPRI)

Katrina Kosec (IFPRI)

Urgency and high stakes

Premise of HER+

Challenge:

Climate change is worsening gender and social inequalities

Conflict and food price shocks are increasing food insecurity

Opportunities:

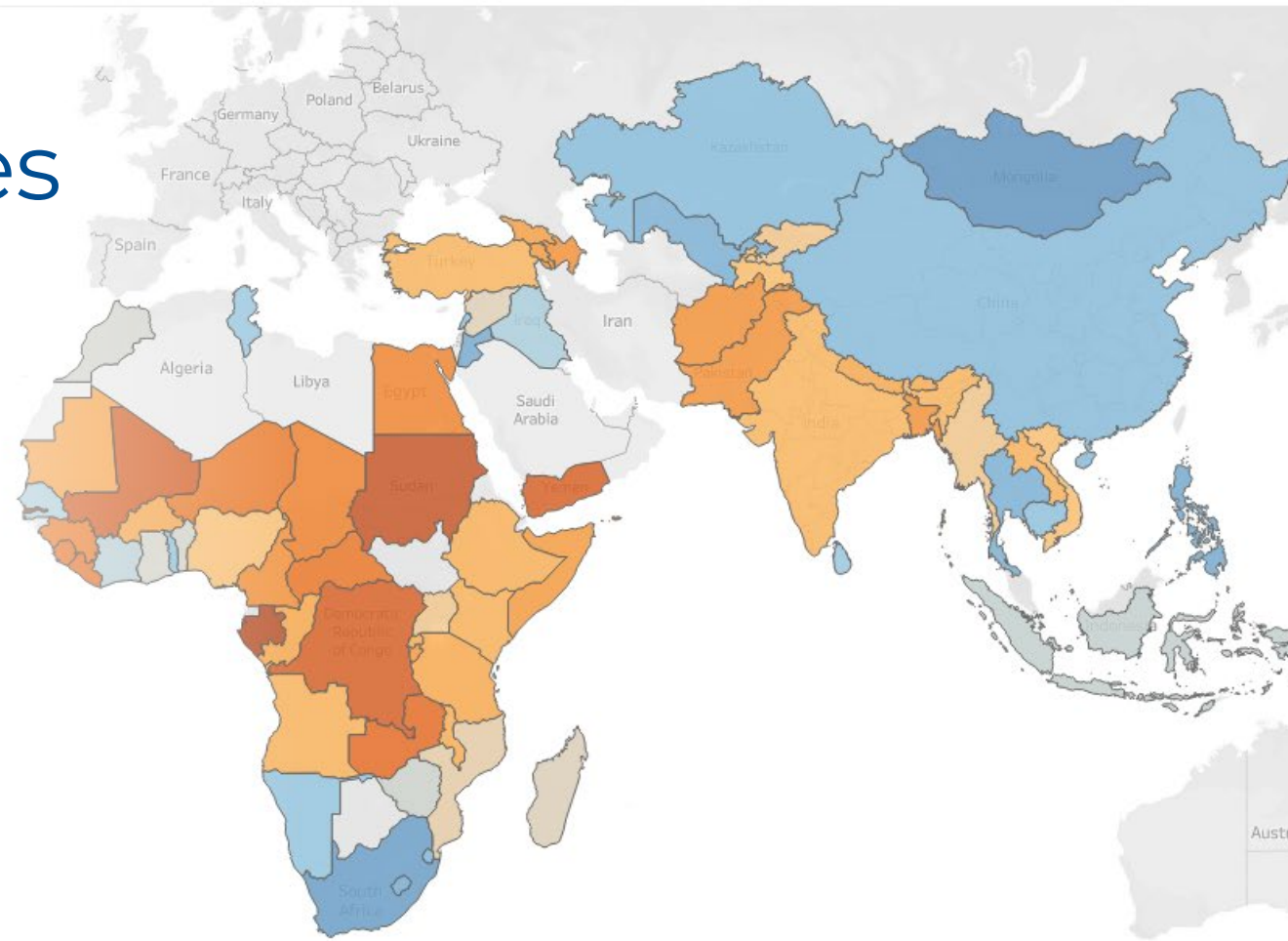
Food systems are transforming

Space opening for solutions on climate change

Using hotspot mapping and partners in country to target bundled socio-technical solutions

Goal:

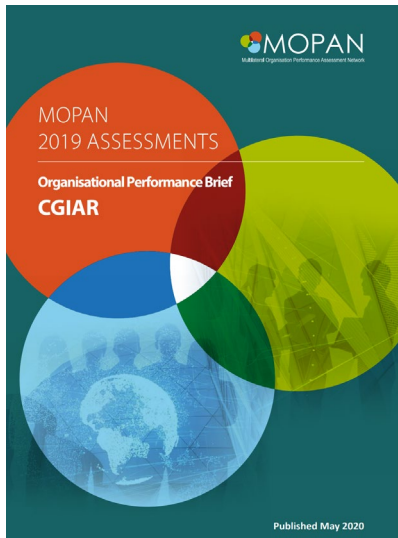
Develop approaches that reverse inequalities, strengthen women's roles in the food system



Progress on equality has slowed in these **gender and climate hotspots**

HER+ institutional framing

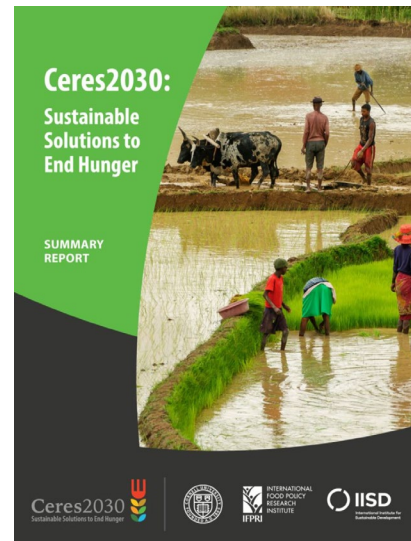
Wake-up calls cite limited advances in gender research



'7. CGIAR's efforts on gender equality and women's empowerment represent isolated pockets of good practice, meaning that CGIAR may be mainstreaming a superficial "gender fix".

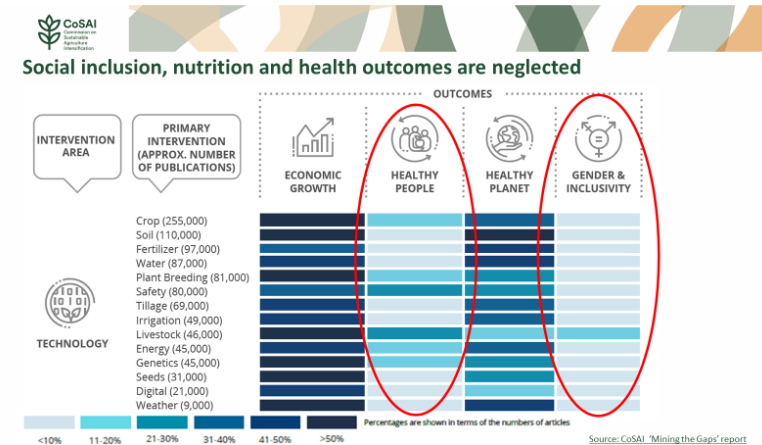
MOPAN 2020

www.cgiar.org



'Only 10% of the papers reviewed considered gender differences in the outcomes of the interventions. We were concerned to find that gender themes were so rarely addressed.'

CERES 2022

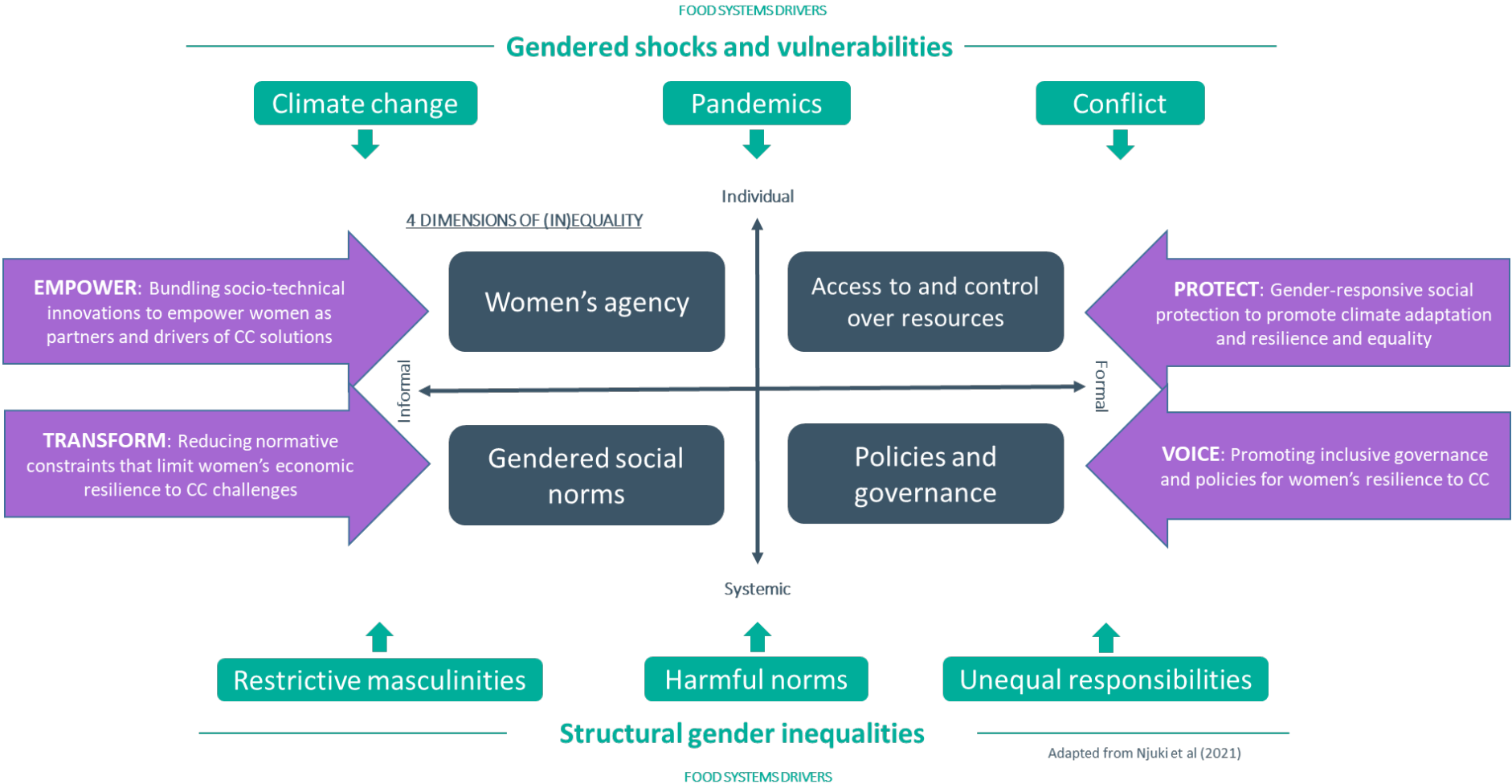


'Wider issues of equity are not systematically incorporated into research and innovation....Consider: more systematic focus on wider equity issues, including appropriate resourcing, skills and training, across CGIAR.'

COSAI 2022

HER+ initiates a new commitment by CGIAR and funders are to invest in strategic gender research

HER+ Conceptual Framework



ISDC feedback and HER+ response

Overall feedback – positive with a good rating

“HER+ provides a welcome complement to other Initiatives by aiming to understand what normative barriers prevent women from seizing economic opportunities, with the promise that this will make targeting women more effective.”

High level ISDC comments: [with HER+ response](#)

- Local buy-in and partnerships will be crucial: [maintaining a dialogue with local partners](#)
- Strengthen the Theory of Change, including on policy or normative pathways to change and hurdles to scaling: [HER+ meets July 12-13 to integrate feedback into TOC and WPs](#)
- Diversity in target countries means heterogeneity in challenges, responses: [evidence will carefully explain the role of context; lessons will focus on cross-country and cross-WP synthesis](#)
- Consider methods needed to measure attitudinal changes: [this will be a key focus of studies with new data collection](#)
- Strengthen plans for capacity building: [working on a capacity building strategy and will work in collaboration with the Gender Platform](#)

Work package response to ISDC comments

TRANSFORM: Gender Transformative Approaches

Comment: *The gender transformative work is ambitious but then narrowed down to “norms that block women’s access to financial services and entrepreneurship opportunities.” Is this the plan?*

- Work Package 1 will identify leverage points and levers (GTAs) to intervene in the AFS that build women’s economic resilience to climate change: could be financial, entrepreneurship, social networks, nutrition.

EMPOWER: Bundled Socio-technical Innovations (STIBs) for Women’s Resilience and Empowerment

Comment: *This Work Package (should) dig into specific constraints that impact women’s uptake of technology ...not always addressed under norms but deeply influenced by them: ...a concern here is the diversity of women’s initial conditions.*

- The WP will dig into the constraints that pose significant barriers to women’s uptake of technology. A systematic review will be conducted, supplemented by primary data collected in the living labs. Understanding the diversity of women’s initial conditions will be the basis for designing STIBs. We will focus on the most vulnerable groups to illustrate this process and assess outcomes.

Work package response to ISDC comments

PROTECT: Gender-Responsive Social Protection (SP) to Promote Climate Resilience and Equality

Comment: *The overall proposition relies on successfully...designing social protection programs with complementary program components in the priority countries. There is no assessment of the status of these approaches. [Will] relevant...programs for Work Package 3 ...be developed, tested, and adopted within the indicated project timeframe.*

- Assessments are ongoing, based on our engagement in target countries. In “Pathway 1,” case studies on impact of SP on women’s resilience to climate shocks build on large-scale SP programs on which we have detailed data and relationships with relevant partners.
- In “Pathway 2,” we have added an activity for two target countries in 2022-2023. We will collaborate with NPS on a landscaping exercise in Egypt/Nigeria on the gender-responsiveness of how SP is used to respond to crises.

VOICE: Promoting Inclusive Governance and Policies for Women’s Resilience to Climate Change (CC)

Comment: *There should be some in-person, tailored support for outputs 4.1 (toolkit) and 4.5 (guide) to ensure that people understand a) how they are relevant for their specific work, and b) how to use them.*

- We now plan 20-25 interviews with expected users of these tools at the tool design stage, to ensure that the tools address their needs and to increase their subsequent take-up.

Comment: *The body of work that will address the governance and policy challenges is not articulated with the necessary clarity for pathways 1 and 2 in Work Package 4.*

- We are now developing a formal conceptual framework. This will guide thinking about how pathways 1 and 2 operate and where the levers are for expanding women’s voice and agency.

Partner Engagement: Pathways to Impact

Countries

WP 1: Nigeria and Tanzania

WP2: Ethiopia, India, Kenya

WP3 : Ethiopia, Mali, Bangladesh, Malawi, Nigeria, Egypt

WP4: Nigeria, Malawi, and India in 2022; expansion to Mali in 2023

Partners

WP 1: Overseas Development Institute (ODI) Gender Equality and Social Inclusion Programme (tentative), see here Partnership to develop the Social Norms in Agri-food Systems Index

WP2: Government partners in Ethiopia, India and Kenya, WorldVeg, Cornell, KALRO, ICAR, EARO, AGRA, FAO, IFAD, Relevant NGOs based on sites selected in the countries

WP3 : Government ministries of Ethiopia/ Mali / Bangladesh; World Vision, WFP, Bangladesh Agricultural University, Institut de recherche pour le développement, Dadimos Development Consultants, USAID, FAO

WP4: Government ministries (agriculture, local government) of Malawi/ Nigeria/ India; ISEAL; Action for Women for Women Nigeria; IPA; University of California – Berkeley, FES, UN, World Bank, FAO

Initiatives

WP 1: EiA, Mixed Farming Systems, Aquatic Systems (TBC)

WP2: PHI, EIA, LCSR, Aquatic foods .

WP3: NPS, CLIMBR, LCSR

WP4: NPS; planned links with Migration, Conflict, and Fragility



Harnessing Gender and Social Equality for Resilience in Agrifood Systems

Update and highlights on initiative implementation

Approval received **April 1** and started initiative April 2

1. Develop the work package teams and staffing plan
2. Develop work plans for the work packages
3. Initiated activities with partners
 - a. VOICE: workshop on gender in sustainability standards (with ISEAL), done, summer 2022; survey for RCT on impacts of gender composition of groups deliberating about deforestation policy in Malawi
 - b. TRANSFORM: Multidimensional Norms survey, ODI collaboration, pilot survey Tanzania and Nigeria
 - c. PROTECT: mapping climate data to RCTs on social protection to test how safety nets protect against climate shocks in Mali, Ethiopia and Bangladesh
4. Organizing an internal workshop with work package scientists July 12-13
5. Global launch of HER+ July 14 in Nairobi
6. Presenting HER+ concepts
 - a. SPIA, February 16, 2022
 - b. CSW 66
 - c. SBSTA, Bonn June 14.



Harnessing Gender
and Social Equality for
Resilience in Agrifood
Systems

Update on initiative team

Presently the team is as follows:

Nicoline de Haan (GENDER Platform) – initiative lead

Dan Gilligan (IFPRI) – initiative co-lead

Steven Cole (IITA), Ranjitha Puskur (IRRI), Shalini Roy (IFPRI), Katrina Kosec (IFPRI) – work package leads

Staffing plans:

Drawing on the strength of existing expertise from 11 Centers

9 initiative roles were advertised on the CGIAR website and a total of 5 applications have been received for review; 5 additional roles prepared but are yet to be posted on the website

Gender balance is good – we have 65% women.

| People contributing | Gender | | | | | Center | | | | | | | | | | |
|---|--------|-----|-------|------------|-----|--------|-----|--------|-------|------|------|------|------|-----------|---|---|
| | M | F | Total | AfricaRice | ABC | CIMMYT | CIP | ICARDA | IFPRI | IITA | ILRI | IRRI | IWMI | WorldFish | | |
| Overall initiative | 21 | 35% | 39 | 65% | 60 | 1 | 10 | 2 | 1 | 3 | 25 | 4 | 7 | 1 | 2 | 4 |
| Initiative Leadership (Leads, Co-Leads, WP Leads) | 2 | 33% | 4 | 67% | 6 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 1 | 0 | 0 |
| WP1 | 6 | 33% | 12 | 67% | 18 | 0 | 1 | 2 | 0 | 0 | 4 | 4 | 3 | 0 | 0 | 4 |
| WP2 | 1 | 13% | 7 | 88% | 8 | 1 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 2 | 0 |
| WP3 | 10 | 50% | 10 | 50% | 20 | 0 | 4 | 0 | 0 | 0 | 13 | 1 | 2 | 0 | 0 | 0 |
| WP4 | 5 | 28% | 13 | 72% | 18 | 0 | 3 | 0 | 0 | 3 | 12 | 0 | 0 | 0 | 0 | 0 |

HER+:

a CGIAR initiative to promote
gender equality and social
inclusion for future generations

Thank you



A large, stylized green leaf graphic is positioned on the left side of the slide, partially overlapping the title. The leaf is composed of several layers of green, with a central vein and smaller veins branching out. The overall shape is reminiscent of a hand or a fan.

Migration, Conflict and Fragility Initiative

Preliminary plans for a new
CGIAR initiative

Challenge Statement

- 1.5 billion people living in fragile and conflict-affected states (FCASs) are facing rising food prices, hunger, and livelihood challenges
- Climate change, poor governance, violence, extremism, a lack of social cohesion, gender and social inequalities, and shocks like COVID-19 and the Ukraine-Russia war are among the challenges faced
- Migration can support livelihoods and protect against fragility and conflict, but even voluntary migration can create new risks/ challenges
- 84 million people have been forcibly displaced worldwide—80% experiencing acute food insecurity and high levels of malnutrition
- CGIAR is uniquely positioned to address these challenges using a systems approach



Caption: Woman walking on a dirt road in village of Gbiti (in CAR, bordering Cameroon)
Photo credit: S.Cherkaoui/WFP (creative commons license)

Objective Statement

- The Initiative will provide evidence on conflict-, climate-, and gender-sensitive policies, programming, and investments to improve livelihoods, reduce poverty, and promote gender equality and social inclusion – reaching at least 10 million people in FCASs by 2030
- Working at the Humanitarian – Development – Peace (HDP) Nexus in FCASs, in partnership with stakeholders, the initiative takes a four-pronged approach: ANTICIPATE (WP1), BRIDGE (WP2), STABILIZE (WP3), and ACCELERATE (WP4)
- Exploring demand and feasibility for work in the Sahel, sub-Saharan Africa, Middle East and North Africa, South Asia, Central Asia, and Central America



Photo credit: UN/ Eskinder Debebe

Work Package 1: ANTICIPATE

- **SCOPE:** Collaborate with global, national, and local stakeholders to strengthen early warning/early action (EWEA) systems intended to mitigate impacts of shocks by ensuring they address *compound risks* of fragility, conflict, and migration on FLWSs
- **OUTPUTS:** Analysis/ evidence and support to EWEA initiatives – which will be designed inclusively (e.g., benefiting women, youth, migrants, host communities, and other vulnerable groups) and promote conflict mitigation and peacebuilding
- **EXAMPLE ACTIVITIES:**
 - Develop and implement tools to track compound risks of fragility, conflict, and migration from FLWS shocks
 - Develop an EWEA vulnerability assessment methodology
 - Generate evidence – including building up a global knowledge hub (with ICRC, WFP, and IOM) – on effective, conflict- and gender- sensitive policies and programming to address migration issues in FLWSs

Work Package 2: BRIDGE

- **SCOPE:** Study emergency operations serving conflict-affected and displaced persons and host communities along the HDP nexus
- **OUTPUTS:** Generate evidence supporting effective policies and programming to address conflict and displacement and support transitions from food insecurity to resilience amid emergency situations
- **EXAMPLE ACTIVITIES:**
 - A Migration Decision-making Assessment Partnership (M-DAP) will develop a suite of quantitative and qualitative tools to guide analysis of migrant decision-making in key corridors
 - Generate evidence on: a) how different types of programming (e.g., humanitarian interventions; agricultural and climate action) affect food security, livelihood opportunities, social cohesion, and resilience during emergencies in FCASs; and b) what delivery mechanisms for this programming are most efficient (and in which contexts)

Work Package 3: STABILIZE

SCOPE: Evaluate gender-sensitive programming to (1) stabilize livelihoods in fragile settings and (2) support migrants and host communities

OUTPUTS: Evidence base on policy approaches that drive improved resilience, food security, social cohesion, and government accountability while supporting women's empowerment in the relevant settings

EXAMPLE ACTIVITIES: Evaluations of...

- Innovative social protection bundles that target empowering women to build resilience and improve food security in fragile settings and among migrants
- Programs that promote inclusive food system development in fragile settings

Work Package 4: ACCELERATE

- **SCOPE:** Competitively award grants to local innovators, paired with CGIAR scientists, to promote and enhance economic recovery and sustainable livelihoods in FCAs through locally-developed innovations that respond to emerging situations
- **OUTPUTS:** Set of scalable innovations to address critical challenges affecting FLWSs, including those that newly emerge during the life of the initiative
- **EXAMPLE ACTIVITIES:**
 - Vertical farms/ hydroponics in refugee camps
 - Roll-out of bundles of CGIAR and/or other technologies to mitigate conflicts among farmers and herders, or mobile populations and host communities
 - Partnership with private sector to scale locally-produced, ready to prepare therapeutic food addressing acute nutrition in humanitarian emergencies
 - Interventions to employ youth in agriculture to mitigate migration push factors
 - Programming supporting peace and reconciliation processes
 - Interventions to support refugees starting businesses

Theory of change: Migration, Conflict, and Fragility

Challenge

- **Hunger is surging in fragile and conflict-affected states (FCASs)**, which contain **1.5 billion people** and struggle to sustain resilient food, land, and water systems (FLWSs)
- As of mid-2021, **84 million people** were **forcibly displaced** worldwide—**80% experiencing acute food insecurity and high levels of malnutrition**
- **FCASs confront myriad challenges**; rising food prices, poor governance, violence, extremism, a lack of social cohesion, and economic disruptions such as COVID-19 and the Ukraine-Russia war
- **Climate change exacerbates drivers of conflict and migration**, increasing pressure on livelihoods
- **Gender and social inequalities further increase risks of hunger** and hinder benefits from FLWSs, while also acting as structural constraints to stability and peace
- **Migration can support livelihoods and protect against fragility and conflict**, but can also create **new risks and challenges**, including in host communities
- **A systems approach is needed**, demanding evidence on appropriate policies and programming to enhance resilience around FLWS and promote conflict prevention and peacebuilding

Work Packages

- **WP1 (ANCICIPATE)**: Study fragility, conflict, and migration dynamics in FCASs and catalyze conflict-sensitive early warning/early action to prepare, mitigate, and adapt to climate and structural shocks
- **WP2 (BRIDGE)**: Generate data and evidence, including rigorous evaluations, on effective immediate responses to conflict and displacement
- **WP3 (STABILIZE)**: Identify and evaluate scalable policies and programming to stabilize community and individual livelihoods in FCASs, promoting food security, resilience, poverty reduction, social cohesion, government accountability, and inclusive benefits from FLWSs
- **WP4 (ACCELERATE)**: flexibly respond to fragility and conflict via competitively awarded grants to local innovators, paired with CGIAR scientists, to develop and operationalize interventions promoting FLWS resilience and stable livelihoods

Partners

- International finance institutions
- Bilateral donors
- UN Secretariat and other UN program agencies
- Humanitarian and development program implementing agencies
- Security and defense organizations
- Regional organizations
- Government institutions, including line ministries
- Locally-based NGOs
- Private sector
- Academic/ research centers
- CGIAR Initiatives

Outputs

- Toolkit for Inclusive Crisis Response and Recovery (TICRR)
- Migration Decision-making Assessment Partnership (M-DAP)
- CGIAR Stability and Peace Accelerator (SAPA)
- Migration, Fragility, and Conflict Programming Evidence Hub
- Conflict-Aware Early Action (CEA)

Outcomes

- WP1: Partners in at least 5 FCASs adopt conflict-sensitive early warning/early action approaches, informed by CGIAR science, to prevent and mitigate shocks to FLWSs and resulting negative impacts on vulnerable groups
- WP2: 5 humanitarian or development stakeholders use the initiative's tools and evidence hub to inform and bridge programming along the Humanitarian-Development-Peace nexus
- WP3: 5 governments, UN agencies, or NGOs strengthen gender equality and social inclusion and conflict sensitivity dimensions of policies, programming, or interventions to help improve livelihoods and reduce fragility
- WP4: 10 local innovators design and deploy, in partnership with CGIAR scientists, scalable interventions that promote FLWS resilience, peacebuilding, and/or gender equality

Impact areas

- Nutrition, health and food security
- Poverty reduction, livelihoods and jobs
- Gender equality, youth and social inclusion
- Climate adaptation and mitigation
- Environmental health and biodiversity

SUSTAINABLE DEVELOPMENT GALS

contributing to

2023

2025

2030

sphere of control

sphere of influence

sphere of interest

Collaboration to be explored with CGIAR Initiatives: CLIMBER, HER+, NPS, CWANA, LAC, ESA, WCA

Geographies and Partnerships Being Explored

Corridors:

- LAM: Guatemala, Honduras, and El Salvador
- WA: Mali, Nigeria
- EA: Ethiopia, Somalia, Sudan
- SA: Mozambique, Zimbabwe
- CWANA: Yemen, Iraq, Syria, Afghanistan, Pakistan
- Asia: Bangladesh, Myanmar

Partnerships:

- IOM, WFP, ICRC/IFRC
- IIS, UNICEF, GAIN



Thank you! We welcome your feedback

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