Stability-and-Peace Accelerator

Concept note

Hauke Dahl, Inga Jacobs-Mata, Sarah Hulbert, Jose Shehata
December 2023

Contents

Summary

For the 1.5 billion people living in Fragile and Conflict Affected Settings (FCAs), livelihood challenges and rising food, fertilizer, and input prices are compounded by climate change, unsustainable resource consumption, poor governance, and weak social cohesion. Economic disruptions, such as those caused by COVID-19 and the war in Ukraine, are sparking the risk of food and nutrition crises and poverty and conflict traps. Global hunger, remained relatively unchanged from 2021 to 2022 but is still far above pre-COVID-19-pandemic levels, affecting around 9.2 percent of the world population in 2022 compared with 7.9 percent in 2019. It is estimated that between 691 and 783 million people in the world faced hunger in 2022. Considering the midrange (about 735 million), 122 million more people faced hunger in 2022 than in 2019, before the global pandemic.

The International Water Management Institute (IWMI) is an international, research-for-development organization, with offices in 15 countries and a global network of scientists operating in more than 55 countries. For over three decades, our research results have led to changes in water management that have contributed to social and economic development. IWMI's vision is a water-secure world. IWMI targets water and land management challenges faced by poor communities in developing countries, and through this contributes towards the achievement of the Sustainable Development Goals (SDGs) of reducing poverty and hunger and maintaining a sustainable environment.

Based on evidence and knowledge drawn from our science, innovative technologies and testing of business models, IWMI works with governments, policymakers, farmers, civil society, water managers, development partners and businesses to solve water problems and scale up solutions. Through partnerships, IWMI combines research on the sustainable use of water and land resources, knowledge services and products with capacity strengthening, dialogue and policy analysis to support implementation of water management solutions for agriculture, ecosystems, climate change and inclusive economic growth.

IWMI's value proposition is unique. It rests on a track record of more than 30 years of rigorous, solutions-oriented water management research, built on long term partnerships at local, country and regional levels, and a sustained field presence across Africa and Asia. IWMI brings a robust and growing track record in implementing evidence-based agribusiness accelerator programs targeted at scaling agrifood system innovations in Africa. IWMI has pioneered and expanded methods around science-driven business acceleration and scaling in multilateral projects as well as the OneCG portfolio (AICCRA, Ukama Ustawi, WE4F) and is adapting the end-to-end methodology

to scale CGIAR research innovation, tools and knowledge through private sector innovators in a humanitarian, development and peace context.

IWMI is also a Research Center of [CGIAR](#), the world's largest agricultural research partnership. The CGIAR unites leading agricultural research organizations and possesses a vast network of expertise, resources, research findings and capacity that will be leveraged by the UN World Food Program (WFP) Innovation Accelerator. By collaborating with CGIAR, the WFP Innovation Accelerator can tap into cutting-edge research, data-driven solutions, and further best practices in food systems innovation, food security, sustainable resource management and climate security. This collaboration enables a refined comprehension of the challenges faced in fragile settings, allowing for context-specific interventions that can effectively address issues like food insecurity, land degradation, and water scarcity. By accessing the specialized knowledge within the CGIAR's Fragility Conflict and Migration (FCM) initiative and additional CGIAR actors, the partnership can ensure the likelihood of success for scaling scientifically validated, climate-smart solutions in the sector, as well as to provide the science-based evidence for inclusive sustainability impact.

Given the compounding challenges, the purpose of this program is to identify and enable the scaling of high-impact, high potential innovations which promote the resilience of Food, Land and Water Systems (FLWS) in Fragile and Conflict Affected Settings (FCAs) in migrant and host communities – thus enabling food and nutrition security, climate resilience, social cohesion, and sustainability in emergency and humanitarian settings. In order to achieve this purpose, the program will source high potential innovations, award grants to said innovations, promote capacity building of innovations with a local footprint, and harness the immense technical expertise of CGIAR scientists to support the innovations.

Program Objectives

The *Stability-and-Peace Accelerator* will be implemented jointly by the UN World Food Program (WFP) Innovation Accelerator and CGIAR. The ultimate purpose of this collaboration is to demonstrate how WFP and CGIAR can leverage their expertise and resources to rapidly accelerate solutions which can enable both organizations to create tangible, scalable impact towards achieving SDG2: Zero Hunger by 2030, as well as cross-cutting SDGs, namely SDG5: Gender Equality, SDG13: Climate Action, SDG1: Eradication of Poverty, and SDG17: Partnerships for the Goals. The core objectives of the Accelerator program are the following:

- Identify and select eight innovations (four per cohort) over a period of two years which address critical thematic areas and use cases, in line with CGIAR research priorities encapsulated in the FCM initiative
- Develop work plans to test, refine and enable the potential for scale of selected innovations
- Provide quality technical support to innovations based on their needs, such as technical, business, pilot testing, research methods, and investment readiness coaching support
- Scale CGIAR research knowledge and tools through the innovators in a mutually beneficial way
- Provide visibility and potential co-funding opportunities to innovations
- Develop eight country case studies documenting the achievements, lessons learned, and evidence demonstrated by the innovations

The outputs/outcomes related to the innovations will include but are not limited to the following:

- Selected innovators have tested their hypothesis and incorporated their learnings
- Selected innovators are able to provide evidence of their impact through research
- Selected innovators have a sustainability and scaling plan
- Selected innovators are able to execute on predetermined project Key Performance Indicators (KPIs)
- Selected innovators are able to demonstrate in increased capacity to create an impact in the humanitarian-development-peace space through the uptake of CGIAR research knowledge and tools.

Program Timeline

The below table 1 details the timeline and associated milestones for this program:

Table 1: Program Milestones and Timeline

Description	TIMELINE
1st market analysis conducted and shared	15 October 2023
Launch first call for applications	Feb 01 2024
First cohort (inc. Sprint Program & Packaging workshops)	June 2024 - November 2024
Innovation Showcase & Results Dissemination	November 2024 - December 2024
2nd market analysis conducted and shared (modified)	End of November 2024
Launch second call for applications	January 2025
Second cohort	April 2025 - November 2025
Innovation Showcase & Results Dissemination	November 2025 - December 2025

Program Components

Acceleration will be done through the *Fragility Conflict and Migration Innovation Acceleration Program* in six phases, outlined in the below Figure 1 and further described below:

Figure 1: Program Components

Design and Set Up (December '23 - January '24)

The WFP Innovation Accelerator and the CGIAR project team will define the scope of the program, program plan, and grant agreement.

Activities for this phase include:

- Determination of target countries
- Development of innovation themes
- Setup of the core project team, in-country teams and an advisory committee
- Development of application criteria for the call for applications
- Development of a sourcing/comms strategy

Sourcing (February - April)

The sourcing strategy is based on three distinct pillars. These are WFP's country analysis, IWMI's and Briter Bridges' ecosystem assessment as well as the Innovation-Packaging and Scaling-Readiness (IPSR) profiling of FCM and other innovations.

The WFP innovation sourcing team conducted a comprehensive analysis of various WFP country strategic plans, focusing on specific context points and hunger challenges in each region.

The project team also extracted various insights from the Ecosystem Assessment of Food, Land, Water Actors in the Humanitarian, Development, and Peace Nexus, a joint report by IWMI and Briter Bridges, which is available on cgspace.cgiar.org and which evaluated local innovation ecosystems, identifying key challenges and opportunities faced by startups.

Through the IPSR process, various CGIAR innovations, meaning research-based knowledge and tools, have been identified and used as the basis for the innovation themes. The innovations are available in Annex 3. Through this process, the team identified clear, actionable innovation themes. These insights will be crucial in guiding our efforts to identify and engage with the most promising startups and NGOs/INGOs ensuring alignment with our overarching goals and addressing critical needs effectively.

The Sourcing Phase will contain the following milestones:

1. Call for applications (29th of January)
2. Call closed (16th of February; extension by one week possible, depending on number of applications)
3. List of qualified applications prepared (1st of March)
4. Longlist prepared (22nd of March)
5. Shortlist prepared (1st of April)

Sourcing will be targeted in identified countries of focus, and the call for applications will be open for any team or venture to apply that meets the eligibility and selection criteria. Emphasis will be given to ventures with a local footprint in the identified countries of focus. The call for applications will be hosted on the WFP Innovation Accelerator website (https://innovation.wfp.org/), the content is available in Annex 1. The questions of the application form are available in Annex 2.

The selection of successful applicants is divided into two stages, longlisting and shortlisting. Longlisting comprises the review of all applications by the Selection Team, in which the number of applicants (expected to be >200) will be reduced to 12 (the top three applicants per country). Teams will be selected according to a set of eligibility and selection criteria (See Eligibility and Selection Criteria section) and through the submission of an application to the program. If necessary, the Selection Team will reach out to selected applicants further information gathering and verification of details outlined in the proposals. Shortlisting will entail the selection of final successful applicants from among the top 12 innovators listed in the longlist. This process step will include the review of the in-country teams, as well as the advisory committee and consist of a proposal review, interviews as well as a final discussion round.

WFP and IWMI will conduct thorough due diligence (financial and operational assessments) and a scalability assessment (using the IPSR Scaling Readiness assessment) will be conducted prior to the acceptance of innovations into the cohort. This is to ensure that the innovators succeed checks against any red flags such as involvement in financial fraud, malpractice or affiliation with terrorist groups (non-exhaustive).

The suggested eligibility criteria include the following:

- The organization must be an established legal entity (for-profit, not-for-profit, social business, NGO, INGO)
- The applicant organization should have a presence or willingness to build a presence in the country of implementation (Nigeria, Jordan, Yemen, or Kenya) in the form of a country office or other permanent presence, subsidiary, long-term operations, or partnerships in the country
- The innovation addresses one or more of the priority innovation areas related to pressing challenges faced in the humanitarian space of the country of implementation
- The innovation should have reached the minimum viable product (MVP) stage and is gearing up for scale
- The innovation should have a clear pathway to scale and a potential plan to implement during the 6-month Sprint with the available funding
- The applicants are expected to have strong intentions to collaborate with relevant humanitarian stakeholders, build up links with CGIAR country offices, and connect with the innovation ecosystems
- The applicants should demonstrate a clear need for research and development for the conceptual and commercial development of their innovation.

The suggested application will be assessed based on the below selection criteria:

- Level of innovation/innovativeness: The solution is novel, innovative, and has a strong social impact regarding the mentioned themes
- Relevance to the context: The solution addresses at least one of the priority areas, suitable to the 4 country contexts, and provides concrete solutions to end-users/target beneficiaries
- Sustainability and scalability of the solution: The solution presents a clear business model and sustainable revenue model
- Quality of the team: Proven competence, technical coherence, commitment, motivation, entrepreneurial mindset, diverse and inclusive team
- Clearly defined needs: The solution has an area of expansion or improvement, which can be saturated through venture and capacity building as well as research and development

For cohort one, the following innovation themes and country focus areas have been developed:

Resilient Food Systems and Nutrition in Nigeria:

- Innovative cold storage solutions to prevent post-harvest losses
- Soil fertility management solutions for cocoa to increase productivity and achieve climate-smart cocoa production
- Linking seed production with demand, particularly for vegetatively-propagated crops
- Mobile platforms for market access and fair pricing for smallholder farmers
- Fortification of staple foods to address micronutrient deficiencies
- Agri-tech for precision farming and resource management
- Localized food processing technologies to increase shelf-life
- Biofortified crop development for nutrient-rich food options

Water and Resilience in Refugee and Host Communities in Jordan:

- Enhancing water access and resilience in refugee and host communities
- Decentralized water purification systems for refugee camps and remote communities
- Efficient and/or climate-friendly irrigation systems for water-scarce farming communities
- Tech-enabled soil health monitoring for optimized land use
- Rainwater harvesting systems for households and small farms
- Scalable solutions for urban agriculture and vertical farming
- Enhancing food production in arid regions with limited resources

Water and Resilience in Conflict-Affected Areas in Yemen:

- Affordable water purification systems to provide safe drinking water in conflict-affected areas
- Small-scale water-efficient agricultural technologies to mitigate the impact of disrupted agricultural production and water scarcity on food security
- Water and sanitation solutions for conflict-affected communities
- Waste-to-energy solutions for sustainable land management
- Solar-powered water systems to provide affordable and safe water access in conflict-affected communities

- Climate-resilient water management and agricultural practices to cope with the compounded effects of conflict, natural disasters, and climate change impacts on water resources and food security.

Digital Solutions for Climate Security and Migration in Kenya:

- Digital solutions for comprehensive assessment of host community vulnerabilities
- Solutions for conflict prediction and mitigation
- Solutions for forecasting and reducing the impact of environmental disasters
- Digital solutions for enhancing communication and information flow between refugees and aid organizations
- Digital platforms for mapping environmental, conflict, and instability data to identify displacement patterns
- Solutions for refugees to access safe routes and hazard information on their journey

Contracting & Prep (April - June)

During this phase, the FCM team will draft the Sprint Grant Agreements and prepare the teams for onboarding into the agreement framework. The FCM Accelerator team will support the innovators to develop work plans indicating the milestones and activities, critical hypotheses and key performance indicators to (KPIs) to be demonstrated during the implementation phase, which will be included in the grant agreements to be signed between the WFP Innovation Accelerator and the innovators. A robust Monitoring and Evaluation (M&E) framework will be defined for each venture to measure innovation output level results, impact indicators, and lessons learned (qualitative). The teams will be supported by a dedicated Innovation Consultant who will conduct a diagnostic to best understand the team's needs, to inform the acceleration support curriculum provided during the Implementation phase.

During this phase, IWMI and other CGIAR researchers in the In-Country Teams will conduct a needs assessment with the innovators, which will include the application of thematic areas of analysis based on the defined innovation themes. Through interviews and virtual information exchange, the In-Country Teams will develop individualized, demand-driven and results-oriented research agendas which demonstrate a clear pathway for the innovators to uptake and make use of CGIAR innovations, research tools and knowledge.

Together with the Innovators, the In-Country Teams will review and iteratively design the research agendas with the innovators, which will then be incorporated in the work plans, KPIs and Monitoring and Evaluation frameworks.

Accelerate (June - November)

The selected teams will participate in the Sprint Accelerator program where their capacity will be built to accelerate their innovations in an established country or region. The Accelerate phase will be delivered within two phases:

1. Kick off (Month 1): Funding in the form of grants, totaling US$30,000 per innovation, will be dispersed to the teams in one tranche by the WFP Innovation Accelerator, upon signature of the grant agreement. Then, teams will be supported with Innovation Packages and Scaling Readiness workshops, during which the innovators, CGIAR In-Country Technical Advisors Groups, and the WFP Innovation Accelerator Consultant kick start the implementation plan which was defined during the contracting & preparation phase.

2. Implementation (Months 2-6): Hands-on venture and capacity building support will be provided by the WFP Innovation Accelerator, IWMI and the CGIAR Technical Assistance Team to support the grant recipients to implement their work plans. An Innovation Consultant will coach the team on testing and validating critical assumptions related to the viability, desirability and/or feasibility of the innovation. Consultants will utilize human-centered design, lean startup and agile methodologies, coupled with hands-on support to test and validate the business models of the innovations. Sample curriculums dependent on the stage of the innovation can be found in Table 2 below. In addition, innovations will be provided technical assistance from CGIAR researchers, described in the "Research Agenda" section of this report on pages 12-14.

Table 2: Sample curriculum to be utilized to support innovations in the program.

	Early stage	Seed Stage Innovations		Scaling Innovations	
Output	Problem Solution fit	Product Market fit	Business Model fit	Scaling Model fit	Growth model fit
Product stage:	Prototypes	MVP	V0	V1	VX
+ Desirability:	→ **Validated** ✔ Created and Validated Value Proposition	→ **Improved** Solution improved based on User Feedback		→ **Improved** Traction + Validated Value Proposition for new user segment	→ **Evolving** Traction + processes for user feedback and solution iteration
+ Feasibility:	→ **Validated** ✔ Validated Problem Statement + Initial Prototype	→ **Improved** Implementation of MVP + Evidence of impact		→ **Improved** Evidence of impact in new geography	→ **Evolving** Evidence of impact in multiple geographies
+ Viability:	→ **Planned** Identified early revenue channels, stakeholders and partners.	→ **Validated** ✔ Early revenue generation + validated financial plan for sustainability		→ **Achieved** Revenue increasing + validated financial plan for scale	→ **Evolving** Positive revenue + 5-year financial plan
+ Replicability:	→ **Planned** Pilot in identified geography	→ **Validated** ✔ Traction in initial market + Problem statement/solution mapped to multiple markets/geographies		→ **Achieved** Traction in more than one geography	→ **Evolving** Positive Month on Month Growth in terms of beneficiaries and revenue

UN WFP World Food Programme | INNOVATION ACCELERATOR

The innovations will leverage, as additional inputs, the insights, and findings from the Market Assessment, WFP Country Strategic Plans and WFP situation reports, CGIAR research and, also, leverage the connections and expertise of the CGIAR local partners in the One CGIAR ecosystem. The lessons learnt, dynamics and developments as part of the accelerator serve as case studies in a systematic, broader reflection, led by CGIAR researchers, on the challenges and enabling factors for innovation development and scaling processes in FCAs.

Results sharing & Showcase (November - December)

At the end of the Sprint Program, innovations will be supported to close the acceleration phase, review and aggregate results into one quantitative results report per venture. The ventures themselves will have the responsibility to develop this report, and support will be given on the data analysis by CGIAR technical experts or ecosystem partners. Highlights from each report will be aggregated into one results blog published per cohort. Media assets such as photos, videos or interviews from the implementation phase will be aggregated and included in the report.

A virtual showcase event will be organized by WFP and held at the end of each cohort to demonstrate the progress, lessons learned and facilitate connections amongst IWMI/CGIAR, WFP, ecosystem partners and the innovators. The showcase will be invitation-only and include a networking session at the end of the showcase.

Research agenda

The WFP Innovation Accelerator and IWMI will implement this program. The WFP Innovation Accelerator will be responsible for the co-design, sourcing, contracting, acceleration, reporting and results sharing components of the program. IWMI will contribute to the co-design, sourcing, acceleration, reporting and results sharing components of the program.

Technical assistance from the CGIAR network of researchers will be provided to the innovators during the co-design, sourcing and acceleration phase. The technical assistance will be carried out over the course of eight months (starting 1st of April). The duration is clustered into three phases:

1. Diagnosis phase (one month)
2. Design phase (one month)
3. Delivery phase (six months)

In the **Diagnostics** phase, CGIAR researchers will assess the demand of the innovators with regards to their respective innovation themes. The assessment will be achieved through a one-hour, semi-structured virtual interview conducted by the researcher. Based on the interview, the researcher will prepare a short report presenting the identified technical service and how it responds to the business and impact bottlenecks of the innovator. The short report will complete the diagnosis phases.

In the **Design** phase, the researchers will develop suitable engagement strategies for the innovators based on their assessment as well as the demand of the innovators. The researchers will then share and co-validate these engagement strategies with the innovators, either via mail or in another 1h interview. The conclusion will result in action plans, summarizing the assessment and the way forward. They will be harmonized with the action plans developed by the WFP innovation consultant.

The **Delivery** phase includes the actual technical assistance provision and will be reported with a summary of results of each intervention per innovation. All individual reports will be combined with the mid-term progress and final reports. The reports will include:

4. Description of the innovation
5. Readiness-level of the innovation
6. Methods applied in the technical assistance
7. Impact and significance of the innovation
8. Quantified impact metrics

9. Outputs of the technical assistance
10. Review and assessment of the process
11. Opportunities for further research and development

These reports will be presented to the innovators and will enable self-reflection and improvement of business operations. They will also be published by CGIAR to inform research and scaling best practices of science-based innovations. They can also be utilized by the innovators to facilitate investor and donor engagement.

WFP and CGIAR will work closely together to ensure that the entire suite of provided services create a harmonic and holistic final result. The partners will collaborate to create synergies between the venture-building, capacity building, and research-focused technical assistance.

In addition to the technical assistance, IWMI researchers will conduct capacity-building activities such as training to the in-country-based WFP-innovation consultants on sourcing criteria for Gender Equality and Social Inclusion (GESI) and the Enabling Environment (EE). Another capacity building activity led by IWMI is the provision of compact methods workshops to WFP-accelerator staff at WFP headquarters. CGIAR researchers are scientifically accompanying the practical implementation of the Accelerator with in-depth, comparative country-case studies that are contextualized in a broader, systematic reflection on peculiarities of innovation development and scaling processes in FCAs (table 3). The peculiarities concern innovation types (what), actors (who), innovation processes and sustainability challenges (how), timing and speed (when), reach and scale (where), and motivations to engage for innovation developers, scaling agents and funders (why). The insights into FCA-innovation-peculiarities will then be matched with a typology of scaling approaches, clustered according to their scaling functions and suitability in FCA contexts. This includes a reflection on what approaches the CGIAR and the WFP typically engage in (inventory of case studies, trends) and on strategic opportunities. i.e. approaches, to capitalize on for more effective scaling. The insights on scaling approaches will be part of a broader synopsis of best practices to innovation development and scaling in FCAs and implications for Agricultural Research and Development Organizations. The best practices will be defined for the different phases of the Accelerator i.e. for sourcing and selection, in sprint acceleration, in reporting and showcasing for scaling.

Furthermore, typical challenges (e.g. trade-offs between speed and quality), opportunities and enabling factors toward achieving maximum impact in terms of sustainability, stability and peace will be identified and described. The knowledge base for the analysis of best-practices are the

Accelerator case studies, the vast implementation experience of the WFP as well as CGIAR colleagues working in FCAs and the broader literature on innovation scaling in FCAs.

CGIAR researchers will share their systematic reflection on innovation development and scaling processes in FCAs, highlighting the case studies of the Fragility, Conflict and Migration Innovation Accelerator at the WFP-led Innovator showcase event in November 2024. IWMI and other CGIAR researchers will further share their insights at the Stockholm Water Week, a global research conference with the 2024-theme of 'Bridging borders: Water for a Peaceful and Sustainable Future', focused on water cooperation for peace and security.

IWMI researchers will further provide a synthesis of lessons learnt and guidance on development programming, tailored to the WFP Innovation Accelerator but transferable beyond it.

Table 3: Table with overview of "Science of scaling" deliverables

#	Deliverables	Timeline
1	Innovation packaging workshop reports	April - July
2	In-country activity reports (case-studies)	June - November
3	Mini-methods-training for WFP-staff at WFP headquarters	September - October
4	Framework/brief on the typology of scaling approaches, clustered according to their scaling functions and suitability in FCA contexts (to be referred to be the journal article)	June - December
5	Brief on best practices for innovation development and scaling through Accelerators in FCM contexts. Best practices are defined per phase i.e. for sourcing and selection, in sprint acceleration, in reporting and showcasing for scaling. Furthermore, typical challenges (e.g. trade-offs between speed and quality), opportunities and enabling factors toward achieving maximum impact in terms of sustainability, stability and peace will be identified and described	February - December
6	Journal article on peculiarities of innovation development and scaling processes in FCAs, with reference to FCM-Initiative comparative country-case studies, a reflection on CGIAR/WFP approaches and strategic opportunities for more effective scaling in FCM contexts	February - December
7	Virtual presentation on main insights lessons across sites at the WFP Accelerator end of-year showcase event	November
8	Synthesis (slide deck) on lessons learnt and recommendations for development programming	November
9	Stockholm water week	25.-19.08.2024

Program Stakeholders

There will be three groups of stakeholders involved in the governance structure of the program. They are described as follows:

- The first stakeholder group is the Advisory Committee. This Committee will meet biweekly and provide inputs on the selection and eligibility criteria, the call for applications, the longlisted innovations, and the curriculum and technical assistance to support the innovations. Members of the Advisory Committee will include experts from CGIAR on Gender equality and social inclusion (GESI), innovation scaling, and enabling environment. The Advisory Committee will meet bi-weekly during the duration of the program

- The second stakeholder group will be the In-Country Technical Advisors Group, which will provide technical assistance support to the select innovations. Inputs from this group will be welcome on the call for applications & longlist of innovations. The In-Country Technical Advisors Group will meet at ad-hoc during the sourcing & acceleration phases, capacity dependent

- The third stakeholder group will be the Operational Group composed of IWMI and WFP Innovation Accelerator focal points. This group is responsible for the overall design, delivery, and reporting for this program. The Operational Group will meet on a weekly basis

Annex 1: Call for applications

*The following content will be displayed on the call for applications website
(https://innovation.wfp.org/stability-and--peace-accelerator), which will be live from the 29th of
January to the 16th of February 2024:*

The global challenge of hunger and malnutrition is felt most acutely in fragile and conflict-affected
settings (FCAs), where over 1.5 billion people face unprecedented threats to food security and
livelihoods. The CGIAR, in partnership with the WFP Innovation Accelerator, are launching the
"Stability-and-Peace Accelerator Programme" to seek and scale high-impact innovations that
bolster food, land, and water systems (FLWS) in these vulnerable regions.

We are calling on innovators, entrepreneurs and changemakers to come forward with
groundbreaking solutions that can drive resilience, ensure food and nutrition security, enhance
climate adaptability and promote social cohesion and sustainability among communities battered
by conflict and fragility.

The WFP Innovation Accelerator and CGIAR will support selected teams through a comprehensive
programme designed to accelerate the development of promising solutions and prepare them for
scaling. Alongside financial, technical and business support, this includes the provision of scientific
advisory, aimed to improve the innovator's ability to create life-changing sustainability impact. Our
focus is on sourcing and nurturing solutions that are not only innovative but also sustainable and
scalable, with the potential to create lasting positive change in some of the world's most
challenging environments.

We encourage organizations to submit their innovative solutions that help end hunger, reinforce
communities against unexpected disruptions, ensure consistent access to nutritious food, foster

inclusive economic opportunities, engage youth and enhance the resilience of food systems amidst the challenges of climate change.

Application Deadline: 13 February 2024, 11:59 pm (CET)

What We Offer

This collaboration between CGIAR & the WFP Innovation Accelerator, specifically through the CGIAR Initiative on Fragility, Conflict, and Migration, marks a significant union of efforts. The WFP Innovation Accelerator, with its track record of organizing 53 innovation bootcamps, supporting over 448 teams and field testing more than 100 solutions, has positively impacted 37 million people in 2022 alone. Merging this with CGIAR's dedicated research agenda which aims to deliver science and innovation that advance the transformation of food, land, and water systems in a climate crisis, our collaboration will enhance climate resilience, gender equity and social inclusion. Together, we aim to address the complex challenges associated with the climate crisis aiming to provide sustainable solutions for the most vulnerable populations.

What we offer to boost innovations:

- In-country strategy workshop to kick off implementation
- Six-month Sprint acceleration programme combining business-oriented training, mentoring and science-based technical assistance from the WFP Innovation Accelerator
- Access to the research network of CGIAR, the world's largest publicly funded research-for-development organization
- US$30,000 equity-free grant for each of the winning innovations with a proven sustainable business model and scaling plan
- Exposure to national and international funders
- Post-acceleration support

What We Are Looking For

For this Innovation Challenge, CGIAR and the WFP Innovation Accelerator are looking for both low- and high-tech solutions specifically tailored to meet distinct challenges present in fragile and conflict-affected settings (FCAs) specifically in Jordan, Kenya, Nigeria and Yemen. We also encourage strong "wildcard" entries, such as innovations that have never been tested anywhere in an uncontrolled environment. We aim to identify and support exceptional innovations from around the world that hold the potential to address these challenges on a significant scale. Applicants are

requested to showcase a high-impact, scalable solution that matches one of the four innovation themes. The innovation themes per country are:

Water and Resilience in Refugee and Host Communities in Jordan:

- Decentralized water purification systems for refugee camps and remote communities
- Efficient irrigation systems for water-scarce farming communities
- Tech-enabled soil health monitoring for optimized land use
- Rainwater harvesting systems for households and small farms
- Solutions to enhance water access and resilience in refugee and host communities
- Scalable solutions for urban agriculture and vertical farming

Digital Solutions for Climate Security and Migration in Kenya:

- Digital solutions for comprehensive assessment of host community vulnerabilities
- Solutions for conflict prediction and mitigation
- Solutions for forecasting and reducing the impact of environmental disasters
- Digital solutions for enhancing communication and information flow between refugees and aid organizations
- Digital platforms for mapping environmental, conflict and instability data to identify displacement patterns
- Solutions for refugees to access safe routes and hazard information on their journey

Resilient Food Systems and Nutrition in Nigeria:

- Innovative cold storage solutions to prevent post-harvest loss
- Soil fertility management solutions for cocoa to increase productivity and achieve climate-smart cocoa production
- Linking seed production with demand, particularly for vegetatively-propagated crops
- Mobile platforms for market access and fair pricing for smallholder farmers
- Fortification of staple foods to address micronutrient deficiencies
- Agri-tech for precision farming and resource management
- Localized food processing technologies to increase shelf-life
- Biofortified crop development for nutrient-rich food options

Water and Resilience in Conflict-Affected Areas in Yemen:

- Affordable water purification systems to provide safe drinking water in conflict-affected areas
- Small-scale water-efficient agricultural technologies to mitigate the impact of disrupted agricultural production and water scarcity on food security
- Water and sanitation solutions for conflict-affected communities

- Waste-to-energy solutions for sustainable land management
- Off-grid water systems to provide affordable and safe water access in conflict-affected communities
- Climate-resilient water management and agricultural practices to cope with the compounded effects of conflict, natural disasters, and climate change impacts on water resources and food security

Eligibility Criteria

- Your organization must be an established legal entity (for-profit, not-for-profit, social business, NGO, INGO).
- Your organization should have a presence or willingness to build a presence in one of the four countries of implementation (Jordan, Kenya, Nigeria or Yemen). This could take the form of a country office or other permanent presence, subsidiary, long-term operations or partnerships in the country.
- Your innovation addresses one or more of the priority innovation areas related to pressing challenges faced in the humanitarian space of the country of implementation.
- Your innovation should have reached the minimum viable product stage and is gearing up for scale.
- Your innovation should have a clear pathway to scale and a potential plan to implement during the six-month Sprint with the available funding.
- Applicants are expected to have strong intentions to collaborate with relevant humanitarian stakeholders, build relationships with CGIAR country offices, and connect with the innovation ecosystems.
- The applicants should demonstrate a clear need for research and development for the conceptual and commercial development of their innovation.

Following the above-mentioned requirements, your application will be evaluated according to the following criteria*:

- **Level of innovation/innovativeness**: The solution is novel, innovative and has a strong social impact regarding the mentioned themes.

- **Relevance to the context**: The solution addresses at least one of the priority areas, is suitable to at least one of the four country contexts, and provides concrete solutions to end-users/target beneficiaries.

- **Sustainability and scalability of the solution**: The solution presents a clear business model and sustainable revenue model.

- **Quality of the team**: Proven competence, technical coherence, commitment, motivation, entrepreneurial mindset, diverse and inclusive team.

- **Clearly defined needs**: The solution has an area of expansion or improvement, which can be saturated through venture and capacity building as well as research and development.

We reserve the right to adjust eligibility criteria based on the changing context as new information

becomes available.

Application Process

1. To submit your application, please fill in the Application Form by **13 February 2024, 11:59 pm (CET)**.

2. We will review and select successful applications to participate in an in-person Innovation Bootcamp in May 2024. While we value all applications, please note that we are only able to contact shortlisted applicants.

3. For more information, please refer to the Frequently Asked Questions.

Annex 2: Application form

Below is a copy of the application form to be submitted by applicants:

Please complete the form below to detail your organization and team, outline the problem and its affected parties, and describe your proposed solution along with its anticipated impact. Kindly note that only the founders of the organization can fill out and submit an application. The form should take about 1 hour to complete.

1. Organization Name *
   a. *Please write the full legal "Organization Name" (not the Trade Name).*
2. Which specific theme and country mentioned in the application call document are you applying for? *
   a. *Digital Solutions for Climate Security and Migration in Kenya*
   b. *Water and Resilience in Refugee and Host Communities in Jordan*
   c. *Resilient Food Systems and Nutrition in Nigeria*
   d. *Water and Resilience in Conflict-Affected Areas in Yemen*
3. Title of Project
   a. *Please provide a name for the innovation that you would like to work on with the Stability-and-Peace Accelerator (e.g. "Clean water access in Zaatari Refugee camp, Jordan").*
4. Project or Organization Website *
   a. *If your innovation has a dedicated website, please share it here. If not, please share your organization's website.*
5. Project Lead Name (First name, Surname) *
6. Project Lead Gender *
7. Project Lead Title *
8. Project Lead Email *
9. Have you incorporated, or formed any legal entity yet? *
   a. *Please note that we are only able to support incorporated organizations.*
10. When was the organization founded? *
11. What is the current status of the team's progress in the development process of the solution you are applying for? *
    a. *Inspiration: Currently in the conceptual stage, this idea shows promise based on preliminary considerations.*
    b. *Concept Development: Basic research analysis has been completed and the team has started validating the idea.*
    c. *Testing: Confident in its viability, the idea has undergone testing procedures, demonstrating its feasibility.*
    d. *Project Development: The solution has been fully developed and is in the implementation phase.*
    e. *Scale-up: The solution has major results to show it works and it has been adopted in multiple countries.*
12. In which country are you headquartered? *

       a.   Please select only one country. Dataset based on the World Bank nomenclature: data.worldbank.org/country

13. In which countries are you operating? *

       a.   Including your implementing partners/distributors

14. Please upload your pitch deck *

       a.   The pitch deck should be a PPT or PDF file with no more than 10 slides. Please make sure to include the following: 1) description of the problem, 2) your innovative solution, 3) impact potential, 4) competitive advantage, 5) the team, and 6) a brief description of financial sustainability.

15. Who is most affected by this problem? Describe your innovation's target market and how you judge your organization's potential in that market? Please include numbers *

       a.   We want to understand how many lives you can impact and improve and expect numbers: e.g. Total Addressable market, Serviceable Available Market and Serviceable Obtainable Market.

16. Describe your project's value proposition and how it resonates with your critical customer segments? What compelling need does it serve for your customers? *

17. Is your solution designed for diverse users, particularly women and girls? Does your solution work for all users in the same way? Have you checked for any unintended negative impact? *

18. How does your project operate? Detail the operating procedures you have developed so far and how you plan to evolve them. *

19. How many paying end users do you have for (directly and/or indirectly reached)? *

       a.   i.e. regardless of your business model (B2C, B2B, B2G, etc)

20. Please describe and quantify the tangible impact the project has or intends to deliver. *

       a.   Example: number of jobs created, yield increased, costs/time saved, CO2 emissions saved, insurance products provided, people advised ahead of severe weather/climate phenomenon etc.

21. What is the most recent product, traction or milestone of your project? *

       a.   Please mention your main KPIs evolution and current status.

22. What is new with your innovation? What substitutes do people resort to because it doesn't exist yet (or they don't know about it)? *

23. Who are your competitors and how are you different? *

       a.   Please include the names of your closest competitors.

24. Please provide the founders full names, their roles and background. *

       a.   We consider the founder as the person who legally registered your organization. Please provide "First name" followed by the "Surname" separated by a comma and explain why your team is uniquely qualified to solve this problem.

25. How many full time employees do you have (including founders)? *

26. What is the percentage of full time female employees within your team (including founders)?*

27. How will your project sustain itself in the medium and long term? What are the revenue streams that could fund your solution and cover your costs? *

28. Have you taken any investments or subsidies yet? If so, how much and from whom? *

       a.   Please clarify the type of funds that you have received (e.g. grant, loans, equity, etc).

29. How would your innovation benefit from research and development technical assistance? Intended outputs of R&D can be process improvements, new data insights, analysis tools, improvement of knowledge and skills, quality enhancements of the innovation and so on.*

        a.   *Find out more on CGIAR's work here: https://www.cgiar.org/research/cgiar-portfolio*

30. Sprint application budget *

        a.   *You can download the template here, applications using a different format will be rejected: https://docs.google.com/spreadsheets/d/1_MDfa4OzRKU13Lb5k9UddpUL_-JOCx9UJPwZqE7BA2U/edit?usp=sharing*

        b.   *And here is a short video that will help you navigate the document:*

        c.   *Please note that It's essential to maintain the total budget for the sprint within a limit of $30,000*

31. What are the 1-2 critical hypotheses you are looking to validate with research and venture building support during a 6 month pilot? *

        a.   *Example hypotheses could be "If we build an offline version of our digital farmer extension app, this will increase user adoption and retention by X" or "If we deploy our water management Pay as You Go system to X communities in a specific country, we will increase smallholder production by X%"*

32. List the Sprint top 5-10 milestones that must happen to help you prove your hypothesis. *

        a.   *Example: Onboard farmers. Establish baseline indicators and survey plan. Execute baseline survey. Deliver trainings to farmers. Execute endline*

33. Strong bonus: Please provide a video demonstrating how your customers are using your products

        a.   *Please only answer if you have a link ULR to share with us.*

34. Is there anything else about your solution we should know about that could help your application?

35. How did you hear about this innovation challenge? *

Annex 3: IPSR Innovation profiles

List of innovation profiles reported in FCM in 2023:

Innovation title	Description	Readiness Level	Lead Person and affiliation	Center
Cross-border water risk framework to promote water security in emergency operations in Fragile and Conflict-Affected Settings (FCASs)	Cross-border water management risk framework - to be incorporated into ESIAs for emergency operations (can be used by local/national authorities and service providers and development and humanitarian actors to guide water programs and investments)	Level 0	Jun Carlos Sanchez Ramirez & Sandra Ruckstuhl - IWMI	IWMI
Host Community Vulnerability Assessment Framework	The framework, tested with development and humanitarian actors, will guide food, land and water vulnerability analysis in host communities to guide anticipatory action initiatives - including inclusive early action plans for emergency response, and long-term climate risk prevention investments (climate adaptation investments)	Level 0	Sandra Ruckstuhl, IWMI	IWMI
Early warning, Early Action, Early Finance platform (AWARE)	Data-driven anticipatory action to mitigate the impacts of refugees and Internally Displaced Persons (IDPs) in host communities' food, land and water system in a changing climate.	Level 1	Andrew Okem, IWMI	IWMI
Stability-and-Peace Accelerator for Food-Land and Water Systems Actors in Fragile and Conflict Affected Settings	Science-driven enterprise acceleration programme that scales CG innovations through demand-driven capacity building in fragile contexts and produces investment opportunities for public/private finance actors	Level 2	Hauke Dahl, IWMI	IWMI
Assesment framework for Ecosystem of of Food, Land and Water Actors in the Human, Development and Peace Nexus	Framework for mapping out different actors involved in stimulating and growing FLWS innovations in FCAS, assessing the role of different actors and explore how FLWS innovators contribute to increasing resilience in food production, land management, water resources, and migration, as well as anticipatory action for crisis management, identifying existing activities that specialise in supporting FLWS innovations in FCAS, extracting learnings, and exploring opportunities and strategies for supporting and stimulating sustainable development, peace-building, and crisis response efforts.	Level 2	Hauke Dahl, IWMI	IWMI
Addressing critical data needs and capacity on water for strengthening anticipatory humanitarian actions in Refugee/Internally Displaced Persons	Ethiopia hosts over 916,000 refugees and asylum seekers , in addition to over four million IDPs . In many situations, this increases pressure on natural resources due to additional demands for food, water, and other natural resources. IWMI will use its expertise and knowledge assets to address water security challenges of host communities and develop context-specific solutions.	Level 0	Ruckstuhl, Sandra and Wolde Mekuria - IWMI	IWMI

(IDP) host communities in Ethiopia				
Toolkit for enhancing women's empowerment in anticipatory action programming before crises	This toolkit provides a framework for analyzing the gender dimensions of anticipatory action programming by considering the extent to which women are reached by, benefit from, and are empowered by policies and programming intended to build individuals' resilience in advance of shocks and crises.	Level 1	Jordan Kyle, IFPRI	IFPRI
Predicting domestic migrants in Central America using an innovative Internal Migration Propensity Index (i-MPI) tool	We propose developing an internal Migration Propensity Index (i-MPI) with the aim of predicting within-country migration at the household level in Guatemala and Honduras, following the overall methodology of MPI and adapting it to challenges specific to internal migration. The index will be calibrated using statistically-robust techniques to select a concise set of simple, non invasive questions that are easy to collect and that combined best predict the probability that at least one individual from a household permanently migrates to a different community within the same country over the next 12-24 months. The focus is on permanent internal migration, as opposed to temporary migration (mainly explained by regular labor force mobility during months of high labor demand from agro-industrial plantations). Such a tool can be used for both monitoring and targeting purposes to improve livelihoods at the local level and avoid the need to migrate.	Level 4	Francisco Ceballos, IFPRI	IFPRI
Monitoring Migration, Mobility and Displacement Narratives in Digital Platforms	Publicly available dashboard that monitors digital platforms (e.g. social media) for institutional and citizen-level narratives about migration, mobility and displacement. The main aims are to map the policy landscape around migration and to uncover migrant communities' concerns and drivers to decision-making. Analysis is focused on natural language processing, visual analysis and social network analysis.	Level 2	Bia Carneiro, Alliance - Bioversity and CIAT	Alliance
The gender transformative qualitative field work methodology for fragile contexts	The gender-responsive and transformative qualitative fieldwork methodology spells out how the CS Team's research considers gender equity and/ equality to ensure compliance with the Gender Equity and Social Inclusion (GESI) principles. It seeks to promote gender-sensitive, responsive and transformative research that considers and assesses how particular intersections of identities and social positions impact access to rights and opportunities and how policies, programmes, services and laws affect people in different, context-specific or even unexpected ways. Understanding various intersecting systems of inclusion/exclusion and advantage/ disadvantage allows a better appreciation of the lived experiences of different groups of women and men and how all these compound to shape gender inequality embedded in gender norms and power relations within communities.	Level 2	Gracsious Maviza, Alliance - Bioversity and CIAT	Alliance

Climate, Peace and Migration Partnership (CPM-Partnership)	Partnership programme with humanitarian agencies and research institutes in the Global South with two objectives of a) making CGIAR analysis operationally relevant and b) supporting local research and evidence-generation. It will contribute to the localisation agenda of the humanitarian and development communities, promoting national leadership, citizen accountability and more direct funding to local actors. To be developed through 4 pillars: 1) SECONDMENTS of CGIAR staff to humanitarian, peacebuilding and development partners, providing expertise and technical support. 2) CONNECTING researchers and practitioner/policy experts and supporting global and regional networks of scientists and universities to promote quality research. 3) LOCALIZING support to researchers and science institutions to strengthen research capacity and accelerate peer-reviewed publication and use of science in and from the Global South. 4) DOCUMENTING the process and modalities of the Partnership, including failures and successes, to enable learning and establish a framework and evidence-base for future investments.	Level 3	Bina Desai, Alliance - Bioversity and CIAT	Alliance
The Compound Risk and Crisis Assessment for instability and displacement	Analytical framework which provides development and displacement organizations with relevant and tailored information that is critical for planning resilience-building under climate change in fragile and conflict affected settings.	Level 2	Alessandro Craparo, Alliance - Bioversity and CIAT	Alliance
The CGIAR Climate Security Observatory - Displacement module	The Climate Security Observatory (CSO) is an online decision-making support tool providing robust, localized, and policy-relevant evidence on how exactly climate security risks may emerge across different geographic contexts. It aims to answer several research questions on how the climate security nexus operates at the subnational level. To achieve this , the CSO performs a series of mixed-methods analyses (data-driven literature review, pathway analysis, social media issue mapping, governance coherence analysis, network analysis, spatial analysis, econometric analysis), before synthesizing outputs into an open-access online dashboard. Within the CSO, a module for decision making on displacement-related is being developed.	Level 1	Theresa Liebig, Alliance - Bioversity and CIAT	Alliance

Geo-spatial analysis approach to improve linkages between demand and supply for vegetatively-propagated crop seed in sub-Saharan Africa	A draft report has been completed describing the methodology to spatially link vegetatively-propagated crop seed production and the demand for that seed. Previous geo-referenced datasets for cassava seed entrepreneurs in Tanzania have been expanded to include sweetpotato seed producers in Uganda, Tanzania and Kenya. Production maps have been generated for banana, cassava, sweetpotato and yam as well as an Africa-wide map illustrating average travel time to urban markets. These datasets have been used to construct a preliminary map illustrating seed demand for cassava in East Africa. This users of this innovation will be national seed system actors, including national research systems, regulatory agencies as well as private seed producers and buyers. The tool will be included within the Seed Tracker app that will be freely accessible through the www.seedtracker.org website.
Registration of the Trial "Accelerating Crop Varietal Turnover in Nigeria", a field experiment testing effects of trial packs and a consumer-oriented intervention to promote new varieties among smallholder farmers	A pre-registration is a time-stamped research plan that researchers can create and upload before conducting a study. The objective of pre-registration is to provide researchers with an overview of ongoing studies in their field and to build research transparency by reducing selective reporting. While pre-registration is commonplace for clinical health trials, its use in development economics is more recent, and WP3 decided to adopt this latest standard for their field experiments. This particular experiment by IFPRI researchers in Nigeria will test the effects of providing trial packs versus a consumer-oriented intervention (which is still being finalized) on varietal adoption by smallholder farmers.
An ODK-based tool for real-time surveillance and reporting of banana bunchy top disease by surveyors, quarantine and extension service agents	Banana bunchy top virus (BBTV) has emerged as a major threat to bananas in sub-Saharan Africa (SSA). The virus, from most likely a single introduction event in the 1960s in DRC, has spread to 15 countries in SSA. Most recently, the virus has spread to Tanzania and Uganda in EA and Togo in WA. BBTV surveillance by scouting across large areas is a critical requirement for the early detection of BBTV, mapping the extent of its geographic spread, and deploying control measures. Lack of access to real-time data from the field impedes planning emergency response actions, developing distribution maps, and planning surveillance targets. To overcome this challenge, an ODK-based Android app is developed, with features for digital data capture, GPS data, images, disease status, disease impact, and management actions. The tool has been piloted in Nigeria, Tanzania, Uganda, and Togo. The use of this tool improves decision-making and management tactics.

List of innovation profiles reported by IITA in Nigeria in 2023:

Sustainable intensification of cocoa production through the development and dissemination of Integrated Soil Fertility Management option (CocoaSoils Use Case)	CocoaSoils will develop and disseminate Integrated Soil Fertility Management options for cocoa, filling an important knowledge gap towards increasing cocoa productivity without engaging in deforestation. The project will leverage on Stepwise investment pathway which outlines the necessary steps needed to achieve best management practices (BMPs), the sequencing of practice through carefully crafted steps is incorporated into the app help farmers achieve climate smart cocoa production.
Post-harvest loss reduction technologies (DryCard, Aflasafe, PICS bags) introduced across Vitamin A Cassava and Vitamin A Maize value chains in Nigeria	Different technologies including DryCard, Aflasafe, and PICS bagsof and innovations for good postharvest management practices were introduced to reduced post-harvest losses in two biofortified value chains (Vitamin A Maize and Vitamin A Cassava). The introduction was done through physical training of 960 value chain actors by extension agents. The technologies were introduced for eight States (Kaduna, Niger, Imo, and Oyo States for Biofortified Vitamin A Maize and Nasarawa, Cross River, Anambra, and Osun States for Biofortified Vitamin A Cassava).
Developing a safe and efficient biopesticide against Fall armyworm (FAW) through genomic selection and testing of nucleopolyhedroviruses native to Africa	More than 150 caterpillars of the Fall armyworm (FAW) showing symptoms of virus attack were field-sampled in Benin and Nigeria. Screening for the presence of native nucleopolyhedroviruses (SfMNPV) was conducted in the framework of a collaboration with the University Wageningen, the Netherlands. Promising isolates were identified to be tested under laboratory conditions prior to further work under semi-field and field conditions.

Pencil stem technology for rapid propagation of cassava seed in sub-Saharan Africa	Pencil stem technology is expected to provide a substitute for bulky planting materials which is a major challenge in cassava seed delivery systems. The pencil stem product also has a similar health status to the source semi-autotrophic hydroponics (SAH) plantlets used in the production. The production of the pencil stem products requires little land, space and agronomic resources to produce breeder seeds when compared to directly producing normal stems for breeder seed. Pencil stems are easy to transport to rural seed producers/farmers.
Agronomic content assembled across value chains to create a Digital Advisory Hub to Support Smallholder Farmer Organizations in Nigeria	Smallholder farmers are continuously struggling to gain timely and readily available farming advice due to the low farmer-extension officer ratio. The innovation package will provide a credible and certified digital crop advisory, climate smart and other pertinent agronomic information to farmers in Nigeria. Sprout as a Use Case will enable Excellence in Agronomy (EiA) to digitize its content and leverage its platform to reach millions of smallholder farmers (SHFs) in Nigeria. Sprout in partnership with EiA will digitize crop advisory for yam, maize, cassava, sorghum, rice, potatoes, cowpeas, and potato. Sprout will also enable EiA to disseminate this information through Farmer facing organizations (FFOs) such as CoAmana, Eprod solutions and Mercy Corps Nigeria amongst others using chatbot technology on both smart and basic phones through its omni- channel capabilities (Short Message Service (SMS), Interactive voice response (IVR), WhatsApp).
Pheromone systems developed to lure and kill cowpea pests (pod borer and pod sucking bug) and/or for enhanced recruitment of their natural enemies in the field	The aggregation pheromone of the cowpea pod sucking bug Clavigralla tomentosicollis and its analogues compounds' efficacy have been evaluated. The best concentration and the trap design for attracting Clavigralla spp. and their egg parasitoid (biocontrol agent) Gryon spp. in farmers' fields were documented. Moreover, the potential influence of climatic factors and the phenology stage of host plants in the attraction of both organisms were assessed as well as the tentative source of the semiochemicals involved. Bioprospecting of wild alternative host plants for the pod borer Maruca vitrata locally available in Benin, Nigeria, and Burkina Faso has been carried out, and the potential chemical cues involved in the attraction of pest and of its parasitoid Liragathis javana were elucidated. Lab and field validation of these compounds will be undertaken in 2023. Additionally, we have demonstrated consistent attraction of M. vitrata and its parasitoids with the above C. tomentosicollis aggregation pheromone.
Green Pass Protocol to facilitate the exchange of phytosanitary clean germplasm from CGIAR centers.	The Germplasm Health Units of the Genebanks initiative proposed a comprehensive phytosanitary compliance assurance procedure termed the 'CGIAR Greenpass Phytosanitary Protocol (CGP)' to rapidly exchange germplasm from the CGIAR centers. The CGPP is expected to assure phytosanitary compliance to fast-track germplasm distribution from CGIAR to the global community. The premises for this concept is based on the centers' voluntary implementation of phytosanitary checks in collaboration with the NPPOs of the countries hosting the CGIAR Centres to facilitate the exchange of pest-free germplasm. This protocol requires support documents to explain provisions in International Standard Phytosanitary measures (ISPMs) that could enable CGPP. This document, Pest Risk Assessment (PRA) and International Standard Phytosanitary Measures (ISPMs) relevant to the International Exchange of Germplasm is the first series generated to accomplish the ''GreenPass Innovation''. It is envisioned that the draft document will demonstrate key intervention points of relevant ISPMs for CGIAR centers to demonstrate compliance.
Digital solution to deliver fertilizer and time of planting advise for rice, maize and cassava is validated by smallholder farmers in Nigeria (SAA Nigeria Use Case)	The innovation, requested by Sasakwa Africa Association in Nigeria brings together three different tools that give fertilizer recommendations and planting date advice for three crops (cassava, maize, and rice) into one easy-to-use platform, accessible by smallholder farmers growing the three crops and their extension agents.
Mainstreaming sustainable rice cultivation using agronomic digital tools for improving riceproductivity and	The Use Case is developing the simplified RiceAdvice to deliver fertilizer and weed management advisory service for smallholder farmers, Atafi lead farmers and extension agents. The Use case is also creating a digital data collection tool for Sustainable Rice Platform (SRP) Standard and Performance Indicators (which automatically calculates compliance of farmers towards SRP) to fully automate the data processing, data analytics

sustainability in Economic Community Of West African States countries	(including machine learning, yield decomposition analysis as well as for other KPIs), and data visualization for external users/stakeholders.
Joint IITA, CIP, Bioversity and Nigeria national partner design of seed demand and seed delivery tools for vegetatively propagated crop seed in geo-targeted regions of southern Nigeria	These are a series of tools/survey instruments which are designed to characterize seed demand for vegetatively propagated crops (VPCs) in two southern states of Nigeria (Oyo and Cross River). The tools aim to collect information for major target VPCs, including cassava, banana, sweetpotato, potato and yam and to serve as instruments that could potentially be used on a wider scale to assess seed demand characteristics more broadly at country level. The pilot level intruments developed during 2022 were for: 1. Characterizing the VPC seed demand and sales of traders in major markets in the target states; 2. Assessing the production capabilities and institutional characteristics of seed production units in a range of national partners; and 3. Determining the seed needs of product profiled varieties of VPC crops at selected sites in the targeted regions of southern Nigeria.
Accelerating crop varietal turnover in Nigeria: Market intelligence and seed sector policy solutions	This study aims to analyze the drivers of farmers' varietal replacement choices, consumers' food product substitution choices, private firms' decisions to invest in the marketing of new and intelligence-driven varieties and products, and the public policy environment that shapes these choices and decisions? The study is being conducted in Nigeria with a focus on maize and cowpea with an innovative research design that investigates these issues at multiple points along the seed value chain and among seed system stakeholders.
Cost-benefit analysis of cassava seed certification for seed producers in Nigeria	This study provided a method for assessing the cost benefits of using quality assurance for seed producers, especially "Cassava Seed Entrepreneurs (CSEs). A questionnaire was developed to capture the socio-economic characteristics of CSEs; assess the level of adoption of QA approaches; benefits of QA using the Seed Tracker digital tool; estimate the cost, returns, and profitability of cassava production by the farmers; and profile the constraints to adoption of QA. In 2022, the assessment was validated and completed in Benue state, which covered 149 CSEs and 75 seed buyers. Simple summaries of assessments in Benue state suggest 1:7 returns on investment for seed producers using quality assurance compared to controls, who are getting 1:3 returns on investment from the sale of stems and roots. The study is ongoing, with surveys planned in Abia, Akwa Ibom, Kogi, and Oyo states in 2023.
Leaf bud cuttings: a novel method for quicker and more efficient production of yam seeds in Nigeria	Traditional systems of yam seed production are slow and inefficient. Leaf-bud cuttings have been tested to determine if they can be used to quickly establish large quantities of yam planting material of improved high-yielding varieties. Techniques for evaluating the performance of leaf bud cuttings (LBCs) were developed and comparisons were made between transplanted and direct planted LBC. Direct planted LBCs gave yields that were more than double those of transplanted LBCs. There were no significant differences in results for the two varieties that were tested. Further research is required to determine the most appropriate situation within the yam seed system in which to use LBCs.

Hauke Dahl, Scaling Lead - East and Southern Africa, IWMI h.dahl@cgiar.org

Dr. Inga Jacobs-Mata, Director of Water, Growth and Inclusion, IWMI i.jacobs-mata@cgiar.org

Sarah Hulbert, New Ventures Consultant, WFP Innovation Accelerator, sarah.hulbert@wfp.org

Jose Shehata, Innovation Venture Consultant, WFP Innovation Accelerator jose.shehata@wfp.org

The CGIAR Initiative on Fragility, Conflict, and Migration, also known as FCM, addresses challenges to livelihood, food, and climate security faced by some of the most vulnerable populations worldwide. The Initiative focuses on building climate resilience, promoting gender equity, and fostering social inclusion.

To learn more about this Initiative, please visit this webpage.

To learn more about this and other Initiatives in the CGIAR Research Portfolio, please visit www.cgiar.org/cgiar-portfolio