



# **Scaling for Impact Program**

**Full design document**

**September 2024**

# Table of contents

<b>LIST OF ACRONYMS.....</b>	<b>II</b>
<b>GLOSSARY.....</b>	<b>IV</b>
<b>1. EXECUTIVE SUMMARY.....</b>	<b>1</b>
<b>2. HIGH-LEVEL VISION IN RESPONSE TO CHALLENGES AND MEGATRENDS .....</b>	<b>2</b>
2.1. CHALLENGES AND MEGATRENDS .....	2
2.2. HIGH-LEVEL VISION .....	2
2.3. WHAT'S NEW IN THIS PROGRAM?.....	3
<b>3. EVIDENCE-BASED AND DEMAND-LED PRIORITIZATION.....</b>	<b>5</b>
<b>4. COMPARATIVE ADVANTAGE.....</b>	<b>6</b>
<b>5. PROGRAM-LEVEL THEORY OF CHANGE .....</b>	<b>9</b>
<b>6. AREAS OF WORK .....</b>	<b>12</b>
6.1 AREA OF WORK 1: ENGAGE AND EMPOWER.....	12
6.2 AREA OF WORK 2: PATHWAYS TO SCALE IN AGRIFOOD SYSTEMS.....	17
6.3 AREA OF WORK 3: ENABLING ENVIRONMENT LAB .....	21
6.4 AREA OF WORK 4: ACHIEVING IMPACT BY UNLOCKING FINANCE AND PARTNERSHIPS.....	25
6.5 AREA OF WORK 5: LEARNING FOR IMPACT .....	30
<b>7. COUNTRY INTEGRATION .....</b>	<b>34</b>
7.1. EXAMPLE OF INTEGRATION IN A COUNTRY OR SET OF COUNTRIES .....	34
7.2. OVERVIEW OF SELECTED WORK IN TOP 17 COUNTRIES.....	36
<b>8. BOUNDARIES AND LINKAGES WITH OTHER COMPONENTS OF THE PORTFOLIO.....</b>	<b>36</b>
8.1. BOUNDARIES WITH OTHER COMPONENTS OF THE PORTFOLIO .....	36
8.2. LINKAGES ACROSS THE PORTFOLIO .....	39
<b>9. MONITORING, EVALUATION, LEARNING, AND IMPACT ASSESSMENT .....</b>	<b>40</b>
9.1. MONITORING, EVALUATION, AND LEARNING.....	40
9.2. IMPACT ASSESSMENT .....	41
<b>10. CAPACITY SHARING .....</b>	<b>41</b>
<b>11. GENDER EQUALITY AND SOCIAL INCLUSION .....</b>	<b>42</b>
<b>12. CLIMATE CHANGE .....</b>	<b>44</b>
<b>13. RISK MANAGEMENT .....</b>	<b>45</b>
<b>14. FUNDING SOURCES.....</b>	<b>46</b>
<b>ANNEX - POOLED FUNDING.....</b>	<b>48</b>
<b>REFERENCES.....</b>	<b>53</b>

## List of acronyms

Notes: For definitions of terms used in this proposal, please go to the Glossary.

### General

AoW	Area of Work
ARI	advanced research institutes
BN	billion
CA	comparative advantage
CAC	CGIAR Advisory Committee
CBO	community-based organization
CoA	cluster of activity
CSO	civil society organization
CWANA	Central and West Asia and North Africa
EE	enabling environment
ESA	East and Southern Africa
GESI	gender equality and social inclusion (framework)
ha	hectare
OP	high-level outcome
I-OC	intermediate outcome
IA	impact assessment
IDA	international development association
IDO	international development organization
IFI	international financial institution
KPI	key performance indicator
LAC	Latin America and the Caribbean
M	million
marginalized groups	women, youth, underrepresented and marginalized groups
MEL	monitoring, evaluation, and learning
MELIA	monitoring, evaluation, learning and impact assessment
MoU	memorandum of understanding
MSP	multistakeholder platform
N/A	not applicable
NARES	national agricultural research and extension system
NGO	non-governmental organization
OC	outcome
OP	high-level output
PCA	principal component analysis
PPP	private-public partnership
REC	regional economic community
RO	research organization
SA	South Asia
SEA	Southeast Asia
SIMEC	Strategic Monitoring, Evaluation and Learning Committee of CGIAR
SME	small- and medium-scale enterprise
SRO	subregional organization
TA	technical assistance
TOC	theory of change
TVET	technical and vocational education and training
WCA	West and Central Africa

### CGIAR partner

ADB	Asian Development Bank
AfDB	African Development Bank
AGRA	Sustainably Growing Africa's Food Systems (formerly Alliance for a Green Revolution in Africa)
AID-I	Southern Africa Accelerated Innovation Delivery Initiative
APART	Assam Agribusiness and Rural Transformation Project (World Bank)
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa

BMGF	Bill & Melinda Gates Foundation
CAF	Development Bank of Latin America and the Caribbean
CCARDESA	Centre for Coordination of Agricultural Research and Development for Southern Africa
CORAF	West and Central African Council for Agricultural Research and Development
DeSIRA	Development Smart Innovation through Research in Agriculture (joint initiative)
FAO	Food and Agriculture Organization of the United Nations
FARA	Forum for Agricultural Research in Africa
FCDO	Foreign, Commonwealth and Development Office (UK)
FLAR	Latin American Fund for Irrigated Rice
GCF	Green Climate Fund (within UNFCCC)
IDB	Inter-American Development Bank
MasAgro	Sustainable Modernization of Traditional Agriculture (joint project)
RECs	Regional Economic Communities (of the African Union)
REWORLD	Regional Resilient Rice Value Chains Development Program
TAAT	Technologies for African Agricultural Transformation (AfDB program)
UN	United Nations
USAID	United States Agency for International Development
WE4F	Water and Energy for Food (joint initiative)

#### **CGIAR entity**

AgriLAC Resiliente	Resilient Agrifood Innovation Systems in Latin America and the Caribbean (CGIAR Regional Integrated Initiative)
AICCRA	Accelerating Impacts of CGIAR Climate Research in Africa
AMD	Securing the Food Systems of Asian Mega-Deltas for Climate and Livelihood Resilience (CGIAR Regional Integrated Initiative)
ClimBeR	Climate Resilience (CGIAR Initiative)
CSISA	Cereal Systems Initiative for South Asia
Fragility to Resilience (F2R)	Fragility to Resilience in Central and West Asia and North Africa (CGIAR Regional Integrated Initiative)
GFAiR	Global Forum on Agricultural Research and Innovation (formerly GFAR, Global Forum on Agricultural Research)
ImpactSF	CGIAR Hub for Sustainable Finance
IPSR	Innovation Packages and Scaling Readiness (approach)
NPS	National Policies and Strategies (CGIAR Initiative)
PABRA	Pan-African Bean Research Alliance
Portfolio	Programs, Accelerators, and bilateral projects of CGIAR
PCU	Program Coordination Unit of CGIAR
PPU	Portfolio Performance Unit of CGIAR
PRMS	Performance and Results Management System of CGIAR
RII	Regional Integrated Initiative of CGIAR
SPIA	Standing Panel on Impact Assessment
TAFS-WCA	West and Central African Food Systems Transformation (CGIAR Regional Integrated Initiative)
TAFSSA	Transforming Agrifood Systems in South Asia (CGIAR Regional Integrated Initiative)
Ukama Ustawi	Diversification for Resilient Agrifood Systems in East and Southern Africa (CGIAR Regional Integrated Initiative)

## Glossary

The definitions in this glossary are largely assembled from:

- [Scaling Brief #4: Scaling glossary](#), CGIAR 2020 and
- [CGIAR glossary of terms for monitoring, evaluation, learning, and impact assessment](#)

**Beneficiaries:** The individuals, groups, or organizations, whether targeted or not, that benefit, directly or indirectly, from the chain of events that research has contributed to.

**CGIAR Portfolio:** CGIAR Science Programs, Accelerators, and bilateral projects

**Collaborative research:** With partners and users of innovations and scaling work, co-designing, co-implementing, co-creating, co-producing, co-testing, etc., at different levels from planning the work through to implementing and reporting on it.

**Comparative advantage:** In economic terms, a comparative advantage in producing or selling a good is possessed by an individual, firm or country with the lowest opportunity cost (as opposed to absolute cost) in producing the good. In these standards the term refers more broadly to the role and mandate of the CGIAR in producing international public goods where there are no alternative research suppliers that are better positioned to produce those goods.

**Equilibrium effects:** Changes that occur throughout an economy/country when a policy change or other factors such as global crises affect markets. Unlike partial equilibrium analysis, which focuses on a single market (e.g., rice), general equilibrium considers how changes can ripple through the entire economy, affecting all sectors (agriculture, industry, and services), markets, institutions, and households.

**Impact:** A durable change in the condition of people and their environment brought about by a chain of events to which research, innovations, and related activities have contributed.

**Impact assessment:** Studies that estimate the causal effects of research outputs and related activities on one or more development parameters of interest. Assessing the costs of the intervention vis-a-vis the magnitude of impact achieved is important as well. Impact assessments are usually carried out after scaling has taking place and typically include estimates on the extent of use/adoption of the intervention as well as development outcomes.

**Impact pathway:** The causal pathway for a research project or program that outlines the expected sequence to achieve desired objectives beginning with inputs, moving through activities and outputs, and culminating in outcomes and impacts. Assumptions underpinning the causal chain and feed-back loops are usually included (Closely related terms include Logical Framework and Theory of Change.)

**Innovation:** A new idea, product, service, and/or solution capable of facilitating impact through innovation systems involving multiple partners and enablers.

**Innovation bundle:** Different technological, social, institutional, financial, business or process innovations “bundled” together to enable different innovations to complement one another and adapt to new contexts they are being introduced. Innovation bundles reflect a combination of product/service innovations or solutions, e.g., seed + fertilizer + training. Innovation bundles are part of innovation and packages.

**Innovation package:** The combination of innovations that are needed for scaling in a specific location or context. Packages add those market, policy, extension, knowledge system enablers for bundles to become available/affordable/usable by clients, e.g. market, policy, sociocultural, political system enablers

**Innovation system:** The interlinked set of people, processes, assets, and social institutions that enable the introduction and scaling of new ideas, products, services, and solutions capable of facilitating impact.

**Intervention:** A project, program, policy, or other initiative taken by actors aimed at influencing behaviors or outcomes. In terms of scaling, certain interventions can be aimed at developing and scaling an innovation.

**Marginalized groups:** Women and youth and all underrepresented and marginalized groups of people, including, for example, Indigenous, displaced, and elderly groups of people.

**Monitoring:** A process of continuous or periodic collection and analysis of data to compare how well a project, program, or policy is being implemented against expected progress and results, in order to track performance against plans and targets, to identify reasons for under or over achievement, and to take necessary actions to improve performance.

**NARES/NARS:** Organizations and institutions created and/or funded by the government as a support for the national program of agricultural development with the purpose of improving agricultural research, management, financing, and service delivery (extension services). They comprise a variety of public or private stakeholders (universities, civil society, farmers' groups, private sector) engaged in agricultural research and which promote linkages with institutions at national, regional and international level.

**Outcome:** A change in knowledge, skills, attitudes and/or relationships, which manifests as a change in behavior, to which research outputs and related activities have contributed.

**Output:** Knowledge, technical or institutional advancement produced by CGIAR research, engagement and/or capacity development activities. Examples of outputs include new research methods, policy analyses, gene maps, new crop varieties and breeds, institutional innovations or other products of research work.

**Partners:** Organizations or individual stakeholders that the CGIAR collaborates with to achieve its goals.

**Responsible scaling:** Responsible scaling requires ethics of co-responsibility for ensuring that the impacts from the innovation are well captured by the intended beneficiaries and minimizing negative societal or ecological consequences, whether these impacts are intentional or not and whether they can be fully foreseen or not.

**Results:** The output, outcome or impact of an intervention.

**Scaling:** Scaling of innovations is a deliberate and planned effort to enable the use of innovations to have positive impact for many people across broad geographies. "**Scaling out**" refers to the most common way of attempting to get to scale with an innovation: reaching greater numbers of people by replication and dissemination. "**Scaling up**" refers to the attempt to change institutions at the level of policy, rules and laws. Finally, "**scaling deep**" refers to changing relationships, cultural values and beliefs, addressing normative barriers to inclusive scaling.

**Scaling approach:** An integrated set of scaling tools and procedures that can be used to design and implement scaling activities in different contexts.

**Scaling Readiness:** A combined score of innovation readiness and innovation use that reveals the potential and key bottlenecks in an innovation package for a specific scaling objective and context.

**Scaling Scan:** A scaling approach that helps to formulate and assess the scalability of scaling an innovation in a specific context.

**Scaling strategy:** A set of coherent activities, stakeholders, and stakeholder engagement models to enable scaling.

**Science:** Rigorous hypothesis-based research.

**Science of scaling vs practice of scaling:** The science of scaling is research on which scaling approaches and practices work in certain contexts and why. Science of scaling can

inform the practice of scaling which is the use of those strategies and practices. Ideally the two are linked in a virtuous feedback loop.

**Stage-gating:** A recognized performance management approach used to manage the process of design, testing, validation and scaling of both technological and non-technological CGIAR innovations.

**Stakeholders:** Agencies, organizations, groups or individuals who have a direct or indirect interest in the CGIAR or its component, for instance research program or its evaluation.

**System:** A set of interacting entities and processes that form a complex whole.

**System transformation:** A major shift — bringing about significant positive change for the majority of people involved — in the governance and functioning of a system. It requires action from multiple stakeholders who work toward common goals along transformation pathways.

**Systems research:** Develops knowledge about how a complex system functions as a whole, with the interactions among components studied to understand the whole system.

**TAAT-Clearinghouse:** The Technologies for African Agricultural Transformation (TAAT)-Clearinghouse brokers high impact and climate resilient CGIAR technologies and innovations, ensuring their integration into large-scale agricultural investment projects primarily financed by the African and Islamic Development Banks and other international financial institutions, including the World Bank and International Fund for Agricultural Development.

**Theory of change:** An explicit, testable model of how and why change is expected to happen along an impact pathway in a particular context. A basic research-for-development theory of change (TOC) identifies the context and key actors in a system and specifies the causal pathways and mechanisms by which the research aims to contribute to outcomes and impacts. (Closely related terms include logical framework and impact pathway.)

## 1. Executive summary

**CGIAR's research, engagement, and impact agenda stands at a critical crossroads:** While half a century of research-for-development by CGIAR and its partners provides a strong foundation to overcome food, land, and water systems challenges, the widespread adoption and continuous use of innovations — including technological advances, social and institutional processes, and evidence and policy support — has only partially achieved the levels needed to ensure transformative and durable change. Mismatches between innovation supply and the needs of farmers, agrifood value chain actors, and consumers, along with unsystematic and linear approaches to research, engagement, and scaling, undermine progress. Inadequate investment in enabling policies, financing, and market environments and insufficient understanding of effective scaling and impact strategies further impede advancement. *Scaling for Impact* disrupts this cycle to deliver significant, overdue impact at scale.

**Scaling for Impact is CGIAR's first Program fully dedicated to scaling land, food, and water systems innovations.** Currently, 9.2% of the world's population lives in extreme poverty. Over 3.3 billion live in countries vulnerable to climate risks. Three billion globally can not afford a healthy diet. 2.33 billion are moderately or severely food insecure, with 733 million facing hunger. *Scaling for Impact* tackles these challenges head-on by applying transdisciplinary scaling science and practice. It places partnerships — both within and outside of CGIAR — at its core. As the integrative heart of CGIAR's scaling efforts, *Scaling for Impact* generates essential evidence and delivers critical services and functions to overcome challenges, minimize unintentional duplication, and unlock synergies that enhance impact.

**Scaling for Impact supports research and scaling across CGIAR's entire Portfolio.** The Program comprises five interconnected areas of work (AoWs) that establish a framework for driving substantial and inclusive impact. AoW-1 engages and empowers stakeholders. Recognizing the importance of locally led innovation processes, it starts with mapping and aligning innovation supply and demand, ensuring that the right research and solutions are prioritized by CGIAR's Programs, Accelerators, and bilateral projects to better meet the needs of governments and stakeholders. Through the co-design of tailored innovation bundles, packages, and scaling pathways, AoW-2 accelerates the transition from research to substantial, large-scale impact. Simultaneously, AoW-3 strengthens policy and market environments to ensure that innovations are accessible, inclusive, and effectively used. By supporting governments and investors with ready-to-deploy solutions and technical assistance, AoW-4 unlocks catalytic finance to boost impact. Finally, AoW-5 cultivates continuous learning and adaptation across CGIAR's Programs, Accelerators and bilateral investments through dynamic innovation portfolio management, strengthened South-South scaling capacity sharing, and learning from and correcting failures.

**Accelerated, systematic impact:** By 2030, *Scaling for Impact* will leverage systems and financing to support over 62 million people, including 30% women, youth, marginalized and underrepresented groups, who will gain access to innovations that enhance their livelihoods and health. Biodiversity-friendly and/or climate-smart innovations will be applied on over 10 million hectares. 250,000 jobs will be created or enhanced, and 480,000 people — half of them women — will access healthier diets. These figures, in part driven by the Program's goal to leverage US\$5 billion in investment from development partners, is also expected to increase as the Program co-supports impacts from across CGIAR's Portfolio. *Scaling for Impact* seeks a minimum annual investment of US\$45 million to catalyze enduring impact.

*Scaling for Impact* is highly ambitious, confronting challenges head-on to match urgent needs. It is forward-thinking and unflinching, positioning CGIAR as the go-to partner in agrifood systems innovation scaling. By creating synergies across CGIAR and with partners, it supports the delivery of innovation benefits at scale while prioritizing inclusivity and responsibility. **The urgency is clear, the opportunity is now, and *Scaling for Impact* is the key to unlocking transformation.**

## **2. High-level vision in response to challenges and megatrends**

### **2.1. Challenges and megatrends**

*The trouble with our times is that the future is not what it used to be — Paul Valéry*

Notwithstanding decades of agricultural research-for-development, including that of CGIAR and its many partners, widespread adoption and sustained use of innovations to improve farming practices, policies, and technologies and their social and institutional contexts has seldom generated the desired levels of widespread, inclusive, and lasting change to transform food, land, and water systems in a climate crisis. Global megatrends — climate change, environmental degradation, geopolitical instability, population growth, rising inequality, and unsustainable diets — create major obstacles to the sustainability of scaling efforts (ISDC, 2023; Meinke et al., 2023; Richardson et al., 2023). These interconnected challenges undermine traditional development paradigms and threaten the achievement of the Sustainable Development Goals (SDGs). They also inhibit outcome-based scaling efforts by creating unpredictable barriers that disrupt the sustained impact of innovations. As global megatrends intensify, scaling innovations to achieve long-term, measurable outcomes becomes increasingly difficult, requiring new approaches that can adapt to these complex and evolving challenges (Meinke et al., 2023). These "wicked" problems require transdisciplinary approaches and non-linear scaling strategies that bring stakeholders into the research process to co-create adaptable solutions (Bernstein, 2015; Rigolot, 2020). Science must rapidly evolve to generate scalable innovations resilient to today's challenges and tomorrow's climate, ensuring transformative impact across key areas like food security, poverty reduction, gender equality, climate adaptation, and environmental sustainability (CGIAR, 2021; Dahl & Zulu-Hume, 2022; Govaerts et al., 2021).

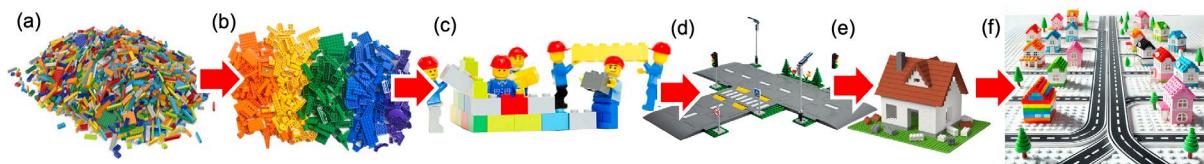
### **2.2. High-level vision**

*Scaling for Impact* is business as unusual for CGIAR. It will provide — for the first time — "whole-of-CGIAR" and transdisciplinary responses to evolving megatrends. It will dismantle barriers that hinder the effective integration of research with scaling across CGIAR's Portfolio of Programs, Accelerators, and bilateral projects to achieve CGIAR's Impact Areas. *Scaling for Impact* is designed to advance the scaling of a broad range of promising technological, social, policy, and process innovations from CGIAR and its partners. By enhancing synergies across CGIAR's Portfolio, it will also eliminate conceptual and practical obstacles, providing effective solutions to scaling challenges. Utilizing dynamic feedback, learning loops, and adaptive management, it will minimize fragmentation and reduce the risk of unintentional duplication across CGIAR's Programs. *Scaling for Impact* is CGIAR's first unified effort to fully integrate and elevate research with scaling through a comprehensive, Portfolio-wide, approach.

While most CGIAR Programs and bilateral projects will engage in scaling activities, *Scaling for Impact* will serve as the integrative core — and impact-multiplier — of all of CGIAR's scaling efforts. It will systematically prioritize regional and country-based stakeholder demands for research and scaling. It will foster collaborations between CGIAR's Programs and multistakeholder networks at all levels. *Scaling for Impact* will work closely with regional organizations, governments, national agricultural research and extension systems (NARES), United Nations (UN) agencies, non-governmental organizations (NGOs), civil society organizations (CSOs), community-based organizations (CBOs), private companies and businesses, and food producer and consumer groups. It will build on the wealth of innovation networks established through CGIAR's six Regional Integrated Initiatives ([RIIs](#)) — [TAFSSA](#) (South Asia), [Ukama Ustawi](#) (East and Southern Africa), [AgriLAC Resiliente](#) (Latin America and the Caribbean), [Asian Mega-Deltas](#) (Southeast Asia), [Fragility to Resilience](#) (Central and West Asia and North Africa), and [TAFS-WCA](#) (West and Central Africa) — and the National Policies and Strategies ([NPS](#)) Initiative. Integrating and supporting CGIAR's Programs to enhance innovation bundling and packaging, scaling strategies, transformative partnerships, and adaptive scaling management, *Scaling for Impact* will unlock Portfolio-wide synergies and drive transformative change (Appendix 1).

### 2.3. What's new in this Program?

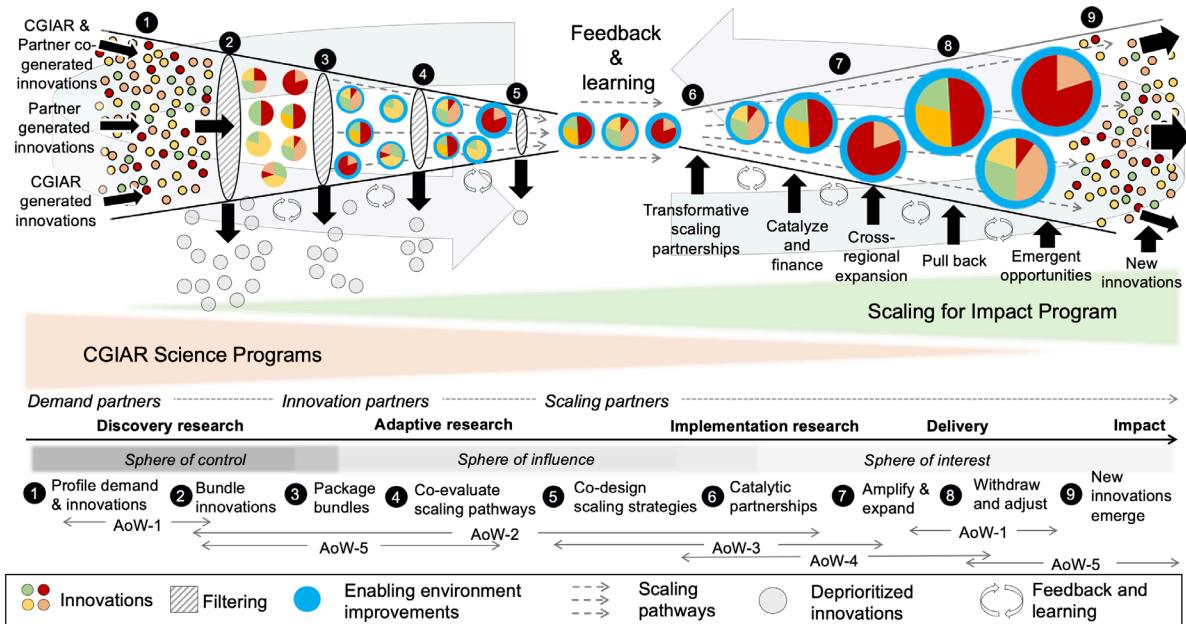
Scaling processes are rarely straightforward (Newell et al., 2021). Failures commonly result from a lack of transdisciplinary and systems thinking, insufficient planning and sequencing of activities and interventions, a lack of ability to respond to emerging challenges or opportunities, and obstacles in the enabling environment, among others (IWMI, 2021; Totin et al., 2020; Woltering et al., 2024). As CGIAR's first Portfolio-wide Program addressing these challenges in a coordinated, systematic, and effective manner, *Scaling for Impact* is structured to foster synergies across all Programs, Accelerators, and bilateral investments to avoid these pitfalls. The Program's areas of work translate scaling science and theory into practice by integrating CGIAR's Innovation Packages and Scaling Readiness approach ([IPSR, which builds on NASA's Technology Readiness](#)) (Sartas et al., 2020; Schut et al., 2024), along with a variety of relevant scaling frameworks and innovation systems approaches (e.g., Hall et al., 2023; Klerkx & Begemann, 2020; Wigboldus et al., 2022; Woltering et al., 2019). These elements inform the design, sequencing, evaluation, and adaptive enhancement of scaling pathways for innovation packages that will be implemented across CGIAR's Portfolio ([Figure 1](#)).



**Figure 1.** Key concepts of the *Scaling for Impact* Program are illustrated using a LEGO® analogy: (a) CGIAR and its partners develop numerous singular innovations, some of which are developed in isolation, often without a clear theory of change or scaling pathway. (b) To address this, complementary innovations are "bundled" together (e.g., seed with nutrient and water management, or water harvesting with micro-irrigation, combined biodiversity and integrated pest management practices, or improved fish or livestock breeds with advanced feeding practices). (c) Innovations are then "packaged" to enhance their accessibility and usefulness, potentially including market or policy interventions, risk-reducing incentives, or cultural adaptations. (d) Innovation packages are then aligned with a scaling pathway co-designed with partners to implement and expand their use in broader contexts. (e) Tailored and scaling-ready packages deliver significant societal benefits. (f) Adaptations are made to innovation bundles, packages, and pathways to maximize their impact across various contexts.

Addressing the recognized need for CGIAR to enhance stakeholder engagement, coordination, and empowerment (Palmieri et al., 2024), *Scaling for Impact* will for the first time in CGIAR's history implement robust systems that enable partners to regularly signal their demand and actively contribute to the shaping of CGIAR's Portfolio-wide research and scaling priorities. In response to concerns often raised by CGIAR's donor community and governmental partners, the Program will facilitate Portfolio-wide efforts to mitigate the risks associated with unintentional duplication in research and scaling. In a new CGIAR-wide institutional innovation, *Scaling for Impact* will also introduce robust mechanisms that will facilitate Portfolio-wide learning and improvement through structured and outcome-oriented adaptive management processes, effectively fostering and leveraging synergies across Programs, Accelerators, and bilateral projects engaged in research and scaling. It will support not only promising innovations generated by CGIAR but also those developed by its partners. Building on prioritization and feasibility assessments of stakeholder-demanded innovations, *Scaling for Impact* will collaborate across CGIAR's Portfolio to enhance the research, practice, and delivery of innovation bundling, packaging, and scaling pathway co-design, evaluation, refinement, and amplification ([Figure 2](#)).

Barriers to effective scaling often stem from policy, market, and cultural challenges that must be systematically tackled and overcome to achieve widespread and inclusive impact (Adeniyi et al., 2024; Lecoutere et al., 2024; Minh et al., 2021; Woltering et al., 2019). *Scaling for Impact*



**Figure 2.** The dynamic and adaptive process of innovation scaling embodied by the Scaling for Impact Program. The pink and green wedges highlight the depth and breadth of Scaling for Impact and other CGIAR Programs, ranging from discovery (sphere of control) to adaptive and implementation research (spheres of influence and interest), and ultimately to delivery and impact (sphere of interest). Technological, social, and institutional innovations and evidence and policy support innovations developed by CGIAR and its partners are shown on the left. (1) In AoW-1, the Program identifies and signals stakeholder demand for research and scaling, prioritizing innovations developed by both CGIAR and its partners (either together or independently) through improvements that will be made in CGIAR's innovation portfolio management process. (2) Innovations meeting demand and feasibility criteria generated by CGIAR and its partners are bundled in AoW-2 with input from partners, CGIAR Programs, and AoW-5 and are tailored to specific biophysical and social contexts. Innovations that fail to meet scaling criteria are filtered out and deprioritized, and work focused progressively on higher potential innovations to enhance research cost-effectiveness. (3) AoW-2 works across CGIAR's Portfolio and with partners to increase the accessibility, relevance, and social acceptance of bundled innovations. This process is referred to as "innovation packaging" and may include the integration of socio-technical innovations with bundles. Examples include but are not limited to policy interventions, risk-mitigation incentives, including climate "futureproofing", demand creation and awareness raising systems, behavioral change communication, and/or approaches that ensure innovations are or can be made socially acceptable to women, youth, and underrepresented and marginalized groups. (4) In AoW-2, scaling pathways in agrifood systems are co-designed and evaluated with innovation and scaling partners. This includes action research conducted at scale to assess how innovation packages, delivered through pathways such as public, private, or public-private extension systems, digital tools, business models, value chain adjustments, or improved policies, among many others, can accelerate impact. (5) Transitioning to AoW-3, strategies are developed to avoid trade-offs and unintended negative consequences in scaling. Evidence-based adjustments to enabling environments (e.g., through improved policy, markets, or business plans) are made to improve social inclusion and adoption potential. (6) Across AoW-3 and AoW-4, the Program collaborates with governments, the private sector, financial institutions, NGOs, CBOs, CSOs, and donors to translate research innovations into tangible impact. It also develops novel methods for impact assessment and fosters a culture of learning in AoW-5. (7) As partners gradually assume responsibility for sustaining the scaling processes, the Program will withdraw. Concurrently, new opportunities are expected to emerge that CGIAR and its partners can seize. This process will give rise to new innovations — particularly those developed by CGIAR's partners independently but influenced by the Program's innovation systems and scaling capacity-sharing efforts — that can be reintegrated to enhance innovation development and scaling processes. (8) This dynamic feedback loop, depicted by large and small interacting circular arrows, is anticipated to generate new innovations for reintegration.

will support CGIAR's Programs, Accelerators, and bilateral projects in overcoming obstacles that hinder the scaling of innovations. It will facilitate essential policy adjustments, market

systems changes, and improvements in business and institutional capacity while addressing normative barriers to ensure socially inclusive scaling. At the frontier of CGIAR's scaling efforts, the Program will also enhance enabling environments by unlocking transformative finance from international financial institutions. It will attract and leverage impact and private corporate social responsibility investments to amplify scaling efforts. The Program will also target and cultivate unconventional partnerships with the humanitarian sector and international NGOs that operate at scales significantly larger than CGIAR's current capabilities. Building on these advances, *Scaling for Impact* will connect the dots across CGIAR's Portfolio by facilitating continuous learning through the advancement of scaling science, innovative impact assessment methodologies, and South-South capacity sharing.

### 3. Evidence-based and demand-led prioritization

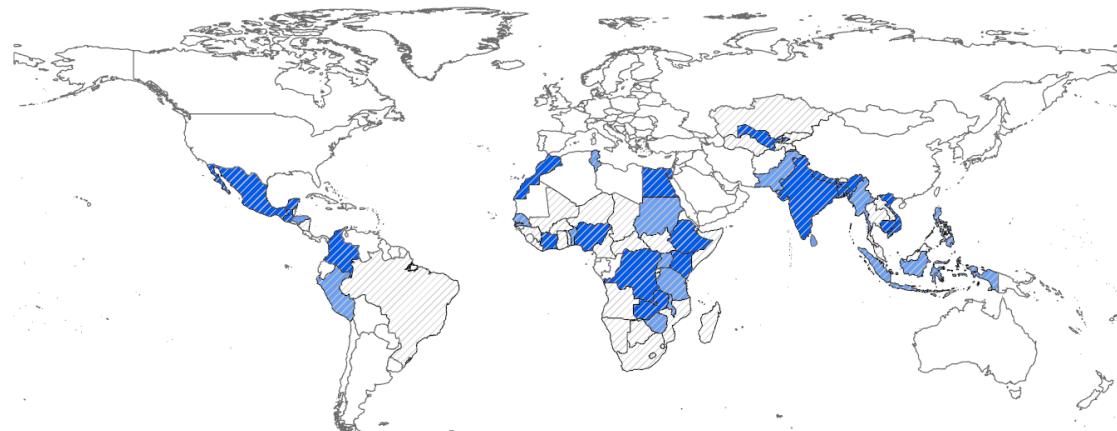
**Approach:** *Scaling for Impact*'s preliminary prioritization process was designed to provoke critical analysis of the geographic distribution of Program activities. It utilized a mixed-method approach, blending quantitative analysis with qualitative assessment. This process was guided by secondary data supplied to the Program by CGIAR and incorporated expert knowledge from CGIAR's Regional Integrated and NPS Initiatives. Principal Component Analysis (PCA), a well-established dimensionality reduction technique (OECD, 2008; Keogh et al., 2021), was employed to produce composite scores for various country-level indicators

provided by CGIAR and linked to its Impact Areas. Indicators were drawn from global datasets and provided information on food and nutrition security, poverty, climate change adaptation, gender equality and social inclusion, and a range of environmental drivers. The analysis also considered enabling environment indicators related to national innovation potential, governance, and market indices. Two additional indicators were incorporated: the number of scaling partners per country reported in CGIAR's [Program and Result Management System](#) (PRMS) and the anticipated future intensity of CGIAR activities, provisionally quantified as the number of 2025–2030 Science Programs expressing interest in conducting research and scaling in each country. The two PCAs were used to provide complex information in a more easy-to-comprehend format. The Program design team then interpreted these data, evaluating the PCA results in a structured process based on CGIAR guidance. This evaluation focused on appropriate levels of continuity and adaptation of relevant research, partnerships, and scaling activities from CGIAR's 2022–2024 Portfolio to achieve the Program's high-level outputs (Appendix 2). Emphasis was placed on existing investments in Initiatives mapped to the Program, particularly in countries with donor-designated funding for 2025.

**Preliminary results:** Based on this initial prioritization, 17 countries were identified as "catalyst countries" with well-established CGIAR and partner innovations from across the Programs for driving scaling and impact efforts ([Figure 3](#)). Catalyst countries include Bangladesh, Cambodia, Colombia, Côte d'Ivoire, Democratic Republic of the Congo, Egypt, Ethiopia, Guatemala, India, Kenya, Mexico, Morocco, Nepal, Nigeria, Uzbekistan, Vietnam, and Zambia (Appendix 3). These countries have a high concentration of ongoing activities from Initiatives integrated into the Program. They are also distinguished by an anticipated high concentration of 2025–2030 CGIAR Program activities, which the *Scaling for Impact* team expects will support opportunities to enhance evidence-based scaling. These countries also either exhibit significant progress toward economic transition or are in a state of transition, making them ideal candidates for scaling efforts.

In addition, 15 countries have been identified as promising "opportunity countries", each offering substantial potential for scaling. These countries are Benin, Honduras, Indonesia, Malawi, Myanmar, Pakistan, Peru, Philippines, Senegal, Sri Lanka, Sudan, Tanzania, Tunisia, Uganda, and Zimbabwe (Appendix 4). In these countries, scaling partners have demonstrated strong demand for CGIAR support, evidenced in part by collaborations and financial contributions from donors to the RIIs. Significant additional investment is needed to unlock impact in these countries in the coming years. Many of these countries also share similar farming systems

and/or market and trade opportunities, with strong connections to catalyst countries, enhancing their scaling potential.



**Figure 3.** Preliminary prioritization of countries within the *Scaling for Impact* Program. Solid blue areas represent "catalyst countries", while light blue areas highlight promising "opportunity countries". Cross-hatched regions indicate the presence of aligned bilateral investments that will receive scaling strategy and technical assistance from the Program. These results are preliminary and will be refined during the Program's inception.

Conversely, countries such as Sudan and Myanmar face significant governance and civil conflict challenges. Despite these issues, they were identified as promising due to the extensive CGIAR activities already under way (particularly through bilateral projects described below) and the new opportunities they present to collaborate with large-scale humanitarian and relief organizations that have requested CGIAR's technical scaling assistance.

**Role of bilateral investments:** Bilateral projects are crucial for scaling. They provide more than financial support by offering targeted opportunities to align CGIAR's research and innovations with international donor investments and national and regional development goals (see Section 14). *Scaling for Impact's* [theory of change \(TOC\)](#) integrates bilateral projects to support accelerated, systemwide impact across multiple geographies. In 2025, 60 projects across 54 countries rank among the top 80% of bilateral projects mapped to the Program. The remaining lifetime value of these projects is \$113M. These investments highlight the leverage potential of bilateral projects to accelerate impact, regardless of a country's preliminary prioritization as a "catalyst" or "opportunity" country. Finally, beyond "catalyst" and "opportunity" countries and as detailed in the TOC, *Scaling for Impact* is dedicated to collaborating with countries and partners where demand exists and is prepared to deploy its expertise to support these efforts.

**Next steps:** The preliminary prioritization and selection of "catalyst" and promising "opportunity" countries will be revised and refined during the Program's inception, with the selection remaining tentative and subject to change until the full prioritization process can be completed in collaboration with all CGIAR's Programs. In addition, this Program's areas of work and activities may vary in intensity across selected geographies or follow a staggered implementation approach to ensure appropriate levels of 2022–2024 Portfolio continuity and to address strategic Program start-up needs. After September 2024, *Scaling for Impact* will review and consolidate the prioritization exercises carried out by other Programs, including the methods used and the enabling environment factors considered. It will also engage in strategic discussions with a wider group of stakeholders, including Science Programs, funders, and other stakeholders, to further refine and align the Program's geographic scope.

#### 4. Comparative advantage

Comparative advantage analysis allows CGIAR to focus its efforts on areas where it excels and can achieve significant impact while identifying when, where, and with whom to partner (ISDC, 2022b). This section summarizes *Scaling for Impact's* preliminary comparative advantage analysis; more detailed initial results with descriptions of the Program's high-level outputs

(OPs) are presented in Appendix 5. This first-step comparative advantage analysis considers the diverse set of inputs required to deliver its OPs. These inputs can be categorized as (i) incentives/mandates, (ii) human/experiential capital, (iii) social/political capital, and (iv) biophysical/financial/locational capital (ISDC, 2022a), each of which needs to be considered and contrasted with alternative partners and service providers to identify where the Program's comparative advantage lies.

**Partner typologies and their sources of comparative advantage:** A selection of partner and alternative service provider typologies is presented below. Of importance are **governments, regional and subregional organizations (SROs)** and **NARES**, which offer legitimacy, localized knowledge, networks, financial capital, and delivery capacity, and **advanced research institutes** (ARIs), which provide international research perspectives and advanced methodologies. Close collaboration with **CBOs** and **CSOs** will also be essential because they have sources of comparative advantage in knowledge and understanding of local contexts, values, and norms relevant to scaling, as well as access to local partnership networks. **Private-sector investors**, including impact investors, corporate social responsibility funders, and international finance institutions (**IFIs**), provide crucial monetary capital and expertise in financial, legal, and institutional frameworks for large- and medium-scale scaling investments, while international development organizations (**IDOs**), which maintain commitment to humanitarian goals and to the SDGs, are specialized in development operations and maintain important partnerships and networks. **Private firms** mobilize and incentivize stakeholders, particularly individual actors (including farmers and consumers) and small- and medium-scale enterprises (SMEs). **UN agencies** offer a combination of global legitimacy, technical expertise, delivery, and well-established government connections.

**Initial comparative advantage results:** Preliminary analysis suggests that *Scaling for Impact* sources of comparative advantage stem from its planned work to institutionalize stakeholder engagement and demand to inform CGIAR's research and scaling priorities and to support adaptive management across CGIAR's Portfolio (**OP-1.1** to **OP-1.3**). This source of comparative advantage arises from robust stakeholder relationships and effective regional and national coordination, notably through planned integration of CGIAR country conveners and Center and regional leadership teams, supported by long-term, in-country presence. During the 2025–2030 Portfolio, *Scaling for Impact* will have a mandate to integrate and support scaling efforts across CGIAR, further underscoring its internal basis for comparative advantage. *Scaling for Impact* however recognizes the need for clearer governance principles and processes to support cooperation and synergies among Programs.

As part of the world's largest international agricultural research consortium, *Scaling for Impact* uniquely engages in, and studies, the process and practice of scaling agrifood innovations across diverse systems, which is essential for **OP-2.1** to **OP-2.4**. CGIAR's scaling science mandate and experience, extensive multistakeholder networks and scaling hubs established by CGIAR Centers, RIIs, and NPS and other Initiatives are also supportive sources of comparative advantage. These networks, cultivated particularly by the RIIs and integrated into the Program, have also been previously recognized as a potential source of CGIAR's comparative advantage, offering platforms that connect global research functions with local partners (ISDC, 2022b). Internally, many CGIAR Centers and Science Programs are expected to have sources of comparative advantage in creating agrifood innovations for the public- and private-sector domains; rather than compete with them, *Scaling for Impact* will therefore partner and synergize with them.

CGIAR's global and local expertise, decades of in-country policy presence, and a track record in enabling scaling research (e.g., through bilateral projects such as Accelerating Impacts of CGIAR Climate Research in Africa [[AICCRA](#)], Southern Africa Accelerated Innovation Delivery Initiative [[AID-I](#)], Cereal Systems Initiative for South Asia [[CSISA](#)], Sustainable Modernization of Traditional Agriculture [[MasAgro](#)], and Water and Energy for Food [[WE4F](#)]) provide sources of comparative advantage for the Program's **AoW-3, Enabling Environment Lab**. They are crucial for **OP-3.1** to **OP-3.3**. While UN organizations and other policy advocacy organiza-

tions hold comparative advantage in delivering policy outcomes through their integration with governments, their links to science-based and multistakeholder approaches to strengthening enabling environments for innovation scaling (particularly with the private sector, NARES, and ARIs) tend to be weaker than those of CGIAR, including activities envisioned in *Scaling for Impact*.

*Scaling for Impact* will work to unlock transformative international finance, impact investments, and non-traditional partnerships to amplify the impact of food, land, and water systems innovations for the public benefit (**OP-4.1** to **OP-4.3**). Preliminary analysis suggests that the Program's potential sources of advantage come in part from existing experience collaborating with multilateral banks, their projects, and financial organizations (e.g., through AICCRA, the CGIAR Hub for Sustainable Finance [[ImpactSF](#)], Technologies for African Agricultural Transformation [[TAAT](#)]), the Regional Resilient Rice Value Chains Development Program [[REWARD](#)]) and from close relationships with governments. While other organizations — particularly the UN and large, longstanding development programs and organizations — may have similar sources of comparative advantage, *Scaling for Impact*'s strength is anticipated to be more uniquely derived from an ability to match demand with scaling-ready agrifood innovations, which will be curated in a global CGIAR clearinghouse (**OP-4.1**) supported by innovation portfolio management principles unique to CGIAR and the Program (Schut et al., 2024). *Scaling for Impact* will leverage [IPSR](#) to facilitate a filtering process from innovation development to scaling, focusing efforts on fewer, higher impact agrifood innovations, thereby reducing research inefficiencies and increasing impact. Through **OP-4.1**, *Scaling for Impact* will provide tailored technical expertise in designing large public and private investments. While UN organizations may have units focused on science and innovation, no other global science organization currently matches evidence-based food, land, and water systems innovations with transformative investment at this scale. However, IFIs, the private sector, and governments hold strong sources of comparative advantage in offering capital and expertise in the financial, legal, and institutional frameworks required for large-scale investments. As such, *Scaling for Impact* will partner closely with these change-agents to amplify its comparative advantage.

*Scaling for Impact*'s expertise, networks, and experience in scaling capacity needs assessment and sharing (Wigboldus et al., 2022) have been provisionally identified as sources of comparative advantage in fostering continuous learning in scaling science, innovation portfolio management (Schut et al., 2024), and scaling capacity sharing (**OP-5.1** to **OP-5.4**). This source of comparative advantage derives from transdisciplinary expertise, experience linking research to scaling implementation, and access to local knowledge from six regions that can be leveraged into a global scaling agenda. CGIAR's long-term social research relevant for impact assessment is also crucial. The Program will partner closely with the CGIAR's Standing Panel on Impact Assessment ([SPIA](#)) for alignment with SPIA's research agenda and technical backstopping support (**AoW-5, Learning for Impact**). ARIs also possess some research advantages in impact assessment; for this reason, *Scaling for Impact* will partner with relevant universities.

In summary, new partnerships with IFIs, UN agencies, and IDOs, and new engagement models with governments (particularly NARES) and the private sector, as well as CBOs and CSOs, are required for producing *Scaling for Impact*'s OPs. It is important to note that *Scaling for Impact* will not serve as CGIAR's delivery service provider; nor will it be the sole scaling arm of CGIAR. Rather, the Program will apply the science of scaling and rely on CGIAR's Portfolio — its Programs, Accelerators, and bilateral projects — that embrace scaling partners to drive innovations into large-scale use. Internally, it will be crucial for the Program to fully leverage CGIAR country conveners and CGIAR (regional) leadership while making use of CGIAR Centers and Science Programs' comparative advantage in creating innovations for public benefit.

## 5. Program-level theory of change

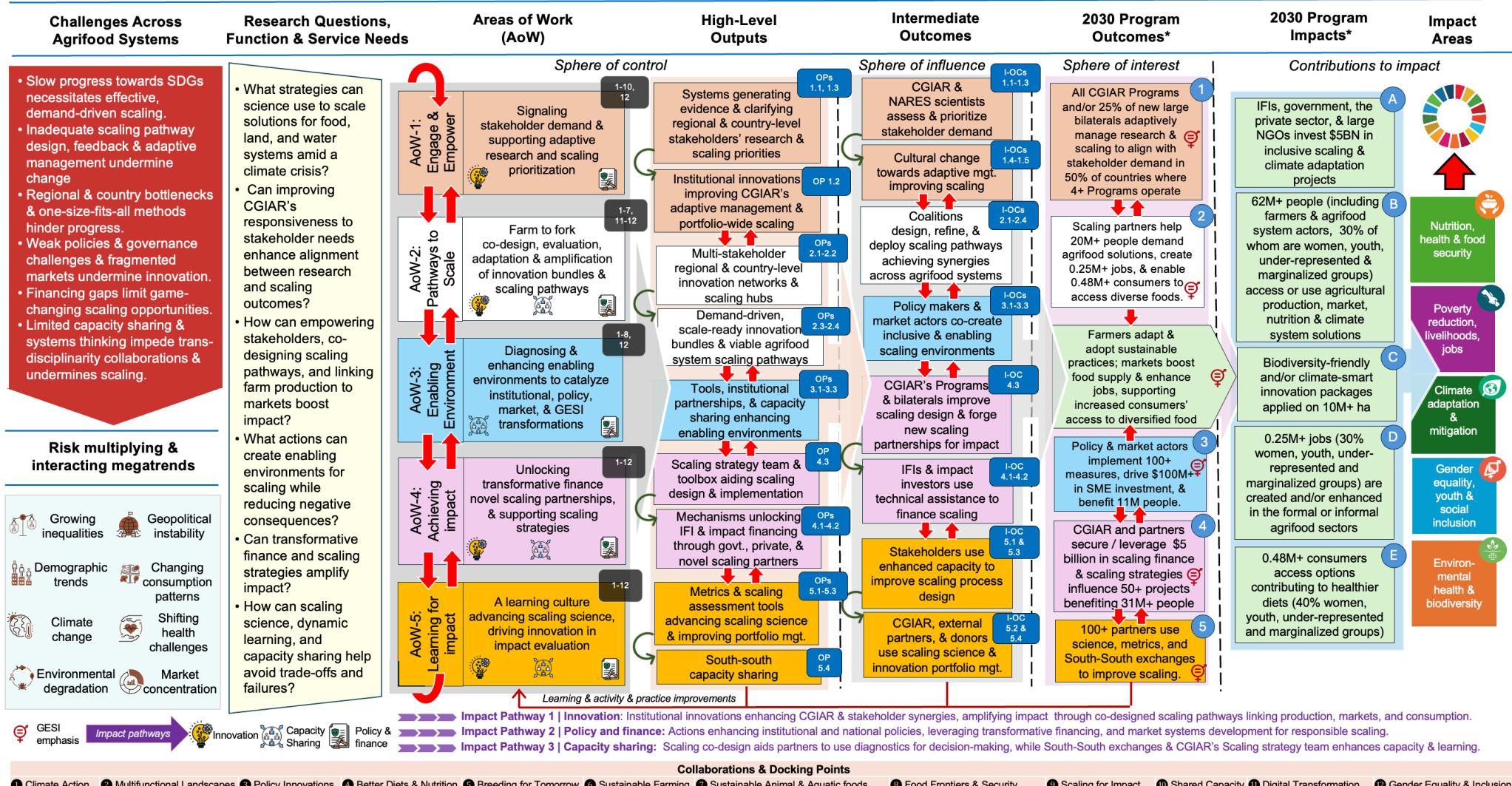
**Megatrends and challenges:** As an integrator of CGIAR's research and scaling efforts, *Scaling for Impact* addresses coordination and efficiency obstacles internal to the Portfolio of Programs, Accelerators, and bilateral projects, while working to overcome multiple megatrends — particularly inequality, marginalization, demographic shifts, climate change, market concentration and instability, and unhealthy diets — that impede agrifood systems science from generating widespread benefits in lower and middle-income countries (ISDC, 2023). These megatrends also hinder progress toward the SDGs. *Scaling for Impact's TOC* integrates CGIAR's research and scaling efforts, overcoming coordination barriers between Programs, bilateral projects, and partners and advancing progress in CGIAR's Impact Areas and the SDGs ([Figure 4](#)).

**Research questions:** *Scaling for Impact* asks: **(i)** Given that catalytic partnerships are crucial for scaling (Kalas, 2019), what strategies can CGIAR's Programs, Accelerators, and bilateral projects and its partners employ to develop and scale innovative solutions for food, land, and water systems challenges during a climate crisis? **(ii)** Does enhancing CGIAR's internal coordination and responsiveness to stakeholder demand improve the alignment of research with scaling outcomes? **(iii)** Can co-designing and evaluating scaling pathways that connect farm production to markets and consumers enhance research outcomes and scaling impact? **(iv)** What actions can create enabling environments for scaling while minimizing unintended negative consequences, particularly for marginalized groups and the environment? **(v)** How can transformative finance and scaling strategies be leveraged to maximize impact? **(vi)** How can CGIAR reconfigure its innovation approaches to promote dynamic learning and capacity sharing that enhances impact while reducing trade-offs and the risk of scaling failures?

**Assumptions:** In addressing these critical questions, *Scaling for Impact* is designed to test the following assumptions in different regions, countries, and scaling contexts. **(i)** If research is demand-driven and adaptively managed, and scaling is seamlessly integrated into agrifood systems science, then food and nutrition security, poverty reduction, gender inclusion, and climate adaptation and mitigation will be improved while minimizing environmental and social externalities. **(ii)** If CGIAR implements mechanisms to systematize and respond to the publicly stated demands of stakeholders (including governments, NARES, ARIs, CBOs, SROs, CSOs, IFIs, IDOs, UN agencies, private firms, and investors) and integrates them into the co-design, evaluation, adaptation, and amplification of innovation bundles and scaling pathways, then the impact of CGIAR's research and scaling efforts will be enhanced. **(iii)** If South-South scaling capacity sharing is elevated, then the impact of CGIAR's research and scaling efforts will be improved. **(iv)** If an agrifood systems approach is applied that links farm production through value chains to markets, food environments, and consumers, then food, land, and water system scaling outcomes will be improved. **(v)** If policy, market, and business enabling environments are strengthened to overcome scaling challenges and to address gender equality and social inclusion, then unintended negative consequences can be reduced and scaling efforts made more successful. **(vi)** If transformative finance is leveraged and combined with well-designed scaling strategies, then the impact of scaling efforts will be amplified.

**Impact pathways:** Addressing CGIAR's Impact Areas, *Scaling for Impact* aligns with CGIAR's three impact pathways: Innovation, Policy, and Capacity Sharing (CGIAR, 2021). The Program **(i)** will assist CGIAR and its partners in co-developing and evaluating innovation bundles, packages, and scaling and intervention sequencing pathways that integrate production, markets, and consumption while achieving socially inclusive and environmental goals. It will work through multiple institutional **(ii)** policy pathways that will **(a)** enhance CGIAR's internal procedures for adaptive research and scaling management, including but not limited to CGIAR's [annual pause and reflect process](#) commenced during the 2022–2024 Portfolio, and **(b)** support external partners in developing policies that advance gender equality and social inclusion (GESI). *Scaling for Impact* will also **(c)** support the navigation of institutional policies and partnerships to unlock transformative financing. Policy actions will also advance equitable market systems for responsible scaling. Additionally, the Program **(iii)** will emphasize locally

## Program-wide Theory of Change: Scaling for Impact



\* Targets will be refined during inception. Figures are expected to increase as the Program integrates and co-reports contributions from supported Programs.. Assumptions and partner types are described in [Appendix-6](#)

**Figure 4. Scaling for Impact's Program-level theory of change** (please find the high-resolution TOC [here](#) and details on assumptions and partners [here](#)). Please note the color consistency that links Area of Work, High-level Outputs, Intermediate Outcomes, and 2030 Program Outcomes and Impacts. Collaboration and docking points with other Programs and Accelerators are indicated in black boxes; Output, Outcome, and Impact numbers are indicated in blue rectangles or circles and correspond to this Proposal's text.

led innovation systems and capacity sharing through inclusive learning, improved use of scaling diagnostics by scientists and partners, and South-South scaling learning exchanges.

**2030 Program impacts:** *Scaling for Impact* will create the conditions needed across CGIAR's Portfolio in regions and prioritized countries (Section 3) to bring about the following impacts (Appendix 6). **(a)** IFIs, governments, private companies, and large NGOs are expected to invest in and mobilize \$5BN+ in inclusive scaling and climate adaptation projects that the Program will advise; these actions will facilitate **(b)** 62M+ people (including farmers and agrifood system actors, 30% of whom are women, youth, underrepresented and marginalized groups, hereafter referred to as "marginalized groups") to access or use agricultural production, market, nutrition, and climate system solutions. **(c)** Biodiversity-friendly and/or climate-smart innovation packages will be applied on 10M+ ha; **(d)** 0.25M+ jobs (30% from marginalized groups) are anticipated to be created and/or enhanced in the formal or informal agrifood sectors; **(e)** 0.48M+ consumers (40% from marginalized groups) will be supported to access options contributing to healthier diets (see Appendix 7 for details on how impact targets have been calculated). These figures are also expected to increase as the Program integrates and co-reports contributions from the other CGIAR Programs and bilateral projects it will integrate and support. Achieving these 2030 Program Impacts will require an average annual investment representing an ambition of \$44.98M with a 15% increase for each year from 2025 forward from pooled Windows 1 and 2 Funds. Upward adjustments to impact targets will be made once investments are clarified and collaborations with other Science Programs and bilateral projects are advanced.

**2030 Program outcomes:** The above impacts are reached through five Program outcomes that will catalyze and align CGIAR's Portfolio and its partners' actions to encourage farmers to adopt sustainable practices, to boost food supply and job creation, and to ensure more equitable access by consumers to diverse, healthy foods: **(1)** all CGIAR Programs and/or 25% of new large bilateral projects will adaptively manage innovation development and scaling to align with stakeholder demand in 50% of countries where 4+ Programs operate; **(2)** through the actions of scaling partners, 20M+ people are anticipated to be able to access agrifood solutions. Working through value chain actors, public and private partners will be supported to create 0.25M+ jobs and enable 0.48M+ consumers to access diverse foods; Program activities will build enabling environments that position **(3)** policy and market actors to implement 100+ new policies or policy adjustments and/or market interventions, driving \$100M+ in investment in scaling activities, ultimately benefiting 11M agrifood participants. The Program will engage with IFIs and impact investors such that **(4)** \$5BN will be secured and/or leveraged to support scaling projects implemented by partners. These efforts will be supported by the development of improved scaling strategies expected to influence 50+ projects benefiting 31M+ people. **(5)** 100+ partners will be supported in applying innovation portfolio management, and impact assessments. South-South and North-South learning exchanges will advance progress toward these outcomes.

**Intermediate outcomes:** Intermediate outcomes: Although not directly controlled by the Program, intermediate outcomes (**I-OCs**) are within its sphere of influence. These include CGIAR and NARES scientists assessing stakeholder demands (**I-OC1.1** to **I-OC1.3**) and CGIAR using this information to enhance research and scaling (**I-OC4.1** to **I-OC4.5**). Stakeholder coalitions will design and implement scaling pathways (**I-OC2.1** to **I-OC2.4**), while policymakers and market actors co-create enabling environments (**I-OC3.1** to **I-OC3.3**). CGIAR will support IFIs and impact investors in applying scaling strategies (**I-OC4.1** to **I-OC4.2**) and improve scaling design through Programs and bilateral projects (**I-OC4.3**). Scaling science, impact assessment, and innovation portfolio management will be improved (**I-OC5.1** to **I-OC5.3**).

**Areas of work:** *Scaling for impact* has five interlinked areas of work (Sections 2.2, 2.3, and 6) tailored to the Program's research questions. **AoW-1, Engage and Empower**, focuses on understanding stakeholder demand and using this demand to inform adaptive research activities and scaling priorities across CGIAR's Portfolio. **AoW-2, Pathways to Scale**, involves co-

designing and refining innovation bundles, packages, and scaling pathways. **AoW-3, Enabling Environment Lab**, improves conditions for scaling through institutional, policy, market, and GESI transformations. **AoW-4, Achieving Impact**, unlocks IFI, impact investor, and corporate social responsibility finance. It helps investors to improve their scaling projects through improved integration of comprehensive scaling strategies. Finally, **AoW-5, Learning for Impact**, fosters a learning culture based on monitoring, evaluation, learning, and impact assessment (MELIA) that enhances scaling science and innovation in impact assessment processes.

**High-level outputs:** *Scaling for Impact* will generate OPs that interact with each other and can be summarized as follows. Mechanisms to synthesize stakeholders' food, land, and water system priorities linked to the development of regional and country-level strategies enhance Portfolio-wide research prioritization, scaling coordination, and policy alignment (**OP-1.1** and **OP-1.3**), and institutional innovations improving CGIAR's adaptive management of its research Portfolio and scaling capabilities (**OP-1.2**). **OP-2.1** to **OP-2.4** support regional and country-level innovation networks and scaling hubs to connect demand-driven innovation bundles to scaling pathways. Tools, institutional partnerships, and capacity sharing mechanisms enhancing enabling environments are produced by **OP-3.1** to **OP-3.3**. Mechanisms for unlocking IFI and impact financing, as well as scaling strategy support, result from **OP-4.1** to **OP-4.3**. Metrics and scaling assessment tools advancing scaling science and innovation portfolio management are covered by **OP-5.1** to **OP-5.3**, while South-South capacity sharing is addressed by **OP-5.4**.

## 6. Areas of Work

*Scaling for Impact*'s first three areas of work build on the foundations laid by the RIIs and NPS, while the latter two introduce exciting new scaling activities. All areas of work will draw on CGIAR's extensive experience in scaling programs and strong established partnership networks, including Sustainably Growing Africa's Food Systems ([AGRA](#)), [ASEAN-CGIAR](#) Innovate for Food and Nutrition Security Regional Program, CSISA, Latin American Fund for Irrigated Rice ([FLAR](#)), [GFAiR](#), advancements in biofortification scaling by [HarvestPlus](#) and [HarvestPlus Solutions](#), the Pan-African Bean Research Alliance ([PABRA](#)), and Development Smart Innovation through Research in Agriculture ([DeSIRA](#)), among many others.

### 6.1 Area of Work 1: Engage and Empower

#### Challenges

CGIAR is the world's largest publicly funded group of agrifood systems research Centers that operates as a global research partnership aimed at a food- and nutrition-secure future. More than 9,000 CGIAR staff work in more than 80 countries alongside more than 3,000 partners. The complexity of this operational environment presents an enormous challenge to ensuring that the CGIAR Portfolio of research and innovations meets national stakeholder priorities and that the numerous innovations generated by research can be prioritized and scaled-up, -out and -deep (Wigboldus & Brouwers, 2016) in ways that ensure the best chance of achieving large-scale impacts across CGIAR's five Impact Areas.

Given this complexity, it is essential to embed research and scaling activities within regional, national, and local innovation systems that foster transformative collaborations. This involves co-designing and executing research with partners, leveraging their expertise and resources, and promoting the co-development of innovative solutions tailored to contextual needs (Kalas, 2019; Schut et al., 2020). When research and scaling aligns with stakeholder needs and priorities, gaps between research, successful adaptation and adoption, and sustained use of innovations close (Wani et al., 2022). Multistakeholder partnerships can drive innovation, foster policy development, and create conditions that turn research outputs into impactful actions, especially when embedded in public and private agricultural development and extension networks and linked to large-scale development investments (Schut et al., 2018; Minh et

al., 2023). CGIAR's efforts to formally engage and systematically consult its diverse partners, exemplified by its 2024 stakeholder listening sessions in 32 countries, are in early stages.

To effectively address these complexities and drive impactful change, key challenges facing CGIAR's efforts to drive durable and socially inclusive change include: **(i)** insufficient "pulse-checking" and systematic stakeholder demand data collection, which impedes the rigorous identification and articulation of stakeholder priorities for research and innovation. This is compounded by suboptimal alignment of research demand with assessments of scaling feasibility and potential impact. **(ii)** Even when stakeholder demands are recognized, they may not be adequately prioritized as sources of capital to support CGIAR's comparative advantage in research and scaling efforts. Opportunities to co-create research, innovation, and scaling processes with partners exist within CGIAR's ecosystem but may be applied in a fragmented manner, limiting their potential for transformative change. CGIAR's effectiveness could be improved by aligning research supply with stakeholder demands and employing adaptive portfolio management to refine research and scaling processes, avoiding unproductive and expensive research and scaling pathways while capitalizing on emerging opportunities. Lastly, **(iii)** although progress is being made in improving CGIAR's engagement with demand, innovation, and scaling partners, regional- and country-specific strategies are required to better align research and scaling with stakeholder priorities and prevent unintentional duplication across the Portfolio.

## Ambition

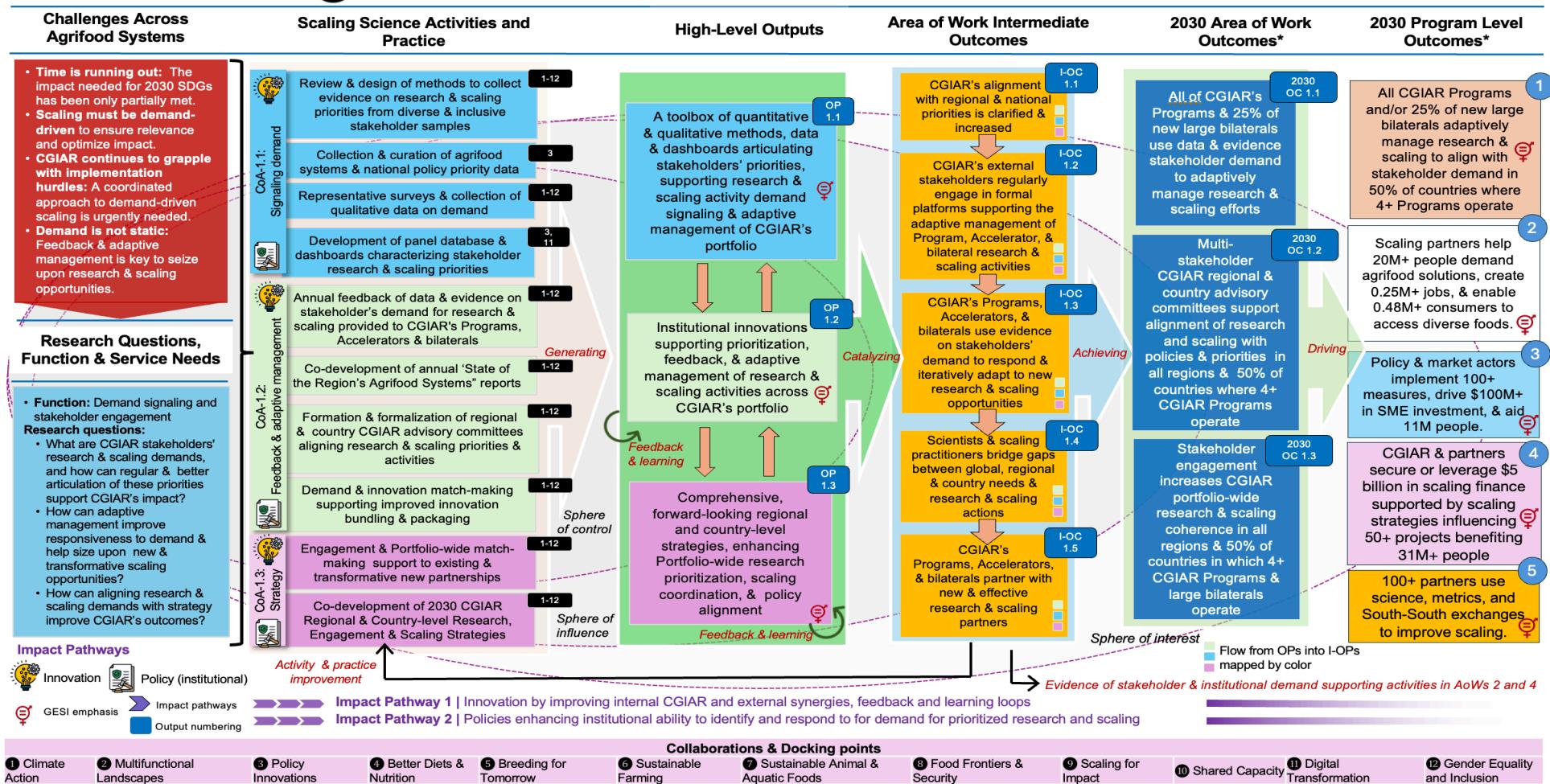
**AoW-1, Engage and Empower**, confronts these challenges head on. Responding to requests for better Portfolio-wide and country-level coordination during CGIAR's 2024 listening sessions in 32 countries, this Area of Work will **(i)** transform CGIAR's approach to partner engagement, research portfolio management, and scaling for impact through coordinated responses to stakeholders' priorities. In doing so, **AoW-1** will emphasize the needs of marginalized groups that may be neglected during less systematic research and scaling prioritization processes. **(ii)** **AoW-1** will also provide integrative research and service functions supporting the entirety of the CGIAR Portfolio, encompassing its Science Programs, Accelerators, and bilateral projects and reducing unintentional duplication across the Portfolio. Supporting CGIAR Portfolio-wide adaptive management, *Engage and Empower* will serve as a beacon for demand signaling and activity (re)prioritization to improve the potential for research to reach impact. Finally, **(iii) AoW-1** will enhance CGIAR stakeholder engagement by aligning research and scaling with national priorities, developing regional- and country-specific strategies ([Figure 5](#)).

## Outcomes

The *Engage and Empower* Area of Work will build on multistakeholder convergence functions of CGIAR's RIIs and NPS Initiative to advance CGIAR's five Impact Areas. **AoW-1** will focus on two impact pathways: **(i)** enhancing internal and external synergies, feedback, and learning loops; and **(ii)** strengthening CGIAR's procedures, as well as stakeholders' institutional capacities to meet demand for prioritized responsible scaling, while addressing innovation user diversity, power imbalances, and decision-making processes. The achievement of *Scaling for Impact*'s Program-level outcomes will be supported by three 2030 Area of Work outcomes delivered through these impact pathways (Appendix 8). These include: CGIAR's Programs and Accelerators and 25% of new large bilateral projects will use data and evidence on stakeholder demand to inform adaptive management of research and scaling activities (**2030 OC-1.1**). Additionally, multistakeholder CGIAR regional and country advisory committees will support the alignment of research and scaling with national priorities in all regions and 50% of countries where four Programs or Accelerators operate (**2030 OC-1.2**). Finally, these processes will increase CGIAR Portfolio-wide research and scaling coherence in these geographies (**2030 OC-1.2**).



## Theory of Change for Area of Work 1: Engage and Empower



\* Targets will be refined during inception. Figures are expected to increase as the Program integrates and co-reports contributions from supported Programs. Assumptions and partner types are described in [Appendix 8](#).

**Figure 5. Area of Work 1, Engage and Empower** (Please find the high-resolution TOC [here](#) and details on assumptions and partners [here](#)). Please note the color consistency that links Cluster of Activity Scaling Science Activities and Practice, Area of Work High-Level Outputs, Area of Work Intermediate Outcomes, and 2030 Area of Work Program Outcomes and Impacts. Where colors do not correspond, it indicates that multiple Clusters of Activities contribute to Area of Work 2030 Outcomes. Collaboration and docking points with other Programs and Accelerators are indicated in black boxes; Output, Outcome, and Impact numbers are indicated in blue rectangles or circles and correspond to this Proposal's text.

These results will flow from the interaction of intermediate outcomes (**I-OCs**): improved alignment of CGIAR's activities with regional and national priorities (**I-OC-1.1**) and Portfolio-wide adaptive scaling management (**I-OC-1.2**), and increased ability of CGIAR and its partners to seize upon new scaling opportunities (**I-OC-1.3**). These outcomes will bridge gaps between research and scaling (**I-OC-1.4**) and enhanced collaboration with scaling partners (**I-OC-1.5**).

### Research questions / functions / services

The *Engage and Empower* Area of Work (**AoW-1**) will embed CGIAR in regional and national innovation systems through three interacting clusters of activities (CoAs) that address a set of interlinked research questions while providing functions and services to CGIAR. *Engage and Empower* asks: **(i)** What are the research and scaling demands of CGIAR's stakeholders and how can improved articulation of these stakeholder priorities support CGIAR's Portfolio-wide objectives? **(ii)** In addressing these demands, how can adaptive management improve CGIAR's responsiveness to demand and ability to more effectively seize upon new scaling opportunities? **(iii)** How can aligning research and scaling demands with strategy enhance CGIAR's outcomes?

In response, the *Signaling Stakeholder Research Demands and Scaling Ambitions* cluster of activities (**CoA-1.1**) will collect and broadcast robust, representative, and socially inclusive evidence, articulating stakeholder demand for research and scaling priorities at regional and country levels. The *Feedback Informing Adaptive Management* and *Engaged Strategy* clusters of activities (**CoA-1.2** and **CoA-1.3**) will produce institutional innovations in coordination with CGIAR's Portfolio and its Portfolio Performance (PPU) and Program Coordination (PCU) units, including the establishment of regional and country-level CGIAR advisory committees and systems that support Portfolio-wide adaptive management of Programs, Accelerators, and bilateral projects (the latter where possible, depending on bilateral project structures and donors' activity, management, and reporting processes). This encompasses technical support, partner-brokering, and innovation matchmaking for CGIAR's Programs, Accelerators, and bilateral projects throughout their annual work planning and activity refinement processes. **CoA-1.3** will also develop regional- and country-level engagement and research and scaling prioritization strategies, partnership frameworks, and country-specific TOC enhancing coordination and aligning research and scaling demands. By enhancing CGIAR inter-Program cooperation and governance, the *Engage and Empower* Area of Work (**AoW-1**) will complement other Science Programs and external service providers by directly supporting stakeholder demand articulation, engagement, strategy, and adaptive management across the Portfolio.

### CoA-1.1: Signaling Stakeholder Research Demands and Scaling Ambitions

The *Signaling Stakeholder Research Demands and Scaling Ambitions* cluster of activities (**CoA-1.1**) will investigate the research and scaling demands of CGIAR's stakeholders. In response to recommendations from CGIAR's Independent Advisory and Evaluation Service (Palmieri et al., 2024), **CoA-1.1** will collaborate with CGIAR's country conveners to explore how regularly articulating these demands as a source of information for adaptive portfolio management can enhance CGIAR's effectiveness. **CoA-1.1** will develop a toolbox of methods, data, and dashboards to support the collection and sharing of multistakeholder demand data and to inform the adaptive management of CGIAR's 2030 Portfolio (**OP-1.1**). **CoA-1.1** will **(i)** conduct an inventory of participatory stakeholder engagement and demand solicitation methods to inform research and scaling priority data collection. **(ii)** It will co-design and deploy quantitative panel surveys of stakeholder organizations to capture a representative sample of current and new CGIAR stakeholder groups, with modules emphasizing marginalized groups, and with qualitative focus group and key informant demand solicitation methods to provide deeper engagement on critical issues. It will combine both formal engagement methods and bilateral engagements with IFIs and other strategic partners leveraging longstanding partnerships built on CGIAR's neutral scientific convening power and trust. **(iii)** Working closely with CGIAR's Policy Innovations Program and *Enabling Environment* Area of Work (**AoW-3**), **CoA-1.1** will curate an inventory of regional and national

institutional programs and agrifood systems-related policies. **(iv)** Responding to calls to provide systematic evidence on knowledge gaps in agrifood systems across the production-to-consumption continuum (Marshall et al., 2021), **CoA-1.1** will provide evidence on regional and national research and scaling gaps through [integrated agrifood systems surveys](#) (Gupta et al., 2022) and other methods. **(v)** Collaborating with CGIAR's Digital Transformation Accelerator, **AoW-1** will explore representing these data in dashboards detailing stakeholder demand and research priorities. These activities, linked to **AoW-2**'s scaling pathways and **AoW-3**'s policy improvements through innovative partnerships, will refine research and scaling priorities and support the adaptive management work of **CoA-1.2**.

### **CoA-1.2: Feedback Informing Adaptive Management**

Building on data from **CoA-1.1**, the *Feedback Informing Adaptive Management* cluster of activities (**CoA-1.2**) will generate institutional innovations to enhance responsiveness to stakeholder demands by improving CGIAR's internal and external collaborations. While CGIAR scientists currently use an annual "pause and reflect" process to refine their plans for work supported by Windows 1 and 2 of the CGIAR Trust Fund, the methodology for this process is applied variably and may inadequately integrate stakeholder input. Current pause and reflect processes also do not consider how to align bilateral activities that could offer economies of scale across CGIAR's Portfolio. In response, **CoA-1.2** will develop innovations to support feedback integration, improved prioritization, and adaptive planning of research and scaling activities across CGIAR's Portfolio (**OP-1.2**). **CoA-1.2** will **(i)** formalize approaches to strengthen CGIAR internal and external communication, coordination, and cooperation in integrating research and scaling practices. It will develop systems to provide CGIAR's Portfolio and key scaling partners and donors with annual feedback from **CoA-1.2**. This will foster dialogue, learning, and collaboration to support iterative co-design and reprioritization of research and scaling activities during the "pause and reflect" process.

Based on work pioneered by CGIAR's RIIs and data from **CoA-1.1**, **CoA-1.2** will **(ii)** generate biennial indicator-based "State of the Region's Agrifood Systems" reports for key CGIAR regions, highlighting emerging research needs from production through markets and value chains and to consumption and linking them to scaling priorities and partnerships actionable by CGIAR's Portfolio. **CoA-1.2** will also **(iii)** formalize country-level advisory committees of stakeholders, coordinated by CGIAR's country conveners, to empower participation, enable dialogue, and facilitate iterative reprioritization of research and scaling. These efforts will **(iv)** connect the dots between stakeholder demand, research, and scaling opportunities, improve innovation bundling and scaling across CGIAR's Portfolio, and coordinate the Portfolio's country-level research and engagement activities (**OP-1.3**).

### **CoA-1.3: Engaged Strategy**

Supporting feedback processes in **CoA-1.2**, the *Engaged Strategy* cluster of activities (**CoA-1.3**) will align research and scaling demands with regional and national policy priorities to boost outcomes and impact. Effective coordination across CGIAR Centers and Programs is essential to better aligning research with scaling, enhancing Portfolio synergies, and tailoring CGIAR's work to regional and national needs. Regional and country-level strategies boost stakeholder engagement and policy influence, affecting external resourcing by addressing relevant topics. Additionally, tailored TOC that consider innovation system complexity can prevent linear thinking failures and improve research-to-impact pathways (Douthwaite & Hoffecker, 2017). This can also help identify levers to build more enabling environments (linked to **AoW-4**, *Achieving Impact*) and improve monitoring, evaluation, and learning (linked to **AoW-5**, *Learning for Impact*).

The *Engaged Strategy* cluster of activities (**CoA-1.3**) will generate comprehensive and forward-looking regional and country-level strategies, enhancing Portfolio-wide research prioritization scaling coordination and policy alignment (**OP-1.3**). This will be achieved by **(i)** supporting ongoing engagement, scientific diplomacy, and scaling partner coordination at regional and country

levels through and with CGIAR country conveners and by matchmaking between existing and new research and scaling partners with CGIAR's Portfolio. In particular, **CoA-1.3** will identify potential collaborations with new and non-traditional partners (e.g., humanitarian and consumer advocacy organizations, health institutes, and indigenous organizations) to bridge research and scaling impact gaps. It will also **(ii)** co-develop 2030 CGIAR regional and country-level engagement and scaling strategies, including theories of change to support Portfolio-level implementation (Sartas et al., 2020; Wigboldus & Brouwers, 2016).

## 6.2 Area of Work 2: Pathways to Scale in Agrifood Systems

### Challenges

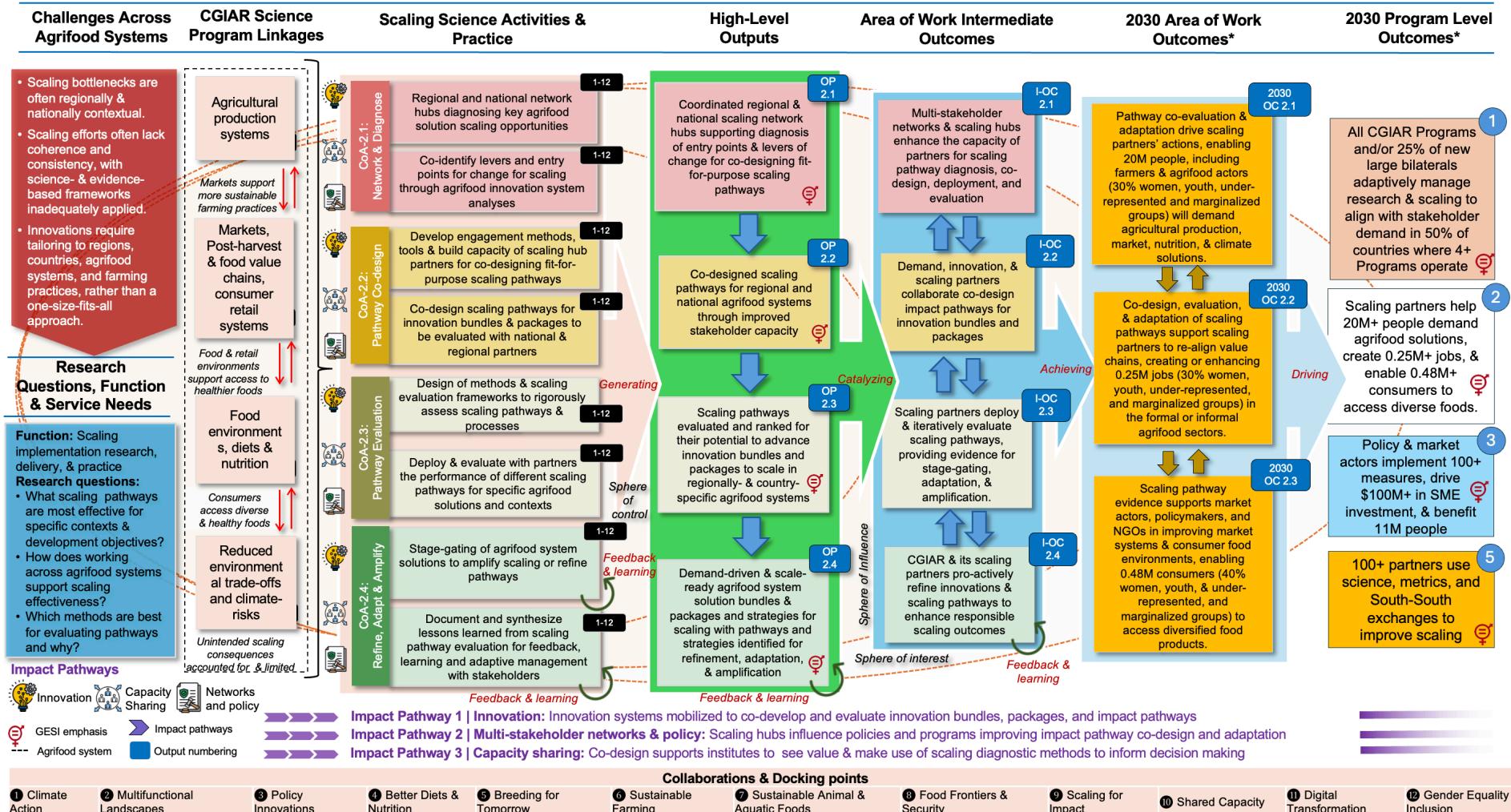
While agricultural research and development has made substantial progress in addressing agrifood system challenges, many "solutions" fail to scale or to achieve desired impacts (Shilomboleni et al., 2019; Woltering et al., 2019). This is due to factors such as **(i)** poor innovation design and/or lack of co-design and **(ii)** inadequate innovation bundle and package tailoring and consideration of power dynamics affecting social inclusion. Rather than testing innovations with small groups in pilot projects that don't take a systems approach, researchers can and should explore how innovations can be bundled and packaged and evaluated at scale (Woltering et al., 2019). **(iii)** Insufficient efforts to co-design, rigorously evaluate, and document the factors affecting effectiveness, especially considering the structural inequalities hindering access by marginalized groups to the benefits of science and technology, are major challenges (Abate et al., 2023; Sartas et al., 2020; Wigboldus & Brouwers, 2016; Woltering et al., 2019). Scaling scientists can and should investigate how different delivery mechanisms — such as extension services, digital farmer services, seed systems, agribusiness acceleration programs, public-private partnerships, behavioral change initiatives, and financial instruments — interact with scaling pathways to translate research outputs into societal outcomes (Douthwaite et al., 2003; Kanter et al., 2016; Rubyogo et al., 2019). Agrifood systems approaches that leverage interactions among actors in agricultural, market, and consumer systems are hypothesized to assist in scaling (Govaerts et al., 2021). Scaling pathways that minimize undesirable social and environmental trade-offs also remain largely underexplored (McGuire et al., 2022; Schut et al., 2020; Wigboldus & Brouwers, 2016). Evidence-based frameworks are therefore urgently needed to co-design, evaluate, refine, and amplify responsible scaling pathways, leveraging CGIAR's on-the-ground capacity in regions and countries. Finally, **(iv)** lessons learned from evaluating innovation bundling, packaging, and scaling are not sufficiently applied to enhance learning and adapt scaling pathways.

### Ambition

The *Pathways to Scale in Agrifood Systems* Area of Work (**AoW-2**) will help CGIAR and its partners to **(i)** diagnose and identify levers for scaling in complex innovation systems, and **(ii)** bundle and package innovations and position them along scaling pathways to address agrifood system challenges from production to consumption while mitigating environmental and climate risks ([Figure 6](#)). By collaborating with CGIAR Programs, Accelerators, bilateral projects and networks of partners, **AoW-2** will highlight the interconnections within agrifood systems. It will **(iii)** employ scaling science to connect innovation co-development, bundling, and packaging, with scaling pathway evaluation. Examining evidence, it will **(iv)** support refinement and improvements of innovation bundles, packages, and scaling strategies, aiding CGIAR Programs and bilateral projects. **AoW-2** will build on the RIIs and their regional and national innovation networks established in the 2022–2024 CGIAR Portfolio. It will also link to CGIAR's long-standing scaling programs and partnership networks, including AGRA, ASARECA, ASEAN-CGIAR, CCARDESA, CORAF, CSISA, FARA, FLAR, GFAiR, HarvestPlus, and PABRA.



## Theory of Change for Area of Work 2: Pathways to Scale in Agrifood Systems



\* Targets will be refined during inception. Figures are expected to increase as the Program integrates and co-reports contributions from supported Programs. Assumptions and partner types are described in [Appendix 9](#)

**Figure 6. Area of Work 2, Pathways to Scale in Agrifood Systems** (Please find the high-resolution TOC [here](#) and details on assumptions and partners [here](#)). Please note the color consistency that links Cluster of Activity Scaling Science Activities and Practice, Area of Work High-Level Outputs, Area of Work Intermediate Outcomes, and 2030 Area of Work Program Outcomes and Impacts. Where colors do not correspond, it indicates that multiple Clusters of Activities contribute to Area of Work 2030 Outcomes. Collaborations and docking points with other Programs and Accelerators are indicated in black boxes; Output, Outcome, and Impact numbers are indicated in blue rectangles or circles and correspond to this Proposal's text.

## Outcomes

The *Pathways to Scale in Agrifood Systems* Area of Work (**AoW-2**) will support all five of CGIAR's Impact Areas. Its activities will contribute to **Program-level Outcomes-1, -2, -3, and -5**, which will flow from three Area of Work impact pathways: (i) innovation systems are used to co-develop and evaluate innovation bundles and impact pathways, (ii) scaling hubs influence policies and programs to improve the co-design and adaptation of scaling pathways, and (iii) institutions use scaling diagnostic methods to inform their decision-making. These pathways support the generation of the Area of Work 2030 outcomes including: 20M+ people (30% marginalized groups) will demand agricultural production, market, nutrition, and climate solutions (**2030 OC-2.1**); markets and value chain impact pathways will be realigned and leveraged to create or enhance 0.25M+ jobs (30% marginalized groups) (**2030 OC-2.2**); which will support market actors, policymakers, and NGOs in improving market systems and consumer food environments, enabling 0.48M consumers (40% marginalized groups) to access diversified food products (**2030 OC-2.3**). The 2030 outcomes are achieved through four intermediate outcomes (Appendix 9): multistakeholder scaling hubs enhance partners' scaling capacity (**I-OC-2.1**), partners collaborate in co-designing innovation bundles and packages (**I-OC-2.2**), scaling pathways are deployed and co-evaluated for adaptation and amplification (**I-OC-2.3**), and pathways are refined and used by partners to amplify innovation scaling (**I-OC-2.4**).

## Research questions / functions / services

The *Pathways to Scale in Agrifood Systems* Area of Work (**AoW-2**) will implement an action learning process with stakeholders to co-design, implement, and refine scaling pathways. It will explore: What scaling pathways work best for specific contexts? How does working across agrifood systems boost scaling effectiveness? What methods can be used to evaluate these pathways? How can scaling pathways reflect transformative systems approaches and be just and responsible? These questions will be addressed through four interconnected clusters of activities: **CoA-2.1** will identify challenges through stakeholder engagement, **CoA-2.2** will develop tailored pathways in collaboration with stakeholders, **CoA-2.3** will use scaling frameworks to assess pathways, and **CoA-2.4** will refine, adapt, and amplify innovation bundles and packages along promising scaling pathways.

Each region will implement all clusters of activities through an agrifood systems lens focused on: (i) agricultural production and farming systems; (ii) postharvest value chains and food retail environments; (iii) biofortification, food environments, and the impact of consumption on diets and nutrition; and (iv) reducing environmental trade-offs including water, biodiversity and climate risks. Details of specific CGIAR Program and Accelerator links to these components are described in Section 8. Global coordination at the Area of Work and cluster-of-activities levels will ensure global to regional alignment, while regional research leaders will tailor activities to specific agrifood systems, cultures, and environments and will collaborate on the ground with CGIAR's Programs and bilateral projects. Sources of comparative advantage of **AoW-2** stems from its integration with other CGIAR Programs, its extensive networks, and its expertise in scaling pathway design and IPSR.

### CoA-2.1: Network and Diagnose

Agricultural innovation systems consist of myriad stakeholders that may include regional organizations, NARES, governmental and UN agencies, private-sector entities, business associations, financial institutions, national academic institutions, NGOs, CSOs, CBOs, farmers, and consumers. These networks facilitate interactions among actors involved in generating, disseminating, adapting, and scaling innovations (Klerkx & Begemann, 2020). Regional- and national-specific systems tailor agrifood solutions to environmental, economic, and socio-cultural contexts, enhancing their effectiveness, adaptability, and adoption potential while addressing regional challenges and opportunities (Barrett et al., 2022). The *Network and Diagnose* cluster of activities (**CoA-2.1**) will support regional and national multistakeholder scaling hubs developed through the RIIs to inform the co-design of innovation bundles, pack-

ages, and tailored scaling pathways (**OP-2.1**). **CoA-2.1** will (i) synthesize and conduct regional and national agrifood innovation system studies in all regions and in 50% of countries where 4+ Programs and/or Accelerators operate. Participatory and semi-quantitative methods will build partly on data collected in the *Engage and Empower* Area of Work (**AoW-1**) and will include stakeholder (Minh et al., 2023), innovation network (Hevey, 2018; Granstrand & Holgersson, 2020), and value chain (Lundy et al., 2014) analyzes. Following validation of demand signals from **AoW-1**, **CoA-2.1** will (ii) facilitate collaborations to co-identify innovation scaling entry points and levers for change using a range of methods, including Scaling Readiness (Sartas et al., 2020), Scaling Scan (Woltering et al., 2024), adaptive scaling framework (IWMI, 2021), spatial scaling domain targeting (Notenbaert et al., 2017), and the business model canvas (Amoussohoui et al., 2022; Lundy et al., 2014).

### CoA-2.2: Pathway Co-design

Scaling involves coordinating and adapting actions among diverse stakeholders that both influence and are influenced by specific agrifood systems. Scaling and impact pathways are models that show the causal connections between an intervention's inputs, outputs, and subsequent outcomes and impacts on direct and indirect beneficiaries (Douthwaite et al., 2003) and are commonly used to facilitate this effort. Scaling pathways — particularly for public goods — tend to emphasize specific strategies and mechanisms to expand the use of innovations broadly and through the actions of partners (Mclean & Gargani, 2019). Work to design these pathways applies action theory (Argyris & Schön, 1974) and will be conducted through multistakeholder scaling hubs (**OP-2.1**), where demand, innovation, and scaling partners together design scaling pathways for innovation bundles and packages (**OP-2.2**). The *Pathway Co-Design* cluster of activities will (i) build the capacity of CGIAR's scaling hub partners and Portfolio to co-design fit-for-purpose innovation bundles and packages. It will then (ii) convene CGIAR Portfolio and external partners through multistakeholder scaling hubs in the co-design of scaling pathways for innovation bundles and packages. Co-design processes will be tailored to countries and regions, and to the interests and skills of stakeholders, but are likely to build on well-documented pathway design methods, such as Impress *ex ante* (Blundo Canto et al., 2018), participatory impact pathway analysis (Alvarez et al., 2010), logic models (Ebenso et al., 2019), extrapolation domain analyzes (Otero et al., 2006), fuzzy cognitive mapping (Kok, 2009), and theory of change approaches (Maru et al., 2018), among others. Emphasis will be placed on the sequencing of scaling activities and interventions to create more efficient and well-designed initiatives (Barker et al., 2016; Douthwaite et al., 2003). Collaboration with CGIAR's Shared Capacity Accelerator will support efforts to enhance transdisciplinary thinking and innovation capacity, particularly among NARES.

The development of scaling pathways will employ an agrifood systems approach (Govaerts et al., 2021), co-designing with partners pathways that leverage push-and-pull approaches (Wigboldus & Brouwers, 2016) across food production, postharvest value chains, and food environments. A responsible scaling perspective will support efforts to anticipate and mitigate negative environmental and socioeconomic trade-offs (Dror et al., 2024). Co-designed scaling pathways will use delivery mechanisms such as public-private partnerships, entrepreneurship models, extension services, seed system interventions, and market linkages tailored to agrifood systems and national contexts. Pathways may also include innovation commercialization models (Adeniyi et al., 2024), [agribusiness incubation](#), acceleration (Dahl et al., 2023; Lozano Lazo et al., 2023) and business model interventions (Lundy et al., 2014), value chain food retail practices (Giordano et al., 2024), and behavioral change interventions for consumers (Appendix 9)

### CoA-2.3: Pathway Evaluation

The *Pathway Evaluation* cluster of activities (**CoA-2.3**) will build on **CoA-2.1** and **CoW-2.2** and will collaborate with **AoW-5, Learning for Impact**. It will assess scaling pathways and early-to-mid-stage scaling processes within regions and countries using comprehensive assessment frameworks (**OP-2.3**). Efforts will draw on quantitative and qualitative approaches to (i) design

new methods and scaling evaluation frameworks for assessing scaling pathways and processes, for example, to assess whether these pathways reflect transformative systems approaches. Together with partners, **CoA-2.3** will also (ii) deploy and evaluate different scaling pathways to assess their performance in overcoming regional- and country-specific agrifood system challenges. Activities will build on scaling theory (Maru et al., 2018; Wigboldus & Brouwers, 2016), impact pathway (Sharma et al., 2021), and value chain (Lundy et al., 2014) analyzes, outcome harvesting (Wilson-Grau, 2018), and economic and financial analyzes (Nowak et al., 2020), among other methods. The latter will interact with and enhance IPSR and CGIAR-wide innovation portfolio management approaches by conducting cost-benefit and return-on-investment analyzes for innovation bundles and packages. Finally, efforts will (iii) assess conditions for scaling successful innovations, particularly among marginalized groups. Evaluation of agrifood system scaling pathway indicators (Appendix 10) will guide the filtering of innovation bundles and packages for further refinement and adaptation with other Science Programs ([Figure 2](#)), ensuring that scaling efforts are iteratively improved based on evidence and feedback.

#### **CoA-2.4: Refine, Adapt, and Amplify**

The *Refine, Adapt, and Amplify* cluster of activities (**CoA-2.4**) will work with CGIAR stakeholders, Programs, Accelerators, bilateral projects, and innovation and scaling partners to refine, adapt, and amplify scaling pathways for demand-driven, scale-ready agrifood solution bundles and strategies (**OP-2.4**). **CoA-2.4** will (i) collaborate with **AoW-4, Achieving Impact**, and with regional and national partners through multistakeholder networks and scaling hubs (**CoA-2.1**) to build capacity for stage-gating innovations along scaling pathways building on IPSR (Schut et al., 2024). It will also (ii) synthesize lessons learned from scaling impact pathway evaluations to facilitate feedback, learning, and adaptive management for **CoA-2.1** to **CoW-2.3**.

### **6.3 Area of Work 3: Enabling Environment Lab**

#### **Challenges**

Innovations in water, land, and agrifood systems often face slow adoption due to unfavorable policy and business environments (Klerkx et al., 2019). (i) Weak regulatory frameworks, ineffective institutions, poor governance, market barriers, limited business capacity, social fragmentation, insufficient external (e.g., economic) and internal (e.g., family) incentives, resistance from entrenched interests, ideological differences, and lobbying by interest groups are but a few of the challenges in the enabling environment that can impede their uptake (IFPRI, 2020; Mockshell & Birner, 2020). Consequently, (ii) marginalized groups, including risk-averse smallholder farmers, are often unintentionally excluded from the benefits of scaling processes, in some instances experiencing 30%–50% increases in the cost of trading goods due to non-tariff barriers on intra-regional trade (Michalscheck et al., 2023; Stevenson et al., 2014). (iii) Tailored technical assistance is needed to address these myriad challenges that hinder the development of a robust innovation system and to drive more inclusive scaling outcomes (Klerkx & Begemann, 2020; Teferi et al., 2024). Responding to these underlying bottlenecks, the *Enabling Environment Lab* Area of Work (**AoW-3**) will deploy transdisciplinary approaches to strengthen enabling environments in regional and country contexts for scaling partners to scale solutions inclusively, sustainably, and cost-effectively. This will be achieved by addressing policy and market constraints identified under **AoW-1, Engage and Empower**, and **AoW-2, Pathways to Scale**, and leveraging key policy and market opportunities for amplification and investment in **AoW-4, Achieving Impact by Unlocking Finance and Partnerships**.

#### **Ambition**

Through strategic partnerships with policymakers, investors, research institutes, private-sector partners, CSOs, and national, regional, and international organizations and programs — including CGIAR's Science Program on Policy Innovations and the GESI and Shared Capacity accelerators — the *Enabling Environment Lab* (**AoW-3**) will address barriers to scaling innovations by tackling policy, market, and societal constraints at different levels in agrifood systems

([Figure 7](#)). (i) AoW-3 will enhance the productivity, sustainability, inclusivity, and cost-effectiveness of scaling processes, equipping stakeholders in the regional innovation and scaling hubs supported by AoW-2 with essential tools and insights to implement more effective scaling strategies, thus contributing to all CGIAR Impact Areas.

AoW-3 will focus on innovation bundles and packages identified by AoW-2 and specifically demanded by country and regional partners in AoW-1 with enabling environment challenges to scaling. AoW-3 will also (ii) assist agrifood system actors with technical assistance to co-create strategies, policies, institutional innovations and investment plans that catalyze the adoption of specific innovation bundles. It will (iii) support agribusinesses and farmer cooperatives by enhancing business plans and market expansion strategies, improving risk management for deploying new innovations, and identifying economic incentives for farmers and SMEs. These efforts will collectively reduce transaction costs, boost transparency and accountability in governance, and expand client outreach as fundamental enabling environment prerequisites. They will also enhance community awareness and drive innovation use through demand-creation efforts, collective action, and improved extension systems.

## Outcomes

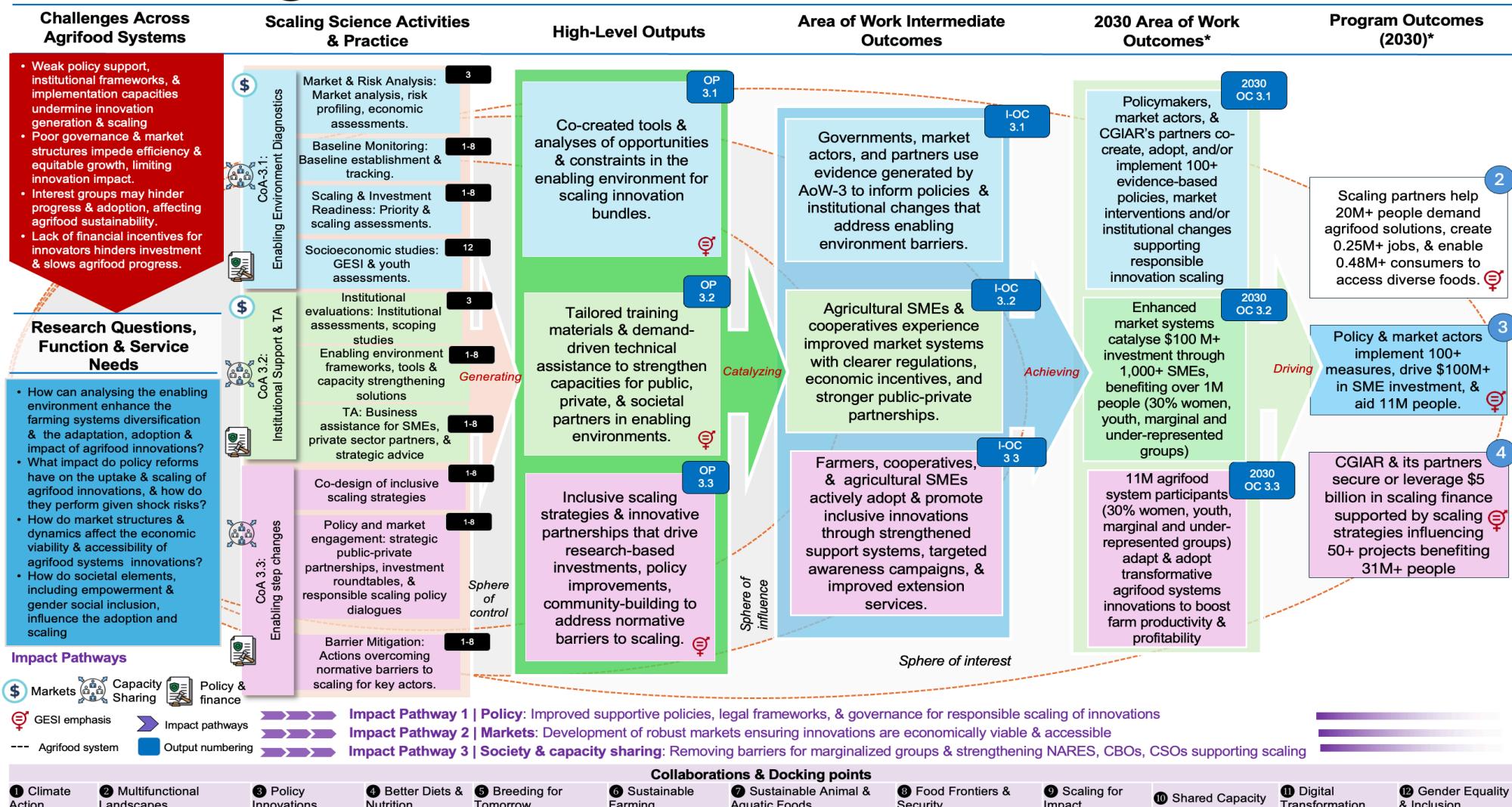
The *Enabling Environment Lab* Area of Work (AoW-3) supports Program-level outcomes through three pathways: (i) the policies pathway strengthens governance systems for scaling innovations; (ii) the market pathway ensures economic viability through competitive markets and sustainable business models; and (iii) the societal pathway, using poverty and risk-reduction and life cycle approaches to GESI, addresses barriers for marginalized groups, builds innovation demand, and incorporates a "scaling deep" typology to enhance inclusive and sustainable innovation scaling, ensuring broader societal and cultural integration.

AoW-3 contributes to **Program Level Outcomes-2, -3 and -4**, with the first impact pathway supporting AoW-3's first 2030 outcome (Appendix 11), in which policymakers, market actors, and CGIAR partners co-create, adopt, and/or implement 100+ evidence-based policies, market interventions, and/or institutional changes supporting sustainable and responsible innovation scaling (**2030 OC-3.1**). This will be achieved through tailored technical assistance to governments, donors, and the private sector to stimulate business growth, expand markets, navigate regulatory barriers, and climate-proof investments (**I-OC 3.1**). Leveraging CGIAR's long-established partnerships with governments, regional economic communities (RECs), SROs, NARES and other last-mile delivery partners, as well as *Scaling for Impact* and other Program/Accelerator scientists embedded within countries, AoW-3 will co-create innovation-bundle-specific strategies, policies, market, and institutional changes that improve business and policy environments. For example, it will support the institutionalization of agent-based national scaling mechanisms (e.g., [Agripreneurs](#) in Kenya, see Section 7).

Additionally, AoW-3 will enhance market systems by catalyzing \$100M+ in business and scaling investments through at least 1,000 agrifood-oriented SMEs, benefiting over 1M people (30% marginalized groups) (**2030 OC-3.2**). This will stem from a more competitive and inclusive market environment through science-based technical assistance to business incubation and acceleration pathways evaluated in *AoW-2, Pathways to Scale*, as well as the provision of tools/innovations that help to derisk scaling investments. Partnering with the *Enabling Environment Lab*, SMEs and cooperatives will gain improved market access, clearer regulations, and knowledge to adapt, create demand for, and scale innovations (**I-OC 3.2**). Lastly, through strengthened support systems, mass media campaigns, inclusive extension services, and targeted awareness efforts (**I-OC 3.3**), AoW-3 will help 11M+ agrifood system participants (30% marginalized groups) adopt innovations that boost productivity and profitability while addressing cultural barriers for broader acceptance (**2030 OC-3.3**). It will also support enhancing leadership and decision-making roles in multiparter policy platforms.



## Theory of Change for Area of Work 3: Enabling Environment Lab



\* Targets will be refined during inception. Figures are expected to increase as the Program integrates and co-reports contributions from supported Programs. Assumptions and partner types are described in Appendix 11

**Figure 7. Area of Work 3, Enabling Environment Lab** (Please find the high-resolution TOC [here](#) and details on assumptions and partners [here](#)). Please note the color consistency that links Cluster of Activity Scaling Science Activities and Practice, Area of Work High-Level Outputs, Area of Work Intermediate Outcomes, and 2030 Area of Work Program Outcomes and Impacts. Where colors do not correspond, it indicates that multiple Clusters of Activities contribute to Area of Work 2030 Outcomes and/or 2030 Program Impacts. Collaborations and docking points with other Programs and Accelerators are indicated in black boxes; Output, Outcome, and Impact numbers are indicated in blue rectangles or circles and correspond to this Proposal's text.

## Research questions / functions / services

**AoW-3** will investigate how analyzing the enabling environment can improve agrifood innovation scaling impact. It asks: What policy reforms are needed to increase uptake and scaling? How do market structures influence the viability, accessibility, and affordability of agrifood innovations? How do societal factors like GESI, and its interaction with poverty and risk, impact adoption and empowerment? How can GESI-transformative change be accelerated through inclusive scaling methodologies?

**AoW-3's** three-pronged approach to support the sustainable scaling of food, land and water systems solutions will be organized in three interconnected yet context-specific clusters: enabling environment diagnostics (**CoA-3.1**), institutional support and technical assistance (**CoA-3.2**), and enabling environment step changes (**CoA-3.3**). These activities will be initiated after the demand for a specific innovation bundle has been signaled (**AoW-1**) and as a bundle and package is developed, tested, and deployed at scale in **AoW-2, Pathways to scale**. **AoW-3, Enabling Environment Lab**, will provide knowledge, technical support, and advisory services to ensure that innovation bundles are supported by suitable enabling environments, including the public sector, market, agribusiness, and society, that enhance intrinsic motivations for sustained solution adoption rather than relying solely on extrinsic incentives.

CGIAR's sources of comparative advantage in **AoW-3** come from its unique global and local expertise in the science-policy interface, decades of in-country presence, and collaboration with the private sector, leading to impactful, region-specific solutions. **AoW-3's** ability to achieve its high-level outputs will also be supported by experience in prior programs and bilateral projects, including the [Peace-and-Stability Accelerator](#), the [CGIAR Food Systems Accelerator](#), policy and market systems step changes achieved through CSISA and MasAgro, the [Agroecological Transitions Program](#), the [Water and Energy for Food Innovation Hub](#), the [AICCRA Zambia Acceleration Program](#), and [IFPRI's Country Programs](#).

### CoA-3.1: Enabling Environment Diagnostics

The *Enabling Environment Diagnostics* cluster of activities (**CoA-3.1**) will focus on diagnostics directly related to innovations designed and collaboratively evaluated with other Programs in **AoW-2, Pathways to Scale**. It will analyze relevant policies, strategies, markets, and institutions, and generate forward-looking projections, alternative scenario analyzes, and scaling course corrections. Four interlinked activity sets, supported by innovation co-design in **AoW-2 CoA-2.1**, will produce actionable tools to evaluate opportunities and constraints in the enabling environment to better support the packaging of innovations (**OP-3.1**) across the three primary pathways. These include (i) policy, market, and economic risk and landscape analyzes, using methods such as economic and financial cost-benefit analysis and policy environment assessment tools (Abate et al., 2023; Song et al., 2023; Mockshell et al., 2023). These establish the foundation for (ii) evaluations through surveys, structure-conduct performance assessments, and situational stock-taking, utilizing methods such as PESTEL and Problem Tree analysis to monitor progress and manage unintended scaling risks (Irani & Sharif, 2018). This will also support (iii) scaling, investment readiness, and enabling environment evaluations (Woltering et al., 2024; Minh et al., 2023; Sartas et al., 2020). Additionally, (iv) Gender Action Learning assessments, socioeconomic impact evaluations, process tracing (Giordano et al., 2024), methods like GenderUp (McGuire et al., 2024), and impact stories focused on GESI (Quisumbing et al., 2023; Ongutu et al., 2024) will help ensure policies and investments are socially inclusive and impactful.

### CoA-3.2: Institutional Support and Technical Assistance

The *Institutional Support and Technical Assistance* cluster of activities (**CoA-3.2**) will aid national and regional partners to scale solutions by offering demand-driven technical support based on diagnostic assessments of innovation networks conducted in **CoA-2.1**. It will support institutional capacity development and generate training materials and modules on scaling, while providing targeted enabling environment technical assistance to public- and private-

sector partners. These actions will enhance their institutional, analytical, and operational capacities for scaling (**OP-3.2**). **CoA-3.2** activities will target four areas linked to **AoW-5's CoA-5.4** on South-South scaling capacity sharing. (i) institutional assessments and scoping studies to identify scaling capacity gaps, e.g., using New Institutional Economics approaches (Kirsten et al., 2009; Meinzen-Dick & Nkonya, 2007), the Institutional Analysis and Development Framework (Ostrom et al., 1994), and political economy analyzes (Little & Watts, 1994; Peluso & Lund, 2011; Bernstein & Oya, 2014; Hall et. al., 2017; Scoones et al., 2018). These will be used in the (ii) development of enabling environment frameworks, tools, profiles, and methods to overcome capacity gaps using Capacity-focused Problem Tree analysis (Irani & Sharif, 2018), among other methods. Additionally, **CoA-3.2** will inform (iii) targeted technical assistance, providing evidence-based enabling environment support and mechanisms to de-risk scaling and business expansion investments by SMEs and private-sector partners. It will also provide strategic guidance to scaling actors using enabling environment analyzes, including core business and impact analyzes (Benni, 2024).

### **CoA-3.3: Enabling Systemic Step Changes**

The *Enabling Systemic Step Changes* cluster of activities (**CoA-3.3**) will focus on creating transformative shifts in enabling environments that make them more inclusive and equitable (**OP-3.3**). It will feed insights to **AoW-4, Achieving Impact**, which works to amplify scaling for broader impact. In close collaboration with **CoA-2.2**, which works toward development of tailored scaling pathways, **CoA-3.3** will focus on (i) co-developing and implementing inclusive scaling strategies that address the unique enabling environment challenges faced by marginalized groups, ensuring that they have equitable access to essential resources such as knowledge, finance, and market opportunities (McGuire et al., 2024; Enokenwa Baa & Nortje, 2023). It will (ii) foster strategic public-private partnerships and promote policy coherence across sectors by convening investment roundtable discussions, forums, and responsible scaling policy dialogues, creating a supportive framework that enhances the effectiveness of these inclusive strategies linked to the innovation and scaling hubs formed through **AoW-2 CoA-2**. **CoA-3.3** will then (iii) leverage the crucial role of NGOs, CBOs, and CSOs in scaling efforts and promoting behavioral changes that can benefit marginalized groups. Where possible, **CoA-3.3** will catalyze innovations in scaling, for example through responsible scaling ideation hackathons to identify opportunities to overcome normative barriers to scaling affecting youth.

## **6.4 Area of Work 4: Achieving Impact by Unlocking Finance and Partnerships**

### **Challenges**

Considerable financial resources are needed to sustainably transform agrifood systems, with estimates ranging from \$265BN annually to achieve Zero Hunger (World Bank, 2024) to \$1.8 trillion over the next decade when considering climate adaptation in agriculture (Lipper et al., 2021). Despite this, (i) a scaling challenge has been the limited integration of proven innovations by CGIAR and its partners into large-scale development projects funded by institutions such as the World Bank, Asian Development Bank (ADB), African Development Bank (AfDB), and Inter-American Development Bank (IDB). Although CGIAR and scaling partners' collaborations with these institutions do exist, they could expand and intensify to achieve greater scaling outcomes. Most crucially, the lack of comprehensive integration of CGIAR's innovations into IFIs' programming prevents wider leverage of solutions and opportunities to align with large-scale development programs and activities needed for agrifood systems transformation. Additionally, (ii) many scaling efforts overlook transformative financial mechanisms, such as impact investments, corporate social responsibility funds, and blended finance, which could support the acceleration research innovations into impacts. This oversight results from insufficient scaling strategy use resulting in (iii) misaligned stakeholder objectives and high transaction costs. These in turn impede successful partnerships and financial flows to the agrifood sector. In this context, CGIAR and its partners could benefit from consolidated, comprehensive scaling strategies. The Program's *Achieving Impact by Unlocking Finance and*

**Partnerships Area of Work (AoW-4)** will tackle these challenges by securing transformative financial resources and partnerships, and by incorporating science-based innovations and scaling advisory services into large-scale investments at national and regional levels.

## Ambition

**AoW-4** represents a new frontier for CGIAR. It will position CGIAR as a leading technical support partner for the more effective design and implementation of large-scale agricultural, food systems, and economic development projects implemented by governments with international financial assistance. It will **(i)** strengthen existing collaborations and build new ones with governments, IFIs, and value chain actors across agrifood systems to better support development programming. It will also **(ii)** leverage finance and scaling opportunities through private-sector investors and partnerships with large international NGOs and humanitarian organizations to channel scaling opportunities into impact. **AoW-4** will also **(iii)** support the entire CGIAR Portfolio in scaling innovations and using data and insights to co-create models suited to targeted investors and contexts. *Achieving Impact* will move CGIAR and its innovation and scaling partners from peripheral roles in multilateral and governmental agricultural development programs to central players supporting program design and implementation.

## Outcomes

**AoW-4** will advance CGIAR's Impact Areas and 2030 targets, including poverty reduction, food and nutrition security, and enhanced productivity and climate resilience. It will contribute to 2030 **Program-level Outcomes-4 and -5** ([Figure 8](#)). *Achieving Impact* will support CGIAR in leveraging \$3BN in public finance and \$2BN billion in blended finance for scaling (**2030 OC-4.1**). The latter will include impact investments and potentially corporate social responsibility funds. Scaling partners will deploy innovation bundles and packages through projects and networks, helping 31M people, including farmers and agrifood actors (30% marginalized groups), access, adapt or adopt new solutions (**2030 OC-4.2**). Lastly, **AoW-4** will build a Scaling Strategy Support Team, which will support the use of scaling tools to improve strategies in 50+ large-scale bilateral scaling projects (**2030 OC-4.3**). These outcomes (Appendix 12) will result from several intermediate outcomes (I-OCs) including IFIs, governments, and the private sector widely integrating CGIAR-partner innovations into their investment pipelines (**I-OC 4.1**), scaling partners forming coalitions with CGIAR's Portfolio and establishing agreements to better align scaling goals and actions (**I-OC 4.2**), and CGIAR researchers using the responsible scaling capacity toolbox in consultation with the Scaling Strategy Support Team to enhance scaling strategies for projects and programs (**I-OC 4.3**).

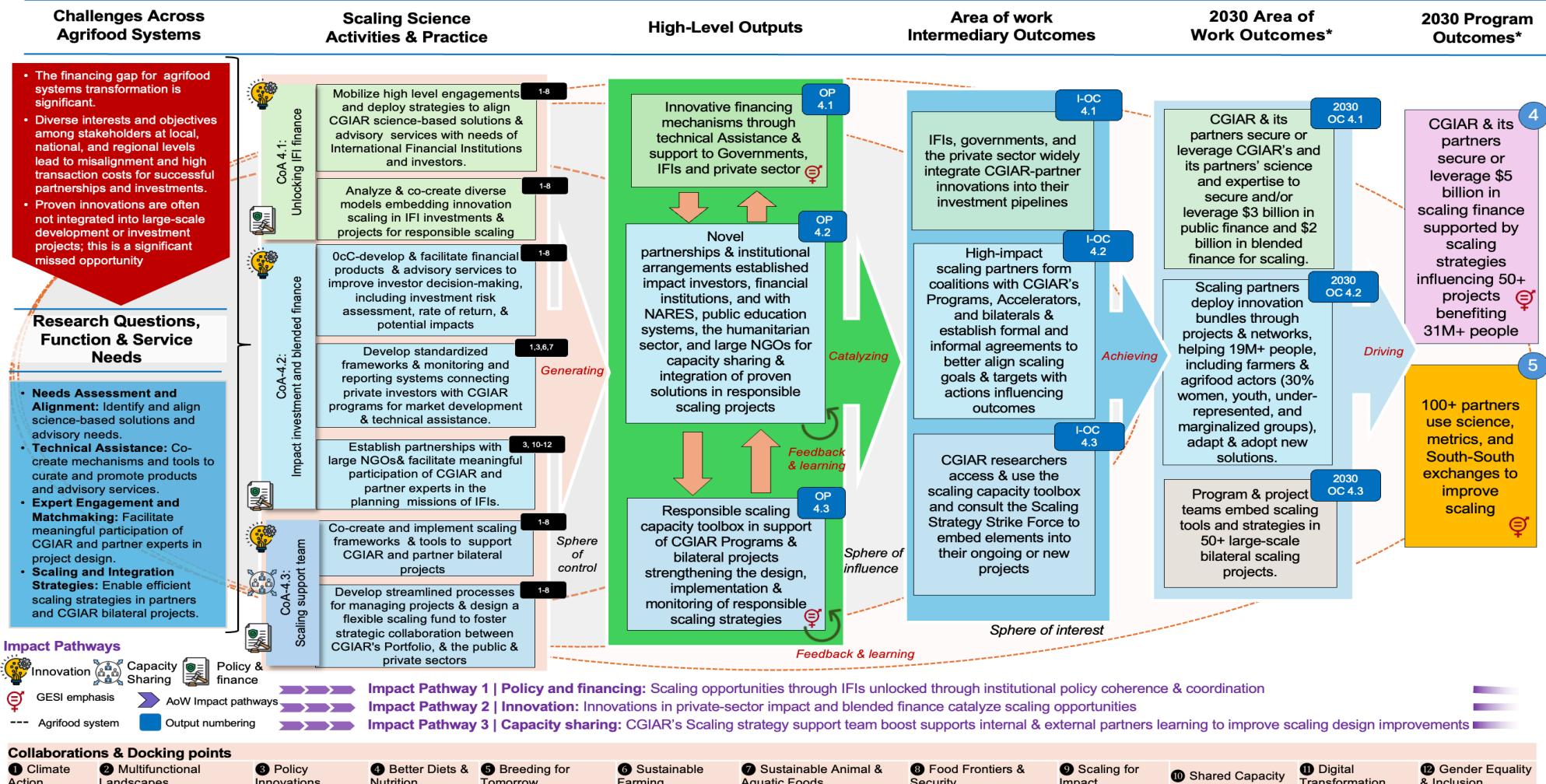
Sources of **AoW-4's** comparative advantage in delivering **OP-4.1** to **OP-4.2** stems from its experience with multilateral banks and governmental projects and impact investment (e.g., via AICCRA, Assam Agribusiness and Rural Transformation Project ([APART](#)), ImpactSF, Regional Resilient Rice Value Chains Development Program (REWARD), and [TAAT](#)). Integration of the Scaling Strategy Support Team will amplify this advantage by offering specialized support to the bilateral projects of CGIAR and its partners, driving the delivery of **OP-4.3**.

## Research questions / functions / services

**AoW-4**, *Achieving Impact* will mobilize and co-create large-scale development financing from the public and private sectors, fostering partnerships to drive transformative scaling outcomes. It will identify science advisory needs and align evidence-based solutions with high Scaling Readiness scores for development institutions and investors. It will assess, manage, and report on scaling risks and impacts from CGIAR's Portfolio and partner networks. Mechanisms and tools will be developed to enhance investor decision-making, stimulate diverse investment forms, and accelerate entrepreneurial opportunities for responsible scaling. Additionally, as a strategic brokerage unit, **AoW-4** will enable CGIAR experts to participate in development project planning with governments and financial institutions; and will also facilitate match-making between scientific innovators and impact financiers. In collaboration with **AoW-3**, **AoW-4's** Scaling Strategy Team will co-create GESI-sensitive frameworks and tools to enable



## Theory of Change for Area of Work 4: Achieving Impact by Unlocking Finance and Partnerships



\* Targets will be refined during inception. Figures are expected to increase as the Program integrates and co-reports contributions from supported Programs. Assumptions and partner types are described in [Appendix 12](#).

**Figure 8. Area of Work 4, Achieving Impact by Unlocking Finance and Partnerships** (Please find the high-resolution TOC [here](#) and details on assumptions and partners [here](#)). Please note the color consistency that links Cluster of Activity Scaling Science Activities and Practice, Area of Work High-Level Outputs, Area of Work Intermediate Outcomes, and 2030 Area of Work Program Outcomes and Impacts. Where colors do not correspond, it indicates that multiple Clusters of Activities contribute to Area of Work 2030 Outcomes and/or 2030 Program Impacts. Collaboration and docking points with other Programs and Accelerators are indicated in black boxes; Output, Outcome, and Impact numbers are indicated in blue rectangles or circles and correspond to this Proposal's text.

efficient scaling strategies for bilateral projects, driving transformative outcomes for diverse social groupings of farmers and consumers. These functions will be organized in three interactive clusters of activities. **CoA-4.1** will focus on leveraging finance from IFIs by integrating CGIAR's solutions into large-scale agriculture and food-systems projects led by governments with a strong political commitment. **CoA-4.2** will support and co-design blended finance from the private sector and impact investors, identifying high-impact innovations and co-developing investment vehicles. **CoA-4.3**, through the Scaling Strategy Support Team, will support the design and execution of scaling strategies for large bilateral projects, applying scaling science to address bottlenecks and ensure responsible scaling. Customized technical assistance will cater to the specific needs of different investors, aligning approaches with their mandates and incentives. *Achieving Impact (AoW-4)* builds on, but is not limited to, CGIAR's experience with multi- and bilateral projects. **CoA-4.1** builds on AfDB's support to TAAT and REWARD and will vet and promote proven technologies to the public and private sectors. **CoA-4.1** will strengthen the TAAT program in Africa and this model will be expanded to IFIs in Asia and Latin America, beginning with the [ADB's five-year scaling cooperation agreement with CGIAR](#), which is committed to accelerating the use of agricultural innovations for the sustainable and inclusive development of Asia's agrifood systems. **CoA-4.2** will build on the work of ImpactSF, a key technical partner for sustainable finance actors, integrating science-based key performance indicators into investment decision-making. **CoA-4.3** will build on the work of CGIAR's IPSR team, providing crosscutting support on Scaling Readiness, strategies, and operationalizing scaling funds.

#### **CoA-4.1: Unlocking IFI Finance for Agrifood Systems Solutions**

Generating innovative financing mechanisms through technical assistance and support to governments, IFIs, and the private sector (**OP-4.1**), the *Unlocking IFI Finance for Agrifood Systems Solutions* cluster of activities (**CoA-4.1**) will link and prioritize CGIAR's proven and emerging innovations to farmers and agrifood value chain actors through substantial loans and grants to nations. It will analyze and co-create models for embedding innovation scaling that are appropriate for specific IFIs, countries, and agrifood systems contexts. This is crucial because different IFIs implement different policies and procedures for agricultural development. The World Bank, for example, emphasizes concessional loans and technical assistance for comprehensive agricultural transformation programs (World Bank, 2017), while the ADB and AfDB provide technical assistance, large-scale infrastructure and regional agricultural development (AfDB, 2019; Naciri, 2018). In all cases, with strict but different risk assessment procedures, sustainability criteria and risk mitigation measures may be required. Given that GESI considerations may be overlooked in large multilateral projects, and that marginalized groups, which typically play significant roles in agriculture but face unique systemic and structural challenges (UNOPS, 2022), **CoA-4.1**'s technical assistance will also focus on enhancing capacity in integrating social inclusion principles into the design and implementation of such projects where needed.

**CoA-4.1** will (i) mobilize high-level engagements and deploy strategies to align CGIAR's science-based solutions and advisory services with the needs of governments, IFIs, and investors. Serving multiple regions, **CoW-4.1** will enhance existing collaborations and forge new ones with ADB, AfDB, the Development Bank of Latin America and the Caribbean (CAF), the Islamic Development Bank, and the World Bank. This effort will innovate and refine the [TAAT Clearinghouse model of partnership with the AfDB](#), which has included CGIAR solutions in loans totaling \$1,704M, approved from July 2022 through December 2023, with these programs expected to enable 11.8M farmers to increase yields and incomes by using CGIAR innovations. **CoA-4.1** will also draw on learnings from AICCRA and APART, supported by the World Bank and REWARD, supported by the AfDB. It will structure new collaborations with other IFIs, focusing on reducing transaction costs of engagement and curation of CGIAR-partner innovations into investment projects to improve partnership success. This cluster of activities will also (ii) assist governments in co-creating, implementing, and monitoring innovation scaling actions, targeting priority countries with a commitment to food systems trans-

formation and strong enabling environments. It will also deepen partnerships with large NGOs and facilitate meaningful participation of CGIAR and partner experts in the planning missions of IFIs. In achieving these goals, **CoA-4.1** will also explore formalizing new partnerships, particularly with [FAO's Investment Center](#), to achieve synergies in evidence-based technical assistance.

### **CoA-4.2: Impact Investment and Blended Finance to Catalyze Scaling**

In collaboration with the private sector, catalytic capital providers, and impact investors, the *Impact Investment and Blended Finance to Catalyze Scaling* cluster of activities (**CoA-4.2**) will deliver evidence to support investors and corporate social responsibility funders in evaluating scalable agrifood system solutions. Leveraging established investment partnerships, **CoA-4.2** will attract new collaborators to co-design products and services aimed at transforming agri-food systems. Responding to the need for financial leverage in scaling (Cosgrove et al., 2023), it will forge new partnerships and institutional arrangements between private impact and corporate social responsibility investors, banks supporting blended finance, and entities such as NARES, public education systems, the humanitarian sector, and large NGOs developing their own and/or using CGIAR's innovations. This will enhance the integration and dissemination of proven solutions in scaling projects (**OP-4.2**). Specific activities will include (i) co-development and facilitation of financial products and advisory services to improve investor decision-making, including rate of return and risk assessment, and potential development impacts; (ii) creation of frameworks and monitoring systems to connect private investors with CGIAR Programs for market development and technical assistance.

**CoA-4.2** represents a dynamic and emerging area where CGIAR is gaining significant traction. It builds on ImpactSF, which has successfully operated in 16 countries since 2021. This model has mobilized \$150M of blended finance through its climate-smart food systems fund and is currently developing science-based analytical models with three major financial institutions to automate climate and environmental risk assessment in credit scoring for agricultural finance. **CoA-2.2** will collaborate closely with **AoW-2, Pathways to Scale**, and CGIAR's Programs and bilateral projects, where market-driven scaling pathways for agrifood system innovation bundles and packages are evaluated at scale across different regions and themes.

### **CoA-4.3: Scaling Strategy Support Team**

The *Scaling Strategy Support Team* cluster of activities (**CoW-4.3**) will deliver tailored scaling strategies supporting high-impact actions and outcomes. **CoA-4.3** will establish a team with expertise from CGIAR, NARES, and other partners to enhance and optimize the implementation of large-scale bilateral projects. Given the novelty of this Area of Work, it will build and/or increase scaling capacity within and beyond CGIAR by developing a toolbox of options to strengthen the design, implementation, and monitoring of responsible scaling strategies in CGIAR's Programs and bilateral projects (**OP-4.3**). This effort will include identifying proven innovations and creating demand-driven, evidence-based, and tailored scaling strategies through collaboration with **AoW-1** to **AoW-3**. It will offer feasibility studies, social inclusivity analysis and scaling guidance, risk assessments, and stakeholder consultations to refine project performance and ensure consistency and quality across CGIAR Programs.

The *Scaling Strategy Support Team* will provide advice based on Scaling Readiness scores, and validated scaling pathways from **AoW-2, Pathways to Scale in Agrifood Systems**, and evidence-based scaling policy from **AoW-3, Enabling Environment Lab**. In doing so, **CoA-4.3** will (i) co-create and implement scaling frameworks and tools to support CGIAR and partners' bilateral projects. It will also (ii) develop streamlined processes for managing scaling projects and design a flexible [Scaling Fund](#). Leveraging insights from piloting the Scaling Fund in *Ukama Ustawi, Scaling for Impact* will extend this approach to other regions. The Scaling Fund will be used to facilitate targeted collaboration between CGIAR's Portfolio and public- and private-sector partners, supporting both Program efforts and bilateral projects that may otherwise lack the resources to test new partnership mechanisms and scaling strategies.

Scaling capacity development activities will be informed and coordinated with **AoW-5**, *Learning for Impact*, and CGIAR's Capacity Sharing Accelerator.

## 6.5 Area of Work 5: Learning for Impact

### Challenges

CGIAR's approach to scaling innovations has historically aimed at reaching tens of millions of resource-poor farmers with new agricultural solutions, often using technology-centered and linear transfer models. This primary focus on reach largely overlooked other desirable scaling outcomes, such as more contextual, socially inclusive, and sustainable scaling, or faster and more cost-effective scaling (McLean & Garagani, 2019; Beaudreault et al., 2024). To date, the adoption rates of many innovations are not high and adoption has generally remained specific to certain contexts, with sustainable impact often achieved only after many years (Woltering et al., 2019). Consequently, while CGIAR's impact has been demonstrably significant – particularly in genetic innovations, access to seed, and particular agronomic technologies (e.g., Fuglie and Encheverria, 2024) — processes of learning *about and for* impact in its several dimensions has not been fully exploited, limiting the ability of CGIAR and its partners to achieve the reach and depth required to transform food, land, and water systems amid the current climate crisis (Lynam et al., 2024).

This situation is driven by four major challenges. (i) Poor alignment of diverse (public/private/mixed) scaling approaches and simplistic "copy-paste" approaches have led to unsustainable and ineffective outcomes, sometimes with unintended negative consequences (Wigboldus et al., 2016). This has partly been a result of insufficient advancement of frontier scaling science to inform effective and responsible research-to-impact pathways (Schut et al., 2020). (ii) Learning fails to consider the full spectrum, impacts, and depth of scaling efforts for transforming agrifood systems and relies on sporadic evidence using often loosely defined metrics and indicators. This is driven by a lack of use of rigorous, novel, and integrated monitoring, evaluation, and impact assessment approaches. (iii) An uncoordinated approach to scaling has led to suboptimal management of innovation and scaling investments. The lack of systematic approaches and interoperable systems for managing innovation and scaling at the Portfolio level has reduced opportunities for synergies and learning across CGIAR Programs and with external partners (Hall et al., 2003; Schut et al., 2024). (iv) Limited investment in enhancing scaling capacity, coaching, culture, and community — particularly through South-South exchanges — weakens the connections among science, innovation, and scaling. These barriers reduce CGIAR's potential for impactful collaboration with NARES and other scaling science and practice partners in the global South.

### Ambition

The ambition of the *Learning for Impact* Area of work (**AoW-5**) is to foster systems-thinking and a culture of diverse and continuous learning on scaling agrifood innovations. Learning — scientific, systematic, coordinated, and experiential to affect behavioral change — is the central theme across **AoW-5** and has four key ambitions. (i) This Area of Work will advance the frontiers of scaling science through learning-focused case studies and action research with other CGIAR Programs and partners. This will deepen the scientific learning of how to design and implement effective research-to-impact pathways. (ii) **AoW-5** will develop and apply a holistic impact assessment approach to rigorously assess the diversity and depth in scaling outcomes, its tradeoffs and (un)intended and (un)desirable consequences. This systematic learning approach includes feedback loops to refine, adapt, and improve scaling efforts. (iii) **AoW-5** will improve coordination and learning at innovation portfolio level among CGIAR and its innovation, scaling, and demand partners and funders. This will be achieved by improving the functionality and interoperability of existing innovation portfolio management systems (e.g., [CGIAR's Results Dashboard](#)) for better demand-supply alignment and adaptive management of innovation and scaling investments. (iv) **AoW-5** will institutionalize experiential learning through South-South exchanges by investing in scaling capacity, community, and

culture growth. **AoW-5** will ensure that learnings are documented and widely shared to inform agricultural training curricula and practical action across CGIAR's regions, emphasizing the value of learning from failure. **AoW-5** has four dedicated clusters of activity that respond to the above challenges and ambitions.

## Outcomes

By 2030, *Learning for Impact (AoW-5)* and its partners will produce a range of outcomes (Appendix 13) at the areas-of-work level and across the entire Program through CGIAR's three impact pathways. **(i)** Innovation will be used to advance the science of scaling and its applied evidence to enhance scaling effectiveness. **(ii)** Capacity sharing will be utilized to support South-South knowledge exchanges, expand scaling networks, and advance scaling science. **(iii)** Policies will be used to support partners in integrating evidence on innovation bundles into their national programs and projects.

CGIAR and its partners will build an integrative science of scaling agenda and stakeholders will be encouraged to incorporate scaling science approaches into their innovation processes. Outcomes will include 100+ external partners who will integrate scaling science into the design of innovation processes, governance frameworks, and scaling mechanisms. They will also adopt scaling metrics, utilize innovation portfolio management, and apply evidence-based insights for optimal and responsible scaling interventions (**2030 OC-5.1**). **AoW-5** will ensure that the projects and programs of 50+ external partners use scaling metrics and innovation portfolio management to optimize effective and responsible scaling (**2030 OC-5.2**). Lastly, **AoW-5** will support the institutionalization of South-South scaling science learning exchanges and will document efforts to learn from scaling failures across all CGIAR regions. This will increase the ability of 100+ external partners to scale innovations optimally and responsibly (**2030 OC-5.3**). **AoW-5** outcomes will result from four intermediate outcomes, including increased application of scaling science by CGIAR and its partners (**I-OC 5.1**), improvements in impact assessment supporting scaling partners to implement better programs (**I-OC 5.2**), and application of innovation portfolio management tools by CGAR and its partners (**I-OC 5.3**), and enhanced scaling partner collaboration underpinned by capacity sharing (**I-OC 5.4**). These intermediate outcomes will be supported by four high-level outputs ([Figure 9](#)), leveraging the Program's sources of comparative advantage in integrating scaling science and practice (see Section 4) and its work in "catalyst" and "opportunity" countries (Section 3).

## Research questions / functions / services

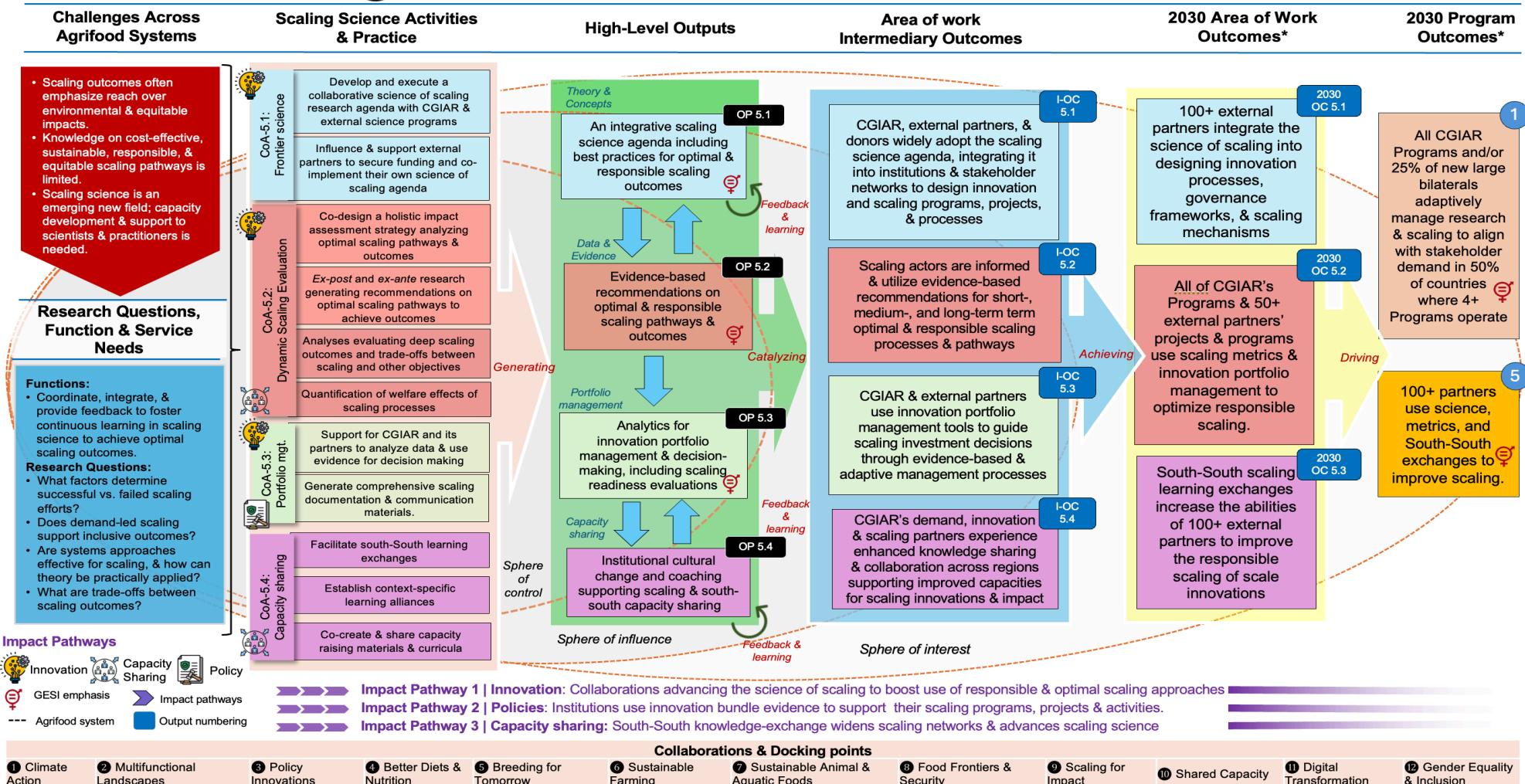
*Learning for Impact (AoW-5)* advances research in scaling science while supporting other areas of work, Science Programs, bilateral projects, and scaling partners. It asks: Are agrifood system scaling approaches effective for transformative outcomes, and how can theory be applied practically? What are the best practices for sustainable scaling, and what can be learned from scaling failures? Does demand-led scaling lead to more effective impact? Does it promote responsible and inclusive outcomes, and how does it align with other bottom-up and/or market-driven methods? Are impacts of successful scaling pilots generalizable in the context of much larger scaling efforts? What are the optimal pathways for engaging different stakeholders and how do these vary by geography and innovation type? What trade-offs exist between scaling outcomes and what are spillover and general equilibrium effects? How can institutional cultural change, coaching, and capacity exchange improve scaling efforts?

## CoA-5.1: Scaling Science Frontiers

The *Scaling Science Frontiers* cluster of activities (**CoA-5.1**) will advance **OP-5.1** by driving the theoretical, conceptual, and methodological progress guiding next-generation innovation scaling for impact. This effort will build on the fundamental principles of systems research (Wigboldus & Brouwers, 2016; Wigboldus et al., 2016), on agricultural innovation systems (Douthwaite & Hoffecker, 2017; Klerkx & Begemann, 2020), and on responsible scaling science (McGuire et al., 2022), but with a strong focus on delivering actionable improvements to best practices in effective design, implementation, and management of research-to-impact



## Theory of Change for Area of Work 5: Learning for Impact



\* Targets will be refined during inception. Figures are expected to rise as the Program integrates and co-reports contributions from supported Programs. Assumptions and partner types are described in [Appendix 13](#).

**Figure 9. Area of Work 5, Learning for Impact** (Please find the high-resolution TOC [here](#) and details on assumptions and partners [here](#)). Please note the color consistency that links Cluster of Activity Scaling Science Activities and Practice, Area of Work High-Level Outputs, Area of Work Intermediate Outcomes, and 2030 Area of Work Program Outcomes and Impacts. Where colors do not correspond, it indicates that multiple Clusters of Activities contribute to Area of Work 2030 Outcomes and/or 2030 Program Impacts. Collaboration and docking points with other Programs and Accelerators are indicated in black boxes; Output, Outcome, and Impact numbers are indicated in blue rectangles or circles and correspond to this Proposal's text.

pathways. **CoA-5.1** will help advance an integrated scaling research agenda (Schut et al., 2020) across CGIAR and with external partners. Special focus will be given to learning from both successful and failed scaling efforts using comparative case study research and *ex-post* scaling pathway assessments (e.g., Low & Thiele, 2020). New frontiers such as artificial and collective intelligence will be explored to optimize demand-driven research-to-impact pathways. Strong collaborations will be built with CGIAR Programs, leading universities, and other external stakeholders (e.g., national universities, NARES, and development organizations) to bridge theory with practical scaling implementation. Partnerships with CGIAR's Gender Equality and Inclusion Accelerator will advance inclusive and responsible scaling science agendas. A new "Scaling Science Fund" will support student scholarships, collaborative case studies of the scaling efforts of CGIAR Programs, and advancements in scaling science methodologies.

### **CoA-5.2: Dynamic Scaling Evaluation**

The *Dynamic Scaling Evaluation* cluster of activities (**CoA-5.2**) will support **OP-5.2** by offering novel recommendations on effective scaling pathways and optimal outcomes. It will test a key assumption of CGIAR's scaling efforts — that scaling yields diversified and profound outcomes beyond reaching beneficiaries. This will involve a new conceptual framework for CGIAR. Diversified outcomes include scaling to a large population, ensuring equitable inclusion of marginalized groups, avoiding environmental damage, and achieving greater efficiency than other scaling pathways. Deep scaling, conversely, measures the depth of impact achieved, such as the extent to which malnutrition is reduced, women are empowered, or environmental externalities are mitigated (McLean & Garagani, 2019). **CoA-5.2** will guide CGIAR Programs in designing impact assessments from a scaling perspective. Analyzing trade-offs and unintended consequences, particularly in achieving extensive impact (i.e., reaching millions of beneficiaries) will be crucial. The framework advanced by **CoA-5.2** will support MELIA functions of the Program (see Section 9) and (i) guide a coordinated and holistic impact assessment strategy needed to experimentally test assumptions and to quantify the trade-offs across many locations, farming systems, scaling pathways, and outcomes, reflecting CGIAR's diverse Portfolio. **CoA-5.2** will (ii) build on established impact assessment approaches while developing new impact assessment methodologies for less-addressed yet critical agrifood system components, including *ex post* and *ex ante* analyzes. This coordinated and holistic impact assessment strategy will enable additional meta-analyzes to provide evidence on (iii) how different scaling pathways impact scaling outcomes and will identify patterns of generalizability, such as trade-offs and (un)intended consequences. Close collaboration will be built with the other CGIAR Programs, particularly with Breeding for Tomorrow, where a complementary approach will be implemented.

Another emerging Area of Work will be (iv) evaluating scaling outcomes "at scale" on economic and welfare objectives (including job creation for marginalized groups) by assessing the impacts of increased adoption rates on beneficiaries *and* non-beneficiaries (i.e., spillovers and increased spending on quality food items, e.g., Egger et al., 2022). Large scaling investments, particularly those envisioned in **AoW-4 (Achieving Impact)**, will be used as study examples where possible. Rigorous micro-level scaling outcome evidence, such as changes in productivity, consumption, and incomes from the Integrated Agrifood Systems Assessments of the *Engage and Empower* Area of Work (**AoW-1**), will support general equilibrium modeling exercises to examine sectoral, national, or global economic welfare effects with CGIAR's Policy Innovations Program. Deep dives into scaling processes (linked to **AoW-2, Pathways to Scale**), incentive mechanisms, and the political economy of scaling (from **AoW-3, Enabling Environment Lab**) will complement efforts. Strong alignment will be built with SPIA's research agenda, with collaboration and technical support sought as needed.

### **CoA-5.3: Innovation Portfolio Management**

Innovation portfolio management is an essential part of CGIAR's global effectiveness (Schut et al., 2024). The *Innovation Portfolio Management* cluster of work (**CoA-5.3**) will build on premises of evidence-based decision-making and forecasting scaling outcomes and will offer

suggestions for optimizing resource allocations, of which CGIAR has been at the forefront in the public sector (Kohl, 2024). **CoA-5.3** will collaborate closely with the CGIAR Portfolio Performance Unit (PPU), which has been pivotal in mainstreaming innovation portfolio management within CGIAR (Schut et al., 2024). Linked to **AoW-1, Engage and Empower**, this work will be expanded under *Scaling for Impact* to match innovations and other types of solutions produced by CGIAR and partners (the current focus of PPU) with the challenges and needs articulated by farmers, governments, and other groups of clients. This matchmaking prioritization provides an important pre-condition to decide which scaling-ready solutions will be bundled, packaged, and optimized under **AoW-2, Pathways to Scale**. It will also offer data and analytics on which policy, market, and other enabling environment conditions are key bottlenecks for achieving impact at scale, which can support activities under **AoW-3, Enabling Environment Lab**. This systematic and scientific approach to innovation portfolio management will produce comprehensive documentation and communication materials to disseminate scaling insights and to support continuous learning. Leveraging these efforts and collaborating with **AoW-4, Achieving Impact**, and CGIAR's Digital Transformation Accelerator, **CoA-5.3** will work with IFIs, governments, and key players like the Food and Agriculture Organization of the United Nations in developing interoperable and open data systems for sector-wide innovation scaling management and learning.

#### **CoA-5.4: South-South Scaling Exchange and Learning**

The *South-South Scaling Exchange and Learning* cluster of activities (**CoA-5.4**) will institutionalize South-South scaling science and practice exchanges with stakeholders, including NARES, IDOs, private firms, and research institutes in the global South. It will mobilize various learning formats, such as coaching, collaborative platforms, context-specific learning alliances, capacity sharing through training and curriculum development, (virtual reality) study tours, and residential scaling activity exchanges on both success and failure. It will build on existing innovation and scaling capacity, community, and culture growth investments, such as the innovation and scaling [e-learning course](#), the CGIAR annual Week of Scaling (Dror et al., 2024), and the [CGIAR Scaling Community](#) and facilitate institutional culture change to support scaling and systems thinking approaches. **CoA-5.4** will leverage existing post-graduate students and create space for new M.Sc. and Ph.D. scaling science students from the global South to participate in large bilateral scaling projects and programs (e.g., AICCRA and TAAT). **CoA-5.4** will also work with vocational training and education centers and universities in the global South to co-create or improve innovation systems and scaling education curricula to shape the thinking of the next generation of scaling scientists and experts. **CoA-5.4** will also coordinate capacity sharing across the Program's areas of work as well as with other Science Programs, bilateral projects, and the Shared Capacity Accelerator (see Section 10).

### **7. Country integration**

#### **7.1. Example of integration in a country or set of countries**

Recommendations for CGIAR to focus solely on research and to suspend scaling activities (McIntire & Dobermann, 2023) are challenged by CGIAR stakeholder feedback obtained in "listening sessions" held in 32 countries in early 2024, which emphasized the need to align research with scaling. *Scaling for Impact* has been designed with input from 211 non-CGIAR participants across 69 organizations and 8 donor agencies. This design input was collected from 58 organizations in Africa, 54 in Latin America, and 48 in Asia, as well as from more than 50 participants at the [Forum for Agricultural Research in Africa \(FARA\)](#) conference in July 2024 and from a private-sector roundtable at the [Africa Food Systems Summit](#) held in September 2024. This preliminary input will shape consultations during the Program's Inception Phase and throughout its implementation, following the Program's *Engage and Empower* processes.

Based on preliminary prioritization exercises (Section 3), *Scaling for Impact* will target "catalyst" and promising "opportunity" countries, where research and scaling efforts will be coordinated with bilateral projects to enhance outcomes (Section 14). Kenya (where the RIIs have

established 31 active partnerships) and Bangladesh (with 69 partnerships) are examples of "catalyst" countries where *Scaling for Impact* will operate. Using a scaling hub and spoke model, the Program will extend aligned activities to neighboring countries with similar farming, agrifood, and cultural systems, including Ethiopia, Rwanda, Tanzania, and Uganda in East Africa, and India and Nepal in South Asia. Globally, the Program will leverage regional innovation hubs engaged with 1,474 partners to support CGIAR's transition to a far more demand-responsive and agile scaling science organization.

**Kenya:** Kenya's agrifood system operates within a decentralized framework, with agriculture managed by county governments and agricultural policy overseen by the national government. The private sector plays a pivotal role in scaling innovations, offering inputs and services to smallholder farmers and supporting value chain development. Moreover, international partners contribute around 90% of the public agricultural investment budget, greatly influencing resource allocation (Breisinger et al., 2023). *Scaling for Impact* will work with Kenya's diverse set of stakeholders, including private firms, farmer cooperatives, NGOs, and government agencies. The Program will collaborate with the [Agriculture Sector Network](#) and the [Kenya Private Sector Alliance](#) to scale 50 key innovations aligning with **2030 Program Outcomes 1–2** and will establish 20 new public-private partnerships and develop supportive policy frameworks (**2030 Program Outcome 3**).

*Scaling for Impact* will build on existing CGIAR Initiatives in Kenya, particularly *Ukama Ustawi*, ClimBeR, and NPS as well as bilateral projects such as AICCRA. It will align with national and regional policies, especially with Kenya's [Bottom-Up Economic Plan \(BETA\)](#), the country's national development strategy. Three of BETA's pillars are directly relevant to CGIAR and the Program and align closely with [Kenya's Vision 2030](#), [Agricultural Sector Transformation and Growth Strategy \(2019–2029\)](#), [Kenya's Pathway to Sustainable Food Systems](#), [National Climate Change Action Plan \(2023–2027\)](#), and other key policy frameworks such as [Kenya Climate-Smart Agriculture Strategy \(2017–2026\)](#) and [National Adaptation Plan \(2015–2030\)](#).

*Scaling for Impact* will support the Kenya Government's "agripreneur model" and engage other Programs to leverage this approach. This flagship scaling mechanism trains rural agents to deliver extension services and bundled agricultural services to farmers and addresses all five areas of work of the Program. Both NPS and *Ukama Ustawi* have played a significant role in providing evidence and technical support to design and implement this model.

Building on NPS and *Ukama Ustawi* activities, **AoW-3, Enabling Environment**, will analyze the enabling environment for scaling innovations through Kenya's agripreneur model. Analytics will address key challenges in last-mile delivery and provide policy, market, and institutional recommendations. This approach is expected to unlock additional financing and partners (**AoW-4, Achieving Impact**) interested in adopting similar models. *Scaling for Impact* will also explore the demand for such models in other countries (**AoW-1, Engage and Empower**) and work with scaling partners to test and scale these models (**AoW-2, Pathways to Scale**). A proposed evaluation with buy-in from the World Bank, the Kenya Government, and the Bill & Melinda Gates Foundation will assess integrating digital technologies into [Kenya's National Agricultural Value Chain Development Project](#) (**AoW-5, Learning for Impact**).

Moving forward, CGIAR will strengthen collaboration with Kenya's local universities, research institutions, and NGOs, adapting and scaling innovations more effectively from inception (**I-OC 2.1–2.4; 3.1–3.3**). A coordinated mechanism for engagement with the government, building on existing partnerships such as with the Development Partner Group for Agriculture and Rural Development, will help ensure program priorities reflect Kenyan needs (**I-OC 1.1–1.3**). CGIAR's country convenor will continue to support demand signaling from the government, particularly in sectors like seeds, where targeted efforts under the government's [Food Systems Resilience Program](#) and TAAT are set to expand under **AoW-4 (I-OC 4.2–4.3)**.

**Bangladesh:** Despite the August 2024 revolution in Bangladesh and the installation of an interim government, preliminary evidence suggests that the country will likely remain a key focus for international development assistance. *Scaling for Impact* builds on a strong found-

ation in Bangladesh, where CGIAR Centers have been active since the early 1980s. The two RIIs established in the 2022–2024 CGIAR Portfolio — TAFSSA and AMD — operate in 13 districts in northwestern and coastal Bangladesh, areas prioritized for CGIAR's Impact Areas. These programs align with key national policies and priorities, including the [National Agricultural Policy](#), [National Agriculture Mechanization](#), [National Food and Nutrition Security](#) policies, the [Bangladesh Delta Plan 2100](#), and the [National Adaptation Programme of Action](#). But with Bangladesh's Country Investment and Five-Year plans, which guide economic development and CGIAR's activities, ending in 2025, significant changes may occur due to the recent governmental shifts.

Initial data indicate that CGIAR's full 2025–2030 Portfolio will operate in Bangladesh, notwithstanding these governmental transitions. By leveraging the extensive in-country expertise of Program scientists — most of whom are citizens of Bangladesh or have more than a decade of residential experience and strong networks in the country — *Scaling for Impact* will help CGIAR navigate the evolving political landscape and build new partnerships across its Portfolio. The Program will use multistakeholder platforms and learning alliances from TAFSSA and AMD, which will be integrated into **AoW-1, Engage and Empower**, to signal stakeholder demand and facilitate adaptive Portfolio management. Bangladesh also hosts a multi-ministerial CGIAR Advisory Committee (CAC), chaired by the minister of agriculture and attended by NARES directors general. Active during the 2022–2024 CGIAR Portfolio, the CAC meets biennially to align CGIAR activities with national priorities. *Scaling for Impact* will support this mechanism, particularly through **AoW-1** and **AoW-3, Enabling Environment Lab**, for policy alignment and Portfolio scaling coherence. Planning for the next CAC meeting, led by CGIAR's country convener, is under way and expected in the fourth quarter of 2024.

Building on CGIAR's 2022–2024 Portfolio and established partnerships in Bangladesh, *Scaling for Impact* will achieve outcomes of its **AoW-1, AoW-2**, and **AoW-3** by 2027. **AoW-1, Engage and Empower**, will focus on cross-Program coordination, stakeholder demand, and adaptive management to meet **I-OCs 1.1–1.4** and **2030 Program Outcome 1**. TAFSSA and AMD will emphasize scaling pathways and enhancing the enabling environment, supporting **I-OCs 2.1–2.4** and **2030 Program Outcome 2**. Despite **AoW-4, Achieving Impact**, and **AoW-5, Learning for Impact**, being newer areas of work, TAFSSA led efforts to integrate CGIAR's solutions into the \$543M [World Bank and IFAD PARTNER program](#), led by the Bangladesh Ministry of Agriculture until 2028. This Program provides key scaling opportunities, supporting **I-OC 4.1** and **I-OC 4.2** and contributing to **2030 Program Output 3**. This Program's activities will also support **AoW-5** by partnering with the [SAARC Agriculture Center](#) to advancing **2030 Program Outcome 5** supporting scaling capacity sharing.

## 7.2. Overview of selected work in top 17 countries

Table 1 provides a selected overview of *Scaling for Impact*'s regions, 17 "catalyst" countries, districts, and farming systems for each Area of Work and its partnerships.

## 8. Boundaries and linkages with other components of the Portfolio

### 8.1. Boundaries with other components of the Portfolio

The *Scaling for Impact* Program uniquely integrates research and scaling activities across CGIAR's Portfolio, serving as a central integrator. It is "innovation agnostic," adapting flexibly to emerging needs for scaling technology bundles, social processes, policies, and tools developed by CGIAR and its partners. The Program's design encourages collaboration with all other CGIAR Programs and Accelerators, as illustrated in its TOC. Collaboration will be driven by strategies that improve value addition and cost-effectiveness for other Programs. *Scaling for Impact* will provide technical and scaling fund support, governed by clear principles of cross-Program collaboration (see Sections 4 and 13). It will also develop tools and resources, such as a scaling capacity toolbox and streamlined processes for managing scaling projects. *Scaling for Impact* will also integrate CGIAR country conveners and strategically place team members within other Programs and Accelerators to enhance coordination

**Table 1.** Overview of selected work in *Scaling for Impact*'s 17 catalyst countries (see Section 3 for further details on the Program's preliminary prioritization process.

Region <sup>a</sup>	Countries	District(s)	Farming System(s) targeted	Areas of Work	Anticipated Program and Accelerator collaboration
SA	Bangladesh	Dinajpur, Rangpur, Rajshahi, Chapai Nawabganj, Shatkhira, Khulna, Bagerhat, Pirojpur, Borguna, Patuakhali, Bhola, Barisal, Jhalokhati	(i) Intensively or partially irrigated rice-based systems, livestock, increasing aquaculture in the east, generally flat topography. (ii) Rainfed rice-fallow systems (largely, but not entirely coastal), livestock + fish, riverine or semi-hilly riverine systems.	1–5	Breeding for Tomorrow, Sustainable Farming, Sustainable Animal and Aquatic Foods, Better Diets and Nutrition, Climate Action, Policy Innovations, GESI Accelerator
SEA	Cambodia	5 southern provinces (Prey Veng, Svay Rieng, Takeo, Kandal, Kampong Thom) adjacent provinces	Rice-based & mixed farming systems.	1–3	Climate Action, Multifunctional Landscapes, Policy Innovations, Better Diets and Nutrition, Sustainable Animal and Aquatic Foods,
LAC	Colombia	Caribe Humedo (Cordoba, Sucre, Bolívar), Andean Region, Cauca	(i) Rice, caupi beans, maize, plantain, sweet potato. (ii) Beans, maize, agroforestry systems, coffee, cassava. (iii) Tropical farming systems.	1–5	Climate Action, Multifunctional Landscapes, Sustainable Farming, Policy Innovations, Breeding for Tomorrow, Sustainable Farming, GeneBank
WCA	DR Congo	Bukavu, Goma, Kabale, Mulungu, Uvira Territory	Rice-based system and mixed farming system, cassava-based system	1–5	Breeding for Tomorrow, Sustainable Farming, Climate Action, GESI Accelerator, Digital Transformation Accelerator
CWANA	Egypt	Nile Delta, El Minia, Fayoum, Assiut	Wheat-based & mixed farming systems.	1–5	Breeding for Tomorrow, Climate Action, Sustainable Farming, Digital Transformation Accelerator, Shared Capacity, Policy Innovations, Better Diets and Nutrition
ESA	Ethiopia	Hawasa-zuria (Sidam region), South Sodo (central region), Adami_Tulu (Oromia region), Meskan (central region), Amhara region (for the work with Pula & ATA)	Mixed crop-livestock systems, teff, legumes, horticulture & maize, livestock & maize mixed, agropastoral (teff, wheat, barley, legumes/pulses in Amhara).	1–5	Breeding for Tomorrow, Sustainable Farming, Sustainable Animal and Aquatic Foods, Climate Action, Policy Innovations, GESI Accelerator, Digital Transformation Accelerator, Sustainable Farming, Food Frontiers and Security
LAC	Guatemala	Eastern plains & dry corridor (Chiquimula, Zacapa, El Progreso, Baja Verapaz, Izabal). Western highlands (Huehuetenango, Quetzaltenango, Totonicapán, Quiché). South coast (Escuintla, Chimaltenango, Jutiapa, Santa Rosa)	(i) Milpa (bean-maize farming systems) & coffee, livestock (cattle). (ii) Milpa (beans-maize farming systems) & coffee, vegetables. (iii) Cash crops (sugarcane, oil palm), milpa (beans-maize farming systems), livestock (dairy). (iv) Mixed farming systems.	1–5	Climate Action, Multifunctional Landscapes, Food Frontiers and Security, Sustainable Farming, Breeding for Tomorrow, Better Diets and Nutrition
SA	India	Bihar, Odisha, Assam, Maharashtra, West Bengal	(i) Intensively or partially irrigated rice-based systems, livestock, increasing aquaculture in the east, generally flat topography. (ii) Rainfed mixed farming systems with livestock. (iii) Rainfed rice-fallow systems (largely, but not entirely	1–5	Breeding for Tomorrow, Sustainable Farming, Sustainable Animal and Aquatic Foods, Multifunctional Landscapes, Better Diets and Nutrition, Climate Action, Policy Innovations, GESI Accelerator

			coastal), livestock + fish, riverine or semi-hilly riverine systems.		
WCA	Côte d'Ivoire	Korhogo, Ferkessédougou, Hambol, Gkeke, Guiglo, Man, Gagnoa	Rice-, cassava- & maize-based systems.	1–5	Breeding for Tomorrow, Sustainable Farming, Climate Action, GESI Accelerator, Digital Transformation Accelerator
ESA	Kenya	Embu, Makueni, Nakuru, Nairobi	Maize mixed as a priority, agropastoral systems as a secondary priority.	1–5	Breeding for Tomorrow, Sustainable Farming, Sustainable Animal and Aquatic Foods, Climate Action, Policy Innovations, GESI Accelerator, Digital Transformation Accelerator, Sustainable Farming, Food Frontiers and Security, Better Diets and Nutrition
LAC	Mexico	Southern Mexico (Chiapas)	Mixed maize systems.	2, 3	Sustainable Farming, Breeding for Tomorrow
CWANA	Morocco	Rabat, Souss-Massa	Wheat-based & mixed farming systems.	1–5	Breeding for Tomorrow, Climate Action, Sustainable Farming, Digital Transformation Accelerator, Genebanks, Shared Capacity Accelerator, GESI Accelerator
SA	Nepal	Karnali, Sudurpashchim, Lumbini	(i) Intensively or partially irrigated rice-based systems, livestock, increasing aquaculture in the east, generally flat topography. (ii) Rainfed mixed farming systems (not always rice-based, often with alternative cereals & integration of pulses) with livestock.	1–5	Breeding for Tomorrow, Sustainable Farming, Sustainable Animal and Aquatic Foods, Better Diets and Nutrition, Climate Action, Policy Innovations, GESI Accelerator
WCA	Nigeria	Nassarawa, Benue, Kano, Jigawa, Ondo, Kwara, Niger	Rice-, cassava-, maize & yam-based systems.	1–5	Breeding for Tomorrow, Sustainable Farming, Climate Action, GESI Accelerator, Digital Transformation Accelerator
CWANA	Uzbekistan	Kashkadaria	Wheat-based & mixed farming systems.	1–3	Breeding for Tomorrow, Climate Action, Sustainable Farming
SEA	Vietnam	13 provinces of southern Vietnam (An Giang, Bac Lieu, Ben Tre, Ca Mau, Can Tho, Dong Thap, Hau Giang, Kien Giang, Long An, Soc Trang, Tien Giang, Tra Vinh, Vinh Long); northeast region; central highlands	Rice-based, mixed farming, & cash/tree crop systems.	1–5	Climate Action, Multifunctional Landscapes, Policy Innovations, Better Diets and Nutrition, Sustainable Animal and Aquatic Foods, ASEAN-CGIAR Innovate for Food Regional Program
ESA	Zambia	Mazabuka, Monze, Sinda, Chipangali, Lundazi	Maize-mixed-livestock systems.	1–5	Breeding for Tomorrow, Sustainable Farming, Sustainable Animal and Aquatic Foods, Climate Action, Policy Innovations, GESI Accelerator, Digital Transformation Accelerator, Sustainable Farming, Food Frontiers and Security, Better Diets & Nutrition

<sup>a</sup> CWANA stands for Central and West Asia and North Africa. ESA indicates East and Southern Africa. LAC stands for Latin America and the Caribbean. SA and SEA stand for South Asia and Southeast Asia, respectively. WCA indicates West and Central Africa.

opportunities and synergies. It will bridge CGIAR's Programs and PPU, supporting shared activities in innovation portfolio management (**AoW-1**, **AoW-2**, and **AoW-5**). Work under [CGIAR's Private Partnerships for Impact](#) and the [Accelerate for Impact Platform](#) will be linked to **AoW-4** (particularly **CoA-4.2** on blended impact investment). **AoW-5** and its work on dynamic scaling evaluation will coordinate with SPIA.

*Scaling for Impact* will enhance CGIAR's responsiveness to stakeholder demand, which is crucial for scaling (Woltering et al., 2024), and will prioritize high-impact demand-led research and scaling (**AoW-1**, *Engage and Empower*). The Program will aid in Portfolio-wide adaptive management, seizing opportunities, and avoiding pitfalls, while supporting Science Programs in designing, testing, and packaging innovation bundles, developing delivery strategies, and evaluating transformative potential (**AoW-2**, *Pathways to Scale*, and **AoW-5**, *Learning for Impact*). The Program will also align business acceleration services with scaling funds offered to other CGIAR Programs and business partners to boost scaling opportunities (**AoW-2**, **AoW-4**, *Achieving Impact*, and **AoW-5**). It will address adjustments in the scaling enabling environment (**AoW-3**, *Enabling Environment Lab*) and integrate innovation bundles into large-scale IFI investments, government programs, and impact investment portfolios, leveraging the private sector and major (I)NGOs (**AoW-4**). **AoW-5** will advance scaling science, enhance innovation portfolio management, and support impact assessment across CGIAR Programs.

## 8.2. Linkages across the Portfolio

*Scaling for Impact* will support all of CGIAR's Programs and Accelerators to achieve the [Impact Area 2030 targets](#). In prioritized countries in which at least four Programs are expected to work, Portfolio links are found in Table 2. These co-delivered activities/innovation bundles will be spelled out in much more detail in the Inception Phase, once it is clearer what the other Programs will be scaling and how.

**Table 2.** Examples of *Scaling for Impact*'s collaboration objectives and potential Area of Work (AoW) synergies, mechanisms, clusters of activities (CoAs), and established links from CGIAR's 2022–2024 Portfolio.

Program or Accelerator	Collaboration objective & relevant AoW from partnering Programs	Collaboration mechanisms	Key Scaling Program CoAs	Established links from CGIAR's 2022–2024 Portfolio
Breeding for Tomorrow	Innovation bundle co-design seed systems scaling strategy support, partner matchmaking (AoW Deliver)	Aligned AoW, shared activities, value addition	1.1–1.3, 2.2–2.4, 3.1–3.3, 4.1–4.3, 5.2–5.3	Scaling Program co-designed with Seed Equal Initiative
Sustainable Farming	Co-design & evaluate scaling pathways for farming systems innovations, support investments, policies, & multistakeholder networks (All AoW, particularly AoW-7)	Shared activities, bilateral projects, value addition	1.1–1.3, 2.2–2.4, 3.1–3.3, 4.1–4.3, 5.1–5.3	Strong RII, Excellence in Agronomy & Mixed Farming Systems Initiatives' integration
Sustainable Animal and Aquatic Foods	Co-design & evaluate scaling pathways for innovation bundles & digital tools, scaling strategy support (AoW-1 & AoW-4)	Shared activities, bilateral projects, value addition	1.1–1.3, 2.2–2.4, 3.1 & 3.2, 4.1–4.3, 5.1–5.3	Builds on RII integration, particularly <i>Ukama Ustawi</i> & AMD RIIs
Multifunctional Landscapes	Following co-bundling of innovations and their scaling pathway evaluation, enable environment enhancement & learning to support science-based landscape transitions (AoW-2 & AoW-3)	Aligned AoW, shared activities, value addition	1.1–1.3, 2.2–2.4, 3.1–3.3, 4.3, 5.1	Agribusiness accelerators with Agroecology Initiative & RIIs, scaling–environment trade-off assessments
Better Diets and Nutrition	Integrate agrifood scaling needs assessments, multistakeholder dietary diversity delivery platforms ( <a href="#">D4N</a> ), evaluate value-chain & policy scaling pathways (AoW-1, AoW-2, AoW-4, AoW-5)	Shared intermediate outputs, activities, strong AoW alignment	1.1–1.3, 2.2–2.4, 3.1–3.3, 4.1, 4.3, 5.2	Well-established & strong collaboration through RIIs' work on food systems & diets, particularly TAFSSA

Climate Action	Co-design & evaluate climate innovations & pathways; support IFI climate investments; co-design low-emissions scaling strategies (all AoW)	Shared intermediate outputs, value addition supporting scaling strategies & actions	1.1–1.3, 2.2–2.4, 3.1–3.3, 4.1–4.3, 5.2–5.3	Climate finance, insurance, carbon-credit collaborations between RIIs & Climate Resilience Initiative, scaling-climate trade-off mitigation
Policy Innovations	Improve stakeholder demand signaling & enabling environment through collaboration with Policy's AoW-2, AoW-4 & AoW-5. MELIA collaboration	Shared intermediate outputs, shared funding of staff	1.1–1.3, 2.2–2.4, 3.1–3.3, 4.3, 5.1–5.3	Shared Policy Innovations Program & NPS team members: Scaling Program co-design
Food Frontiers and Security	Enhance frontier technology through agribusiness accelerators & investments for scaling efforts & strategy development; improve fragile country enabling environments (AoW-1 & AoW-4)	Shared intermediate outputs, shared funding of staff, value addition	1.1–1.3, 3.2, 4.3, 5.2	Existing collaboration between <i>Ukama Ustawi</i> RII Work Package 3 & Fragility & Resilience Initiative Work Package 4
GESI Accelerator	Advance GESI goals & ensure socially inclusive scaling processes, improve GESI impact assessment (full Program)	Shared funding of staff, value addition	1.1–1.3, 2.2–2.4, 4.1–4.3, 5.1–5.3	GESI strongly included in the RIIs being integrated into the Program
Shared Capacity Accelerator	Collaborate to support systems thinking, studentships, and South-South scaling capacity exchange (full Program)	Shared intermediate outputs, activities	2.1, 2.2, 3.2, 4.3, 5.4	This Accelerator is new and does not build on prior CGIAR Portfolio 2025–2030 work
Digital Transformation Accelerator	Improve innovation portfolio management dashboards, informatics (AoW Coordinate & Gaps)	Shared outputs (IPSR), shared funding of staff	5.3	Core Digital team members involved in IPSR and CGIAR's PPU

## 9. Monitoring, evaluation, learning, and impact assessment

### 9.1. Monitoring, evaluation, and learning

*Scaling for Impact's* monitoring, evaluation, and learning (MEL) approaches will be operationalized in a decentralized yet rigorous manner to effectively track progress toward achieving 2030 Program Outcomes and Impacts. Each Area of Work of the Program will oversee monitoring related to its specific intermediate and 2030 outcomes. For instance, **AoW-1, Engage and Empower**, will monitor CGIAR and partners' use of stakeholder demand information to prioritize research and scaling activities, while **AoW-4, Achieving Impact**, will track investments from IFIs or governments into scaling projects. **AoW-5, Learning for Impact**, will act as the central MEL focal point, coordinating efforts across all the Program's areas of work to ensure comprehensive progress monitoring toward 2030 Program Impacts.

During the Program's inception, in collaboration with CGIAR's Portfolio and funders, scaling indicators and 2030 Program Impact targets will be reviewed, adjusted, and aligned with national development objectives and targets in "catalyst" and promising "opportunity" countries where feasible. This process will use CGIAR's existing metrics and create new ones in partnership with governmental MEL teams to assess CGIAR's contribution to national development goals and to evaluate scaling outcomes such as sustainability, inclusiveness, and cost-effectiveness. Thorough efforts will be made to align MEL indicators and systems with those suitable for multiple donors and aligned bilateral projects. Reporting will detail the *Scaling for Impact* Program's direct contributions toward 2030 Outcomes and co-report indirect contributions through other Science Programs receiving *Scaling for Impact* support. Multiple methods — including annual partner surveys, Knowledge, Attitude, Skills, and Practices surveys, and innovation adaptation and adoption studies — will monitor progress to Program outputs. The MEL systems of partners will serve as a vital data source, and partners will participate in MEL capacity sharing to leverage their networks and enhance data collection.

## 9.2. Impact assessment

*Scaling for Impact's* impact assessment strategy will be embedded in its MELIA framework, connecting all the Program's components to test hypotheses and measure outcomes as detailed in Section 5. MELIA insights will guide (i) the identification of promising scaling efforts and pathways, (ii) adjustments to scaling efforts and research design to address challenges, and (iii) the design of sampling strategies. Impact assessment results, fed back into MELIA processes, are crucial for demonstrating progress toward 2030 Program Impacts and broader CGIAR goals. To achieve transformative, large-scale impact, the Program will employ a variety of impact assessment approaches that are fit for purpose and context. This will include experimental approaches (e.g., randomized controlled trials), quasi-experimental approaches (difference-in-difference with matching approaches), remote sensing and spatial analytics, and qualitative approaches, as well as combined approaches when feasible. Multistakeholder meetings (facilitated by **AoW-1** and **AoW-5**) will set country-level impact targets, share methodological strategies, and incorporate sustainability, responsibility, and inclusiveness indicators to assess outcomes in relation to CGIAR's five Impact Areas.

Impact assessment will focus on the Program's "catalyst" countries (see Section 3), with evaluations in promising "opportunity" countries depending on resources. In countries with aligned bilateral projects, the Program's MELIA team will enhance impact assessment by capturing "at scale" effects (see **CoA-4.2**). This includes analyzing intended and unintended scaling impacts, such as how large-scale adoption of conservation agriculture may influence productivity, labor dynamics, wages, and gender outcomes. Broader economic effects and scaling spillovers will be assessed using modeling with the Policy Innovations Program.

## 10. Capacity sharing

*Scaling for Impact* will support transformation of CGIAR's approach to scaling by addressing the critical gap between research outcomes and the daily actions, partnerships, and institutional systems needed for effective scaling (Wani et al., 2022). The Program will employ a holistic approach to capacity sharing with a focus on strengthening capacity across individual, organizational, network, and system levels. This acknowledges that scaling capacity, community growth, and institutional culture change require individual training, improved organizational performance, interorganizational collaboration, and a systems approach to learning and the science, education, and practice of scaling innovation.

The Program will build on a [capacity framework](#) for strengthening the science, education, and practice of innovation scaling developed under *Ukama Ustawi*. This includes expanding support for advanced global South degree students and leveraging other capacity-sharing investments (e.g., [CGIAR's e-learning course on scaling innovation](#), followed by over 1,500 people, and the [Annual Week of Scaling](#), organized since 2022). Capacity sharing is integral to the Program's TOC. **AoW-5, Learning for Impact**, will play a key role in capacity sharing across the Program and with other CGIAR Science Programs, bilateral projects and the Shared Capacity Accelerator.

**Strengthening individual capacity and competencies:** At this level, the Program will focus on building capabilities, skills, and knowledge among scientists, students, and stakeholders. **AoW-1, Engage and Empower**, will help scientists identify and prioritize innovations and apply scaling science principles, including GESI frameworks. Ph.D. candidates from the global South will develop methods for quantifying stakeholder demands and mapping innovation networks, directly contributing to scaling science. **AoW-2, Pathways to Scale**, will support development of scaling frameworks and processes that enhance the ability of CGIAR and partners to co-create, assess, and optimize scaling pathways. **AoW-5, Learning for Impact**, will foster learning across Programs and geographies through Ph.D., postdoctoral, and graduate students' action research and through e-courses supporting the next generation of scaling scientists and practice experts.

**Organizational capacity sharing:** At the organizational level, *Scaling for Impact* will enhance institutional capacity for adaptation and performance improvement. **AoW-1** will drive adaptive management and institutional change across CGIAR's Portfolio by providing demand-supply-alignment frameworks for prioritizing innovations. **AoW-2** will focus on strengthening stakeholder capacity to co-design innovation bundles and use scaling tools and frameworks. Under **AoW-5**, these tools will help CGIAR and its partners to manage innovation portfolios based on evidence. The annual CGIAR "pause and reflect" processes, also supported by **AoW-5**'s emphasis on innovation portfolio management, will facilitate adaptive management practices. **AoW-4**, *Achieving Impact*, will enable the large-scale implementation and replication of successful agri-food innovations, emphasizing capacity sharing with IFIs and governments. Learning programs will ensure institutions prioritize scaling needs in investments and policies.

**Network capacity sharing:** Capacity sharing at the network level will emphasize collaboration and co-creation among research institutions, governments, and businesses. **AoW-1** will build and sustain multistakeholder networks, ensuring that innovation demand is clearly communicated and informs prioritization within CGIAR. **AoW-2** will unite key players in developing context-specific innovation bundles, assessing Scaling Readiness, and fostering collective action among CGIAR, government, and other stakeholders. **AoW-5** will enhance global and regional innovation networks, utilizing the existing 1,345+ partner network established by the RIIs to facilitate South-South capacity exchange to boost knowledge sharing, coaching, best practice dissemination, and co-production of scaling solutions through events like the Annual Week of Scaling and share fairs.

**Institutional systems and capacity sharing:** At this level, *Scaling for Impact* will create an enabling environment for scaling by addressing institutional and policy frameworks affecting innovation adaptation and use. **AoW-3** will focus on capacity sharing with national research institutions, policy organizations, and market actors to foster supportive policy and market conditions for scaling. This includes workshops and learning to enhance participants' ability to navigate complex environments and support agribusinesses in adopting improved business models, managing financial risk, and reducing transaction costs. **AoW-4** will align CGIAR's goals with those of IFIs and impact investors, integrating innovations into larger-scale investments and development programs. Ongoing discussions with partners such as the World Bank will explore how the Program can strengthen capacity for NARES and better link the public- and private-sector in scaling processes. **AoW-5** will support sector-wide capacities for open-access innovation management systems, uniting key agrifood system players to advance evidence-based management.

## 11. Gender equality and social inclusion

**Challenges and prioritization:** Women, youth, underrepresented, and marginalized groups, including Indigenous communities (hereafter, "marginalized groups"), face different significant barriers in scaling efforts due to entrenched norms, cultural hegemony, and limited access to resources, land, and income opportunities (Holbrook et al., 2021; Enokenwa Baa & Nortje, 2023). Innovative approaches focusing on inclusion are needed to address these barriers and engage with these groups effectively. Marginalized groups often struggle with accessing finance, market links, and the resources needed to implement agricultural innovations (McGuire et al., 2022; McGuire et al., 2024). Structural barriers and traditional gender and age roles exacerbate these difficulties, hindering full participation in value chain and innovation development (Stoian et al., 2018). Scaling initiatives often overlook these differences, and so fail to achieve positive outcomes across diverse social groups (McGuire et al., 2024; Schut et al., 2020).

*Scaling for Impact* will address these challenges by prioritizing gender equality and social inclusion through a transformative agenda and targeted interventions. The Program will collaborate with gender-progressive and youth-focused NGOs, CSOs, and CBOs to overcome normative barriers and promote inclusive and responsible scaling. It will integrate these priori-

ties into its research and co-develop *responsible* scaling strategies with partners to ensure equitable access to resources and opportunities for marginalized groups.

**Knowledge base:** Research indicates that gender and youth inequalities, along with social exclusion, significantly hinder the success of agricultural innovations and scaling (de Haan & Gilligan, 2022; Najjar et al., 2023; Nortje et al., 2023). Limited access to knowledge, credit, technology, and market information reduces productivity and income for marginalized groups (Farnworth & Colverson, 2015; Medendorp et al., 2022; Reeves et al., 2023; Tall et al., 2014). Youth face challenges accessing land, finance, and markets, while Indigenous groups are often overlooked in agricultural research and development (Chipfupa & Tagwi, 2021; Nortje et al., 2023; ISDC, 2023).

To address these problems, *Scaling for Impact* will incorporate inclusive scaling methodologies like [GenderUP](#), which emphasizes developing gender-responsive strategies (McGuire et al., 2024) and has guided the design of responsible scaling approaches in East and Southern Africa, particularly for irrigation and mechanization (Enokenwa Baa & Nortje, 2023). The Program will also integrate frameworks on gendered access to healthy diets and to markets from CGIAR's TAFSSA South Asia and Asian Mega-Delta RIIs. Additionally, the Program will value the role of NGOs, CBOs, and CSOs in scaling agricultural entrepreneurship and digital advisory models, and in promoting behavioral change through women's groups (Eerdewijk & Danieisen, 2015; Mohammed & Najjar, 2023; Theis et al., 2019).

Building on CGIAR's Gender Platform insights, *Scaling for Impact* will address gaps in inclusive scaling through **AoW-1, Engage and Empower, AoW-2, Pathways to Scale, and AoW-3, Enabling Environment Lab**. This research will generate context-specific evidence for designing and implementing effective, inclusive scaling strategies. It will emphasize overcoming barriers faced by marginalized groups in accessing finance, market links, and other critical resources. The Program will align its robust GESI research agenda with scaling practices, ensuring that CGIAR's GESI insights are integral to its scaling efforts.

**Research questions:** In response to the challenges identified, *Scaling for Impact* will address key GESI-oriented research questions across its areas of work to tackle challenges related to gender inequality and social exclusion. This focus will include examining how gender dynamics and social norms impact research demand and scaling outcomes and will identify ways to make scaling pathways more inclusive (**OP-2.2, OP-3.1–OP-3.3, and OP-5.2**). The Program will also include designing scaling strategies that amplify the voices of marginalized communities to ensure equitable access to resources and to explore how socio-technical innovations can enhance resource access and market participation for marginalized groups (**OP-1.1, OPs-2.1–2.4, OPs3.1–3.3, and OPs 4.1 and 4.3**). The Program will investigate complementary strategies, such as gender-sensitive messaging and alternative livelihood strategies, to increase participation in scaling efforts, looking particularly at how enabling environments can be strengthened to address structural gender inequalities and other forms of exclusion while minimizing unintended negative consequences for vulnerable populations (**OPs 2.2–2.4 and OP3.3**). Considering innovations identified for amplification, the Program will examine how CGIAR can leverage public and private international finance mechanisms to support gender-responsive scaling and ensure that socially excluded groups have access to these financial opportunities (**AoW-4**). Finally, *Scaling for Impact* will evaluate the effectiveness of gender and social inclusion innovations in achieving transformative outcomes and will identify factors influencing the successful scaling of innovations across different regions, e.g., how co-designing and evaluating scaling pathways can advance inclusive capacity-sharing mechanisms and enhance research and scaling outcomes (**OPs 2.1–2.4, OPs3.1–3.3, OPs 5.2 and 5.3**). Much of this research will be conducted under **AoW-3 OP3.3**, focusing on how scaling strategies and pathways are both responsible and inclusive and are supported by enabling environments.

**Results and theories of change:** *Scaling for Impact* will integrate GESI into 16 of its 17 outputs, with a targeted GESI output under **AoW-3 OP-3.3**. This Program will ensure that

benefits reach marginalized groups through capacity sharing and responsible scaling principles. **AoW-1** will document and articulate research and scaling demands from marginalized groups, enhancing GESI activities via adaptive management. **AoW-2** will co-design and refine inclusive scaling pathways, also prioritizing marginalized groups. **AoW-3** will build agency and empowerment through transformative enabling environments. **AoW-4** will incorporate GESI into financing and scaling strategies. **AoW-5** will promote South-South learning on social inclusion in scaling. The Program will support CGIAR's 2030 objectives, including [closing the gender gap](#) in economic resources and improving opportunities for over 500M women and 267M young people. It will implement GESI training, generate age- and gender-disaggregated data, and develop gender-responsive and transformative scaling approaches. Throughout its design and implementation, the Program will embed social inclusion principles and leverage the expertise of gender- and youth-focused NGOs, CBOs, and CSOs to enhance scaling.

**Resources and capacity:** Implementing the *Scaling for Impact*'s gender equality and social inclusion component will require a high level of awareness, comprehensive GESI skills, and dedicated resources and staff. The Program's design accounts for the need to invest in socially inclusive research and scaling expertise and in providing ongoing capacity sharing with the internal team, with partners, and across CGIAR's Portfolio. Budget adjustments will be made during the Program's inception to help realize adequate financial resources for GESI activities. Establishing strong partnerships with organizations specializing in GESI and supporting marginalized populations will be crucial. By leveraging the expertise of localized partners and stakeholders, the Program will enhance scaling science capacity sharing and amplify real-world impact.

## 12. Climate change

**Known impacts of climate change:** Climate change widely affects food, land, and water systems, presenting significant challenges to scaling agrifood solutions (Bezner et al., 2022; Nabuurs et al., 2022). Climate hazards vary across regions, with climate variability and drought in Central and West Asia and North Africa (CWANA), high temperatures and variable rainfall across Africa, flood and climate variability across South Asia (SA) and Southeast Asia (SEA), and high temperatures and floods in Latin America and the Caribbean (LAC) (Jarvis et al., 2021; IPCC, 2021). Simulated staple crop yields (e.g., maize, millet, sorghum, rice) are projected to decrease 7–23% globally, accounting for CO<sub>2</sub> fertilization (Rezaei et al., 2023), with regional and local decreases reaching much higher (Hasegawa et al., 2022), as well as impacts to fish (Barange et al., 2018), livestock production (Thornton et al., 2022), and water resources (Liu et al., 2022). These cascading challenges affect agrifood systems, including farms, value chains, and markets, such as transport, storage, and price volatility (Godde et al., 2021). Climate change also impacts consumers and nutrition outcomes by reducing food quantity and access, nutritional content, and dietary diversity (Fanzo et al., 2018).

**Climate future-proofing scaling:** Addressing these challenges requires climate solutions scaled to build resilience and adapt to a warming world while reducing greenhouse gas emissions across all parts of agrifood systems, from regional, national, and local perspectives, all considering the socially inequitable effects of climate change (Loboguerrero et al., 2019). Moreover, climate change exacerbates risk aversion among the rural poor and agribusinesses by increasing unpredictability and amplifying the consequences of failure, which in turn affects their willingness to experiment with, adapt, and adopt new innovations (Duong et al., 2019), thereby requiring behavioral and climate risk-informed approaches to scaling (Waldman et al., 2020). This Program will link with CGIAR's Climate Action Program to address these challenges, including integrating climate analysis into demand signaling (**AoW-1, Engage and Empower**), providing digital climate advisory services, locally led adaptation solutions, and low-emissions technology bundles for scaling strategies (**AoW-2, Pathways to Scale**), refining climate policy fostering enabling environments (**AoW-3, Enabling Environment Lab**), securing climate finance for scaling (**AoW-4, Achieving Impact**), and tracking progress toward climate goals (**AoW-5, Learning for Impact**).

**Planned work on climate change adaptation toward the CGIAR Global Target:** *Scaling for Impact* will support the CGIAR System-level goal of equipping 500M users with climate solutions by 2030. Scaling pathways for these climate solutions will be developed with partners (**AoW-2**) using responsible scaling approaches that include climate adaptation and mitigation considerations, to be tested at scale in selected regions and evaluated for their effectiveness. The enabling institutional environments for scaling climate solutions will be improved through locally led climate adaptation action with governments, NGOs, farmer organizations and cooperatives, agrifood system companies, financial technology and service providers, NARES, and local communities (**AoW-3**). These climate solutions will be used to de-risk large-scale public, private, and blended finance, to support development of bankable innovative projects, and to create platforms for knowledge sharing (**AoW-4**).

**Mitigation with adaptation co-benefits toward the CGIAR Global Target:** This Program will align with CGIAR's Global Targets on climate change mitigation with adaptation co-benefits to reduce greenhouse gas emissions and enhance carbon sinks. **AoW-1** will identify and prioritize country demand signals for scaling low-emission climate solutions with adaption co-benefits, such as low-emission rice varieties and livestock breeds, conservation agriculture, solar irrigation, improved livestock management, reforestation, afforestation, and the restoration of degraded lands and wetlands, among others. **AoW-2** will develop scaling pathways and evaluate these for climate outcomes and scaling effectiveness based on local demand. **AoW-3** will address scale challenges in enabling environments and **AoW-4** will amplify scaling through IFIs, impact investment, and corporate social responsibility funds.

**Translating science into climate policies and action toward the CGIAR Global Target:** *Scaling for Impact* will support country implementation of long-term low-emission development strategies, nationally determined contributions to reduce greenhouse gas emissions as set out in the 2015 Paris Agreement, and national adaptation plans. The Program will engage with national stakeholders to support scaling high-priority climate solutions aligned with national priorities and tracking the resulting climate benefits toward global commitments. **AoW-1** will engage with national and regional climate policy platforms to use data on climate risks, impacts, and greenhouse gas emissions, along with identifying climate policy gaps and entry points, to signal demand for scaling climate solutions through national innovation systems and policy pathways. It will develop evidence-based recommendations to enhance the enabling environment for scaling climate solutions that increase climate resilience and reduce emissions (**AoW-3**). Once climate solutions are evaluated as effective for scaling, climate finance (e.g., Adaptation Fund, Green Climate Fund), public investments, green private/blended finance, and other financing mechanisms (e.g., loss and damage) will be leveraged to amplify scaling in targeted regions (**AoW-4**). **AoW-5** will ensure that the monitoring, measurement, and evaluation frameworks used for scaling are aligned with CGIAR's Climate Action Program activities to track progress toward national and global adaptation and mitigation goals. Toolkits, resources, and capacity building for policymakers and national and regional think tanks and stakeholders will enhance their analytical skills and understanding of climate science and its scaling policy applications (**AoW-5**).

### 13. Risk management

*Note: Risks will be finalized and mitigation actions will be developed as part of the risk management plan during the Inception Phase*

Five potential risks to *Scaling for Impact* include (i) CGIAR governance and (ii) coordination issues, (iii) engagement challenges, (iv) disruptive shocks, and (v) scaling complexity. The first two may cause implementation challenges and unintentional activity duplication (Table 3).

**Table 3.** Potential risks to the *Scaling for Impact* CGIAR Program

No.	Risk statement
1	Despite CGIAR's efforts to coordinate its Programs, Accelerators, and bilateral investments, insufficiently communicated governance principles and competition for resources may lead to planning and collaborating challenges, undermining the Scaling Program's effectiveness and increasing unintentional duplication.

- 2** Uncoordinated stakeholder engagement by Programs, Accelerators, and bilateral projects and coordination issues experienced by CGIAR country conveners could lead to confusion about CGIAR's mandate and hinder synergies, potentially compromising the Scaling Program's effectiveness.
  - 3** Economic, political, or environmental shocks could disrupt the Program's activities by destabilizing markets, collaborations, or activities, potentially jeopardizing its ability to achieve high-level outputs and outcomes and delaying or diminishing its impact.
  - 4** Challenges in communicating research's role in scaling activities to donors and partners could undermine the Program's objectives and misalign its core goals, impeding evidence-based solution implementation and straining stakeholder relationships.
  - 5** Scaling innovations across diverse agrifood systems may face challenges from context differences,
- 

Uncoordinated stakeholder engagement could cause confusion and hinder synergies between the Program and CGIAR's Portfolio. Economic, political, or environmental shocks might disrupt activities, jeopardizing outputs and outcomes. Communication challenges with donors and partners could misalign goals and impede solution implementation. Scaling across diverse systems may encounter context differences, infrastructure limitations, regulatory barriers, or cultural resistance, affecting effectiveness and increasing costs. Mitigation plans will be designed and implemented during the Program's Inception Phase to address these risks.

#### 14. Funding sources

**Overview of funding mix:** *Scaling for Impact* consists of five interconnected areas of work operating globally, supported by pooled and bilateral resources. CGIAR's preliminary budget scenarios for 2025 include two potential funding levels: a "base" level (Scenario 1) and a "surge" level (Scenario 2), described in Table 4. While both scenarios will be complemented by aligned bilateral projects, *Scaling for Impact*'s ambitious goals necessitate substantial support, even beyond the surge level, to align CGIAR's research along scaling pathways that can deliver transformative impact. This figure is represented in the "Ambition" column below.

**Table 4:** High-level breakdown of pooled funding by Area of Work (AoW) for 2025 (in millions USD)<sup>a</sup>

*In the final version, Table 4 will be inserted here, showing the breakdown of pooled funding by Area of Work for different budget scenarios.*

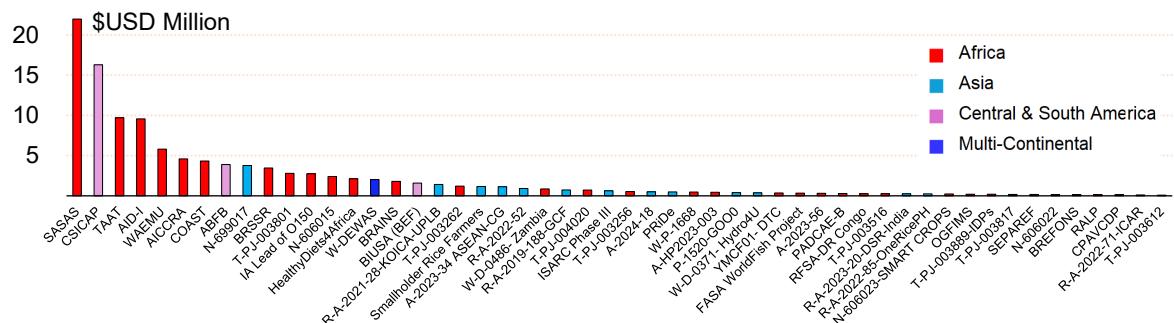
**Anticipated use of pooled funding:** By leveraging the extensive "network of networks" created by the RIIIs and NPS across regions, the Program's team, embedded with national partners, will apply pooled funding to enhance CGIAR's collaborations and effectively coordinate large-scale research and scaling efforts. Each Program Area of Work will be led by experts with strong scaling and scientific expertise coupled with exceptional facilitation, coordination, and partnership skills. Activities are anticipated to adhere to demand-driven, impact focused, and primarily consensus-based work plans, collaboratively developed by global Area of Work leads and regional leads in "catalyst" and promising "opportunity" countries. These regional leads offer extensive on-the-ground experience and established partnerships with relevant stakeholders in SA, SEA, CWANA, East and Southern Africa (ESA), West and Central Africa (WCA), and LAC. Resources will enhance Area of Work activities and support efforts in key regions, and the Program expects that donors will be able to continue to designate investments into specific regions and countries of priority interest. This has supported designated investments between \$23 and \$24M per year in 2023 and 2024 to the RIIIs and NPS being integrated into the Program.

Pooled funding will underpin foundational activities across areas of work crucial for *Scaling for Impact*'s success. It will support leading scaling experts, essential activities, and partnerships, providing a base for the Program's global, regional, national, and subnational operations and coordination within the CGIAR Portfolio. Efforts will focus on sustaining partnerships and multi-stakeholder networks and scaling hubs established by the RIIIs as public goods to develop innovation bundles and packages and to refine and improve scaling pathways. This work forms the core of RII efforts integrated into **AoW-2, Pathways to Scale**, essential for driving transformative change. Additionally, pooled funding is crucial to support underrepresented geographies not supported by bilateral projects or designated Window 2 Funds, especially in

Asia (see Annex), and to sustain and expand partnerships. Pooled funds will also advance scaling efforts from CGIAR's 2022–2024 Portfolio necessary for achieving the Program's vision of impact.

Pooled funds are crucial for supporting targeted country-level CGIAR coordination, adaptive portfolio management, and scaling strategy development (**AoW-1, Engage and Empower**, and **AoW-4, Achieving Impact**); aligning policies and markets that create enabling environments (**AoW-3, Enabling Environment Lab**); and advancing innovations in learning, impact assessment, and scaling capacity sharing (**AoW-5, Learning for Impact**). They will facilitate sustained partner collaborations and leverage bilateral projects to generate valuable data and scaling insights, which will inform systemwide innovation, portfolio management, and scaling improvements. These insights will be integrated through feedback loops, particularly influencing **AoW-1**'s demand signaling and adaptive management advising (**CoA-1** and **CoA-2**), and **AoW-5** (**CoA-5.1**), refining future strategies. This will enhance the Program's capacity to rapidly respond to emerging challenges and opportunities across CGIAR's Portfolio, increasing overall effectiveness and impact. For detailed information on pooled funding allocation and use, see *Scaling for Impact*'s Annex.

**Bilateral funding overview:** As the *Scaling for Impact* Program integrates aligned bilateral projects as described in its TOC, understanding funding distribution is crucial for designing a strategy where bilateral and pooled funding synergize to achieve the Program's 2030 goals. CGIAR's bilateral funding mapped to the *Scaling for Impact* Program is characterized by a few very large projects with budgets exceeding \$10M, 20 or so mid-sized projects of about a \$1–2M year<sup>1</sup>, and a larger number of smaller projects (Appendix 14). The largest projects make up most of bilateral funding and are concentrated in Africa ([Figure 10](#)). *Scaling for Impact* prioritizes projects that have the demonstrated design and implementation potential to maximize impact over project size or total financial contributions to CGIAR. While larger projects may offer immediate or extensive scaling outcomes, smaller projects that align with broader initiatives or have high impact potential will also be prioritized. In 2025, however, the Program's efforts will initially concentrate on larger investments (Table 5), with expansion to smaller bilateral projects in late 2025 and beyond. Pooled funding will ensure coherence within and across the Program's areas of work, addressing gaps left by fragmented bilateral projects. A preliminary analysis suggests that much of the Program's mapped bilateral funding is expected to align with **AoW-2** and **AoW-4**. Although **AoW-4** will receive a smaller share of pooled funding during the transitional 2025 year, it is a crucial component of the Program, providing scaling strategy support and technical assistance models with multilateral development bank investments, with government programs, and with impact investors. **AoW-4** will coordinate efforts, develop scaling strategies, and support operational aspects critical to the success of these bilateral projects. **AoW-4**, as well as **AoW-1** and **AoW-5**, are expected to see increases in funding in the years following 2025.



**Figure 10.** Expected 2025–2030 funding (\$USD M) preliminarily mapped to *Scaling for Impact*.

Additionally, pooled funding will leverage lessons from TAAT to support emerging opportunities in innovation portfolio management with other IFIs and guide the creation of a scaling clearinghouse for multilateral development investments in Asia. Bilateral funding is, however, signifi-

cantly less in Asia. Strategic use of pooled funds will therefore be needed to kick-start the Program in Asia.

**Table 5.** Key bilaterally funded projects mapped to the Scaling for Impact Program by budget across regions

Project Title	Lead Center(s)	Funder	Countries	Expected 2025–2030 funding (\$USD M)
SASAS <sup>1</sup>	CIMMYT	USAID	Sudan	\$21.373 (current phase)
CSICAP <sup>2</sup>	Alliance	GCF/CAF	Colombia	\$16.287 (current phase)
TAAT <sup>3</sup>	IITA, AfricaRice	AfDB, BMGF	Pan-African	\$9.705 (current phase)
AID-I <sup>4</sup>	CIMMYT, IITA	USAID	Burundi, Botswana, Eswatini, Lesotho, Malawi, Mozambique, Namibia, South Africa, Tanzania, Zambia	\$9.568 (current phase)
WAEMU <sup>5</sup>	AfricaRice	Mastercard Foundation	Benin, Côte d'Ivoire, Niger, Senegal, Togo	\$5.804 (current phase)
COAST <sup>6</sup>	WorldFish	FCDO	Kenya, Mozambique, Nigeria, Tanzania, Bangladesh	\$4.327 (current phase)
AICCRA <sup>7</sup>	Alliance, ILRI, IWMI	World Bank, IDA	ESA, Ethiopia, Ghana, Kenya, Mali, Senegal, West Africa, Zambia	\$4.593 (current phase), \$90.000 (approved next phase)
DEWAS <sup>8</sup>	CIMMYT	BMGF	Multi-continental: Bangladesh, Bhutan, Ethiopia, Kenya, Mexico, Nepal, Pakistan, Tanzania, Zambia	\$2.023 (current phase)

<sup>1</sup> Sustainable Agrifood Systems Approach for Sudan (SASAS), <sup>2</sup> Climate-smart Initiatives for Climate Change Adaptation and Sustainability in Prioritized Agricultural Production Systems in Colombia (CSICAP), <sup>3</sup> Technologies for African Agricultural Transformation (TAAT), <sup>4</sup> Accelerated Innovation Delivery Initiative (AID-I), <sup>5</sup> West African Economic and Monetary Union (WAEMU), <sup>6</sup> Climate-smart Agriculture for Adaptation and Sustainability (COAST), <sup>7</sup> Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA), <sup>8</sup> Disease Early Warning Advisory System (DEWAS). (Further details of these bilateral projects are show in Appendix 15)

## Annex - Pooled Funding

### What aspects of *Scaling for Impact* will be supported by pooled funding?

Pooled funding in *Scaling for Impact* is allocated to strategically support essential functions and components necessary to achieve Program objectives. *Scaling for Impact* uniquely integrates all CGIAR Programs, aligning their efforts to enhance research and scaling coherence. By building on existing work and advancing evidence-based practices, the Program effectively bundles, packages, and scales innovations across the CGIAR Portfolio.

**Baseline funding scenario:** In 2025, 63% of *Scaling for Impact*'s baseline budget is allocated to **AoW-2** and **AoW-3**, reflecting the need to sustain continuity in activities that strengthen the overall Program and support the CGIAR Portfolio (Table 4, Section 14). This allocation is anticipated for the Program's first year, with funding disparities between areas of work expected to diminish from 2026 onwards as **AoW-1**, **AoW-4**, and **AoW-5** will be progressively developed. Geographic differences in bilateral funds are also apparent in 2025, with Asia requiring crucial pooled resources to kick-start Program efforts. **AoW-2, Pathways to Scale**, is proposed to receive 43% of the pooled funding, driven by the following factors.

**(i) AoW-2** leverages over 110+ ready-to-scale innovations from the RIIs and their partners, now aligned with the Program, which will be packaged and co-designed with scaling strategies for testing and implementation. This arrangement maintains crucial regional-, national-, and community-based partnerships established by the RIIs to support scaling efforts. **(ii) AoW-2** is explicitly designed to foster collaboration across all components of agrifood systems with all Programs: **(a)** agricultural production and farming systems (partnering with CGIAR's Breeding for Tomorrow, Sustainable Farming, Sustainable Animal and Aquatic Foods, and Multifunctional Landscapes Programs); **(b)** postharvest value chains and food retail environments (with CGIAR's Sustainable Animal and Aquatic Foods, Policy Innovations, Better Diets and Nutrition, and Food Frontiers and Security Programs); **(c)** biofortification, food environments, and

the impact of consumption on diets and nutrition (with CGIAR's Better Diets and Nutrition and Policy Innovations Programs); and **(d)** reducing environmental trade-offs and climate risks (with CGIAR's Sustainable Farming, Climate Action, Food Frontiers and Security, and Multi-functional Landscapes Programs). **(iii)** Most partnership- and field-oriented activities, encompassing all segments of agrifood systems — including farming communities — occur within **AoW-2**, requiring substantial operational funding due to higher transaction costs.

Additionally, *Scaling for Impact's AoW-3* will make enabling environment adjustments to support enhanced scaling. Allocated 20% of the 2025 budget, **AoW-3** will address policy, market, and normative barriers to scaling, and will work with partners to develop strategies, policies, and business plans while improving risk management, governance, and innovation adoption. By building on RII and NPS efforts, **AoW-3** will maintain scientific and policy partnership continuity. The remaining 37% of the budget will support emerging workstreams (**AoW-1**, **AoW-4**, and **AoW-5**), expanding existing efforts and introducing new scaling activities for 2026 and beyond. This investment is crucial for establishing key activities in the Program's "catalyst" countries (see Section 3) and for supporting proof-of-concept and capacity-sharing efforts that enhance CGIAR Portfolio-wide coherence and synergies.

**AoW-1, Engage and Empower**, provides crucial support functions across CGIAR's Portfolio. It accounts for 13% of the proposed 2025 pooled funding budget and focuses on systematically understanding and responding to stakeholder demands for research and scaling across regions and countries. It establishes platforms for dialogue and collaboration within the CGIAR Portfolio, with country conveners playing a crucial role in capturing demand signals and aiding all CGIAR Programs to adaptively manage their activities based on stakeholder feedback during their annual "pause and reflect" work planning. Its budget will need to be grown from 2026 forward.

**AoW-4, Achieving Impact by Unlocking Finance and Partnerships**, is proposed to receive 11% of the pooled budget. This Area of Work positions CGIAR as a leading provider of technical assistance, directing funding opportunities through IFI, impact, and blended finance mechanisms to support large-scale agricultural and economic development projects. **AoW-4**, which is projected to grow after 2025, will also establish a cross-Portfolio Scaling Strategy Support Team and work to establish innovation clearinghouses based on TAAT outside of Africa.

**AoW-5, Learning for Impact**, is proposed to receive 13% of the pooled budget. This Area of Work positions the Program as a key integrator and knowledge hub for CGIAR, enhancing both the science and practice of scaling through continuous learning, adaptive management, and the monitoring and evaluation of scaling strategies. **AoW-5** will also advance innovations in impact assessment and develop systems to learn from scaling failures, thereby supporting improvements across CGIAR's entire Portfolio. By fostering a culture of learning, this Area of Work will provide evidence-based insights to optimize scaling outcomes, refine innovation bundles, and mitigate unintended consequences across Programs and bilateral engagements.

**Surge funding scenario:** In the surge funding scenario (Table 4, Section 14), *Scaling for Impact* will focus on strengthening its newest areas of work (**AoW-1**, **AoW-4**, and **AoW-5**). **AoW-2** would receive 40% (instead of 43%), while **AoW-3**'s funding would remain at 20%. **AoW-1**, **AoW-4**, and **AoW-5** would receive 15% (up from 13%), 13% (up from 11%), and 15% (up from 13%), respectively. This allocation strategy recognizes the importance of continuity in the activities from the 2022–2024 Portfolio, as recommended by CGIAR, and acknowledges that sustained impact requires sufficient resources across all areas of work for effective collaboration and integration with other Science Programs.

Looking ahead, *Scaling for Impact* anticipates continued growth in combined pooled and bilateral funding as it matures and implements mechanisms to support scaling pathways across the CGIAR Portfolio. While **AoW-2** and **AoW-3** may see minor budget adjustments due to economies of scale, **AoW-1** and **AoW-4**, in particular, are expected to experience more significant growth from 2026 forward. Growth in **AoW-4** in particular will be driven by opportunities for catalytic financing in collaboration with IFIs and impact investors. For **AoW-5**, pooled

investment will be essential for comprehensive impact evaluation and fostering South-South collaboration efforts. Expanding these areas will also enhance the Program's potential to achieve transformative results and attract further funding.

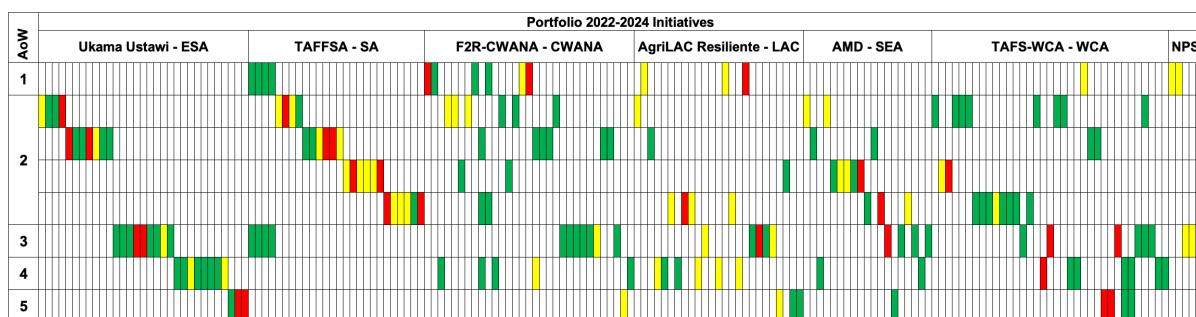
### How does pooled-funded work build on the work of the 2022–2024 Initiatives?

*Scaling for Impact* builds primarily on the work of six RIIs and the NPS Initiative. It integrates eight 2022–2024 Portfolio Initiatives — more than any other CGIAR 2025–2030 Program or Accelerator. Pooled funding supports a highly interconnected Program across all areas of work, ensuring integration, sustainability, and support for other CGIAR Science Programs and over 100 scaling bilateral projects. The Program leverages over 1,300+ ongoing partnerships established by these Initiatives, along with networks of stakeholders and platforms at local, national, and regional levels. These relationships, developed and strengthened through the RIIs and NPS, were integral in the identification of "catalyst" countries identified in the Program's preliminary prioritization exercise (Section 3).

By addressing key recommendations from the Resilient Agrifood Systems Science Group evaluation (Palmieri et al., 2024), the Program emphasizes continuity beyond the 2022–2024 Portfolio, focusing on sustained efforts and enhanced coordination for long-term impact and systems-level change. Data from CGIAR's [Results Dashboard](#) highlights that the Program draws on a robust Portfolio of 113 ready-to-scale innovations, each with a high or very high Scaling Readiness score. These innovations are distributed as follows: ESA: 30; CWANA: 9; WCA: 8; SEA: 36; SA: 19; and LAC: 11. Pooled funding supports essential activities such as collaboration with CGIAR's country conveners, deemed critical for Portfolio effectiveness in independent evaluations of the 2022–2024 period (Palmieri et al., 2024). It also maintains partnerships and multistakeholder platforms from the previous Portfolio, which are crucial for scaling and achieving integration across CGIAR's projects.

### How does the planned work meet the criteria for use of pooled funding?

A systematic, self-reflective approach was implemented to map and adapt ongoing work within the current Portfolio, ensuring alignment with pooled funding criteria. Close collaboration between Initiative leaders and the *Scaling for Impact* writing team facilitated this alignment. After analyzing inputs ([Figure 11](#)), the Program refined its efforts to meet broader objectives and pooled funding criteria. Activities not aligned with strategic priorities will be discontinued or significantly modified, ensuring pooled funding supports high-impact efforts. The first phase of this self-reflection and results mapping exercise, completed in May 2024, established a strong foundation for effective pooled funding utilization. The exercise identified opportunities to enhance, adapt, or substantially revise activities in the current Portfolio to align with the new Program.



**Figure 11.** Results of the mapping exercise of RII and NPS research and scaling activities from the 2022–2024 Portfolio toward the Science for Impact Program completed July of 2024. Columns represent activities in the RII's 2024 Plan of Results and Budget. Green denotes work that was well-aligned with the Program's scope; yellow

*indicates work that required adaptation to align with the Scaling for Impact Program. Red represents work that was significantly adjusted to integrate with the Program or that will be discontinued<sup>1</sup>.*

All RIIs and NPS found that their work generally matched the Program's areas of work but also highlighted activities requiring adaptation or discontinuation. A subsequent mapping exercise following alignments of budgets with *Scaling for Impact*'s areas of work confirmed that significant adjustments had been made, especially in **AoW-2** and **AoW-3**, which encompass most of ongoing RIIs efforts (Appendix16). Additionally, focus has been directed toward new areas (particularly **AoW-1**, **AoW-4**, and **AoW-5**), with new and partially new workstreams emerging from existing activities.

### **Are there any previously bilaterally funded workstreams proposed for pooled funding?**

The *Scaling for Impact* Program recognizes the value of bilateral funding for advancing knowledge and practice in scaling within agrifood research for development. However, pooled funding is primarily allocated to adapting ongoing work from the current Portfolio and supporting workstreams in new areas of work across different regions.

### **What new and emerging areas of work will be supported by pooled funding?**

Adaptation of Initiatives into *Scaling for Impact* is significant, reflecting a coordinated emphasis to align the RIIs and NPS under a unified scaling emphasis and framework. Key emerging areas of work that will be supported by pooled funding are described below.

**AoW-1** represents a major shift in CGIAR's stakeholder engagement strategy by integrating regional and national demands into scaling efforts. It introduces mechanisms for dynamic interaction with stakeholders, ensuring the Program and CGIAR's entire Portfolio remains responsive and relevant. By focusing on specific geographic needs, **AoW-1** aligns CGIAR's Portfolio with stakeholders' demand, fostering for a more client-oriented model at regional and national levels while providing essential data and advice for adaptive Portfolio management.

**AoW-2** expands the RIIs' scope and integrates their activities to enhance scientific and scaling coherence. Leveraging the "networks of networks" established by the RIIs, this Area of Work creates a cohesive framework for integration. The framework includes action-learning clusters of activities that diagnose innovation systems, design scaling pathways, evaluate effectiveness, refine pathways, and amplify innovations, with renewed focus on scaling across regions.

**AoW-3** builds on the foundational work of NPS and the RIIs by implementing a robust approach to improving enabling environments for scaling. It will tackle policy, market, and social barriers to create conditions for successful scaling across the CGIAR Portfolio. By reinforcing policy and market systems, **AoW-3** is designed to ensure that CGIAR's innovations and strategies achieve significant and lasting development impact.

**AoW-4** will enhance financial innovation and partnership-building to accelerate scaling. It will develop robust alliances to unlock innovative funding mechanisms and new scaling opportunities. By positioning CGIAR as a leading player in global agricultural and economic development, **AoW-4** will drive its transformation into a top technical assistance partner. This will facilitate the allocation and leverage of substantial IFI, impact investment, and corporate social responsibility financial resources toward scaling and impact.

**AoW-5**, a new addition following the 2022–2024 CGIAR Portfolio, will systematically capture and apply lessons from scaling processes. It will foster a culture of continuous improvement within CGIAR, refining and adapting the Portfolio to emerging scaling opportunities. By emphasizing learning-oriented results, **AoW-5** will ensure that scaling efforts by CGIAR and its myriad partners are responsive, responsible, effective, and resilient.

<sup>1</sup> CGIAR's Aquatic Foods Initiative also mapped a single Work Package (#5), which had focused on business acceleration, to *Scaling for Impact*. This Work Package however experienced budget cuts and was [not included in Aquatic Foods activities from 2023 forward](#). CGIAR's budgeting projections for 2025, however, included a fund of \$129,175 for this Initiative and Work Package mapped to *Scaling for Impact*, which will be incorporated into AoW-2; further funding for this Initiative's work in the *Scaling for Impact* Program will need to be mobilized from bilateral resources.

## Which previously pooled-funded workstreams are being discontinued, and why?

*Scaling for Impact* will prioritize high-impact activities with the greatest potential to achieve its 2030 Program Outcomes and Impacts. During the Program's design process, emphasis was placed on activities that deliver measurable results, leading to the exclusion of previous research streams or activities that did not meet these criteria. Each integrated Initiative conducted comprehensive self-assessments, resulting in the discontinuation or significant adaptation of activities that do not align with the Program's strategic goals.

(i) **Ukama Ustawi-ESA** RII will cease several activities due to their lack of innovation bundle, package, and scaling pathway alignment or failure to directly contribute to the Initiative's goals. Resources have been reallocated to strengthen new efforts in **AoW-1** and **AoW-5**.

(ii) **TAFS-WCA** RII will discontinue workstreams better suited for other CGIAR Science Programs, including those focused on improving diet quality, raising awareness of ecosystem services, and integrated monitoring of One Health challenges. This realignment improves resources matched with *Scaling for Impact*'s priorities.

(iii) **TAFFSA-SA** RII will discontinue upstream research activities, such as those associated with the political economy of historical agrifood systems change, groundwater and modeling assessments, food waste assessments, and nutrition literature reviews that can be better aligned with other CGIAR Programs. Although important, these topics are deprioritized to align with *Scaling for Impact*'s new vision. The budget from these activities will be redirected to **AoW-4** and **AoW-5** to seed these areas and prime them for expanded future funding.

(iv) **AgriLAC** RII will shift from a single innovation development approach to a focus on bundling solutions with evidence-based scaling strategies. Consequently, research on genetic resources without clear scaling pathways and thematically focused research without innovation bundling potential will be discontinued. Resources will be reallocated to **AoW-1** and **AoW-5** to enhance *Scaling for Impact*'s newer areas of work.

(v) **AMD-SEA** Initiative will phase out non-designated funding workstreams on nutrition outcome surveys in the Mega-Delta countries and policy analysis in Bangladesh and Cambodia. Future work will analyze existing data to better identify pathways toward more scalable solutions. Further refinements in this RII's work will be collaboratively identified during the Program's Inception Phase.

(vi) **F2R-CWANA** Initiative will discontinue efforts related to the conservation of endemic CWANA agrobiodiversity, including *in-situ* and *ex-situ* conservation and policy reviews remapped to other Programs. These activities are deprioritized to focus more sharply on supporting the Program's scaling objectives.

(vii) **NPS Initiative** will allocate 25% of its 2024 budget to *Scaling for Impact*, with the remainder integrated into the Policy Innovations Program. New activities within *Scaling for Impact* will address enabling environment challenges associated with innovations identified in **AoW-2**.

## References

- Abate, G. T., Abay, K. A., Chamberlin, J., Kassim, Y., Spielman, D. J., & Tabe-Ojong, M. P. J. (2023). Digital tools and agricultural market transformation in Africa: Why are they not at scale yet, and what will it take to get there? *Food Policy*, 116, 102439. <https://doi.org/10.1016/j.foodpol.2023.102439>
- Adeniyi, D., Rampa, F., & Menza, G. (2024). *Creating an enabling environment for developing and deploying market-ready science-based innovations for sustainable food systems*. Bioversity International and the International Center for Tropical Agriculture (CIAT), Rome Italy. <https://hdl.handle.net/10568/141592>
- African Development Bank. (2019). *African Development Fund*. African Development Bank Group. <https://www.afdb.org/en/projects-and-operations/financial-products/african-development-fund>
- Alvarez, S., Douthwaite, B., Thiele, G., Mackay, R., Córdoba, D., & Tehelen, K. (2010). Participatory Impact Pathways Analysis: a practical method for project planning and evaluation. *Development in Practice*, 20(8), 946–958. <https://doi.org/10.1080/09614524.2010.513723>
- Amoussohoui, R., Arouna, A., Bavorova, M., Tsangari, H., & Banout, J. (2022). An extended Canvas business model: A tool for sustainable technology transfer and adoption [Dataset]. In *Harvard Dataverse*. <https://doi.org/10.7910/dvn/f4xnuo>
- Argyris, C., & Schön, D. (1974). *Theory in Practice: Increasing Professional Effectiveness*. Jossey-Bass, San Francisco, USA.
- Barker, P. M., Reid, A., & Schall, M. W. (2016). A framework for scaling up health interventions: Lessons from large-scale improvement initiatives in Africa. *Implementation Science*, 11(12). <https://doi.org/10.1186/s13012-016-0374-x>
- Barange, M., Bahri, T., Beveridge, M. C. M., Cochrane, K. L., Funge-Smith, S., & Poulain, F. (Eds.). (2018). *Impacts of climate change on fisheries and aquaculture: synthesis of current knowledge, adaptation and mitigation options*. FAO Fisheries and Aquaculture Technical Paper No. 627, Rome.
- Barrett, C. B., Benton, T., Fanzo, J., Herrero, M., Nelson, R. J., Bageant, E., Buckler, E., Cooper, K., Culotta, I., Fan, S., Gandhi, R., James, S., Kahn, M., Lawson-Lartego, L., Liu, J., Marshall, Q., Mason-D'Croz, D., Mathys, A., Mathys, C., Mazariegos-Anastassiou, V., Miller, A., Misra, K., Mude, A., Shen, J., Sibanda, L. M., Song, C., Steiner, R., Thornton, P. & Wood, S. (2022). Socio-Technical Innovation Bundles for Agri-Food Systems Transformation. In *Sustainable development goals series*, 1–20. Palgrave Macmillan. [https://doi.org/10.1007/978-3-030-88802-2\\_1](https://doi.org/10.1007/978-3-030-88802-2_1)
- Beaudreault, A.R., Meinke, H., & Islam, M. (2024). Enabling Inclusive Innovation in Agriculture and Food Systems [Special Issue]. *Agricultural Systems*. <https://www.sciencedirect.com/special-issue/1006XP8X444>
- Benni, N. (2024). *The design and implementation of Technical Assistance Facilities to unlock agribusiness investment Taking stock of recent experiences*. Rome, FAO. <https://doi.org/10.4060/cc9219en>
- Bernstein, J. H. (2015). Transdisciplinarity: A review of its origins, development, and current issues. *Journal of Research Practice*, 11(1), Article R1. [https://academicworks.cuny.edu/kb\\_pubs/37/](https://academicworks.cuny.edu/kb_pubs/37/)
- Bernstein, H., & Oya, C. (2014). *Rural futures: How much should markets rule?* IIED Working Paper. IIED.
- Bezner Kerr, R., Hasegawa, T., Lasco, R., Bhatt, I., Deryng, D., Farrell, A., Gurney-Smith, H., Ju, H., Lluch-Cota, S., Meza, F., Nelson, G., Neufeldt, H., & Thornton, P. (2022). Food, fibre, and other ecosystem products. In Pörtner, H.-O., Roberts, Tignor, M., Poloczanska, E. S., Mintenbeck, K., Alegria, A., Craig, M., Langsdorf, S., Löschke, S., Möller, V., Okem, A., & Rama, B. (Eds.). *Climate change 2022: Impacts, adaptation and vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, 713–906. Cambridge University Press. <https://doi.org/10.1017/9781009325844.007>

- Blundo Canto, G., Faure, G., Hainzelin, E., Monier, C., Triomphe, B., & Vall, E. (2018). *ImpresS ex ante. An approach for building ex ante impact pathways*. CIRAD, Montpellier, France. <https://doi.org/10.19182/agritrop/00013>
- Breisinger, C., Keenan, M., Mbuthia, J., & Njuki, J. (Eds.). (2023). *Food systems transformation in Kenya: Lessons from the past and policy options for the future*. International Food Policy Research Institute (IFPRI). <https://doi.org/10.2499/9780896294561>
- Bryan, K., & Williams, H. (2021). *Innovation: Market failures and public policies*. NBER Working Paper No. 29173. National Bureau of Economic Research. <https://ssrn.com/abstract=3909604>
- Campbell, B. M., Vermeulen, S. J., Aggarwal, P. K., Corner-Dolloff, C., Girvetz, E., Loboguerrero, A. M., Ramirez-Villegas, J., Rosenstock, T., Sebastian, L., Thornton, P. K., & Wollenberg, E. (2016). Reducing risks to food security from climate change. *Global Food Security*, 11, 34–43. <https://doi.org/10.1016/j.gfs.2016.06.002>
- Campos, H. (2021). *The Innovation Revolution in Agriculture: A Road map to Value Creation*. Springer, Cham, Switzerland.
- CGIAR (2021). *CGIAR 2030 Research and Innovation Strategy: Transforming food, land, and water systems in a climate crisis*. CGIAR System Organization, Montpellier, France.
- CGIAR Independent Advisory and Evaluation Service. (2021). *Synthesis of learning from a decade of CGIAR research programs*. IAES Evaluation Function, Rome, Italy.
- Chipfupa, U., & Tagwi, A. (2021). Youth's participation in agriculture: A fallacy or achievable possibility? Evidence from rural South Africa. *South African Journal of Economic and Management Science*, 24(1). <https://doi.org/10.4102/sajems.v24i1.4004>
- Cosgrove, B., Newman, R., Grosjean, G., Dahl, H., Sharma, A., Singh, S., & Zulu-Hume, M. (2023). Sustainable Finance for the Transformation of Food Systems. In Campbell, B., Thornton, P., Loboguerrero, A., Dinesh, D., & Nowak, A. (Eds.), *Transforming Food Systems Under Climate Change through Innovation*, 130–143. Cambridge University Press, Cambridge.
- Dahl, H., Njiru, A., Sewe, L., Dlamini, J., Nortje, K., Nowak, A., Giombini, V., Ires, I., Peterson, N., Birachi, E., Dirwai, T., Mhlanga, B., & Alamu, E. (2023). *Food systems accelerator: Agri-innovation report*. International Water Management Institute (IWMI). CGIAR Initiative on Diversification in East and Southern Africa. <https://hdl.handle.net/10568/137566>
- Dahl, H., & Zulu-Hume, M. (2022). *Science-driven Accelerator Program for Climate-Smart Agribusinesses: IPSR Innovation Profile*. CGIAR, Montpelier. <https://hdl.handle.net/10568/121975>
- de Haan, N., & Gilligan, D. (2022). *How Gender Equality Can Transform Food Systems and Protect Us From Climate Change Disasters*. <https://hdl.handle.net/10568/127613>
- Douthwaite, B., & Hoffecker, E. (2017). Towards a complexity-aware theory of change for participatory research programs working within agricultural innovation systems. *Agricultural Systems*, 155, 88–102. <https://doi.org/10.1016/j.agsy.2017.04.002>
- Douthwaite, B., Kuby, T., van de Fliert, E., & Schulz, S. (2003). Impact pathway evaluation: an approach for achieving and attributing impact in complex systems. *Agricultural Systems*, 78(2), 243–265. [https://doi.org/10.1016/S0308-521X\(03\)00128-8](https://doi.org/10.1016/S0308-521X(03)00128-8)
- Dror, I., Ewell, H., Leeuwis, C., MacMillan, S., McGuire, E., Schut, M., Urmeneta, C., & Jasada, I. (2024). *Responsible Innovation and Scaling Strategy Development Process for CGIAR's IPSR Framework Workshop Report*. CGIAR System Organization, Montpellier, France. <https://hdl.handle.net/10568/148719>
- Duong, T. T., Brewer, T., Luck, J., & Zander, K. (2019). A global review of farmers' perceptions of agricultural risks and risk management strategies. *Agriculture*, 9(1), 10. <https://doi.org/10.3390/agriculture9010010>
- Ebenso, B., Manzano, A., Uzochukwu, B., Etiaba, E., Huss, R., Ensor, T., Newell, J., Onwujekwe, O., Ezumah, N., Hicks, J., & Mirzoev, T. (2019). Dealing with context in

- logic model development: Reflections from a realist evaluation of a community health worker programme in Nigeria. *Evaluation and Program Planning*, 73, 97–110. <https://doi.org/10.1016/j.evalprogplan.2018.12.002>
- Eerdewijk, A. V., & Danieisen, K. (2015). *Gender Matters in Farm Power*. CIMMYT, Mexico.
- Egger, D., Haushofer, J., Miguel, E., Niehaus, P., & Walker, M. (2022). General equilibrium effects of cash transfers: Experimental evidence from Kenya. *Econometrica*, 90(6), 2603–2643. <https://doi.org/10.3982/ECTA17945>
- Enokenwa Baa, O., & Nortje, K. (2023). *A meta-analysis of social, economic, and institutional bottlenecks, barriers, and opportunities to more inclusive small and medium agribusiness in the ESA region: A synthesis report*. International Water Management Institute (IWMI), CGIAR Initiative on Diversification in East and Southern Africa. <https://hdl.handle.net/10568/139407>
- Fanzo, J., Davis, C., McLaren, R., & Choufani, J. (2018). The effect of climate change across food systems: Implications for nutrition outcomes. *Global Food Security*, 18, 12–19. <https://doi.org/10.1016/j.gfs.2018.06.001>
- Farnworth, C. R., & Colverson, K. E. (2015). Building a Gender-Transformative Extension and Advisory Facilitation System in Sub-Saharan Africa. *Journal of Gender, Agriculture, and Food Security*, 1(1), 20–39. <https://doi.org/10.22004/ag.econ.246040>
- Fuglie, O., & Echeverria, R. G., (2024). The economic impact of CGIAR-related crop technologies on agricultural productivity in developing countries, 1961–2020. *World Development*, 176, 106523. <https://doi.org/10.1016/j.worlddev.2023.106523>
- Giordano, N., Aston, T., Wadeson, A. S., Adamsegel, E., Michalscheck, M., & Minh, T. T. (2024). *Innovation process tracing assessment: Methodological approach and guiding principles*. Rethinking Food Markets Technical Report, July 2024. International Food Policy Research Institute (IFPRI). <https://hdl.handle.net/10568/149085>
- Godde, C. M., Croz, M., Mayberry, D. E., Thornton, P. K., & Herrero, M. (2021). Impacts of climate change on the livestock food supply chain; a review of the evidence. *Global Food Security*, 28, 100488. <https://doi.org/10.1016/j.gfs.2020.100488>
- Govaerts, B., Negra, C., Camacho Villa, T.C., Chavez Suarez, X., Espinosa, A. D., Fonteyne, S., Gardeazabal, A., Gonzalez, G., Gopal Singh, R., Kommerell, V., Kropff, W., Lopez Saavedra, V., Mena Lopez, G., Odjo, S., Palacios Rojas, N., Ramirez-Villegas, J., Van Loon, J., Vega, D., Verhulst, N., Woltering, L., Jahn, M., & Kropff, M. (2021). One CGIAR and the Integrated Agrifood Systems Initiative: From short-termism to transformation of the world's food systems. *PLoS One*, 16(6), e0252832. <https://doi.org/10.1371/journal.pone.0252832>
- Granstrand, O., & Holgersson, M. (2020). Innovation ecosystems: A conceptual review and a new definition. *Technovation*, 90–91, 102098. <https://doi.org/10.1016/j.technovation.2019.102098>
- Gupta, M., Kishore, A., Scott, S., Chakraborty, S., Chellattan, P. V., Choudhury, S., Krupnik, T. J., Kumar, N., Neupane, S., Patwardhan, S., Sununtrasuk, C., Urfels, A., & Menon, P. (2022). *Understanding Local Food Systems in South Asia: An Assessment Approach and Design*. Transforming Agrifood Systems in South Asia (TAFSSA) Methods Note 1, International Food Policy Research Institute (IFPRI), Washington, DC. <https://doi.org/10.2499/p15738coll2.136543>
- Hall, A., Rasheed Sulaiman, V., Clark, N., & Yoganand, B. (2003). From measuring impact to learning institutional lessons: an innovation systems perspective on improving the management of international agricultural research. *Agricultural Systems*, 78(2), [https://doi.org/10.1016/S0308-521X\(03\)00127-6](https://doi.org/10.1016/S0308-521X(03)00127-6)
- Hall, R., Scoones, I., & Tsikata, D. (2017). Plantations, outgrowers and commercial farming in Africa: Agricultural commercialisation and implications for agrarian change. *Journal of Peasant Studies*, 44(3), 515–537. <https://doi.org/10.1080/03066150.2016.1263187>
- Hasegawa, T., Wakatsuki, H., Ju, H., Vyas, S., Nelson, G. C., Farrell, A., Deryng, D., Meza, F., & Makowski, D. (2022). A global dataset for the projected impacts of climate

- change on four major crops. *Scientific Data*, 9(1), 58. <https://doi.org/10.1038/s41597-022-01150-7>
- Hevey, D. (2018). Network analysis: A brief overview and tutorial. *Health Psychology and Behavioral Medicine*, 6(1), 301–328. <https://doi.org/10.1080/21642850.2018.1521283>
- Holbrook, J., Bolden, M., Levin-Russell, K., & Hakspiel, J. (2021). What does it take to achieve scale in women's empowerment activities? *Agrilinks*. <https://agrilinks.org/post/what-does-it-take-achieve-scale-womens-empowerment-activities>
- Hörner, D., & Wollni, M. (2022). Does integrated soil fertility management increase returns to land and labor? Plot-level evidence from Ethiopia. *Agricultural Economics*, 53(3), 337–355. <https://doi.org/10.1111/agec.12699>
- Independent Science for Development Council. (2022a). *Identifying and using CGIAR's comparative advantage*. CGIAR Independent Advisory and Evaluation Service. Rome.
- Independent Science for Development Council. (2022b). *Some Reflections on Comparative Advantage as it applies to CGIAR*. Independent Science for Development Council (ISDC) Rome.
- Independent Science for Development Council. (2023). *Responding to evolving megatrends*. Independent Science for Development Council (ISDC): CGIAR Independent Advisory and Evaluation Service. Rome, Italy.
- Intergovernmental Panel on Climate Change. (2021). *IPCC WGI Interactive Atlas: Regional Synthesis*. <https://interactive-atlas.ipcc.ch/regional-information/about>.
- International Food Policy Research Institute. (2020). *2020 Global food policy report: Building inclusive food systems*. International Food Policy Research Institute (IFPRI), Washington, DC. <https://doi.org/10.2499/9780896293670>
- International Water Management Institute. (2021). *Adaptive scaling to achieve system transformation in One CGIAR*. International Water Management Institute (IWMI). Colombo, Sri Lanka. <https://hdl.handle.net/10568/113924>.
- Irani, Z., & Sharif, A. M. (2018). Food security across the enterprise: a puzzle, problem or mess for a circular economy? *Journal of Enterprise Information Management*, 31(1), 2–9. <https://doi.org/10.1108/jeim-03-2017-0045>
- Jarvis, A., Rosenstock, T., Koo, J., Thornton, P., Loboguerrero, A. M., Govaerts, B., Ramirez-Villegas, J., Prager, S. D., Ghosh, A., & Fuglie, K. (2021). *Climate-informed priorities for One CGIAR regional integrated initiatives*. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). <https://hdl.handle.net/10568/113289>
- Jayne, T. S., & Tscharley, D. L. (2009). *Food price spikes and strategic interactions between the public and private sectors: Market failures or governance failures*. Food Security Collaborative Working Papers 97142. Michigan State University, Department of Agricultural, Food, and Resource Economics.
- Kalas, P. P. (2019). Mechanisms and approaches to realizing behavioral change at scale. In Campanhola, C., & Pandey, S. (Eds.). *Sustainable food and agriculture: An integrated approach*, 445–472. Academic Press. The Food and Agriculture Organization of the United Nations (FAO).
- Kanter, D. R., Musumba, M., Wood, S. L. R., Palm, C., Antle, J., Balvanera, P., Dale, V. H., Havlik, P., Kline, K. L., Scholes, R. J., Thornton, P., Tittonell, P., & Andelman, S. (2016). Evaluating Agricultural Trade-offs in the Age of Sustainable Development. *Agricultural Systems*, 163, 73–88. <http://dx.doi.org/10.1016/j.agsy.2016.09.010>
- Kennedy, E., Webb, P., Block, S., Griffin, T., Mozaffarian, D., & Kyte, R. (2021). Transforming Food Systems: The Missing Pieces Needed to Make Them Work. *Current Developments in Nutrition*, 5(1), nzaa177. <https://doi.org/10.1093/cdn/nzaa177>
- Keogh, S., O'Neill, S., & Walsh, K. (2021). Composite Measures for Assessing Multidimensional Social Exclusion in Later Life: Conceptual and Methodological

- Challenges. *Social Indicators Research*, 155, 389–410.  
<https://doi.org/10.1007/s11205-021-02617-7>
- Kihoro, E., Schut, M., McGuire, E., Leeuwis, C., MacMillan, S., Buono, N., Woltering, L., Dahl, H., Gebreyes, M., Jasada, I., Mugambi, S., Gregerson, K., Ngissah, E., Melaku, D., Kalele, D., Ewell, H., Ronchi, L., & Dror, I. (2024). *Science of Scaling Retreat Report*. Wageningen University and CGIAR Regional Integrated Initiative on Diversification for Resilient Agribusiness in East and Southern Africa Wageningen University and Research. Wageningen, Netherlands.  
<https://hdl.handle.net/10568/144126>
- Kirsten, J., Dorward, A., Poulton, C., & Vink, N. (Eds.). (2009). *Institutional economics perspectives on African agricultural development*. International Food Policy Research Institute (IFPRI). <https://elibrary.ifpri.org/digital/collection/p15738coll2/id/129476>
- Klerkx, L., & Begemann, S. (2020). Supporting food systems transformation: The what, why, who, where and how of mission-oriented agricultural innovation systems. *Agricultural Systems*, 184, 102901. <https://doi.org/10.1016/j.agrsy.2020.102901>
- Klerkx, L., Jakku, E., & Labarthe, P. (2019). A review of social science on digital agriculture, smart farming and agriculture 4.0: New contributions and a future research agenda. *NJAS - Wageningen Journal of Life Sciences*, 90, 100315.  
<https://doi.org/10.1016/j.njas.2019.100315>
- Kohl, R. (2024). Mainstreaming Scaling: A Case Study of the CGIAR of International Agricultural Research Centers. Scaling Community of Practice.  
<https://scalingcommunityofpractice.com/wp-content/uploads/2024/03/Scaling-Up-at-CGIAR.pdf>
- Kok, K. (2009). The potential of Fuzzy Cognitive Maps for semi-quantitative scenario development, with an example from Brazil. *Global Environmental Change*, 19(1), 122–133. <https://doi.org/10.1016/j.gloenvcha.2008.08.003>
- Kumar, L., Chhogyal, N., Gopalakrishnan, T., Hasan, M. K., Jayasinghe, S. L., Kariyawasam, C. S., Kogo, B. K., & Ratnayake, S. (2022). *Climate change and future of agrifood production*. Future Foods, 49–79. <https://doi.org/10.1016/B978-0-323-91001-9.00009-8>
- Lecoutere, E., Achandi, E. L., Ampaire, E. L., Fischer, G., Gumucio, T., Najjar, D., & Singaraju, N. (2024). Fostering an enabling environment for equality and empowerment in agrifood systems: An assessment at multiple scales. *Global Food Security*, 40, 100735. <https://doi.org/10.1016/j.gfs.2023.100735>
- Lipper, L., Cavatassi, R., Symons, R., Gordes, A., & Page, O. (2021). Financing adaptation for resilient livelihoods under food system transformation: The role of Multilateral Development Banks. *Food Security*, 13(6), 1525–1540.  
<https://doi.org/10.1007/s12571-021-01210-7>
- Little, P., & Watts, M. (Eds.). (1994). *Living under contract: Contract farming and agrarian transformation in sub-Saharan Africa*. University of Wisconsin Press.
- Liu, X., Liu, W., Tang, Q., Liu, B., Wada, Y., & Tang, H. (2022). Global Agricultural Water Scarcity Assessment Incorporating Blue and Green Water Availability Under Future Climate Change. *Earth's Future*, 10(4), e2021EF002567.  
<https://doi.org/10.1029/2021EF002567>
- Loboguerrero, A. M., Campbell, B. M., Cooper, P. J. M., Hansen, J. W., Rosenstock, T., & Wollenberg, E. (2019). Food and Earth Systems: Priorities for Climate Change Adaptation and Mitigation for Agriculture and Food Systems. *Sustainability*, 11(5), 1372. <https://doi.org/10.3390/su11051372>
- Low, J., & Thiele, G. (2020). Understanding innovation: The development and scaling of orange-fleshed sweetpotato in major African food systems. *Agricultural Systems*, 179, 102770. <https://doi.org/10.1016/j.agrsy.2019.102770>
- Lozano Lazo, D., Dam Lam, R., Zulu-Hume, M & Rossignoli, C. (2023). *CGIAR Food Systems Accelerator Program — Endline Evaluation Report*. WorldFish.  
<https://hdl.handle.net/10568/137486>

- Lundy, M., Amrein, A., Hurtado, J. J., Becx, G., Zamierowski, N., Rodriguez, F., & Mosquera, E. E. (2014). *LINK methodology: A participatory guide to business models that link smallholders to markets (V2.0)*. <https://hdl.handle.net/10568/49606>
- Lynam, J., Berle, D., & Lewinger Moock, J. (2024). The organizational challenge of international agricultural research: The fifty-year odyssey of the CGIAR. *Food Policy*, 124, 102617. <https://doi.org/10.1016/j.foodpol.2024.102617>
- Macours, K. (2019). Farmers' demand and the traits and diffusion of agricultural innovations in developing countries. *Annual Review of Resource Economics*, 11(1), 483–499. <https://doi.org/10.1146/annurev-resource-100518-094045>
- Marshall, Q., Bellows, A. L., McLaren, R., Jones, A. D., & Fanzo, J. (2021). You Say You Want a Data Revolution? Taking on Food Systems Accountability. *Agriculture*, 11(5), 422. <https://doi.org/10.3390/agriculture11050422>
- Maru, Y. T., Sparrow, A., Butler, J. R. A., Banerjee, O., Ison, R., Hall, A., & Carberry, P. (2018). Towards appropriate mainstreaming of "Theory of Change" approaches into agricultural research for development: Challenges and opportunities. *Agricultural Systems*, 165, 344–353. <https://doi.org/10.1016/j.agrsy.2018.04.010>
- McGuire, E., Leeuwis, C., Rietveld, A. M., & Teeken, B. (2024). Anticipating social differentiation and unintended consequences in scaling initiatives using GenderUp, a method to support responsible scaling. *Agricultural Systems*, 215, 103866. <https://doi.org/10.1016/j.agrsy.2024.103866>
- McGuire, E., Rietveld, A. M., Crump, A., & Leeuwis, C. (2022). Anticipating gender impacts in scaling innovations for agriculture: Insights from the literature. *World Development Perspectives*, 25, 100386. <https://doi.org/10.1016/j.wdp.2021.100386>
- McIntire, J., & Dobermann, A. (2023). The CGIAR needs a revolution. *Global Food Security*, 38, 100712. <https://doi.org/10.1016/j.gfs.2023.100712>
- McLean, R., & Gargani, J. (2019). *Scaling Impact: Innovation for the Public Good*. Routledge, IDRC.
- Medendorp, J. W., Reeves, N. P., Sal y Rosas Celi, V. G., Harun-ar-Rashid, M., Krupnik, T. J., Lutomia, A. N., Pittendrigh, B., & Bello-Bravo, J. (2022). Large-scale rollout of extension training in Bangladesh: Challenges and opportunities for gender-inclusive participation. *PLoS One*, 17(7), e0270662. <https://doi.org/10.1371/journal.pone.0270662>
- Meinke, H., Ash, A., Barrett, C. B., Smith, A. G., Graff Zivin, J. S., Abera, F., Garcia, M., Just, D. R., Obokoh, N. H., Kadiyala, S., Negra, C., Torrance, L., Beaudreault, A. R., & Boulanger, P. (2023). Evolution of the One CGIAR's research and innovation portfolio to 2030: Approaches, tools, and insights after the reform. *Nature Sustainable Agriculture*, 1(1). <https://doi.org/10.1038/s44264-023-00005-x>
- Meinzen-Dick, R., & Nkonya, L. (2007). Understanding legal pluralism in water and land rights: Lessons from Africa and Asia. In Koppen B. V., Giordano, M., & Butterworth, J. (Eds.). *Community-based water law and water resource management reform in developing countries*, 12–27. <https://doi.org/10.1079/9781845933265.0012>
- Michalscheck, M., Kizito, F., Kotu, B. H., Avornyo, F. K., Timler, C., & Groot, J. C. J. (2023). Preparing for, coping with and bouncing back after shocks. A nuanced resilience assessment for smallholder farms and farmers in Northern Ghana. *International Journal of Agricultural Sustainability*, 21(1). <https://doi.org/10.1080/14735903.2023.2241283>
- Minh, T. T., Cofie, O., Lefore, N., & Schmitter, P. (2020). Multistakeholder dialogue space on farmer-led irrigation development in Ghana: An instrument driving systemic change with private sector initiatives. *Knowledge Management for Development Journal*, 15(2), 98–118. <https://www.km4djournal.org/index.php/km4dj/article/view/489>
- Minh, T. T., Ofosu A., & Melaku D. (2023). *How to assess existing multistakeholder and networks*. [Video]. International Water Management Institute (IWMI). <https://hdl.handle.net/10568/135900>

- Minh, T. T., Zwart, S., Appoh, R., & Schmitter, P. (2021). *Analyzing the enabling environment to enhance the scaling of irrigation and water management technologies: a tool for implementers*. International Water Management Institute (IWMI) Working Paper 197. <https://doi.org/10.5337/2021.201>
- Mobarak, A. M., & Saldanha, N. A. (2022). Remove barriers to technology adoption for people in poverty. *Nature Human Behaviour*, 6(4), 480–482. <https://doi.org/10.1038/s41562-022-01323-9>
- Mockshell, J., & Birner, R. (2020). Who has the better story? On the narrative foundations of agricultural development dichotomies. *World Development*, 5, 105043. <https://doi.org/10.1016/j.worlddev.2020.105043>
- Mockshell, J., Resnick, D., Omulo, G.O., Blanco, M., & Nicol, A. (2023). *Political Economy and Policy Analysis (PEPA) Sourcebook. A guide to generating evidence for National Policies and Strategies (NPS) for food, land, and water systems transformation*. International Center for Tropical Agriculture (CIAT). International Food Policy Research Institute (IFPRI).
- Mockshell, J., & Ritter, T. N. (2024). Applying the six-dimensional food security framework to examine a fresh fruit and vegetable program implemented by self-help groups during the COVID-19 lockdown in India. *World Development*, 175, 106486. <https://doi.org/10.1016/j.worlddev.2023.106486>
- Mohammed, K., & Najjar, D. (2023). *Empowering landless women through collectives in the agrifood systems: A review*. International Center for Agricultural Research in the Dry Areas (ICARDA). <https://hdl.handle.net/10568/135222>
- Nabuurs, G.-J., Mrabet, R., Abu Hatab, A., Bustamante, M., Clark, H., Havlík, P., House, J., Mbow, C., Ninan, K. N., Popp, A., Roe, S., Sohngen, B., & Towprayoon, S. (2022). Agriculture, forestry, and other land uses (AFOLU). In Shukla, P. R., Skea, J., Slade, R., Al Khourdajie, A., van Diemen, R., McCollum, D., Pathak, M., Some, S., Vyas, P., Fradera, R., Belkacemi, M., Hasija, A., Lisboa, G., Luz, S., & Malley, J. (Eds.). *IPCC 2022: Climate change 2022: Mitigation of climate change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press. <https://doi.org/10.1017/9781009157926.009>
- Naciri, A. (2018). Regional development banks within the international financial architecture for development. A. *The governance structures of the Bretton Woods financial institutions*, 61–80. SpringerBriefs in Economics. Springer, Cham. [https://doi.org/10.1007/978-3-319-97906-9\\_5](https://doi.org/10.1007/978-3-319-97906-9_5)
- Najjar, D., Nyantakyi-Frimpong, H., Devkota, R., & Bentaibi, A. (2023). A feminist political ecology of agricultural innovations in smallholder farming systems: Experiences from wheat production in Morocco and Uzbekistan. *Geoforum*, 146, 103865.
- Newell, P., Twena, M., & Daley, F. (2021). Scaling behaviour change for a 1.5-degree world: challenges and opportunities. *Global Sustainability*, 4, e22. <https://doi.org/10.1017/sus.2021.23>
- Nigussie, L., Diallo, A., & Minh, T. T. (2024). *Investment and cultivation strategies for women and youth inclusion: Cases from on-farm, off-farm and non-farm activities in Ethiopia and Mali*. IWMI Working Paper 211. International Water Management Institute (IWMI). <https://doi.org/10.5337/2024.203>
- Nortje, K., Joshi, D., Enokenwa Baa, O., Mapedza, E., & Davis, K. (2023). *A framework for gender equality and social inclusion in agribusiness transformation in East and Southern Africa*. International Water Management Institute (IWMI). CGIAR Initiative on Diversification in East and Southern Africa. <https://hdl.handle.net/10568/130852>
- Notenbaert, A., Pfeifer, C., Silvestri, S., & Herrero, M. (2017). Targeting, out-scaling and prioritising climate-smart interventions in agricultural systems: Lessons from applying a generic framework to the livestock sector in sub-Saharan Africa. *Agricultural Systems*, 151, 153–162. <https://doi.org/10.1016/j.agsy.2016.05.017>
- Nowak, A. C., Steward, P., Namoi, N., Mayzelle, M., Kamau, H., Lamanna, C., & Rosenstock, T.S. (2020). *Climate-smart agriculture is good for business: A framework*

- for establishing the business case for climate-smart agriculture investments.* CCAFS Working paper No. 316. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). <https://hdl.handle.net/10568/109033>
- Ogutu, S., Mockshell, J., Garrett, J., Ritter, T., Labarta, R., Alvarez, D., Nedumaran, S., Gonzalez, C., & Gotor, E. (2024). Women's empowerment, household dietary diversity, and child anthropometry among vulnerable populations in Odisha, India. *PLoS ONE*, 19(8), e0305204. <https://doi.org/10.1371/journal.pone.0305204>
- Organisation for Economic Co-operation and Development. (2008). *Handbook on Constructing Composite Indicators: Methodology and User Guide*. Organisation for Economic Co-operation and Development (OECD).
- Ortiz-Bobea, A., Ault, T. R., Carrillo, C. M., Chambers, R. G., & Lobell, D. B. (2021). Anthropogenic climate change has slowed global agricultural productivity growth. *Nature Climate Change*, 11(4), 306–312. <https://doi.org/10.1038/s41558-021-01000-1>
- Ostrom, E., Gardner, R., & Walker, J. (1994). *Rules, games, and common-pool resources*. University of Michigan Press. <https://doi.org/10.3998/mpub.9739>
- Otero, M. F., Rubiano, J., Soto, V., & Lema, G. (2006). Using similarity analyzes to scale out research. *Water International*, 31 (3), 376–386. <https://doi.org/10.1080/02508060608691939>
- Palmieri, N., Bennett, B., Fakoya, K., Meisner, C., & Molinari, M. M. (2024). *Resilient Agrifood Systems Science Group: Evaluation Report*. CGIAR Independent Advisory and Evaluation Service, Rome, Italy. Manuscript in preparation.
- Peluso, N. L., & Lund, C. (2011). New frontiers of land control: Introduction. *The Journal of Peasant Studies*, 38(4), 667–681. <https://doi.org/10.1080/03066150.2011.607692>
- Piñeiro, V., Arias, J., Dürr, J., Elverdin, P., Ibáñez, A. M., Kinengyere, A., Morales Opazo, C., Owoo, N., Page, J. R., Prager, S. D., & Torero, M. (2020). A scoping review on incentives for adoption of sustainable agricultural practices and their outcomes. *Nature Sustainability*, 3, 809–820. <https://doi.org/10.1038/s41893-020-00617-y>
- Quisumbing, A., Cole, S., Elias, M., Faas, S., Galiè, A., Malapit, H., Meinzen-Dick, R., Myers, E., Seymour, G., & Twyman, J. (2023). Measuring Women's Empowerment in Agriculture: Innovations and evidence. *Global Food Security*, 38, 100707. <https://doi.org/10.1016/j.gfs.2023.100707>
- Quisumbing, A., Heckert, J., Faas, S., Ramani, G., Raghunathan, K., Malapit, H., Malapit, H., Heckert, J., Eissler, S., Faas, S., Martinez, E., Myers, E., Pereira, A., Quisumbing, A., Ragasa, C., Raghunathan, K., Rubin, D., & Seymour, G. (2021). Women's empowerment and gender equality in agricultural value chains: evidence from four countries in Asia and Africa. *Food Security*, 13(5), 1101–1124. <https://doi.org/10.1007/s12571-021-01193-5>
- Reeves, N. P., Ramadan, A., Sal y Rosas Celi, V. G., Medendorp, J. W., Harun-ar-Rashid, M., Krupnik, T. J., Lutomia, A. N., Bello-Bravo, J., & Pittendrigh, B. (2023). Machine Supported Decision Making to Improve Agricultural Training Participation and Gender Inclusivity. *PLOS One*, 18(5), e0281428. <https://doi.org/10.1371/journal.pone.0281428>
- Rezaei, E. E., Webber, H., Asseng, S., Boote, K., Durand, J. L., Ewert, F., Martre, P., & MacCarthy, D. S. (2023). Climate change impacts on crop yields. *Nature Reviews Earth & Environment*, 4, 831–846. <https://doi.org/10.1038/s43017-023-00491-0>
- Richardson, K., Steffen, W., Lucht, W., Bendtsen, J., Cornell, S. E., Donges, J. F., Drücke, M., Fetzer, I., Bala, G., von Bloh, W., Feulner, G., Fiedler, S., Gerten, D., Gleeson, T., Hofmann, M., Huiskamp, W., Kummu, M., Mohan, C., Nogués-Bravo, D., Petri, S., Porkka, M., Rahmstorf, S., Schaphoff, S., Thonicke, K., Tobian, A., Virkki, V., Wang-Erlandsson, L., Weber, L., & Rockström, J. (2023). Earth beyond six of nine planetary boundaries. *Science Advances*, 9(37). <https://doi.org/10.1126/sciadv.adh2458>

- Rigolot, C. (2020). Transdisciplinarity as a discipline and a way of being: Complementarities and creative tensions. *Humanities and Social Sciences Communications*, 7(1). <https://doi.org/10.1057/s41599-020-00598-5>
- Rubyogo, J.-C., Akpo, E., Omoigui, L., Pooran, G., Chaturvedi, S. K., Fikre, A., Haile, D., Hakeem, A., Monyo, E., Nkalubo, S., Fenta, B., Binagwa, P., Kilango, M., Williams, M., Mponda, O., Okello, D., Chichaybelu, M., Miningou, A., Bationo, J., Sako, D., Kouyate, Z., Diallo, S., Oteng-Frimpong, R., Yirzagla, J., Iorlamen, T., Garba, U., Mohammed, H., Ojiewo, C., Kamara, A., Varshney, R., Nigam, S. N., Janila, P., Nadaf, H. L., & Kalemera, S. (2019). Market-led options to scale up legume seeds in developing countries: Experiences from the Tropical Legumes Project. *Plant Breeding*, 138(4), 474–486. <https://doi.org/10.1111/pbr.12732>
- Sartas, M., Schut, M., Proietti, C., Thiele, G., & Leeuwis, C. (2020). Scaling Readiness: Science and practice of an approach to enhance impact of research for development. *Agricultural Systems*, 183, 102874. <https://doi.org/10.1016/j.agsy.2020.102874>
- Schut, M., Cadilhon, J., Misiko, M., & Dror, I. (2018). Do mature innovation platforms make a difference in agricultural research for development? A meta-analysis of case studies. *Experimental Agriculture*, 54(1), 96–119. <https://doi.org/10.1017/S0014479716000752>
- Schut, M., Colomer, J., Proud, E., Bonaiuti, E., Dror, I., Kang'ethe, E., Esquivias, L., & Leeuwis, C. (2024). Innovation portfolio management for responsible food systems transformation in the public sector: Lessons, results and recommendations from CGIAR. *Agricultural Systems*, 216, 103907. <https://doi.org/10.1016/j.agsy.2024.103907>
- Schut, M., Leeuwis, C., & Thiele, G. (2020). Science of scaling: Understanding and guiding the scaling of innovation for societal outcomes. *Agricultural Systems*, 184, 102908. <https://doi.org/10.1016/j.agsy.2020.102908>
- Scoones, I., Mavedzenge, B., Murimbarimba, F., & Sukume, C. (2018). Tobacco, contract farming, and agrarian change in Zimbabwe. *Journal of Agrarian Change*, 18(1), 22–42. <https://doi.org/10.1111/joac.12210>
- Sharma, I. K., Di Prima, S., Essink, D., & Broerse, J. E. W. (2021). Nutrition-sensitive agriculture: A systematic review of impact pathways to nutrition outcomes. *Advances in Nutrition*, 12(1), 251–275. <https://doi.org/10.1093/advances/nmaa103>
- Shilomboleni, H., Owaygen, M., Plaen, R. D., Manchur, W., Husak, L. (2019). Scaling up innovations in smallholder agriculture: Lessons from the Canadian international food security research fund. *Agricultural Systems*, 175, 58–65. <https://doi.org/10.1016/j.agsy.2019.05.012>
- Song, H., Sarangé, C., Oderoh, A., Dahl, H., & Jacobs-Mata, I. (2023). *Ecosystem assessment of food, land, and water actors in the humanitarian, development, and peace nexus*. International Water Management Institute (IWMI), CGIAR Initiative on Fragility, Conflict, and Migration. <https://hdl.handle.net/10568/138687>.
- Spielman, D., Lecoutere, E., Makhiya, S. & Van Campenhout, B. (2021). Information and communications technology (ICT) and agricultural extension in developing countries. *Annual Review of Resource Economics*, 13(1) <https://doi.org/10.1146/annurev-resource-101520-080657>
- Stevenson, J. R., Serraj, R., & Cassman, K. G. (2014). Evaluating conservation agriculture for small-scale farmers in Sub-Saharan Africa and South Asia. *Agriculture, Ecosystems & Environment*, 187 <https://doi.org/10.1016/j.agee.2014.01.018>
- Stoian, D., Donovan, J., Elias, M., & Blare, T. (2018). Fit for purpose? A review of guides for gender-equitable value chain development. *Development in Practice*, 28(4), 494–509. <https://doi.org/10.1080/09614524.2018.1447550>
- Tall, A., Kristjanson, P., Chaudhury, M., McKune, S., & Zougmore, R. (2014). *Who Gets the Information? Gender, Power and Equity Considerations in the Design of Climate Services for Farmers*. CCAFS Working Paper No. 89. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).

- Teferi, E. T., Assefa, T. T., Tilahun, S. A., Wassie, S. B., Minh, T. T., & Béné, C. (2024). Bridging the gap: Analysis of systemic barriers to irrigation technology supply businesses in Ethiopia. *Agricultural Water Management*, 303, 109004. <https://doi.org/10.1016/j.agwat.2024.109004>
- Theis, S., Krupnik, T. J., Sultana, N., Rahman, S.-R., Seymour, G., & Abedin, N. (2019). *Gender and Agricultural Mechanization: A mixed-methods exploration of the impacts of multicrop reaper-harvester service provision in Bangladesh*. IFPRI Discussion Paper 1837. International Food Policy Research Institute (IFPRI). <https://doi.org/10.2499/p15738coll2.133260>
- Thornton, P., Nelson, G., Mayberry, D., Herrero, M. (2022). Impacts of heat stress on global cattle production during the 21st century: a modeling study. *The Lancet Planetary Health*, 6(3), e192-e201. [https://doi.org/10.1016/s2542-5196\(22\)00002-x](https://doi.org/10.1016/s2542-5196(22)00002-x)
- Totin, E., van Mierlo, B., & Klerkx, L. (2020). Scaling practices within agricultural innovation platforms: Between pushing and pulling. *Agricultural Systems*, 179, 102764. <https://doi.org/10.1016/j.agsy.2019.102764>
- United Nations Office for Project Services. (2022). *Gender equality and social inclusion: Mainstreaming in projects: Strategy 2022–2025*. [https://content.unops.org/publications/UNOPS-GESI-Mainstreaming-in-Projects-Strategy\\_EN.pdf](https://content.unops.org/publications/UNOPS-GESI-Mainstreaming-in-Projects-Strategy_EN.pdf)
- Waldman, K. B., Todd, P. M., Omar, S., Blekking, J. P., Giroux, S. A., Attari, S. Z., Baylis, K., & Evans, T. P. (2020). Agricultural decision making and climate uncertainty in developing countries. *Environmental Research Letters*, 15(11), 113004. <https://doi.org/10.1088/1748-9326/abb909>
- Wani, S. P., Raju, K. V., & Bhattacharyya, T. (Eds.). (2022). *Scaling up Solutions for Farmers: Technology, Partnerships and Convergence*. Springer. Cham, Switzerland.
- Wigboldus, S., & Brouwers, J. (2016). *Using a Theory of Scaling to guide decision making. Towards a structured approach to support responsible scaling of innovations in the context of agrifood systems*. Wageningen University and Research, Wageningen.
- Wigboldus, S., Klerkx, L., Leeuwis, C., Schut, M., Muilerman, S., & Jochemsen, H. (2016). Systemic perspectives on scaling agricultural innovations. A review. *Agronomy for Sustainable Development*, 36. <https://doi.org/10.1007/s13593-016-0380-z>
- Wigboldus, S., McEwan, M. A., Van Schagen, B., Okike, I., Van Mourik, T. A., Rietveld, A., Amole, T., Asfaw, F., Hundayehu, M. C., Iradukunda, F., Kulakow, P., Namanda, S., Suleman, I., & Wimba, B. R. (2022). Understanding capacities to scale innovations for sustainable development: a learning journey of scaling partnerships in three parts of Africa. *Environment Development and Sustainability*, 25(8), 8197–8231. <https://doi.org/10.1007/s10668-022-02394-4>
- Wilson-Grau, R. (2018). *Outcome harvesting: Principles, steps, and evaluation applications*. Information Age Publishing, Inc.
- Woltering, L., Fehlenberg, K., Gerard, B., Ubels, J., & Cooley, L. (2019). Scaling — from “reaching many” to sustainable systems change at scale: A critical shift in mindset. *Agricultural Systems*, 176, 102652. <https://doi.org/10.1016/j.agsy.2019.102652>
- Woltering, L., Valencia Leñero, E. M., Boa-Alvarado, M., Van Loon, J., Ubels, J., & Leeuwis, C. (2024). Supporting a systems approach to scaling for all: Insights from using the Scaling Scan tool. *Agricultural Systems*, 217, 103927.
- World Bank. (2017). *New World Bank financing for Tanzania will enhance agricultural productivity and improve resilience to climate change* [Press Release]. <https://www.worldbank.org/en/news/press-release/2023/05/31/new-world-bank-financing-for-tanzania-afe-will-enhance-agricultural-productivity-and-improve-resilience-climate-change>
- World Bank. (2018). Environmental & Social Framework for IPF Operations: ESS1 — Assessment and Management of Environmental and Social Risks and Impact: Guidance note for borrowers. Washington, DC: World Bank.

World Bank. (2024). *Financing the agrifood system transformation — There is no lack of money to do it*. World Bank Blogs. <https://blogs.worldbank.org/en/agfood/financing-agrifood-system-transformation-there-no-lack-money-do-it>