Rethinking Food Markets and Value Chains for Inclusion and Sustainability

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Proposal

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Note to readers: please use the hyperlinks throughout the proposal for definitions, abbreviations, partners, references, etc.

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Initiative name	Rethinking Food Markets and Value Chains for Inclusion and Sustainability
Primary Action Area	Systems Transformation
Geographic scope	Global, Sub-Saharan Africa, South Asia, CWANA, LAC
Budget	US$ 30,000,000

1. General information

Initiative name	Rethinking Food Markets and Value Chains for Inclusion and Sustainability
Primary Action Area	Systems Transformation
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2. Context

2.1 Challenge statement

The food sector constitutes about one fifth of the global economy and is the world's largest source of income and employment (Ref. **1**). The livelihoods of most of the world's poor and vulnerable people depend on it. In recent decades, agricultural productivity has steadily grown, and technological and institutional innovations have proliferated within agrifood markets and value chains, helping reduce poverty and food insecurity around the world (**2**).

Despite these critical contributions, the ways in which food markets are structured and operate have negative impacts. Much of the rural population employed within the agrifood sector remains poor and food- and nutrition-insecure, and evidence suggests that at least 3 billion people

globally, including both the rural and urban poor, cannot afford nutritious diets (**3**). These populations have been unable to benefit from expanding food markets. More food processing has brought food diversity and more convenience to consumers, but also worrisome increases in the consumption of unhealthy foods (**4**). The sector's over- and misuse of natural resources has also degraded the environment and exacerbated the climate crisis and biodiversity loss. Many of these failures are rooted in markets hindered by multiple deficiencies in infrastructure, equipment, and standards; incentives that do not foster sustainability, nutrition, or inclusiveness; concentrated market power; and weak value-chain integration. The key challenge is how to address these multiple constraints and develop value chains that efficiently deliver more nutritious and safe foods to retailers and consumers, while generating decent livelihoods for farmers and food sector workers—including women and vulnerable groups—and reducing the carbon footprint of agriculture.

This is a major challenge, but there are also enormous opportunities. Food markets and value chains are undergoing rapid changes, including in developing countries, as urbanization accelerates, technologies proliferate, policies aim to address market failures, and dietary patterns shift. New products, modern distribution systems, and digital technologies continue to transform supply chains (**5**). These changes represent unique and timely opportunities for more gainful employment and business activity for disadvantaged agrifood actors, including smallholders and workers in small- and medium-size enterprises (SMEs), especially women and youth. More appropriate incentive structures and repurposed agricultural policy support can encourage the adoption of sustainable practices at the farm level and across food value chains. Food standards for quality, safety, environmental sustainability, and fair trade can protect both consumers and the environment and make smallholders and agrifood SMEs more competitive.

However, no single approach, innovation, or policy will suffice. Improving the ability of food systems to reduce poverty, improve nutrition, promote gender equality, and sustainably use resources will involve combining technical and organizational innovations with enabling market incentives, institutional and regulatory frameworks, and public policy, all within specific value chains and food markets (**6**).

To address these challenges, the Initiative aims to provide evidence on what types of bundled innovations, incentive structures, and policies are most effective for creating more equitable sharing of income and employment opportunities in growing food markets, while reducing the food sector's environmental footprint. It will seek to discover promising and adaptable innovations for improved vertical coordination, inclusive contracting, certification for food quality and sustainability, inclusive digital platforms, and more. It will pilot and assess the potential for, and tradeoffs associated with bringing these bundled innovations to scale, to make a sustained development and environmental impact.

2.2 Measurable 3-year (end-of-Initiative) outcomes

By 2024, the Initiative expects to achieve the following outcomes:

- Pilot bundled innovations on inclusive business models for (a) vertical value chain coordination and (b) product quality certification for **global export markets**, being used by 4,000 farms and agrifood SMEs and directly benefiting at least 20,000 people in households of self-employed, owners and workers of those farms and agrifood businesses in Bangladesh, Ethiopia, Uzbekistan, and two countries in Central America. At least 45% of the pilot beneficiaries are women and 20% are young people.

- Pilot bundled innovations on inclusive business models for (a) storage and transport logistics, (b) value chain contracting; and (c) product quality certification for **domestic** markets, especially for high-value and nutrient rich foods, being used by 4,000 farmers and agrifood SMEs and directly benefiting at least 20,000 people in households of self-employed, owners and workers of those farms and agrifood businesses in Bangladesh, Nigeria, Uganda, and two countries in Central America. At least 45% of the pilot beneficiaries are women and 20% young people.
- Pilot innovations on digital technologies for a) logistics and b) finance, benefitting at least 6,000 agrifood SME workers in Bangladesh, Nigeria, and Uganda. At least 45% of the pilot beneficiaries are women and 20% youth.
- National policymakers and private food market actors use the Initiative's innovative tools for food market diagnostics and policy analysis with governments of at least 6 countries having changed policies to enabling scaling of the piloted innovations, and with at least 14,000 smallholder farms and agrifood SMEs adopting the innovations.

2.3 Learning from prior evaluations and impact assessments (IA)

The rapid evolution of food markets and value chains in low- and middle-income countries (LMICs) and the role of post-harvest innovations in this transformation are well understood (**5**). However, not much is known on how to leverage this change to create decent livelihoods, especially for women and youth, and achieve sustainability—knowledge gaps that this Initiative aims to close (**5**, **6**).

An international expert panel (**6**) concluded recently that no single approach, innovation, or policy will suffice to generate catalytic food system change. Addressing the multiple constraints faced by small food market actors in poor countries will require combinations of solutions or, as the panel indicates, "bundles" of complementary technological and institutional innovations and policies providing new incentives and capacities for adopting these innovations. Following this approach, this Initiative will provide evidence on the effectiveness and scalability of bundled innovations with high potential.

The CGIAR-PIM program (**7**) has generated evidence regarding optimal policies for food trade; inclusive value chain development, finance, and insurance; women's empowerment; and reducing post-harvest losses. This Initiative will tackle these issues within specific food markets and value chains, especially the under-studied middle segments of chains related to logistics, processing, wholesale, and retail.

Food standards related to equity, nutrition, safety, and sustainability are increasingly important in modernizing value chains, yet compliance is difficult for smallholders and agrifood SMEs (**5**, **6**, **8**). This Initiative will identify technical, organizational, and regulatory innovations that will allow small players to compete in domestic and global markets.

Finally, recent surveys suggest that instruments for rural and agricultural finance and insurance have modest uptake and impacts on smallholders' consumption, food security, income, production, and resilience, calling for more research on inclusive finance mechanisms, especially digital finance and payment systems (9).

2.4 Priority-setting

Recent literature suggests that improving smallholders and agrifood SMEs' share of income and employment from growing food markets can be achieved by influencing the ways in which market suppliers and buyers interact with one another. Inclusive models for logistics, finance and contracting, as well as improved food quality and sustainability standards can help small actors access the parts of the food system expected to see the biggest market growth (including the markets for high-value, nutritious foods). This assessment is based on the following interpretation of key food market trends:

- Income growth will increase food demand unevenly across products and processes. Demand for higher-quality foods and foods that are more processed and varied will accelerate. Consumers place increasing importance on non-nutritive attributes like food appearance, convenience, safety, storability, taste, variety, and environmental or social attributes associated with the production process (**5**).
- These shifts in demand will concentrate value addition and employment growth within the post-farmgate portions of agrifood value chains (**10, 11**) where many product and process innovations originate. Today's employment in the post-harvest segments of food value chains is already much bigger than on-farm employment and is growing globally, opening as yet untapped opportunities for women and youth (**11**, **12, 13, 14**).
- Most of the world's poor live in rural areas and/or work in agrifood supply chains. Low economic returns to agricultural production, trading, and processing in rural areas are a key source of global poverty, hunger, and inequality. Productivity improvements and value chain integration benefiting the poor therefore have important equity implications and will require identifying innovative mechanisms that not only benefit smallholder farmers and poor consumers, but also workers and SME owners in the 'hidden middle' of agrifood value chains.
- Women and youth tend to possess the fewest opportunities for remunerative employment (**13, 14, 15**).
- Agrifood systems at large generate an estimated one third of global greenhouse gas (GHG) emissions. Emissions from post-farm production and distribution processes are increasing rapidly, including in LMICs (**16**).
- Use of digital technologies in agrifood value chains is expanding rapidly and accelerated during the COVID-19 pandemic, also in LMICs, in the form of e-commerce, e-procurement, e-finance and payment systems (**17**). These technologies are revolutionizing the intermediation processes within food supply chains, bringing new opportunities to trace the origins of foods, identify how they were produced, their quality, safety, and so on. Small-scale producers face major challenges in accessing and benefiting from these technologies.

The research priorities as well as the selection of country and value-chain contexts were led by the above factors and what those imply for opportunities for significant improvements in employment and income opportunities, especially for women and youth, and for reducing environmental footprints along value chains. This priority setting also underlies the choice to focus the Initiative on food groups with high market value and high nutrient content. Expert and stakeholder consultations (see section 2.6) were conducted to identify geographic and value chain priorities against these criteria, leading to the prioritization summarized in the table below.

Rethinking Markets Initiative: Geographic and value chain priorities						
Work packages	**Uganda**	**Ethiopia**	**Nigeria**	**Bangladesh**	**Uzbekistan**	**Central America**
1 GVC for export markets		Oil seeds & vegetable oils		Shrimp	Fruits & vegetables	Coffee
2 VC for domestic markets	Dairy		Fruits & Vegetables	Fish		Grains and pulses
3 Cross-VC support services	Logistics & e-finance		Logistics & e-finance	Logistics & e-finance		
4 Knowledge, metrics and models	X	X	X	X	X	X

2.5 Comparative advantage

Drawing on decades of experience, CGIAR has developed unique, world-class research capabilities and multi-disciplinary approaches that it can apply in analyzing entire markets and value chains and policy environments. CGIAR has a long-standing in-country presence in Bangladesh, Ethiopia, Nigeria, Uganda, Uzbekistan, and Central America and strong ties to national and local governments, private sector actors, farmer organizations, and development agencies in these countries. Its work integrates gender and social inclusion into all methodologies and evaluations, including and rigorous causal impact evaluation of technological, process, and policy interventions. CGIAR's PIM program has brought this expertise together into an effective multidisciplinary community of practice.

CGIAR excels in the discovery and delivery phases of research. It has used its rigorous impact evaluation and modelling capacity to provide evidence on: cost-effective value chain innovations that connect smallholders and agrifood SMEs, especially women, to markets (**18**, 19**, 20, 21**); the impacts of distortionary policies and healthy and environment-friendly alternatives **(22**, **23**); and strategies to promote sustainability and nutrition within agrifood value chains (**24**).

The widespread implementation of CGIAR's methodology, Participatory Market Chain Approach (PMCA), and others, have helped deliver smallholder-inclusive business models. It has also successfully developed sustained partnerships between producers and buyers on deforestation-free, climate-resilient value chains, including in coffee and cacao markets.

This Initiative will pilot and test innovations that can make CGIAR's existing delivery of scientific outputs to markets and value chains more inclusive and sustainable, and improve livelihoods for workers in small-scale agrifood production, logistics, trading, and processing, especially women and youth.

2.6 Participatory design process

Food systems function through a myriad of highly decentralized private actors. To achieve food system transformation, it is crucial to recognize and engage in dialogue with all these food sector actors and public stewards to understand their motivations, priorities, and behaviors as well as the resource, regulatory, legal, and social constraints they face.

In recognition of this need, the Initiative Design Team (IDT) engaged with over 150 stakeholders across seven selected countries (Bangladesh, Ethiopia, Nigeria, Uganda, Guatemala, Honduras, and Uzbekistan), as well as with global stakeholders to inform the design of the Initiative.

National consultations brought together a wide spectrum of food system actors, including representatives of farmer organizations, small and large private agrifood businesses in wholesale and retail trade, processing, and exports, as well as in logistics, input supplies, and financial services. These consultations also included representatives of government agencies, research institutes, third-party food standard certifiers, NGOs, and in-country staff of UN agencies, the donor community and development banks. Representatives of essentially all these constituencies confirmed a critical need for the work proposed to be undertaken by the Initiative and expressed enthusiasm for learning from experiences across the target countries. Subsequently, they helped shape the design of the Initiative, providing concrete inputs on local needs and priorities.

At the global level, consultations on early drafts of the Initiative proposal were held with funders (including USAID, BMGF, European Commission, and The Netherlands) and potential research or scaling partners (ISEAL, Wageningen Research, MSU, World Bank, and others). In addition, the IDT lead actively engaged in the preparations and organization for the UN Food System Summit (UNFSS), including many of the global and national dialogues. Stakeholder concerns and needs helped shape the UNFSS's agenda for "game changing" actions, which in turn helped define the priorities of the Initiative.

National and global stakeholders have engaged both in conceptualizing the design and reviewing the drafts of the Initiative at different stages.

More specifically, the participatory design process up to this point has included the following steps:

1. Established Initiative Design Team with broad representation
    - 10-person design team including 5 CGIAR centers, SMO, and 2 external members representing donor and policymaker perspectives.
    - 50 topical area experts engaged as reviewers at pre-concept and full proposal stage.
2. Used bilateral consultations to confirm demand for the Initiative
    - Numerous bilateral conversations with key global and national partners
3. Engaged with other IDTs to augment impact and avoid duplication
    - Consultations with 8 other Initiatives
    - Identified core areas for joint outcomes at Work Package level
4. Held country consultations to confirm local demand and integrate local perspectives
    - 70 stakeholders participated in six 90-minute consultations; 42 stakeholders shared additional feedback via Google Form
    - Stakeholders validated proposed Work Packages and provided inputs on country-level priorities in sectors, innovations, and partnerships. Feedback reports and expressions of interest can be found here.
    - Contact lists and feedback will guide start-up activities in each country

The IDT expects that this broad participatory engagement during the design phase will lay the foundation for active stakeholder engagement during implementation of the Initiative, ensuring that the research meets demand and increasing the likelihood of uptake of recommended innovations and support policies.

2.7 Projection of benefits

The projections below transparently estimate reasonable orders of magnitude for impacts which could arise as a result of the impact pathways set out in the Initiative's theories of change. Initiatives contribute to these impact pathways, along with other partners and stakeholders.

For each Impact Area, projections consider breadth (numbers reached), depth (expected intensity of effect per unit) and probability (a qualitative judgement reflecting the overall degree of certainty or uncertainty that the impact pathway will lead to the projected order of magnitude of impact).

Projections will be updated during delivery to help inform iterative, evidence-driven, dynamic management by Initiatives as they maximize their potential contribution to impact. Projected benefits are not delivery targets, as impact lies beyond CGIAR's sphere of control or influence.

Table – summary of projected benefits 2022-2030

Projected benefits by 2030	Breadth*	Depth*	Probability*
Nutrition, health & food security: 3.5 million people meeting minimum dietary energy requirements	7 million poor	Significant	Medium
Poverty reduction, livelihoods & jobs 3.5 million people assisted to exit poverty	7 million poor	N.A.	Medium
Gender equality, youth & social inclusion:1.6 million women and 0.7 million youth benefiting from relevant CGIAR innovations	3 million women 1.5 million youth (targeted)	Significant	Medium
Climate adaptation & mitigation: 150 kilotonnes (kMt) CO_2e averted	Potentially 601 kMt CO_2e averted	N.A.	Low
Environmental health & biodiversity: Positive but not quantified	N.A.	N.A.	Low

Note: *See narrative for explanation of depth and probability categories used here.

***Breadth in terms of beneficiaries of CGIAR innovations*:** The Initiative will test pilot innovations and policies in 14 food value chains and cross-value chains across 5 countries and one sub-region (Central America). It is projected that on average about 5,000 farmers, agrifood SME workers and their households will benefit from the piloted innovations, or a projected **70,000 pilot-level beneficiaries** during 2022-2024. The innovations will be co-designed with partners, and a scaling readiness strategy will enable diffusion and uptake of the innovations. Although scaling success is hard to predict towards 2030, the potential for food market growth in developing countries is enormous and the trajectory of organizational and technological innovations, fast moving. A scaling factor of 25 (cumulative towards the end of the decade and accounting for expected spillover to other value chains) is thus assumed for the projected number of

beneficiaries in each of the selected value-chain contexts. An additional scaling factor of 4 (i.e., adoption in additional 20-25 countries) is assumed for uptake beyond the beneficiary countries using WP4's Knowledge Platform (KISM). These assumptions yield:

- a **projected 7 million beneficiaries** *(= 5,000 beneficiaries per pilot x 14 value chain contexts x 25 in-country scaling factor x 4 global scaling factor*).

Who are expected to be the main beneficiaries? The innovations will be designed to primarily benefit currently poor smallholder farmers and agrifood SME business owners and workers along value chains. A gender- and youth-sensitive design aims to ensure that women and youth can benefit substantially. Based on evidence provided by CGIAR specialists, targeting beneficiary shares of 45% for women (larger than women's 43% share of the agricultural labor force in developing countries (**3, 25**)) and 20% for young people, seems realistic. Women will be direct beneficiaries of interventions but will also benefit through disruptions to gender power imbalances, which further increase women's access to income generating opportunities in value chains. Given the low-income contexts where the CGIAR innovations will be piloted, the probability that income, employment, food security, and other gains reach the target groups is nonetheless considered to be moderate (set at 40%). These assumptions suggest that, by 2030, the Initiative would aim to have reached:

- **3.5 million currently poor people** (7 million projected beneficiaries x 50%)
- **1.6 million women** (7 million projected beneficiaries x 45% project design target x medium (40%) probability) and **700,000 young people** (7 million projected beneficiaries x 20% project design target x medium (40%) probability)

On this basis, the projected benefits by CGIAR Impact Area are as follows:

Poverty**:** This Initiative is expected to create more efficient and inclusive value chains in a context of growing markets for high-value, quality foods, resulting in significant and enduring income gains for producers and workers. Efficiency gains and reductions in food loss are assumed to avert food price increases for consumers. Outcomes are uncertain due to the risks of unsuccessful scaling of the Initiative's innovation packages (see Section 7.3), suggesting a medium probability of achieving such impacts for currently poor beneficiaries. No further indicator of intensity of impact or "depth" is required here. Accordingly, the projected benefits for poverty reduction by 2030 are:

- **3.5 million beneficiaries assisted to exit extreme poverty** *(= 7 million projected poor beneficiaries x 50% probability*).

Nutrition, health and food security**.** Hunger and poverty are closely associated. The poverty line of $1.90PPP per person per day used to project the poverty impact is based on the cost of a basket of basic foods needed to meet minimum caloric-energy requirements. Thus, with some certainty, it may be assumed that those lifted out of poverty will also have the means to access the food needed to avoid chronic hunger. As mentioned, the intensity ("depth") of the impact on income is significant (i.e., income gains help poor beneficiaries both climb out of poverty and afford minimum caloric food requirements). Accordingly, the breadth of nutritional impact is projected at:

- **3.5 million people meeting minimum dietary energy requirements** *(= 7 million projected poor beneficiaries x 1 significant depth x 50% probability*).

Given the focus of the Initiative on value chains of nutrition-rich and high-value foods, income gains may be substantial enough (over $3.50PPP per person per day, (3)) for beneficiaries to be able to afford nutrition-adequate diets. However, given uncertainties, these more ambitious nutritional and health benefits are not projected.

***Gender equality, youth, and social inclusion*.** In addition to the projected breadth of impacts above, the intensity of impacts could potentially be "transformative". Gender equality could be strengthened, and youth could gain enduring opportunities for remunerative employment. However, cultural and institutional hurdles tend to be significant. It is assumed that where the innovations effectively benefit women and youth, it is to the same degree of intensity as expected for income benefits:

- **1.6 million women benefit from CGIAR innovations** (see above for estimation)
- **700,000 young people benefit from CGIAR innovations people** (see above for estimation)

Climate adaptation and mitigation. The Initiative will provide solutions for reducing environmental footprints that can prevent food losses and reduce GHG emissions through use of renewable energy. Potential impacts on biodiversity, forest coverage, and land-use change are hard to project ex ante. Hence, projected benefits here are limited to potential reductions in GHG emissions along beneficiary value chains. Projections are based on current levels of emissions per unit of output (where possible for both farmgate and post-farmgate emissions) in select value chains (shrimp and fish in Bangladesh, fruits and vegetables in Nigeria and Uzbekistan, oil seeds and edible oils in Ethiopia, dairy in Uganda, and coffee, grains and pulses in Central America). Estimates of GHG emissions are based on FAOSTAT and other value chain and country-specific sources (**26**). The emission intensities were applied to current levels of production (in the Initiative's areas of likely coverage) plus projected 18% growth of food demand between 2020 and 2030 (based on FAO projections: (**27**)). The Initiative aims to promote climate-mitigating sustainable production practices and influencing policies that incentivize these. Evidence from meta studies (**28)** suggests that adoption could be slow. Since the Initiative's innovation package takes stakeholders into largely untested waters, impacts on emissions are considered rather uncertain. Hence, a low probability of success (25%) is assumed for this Impact Area:

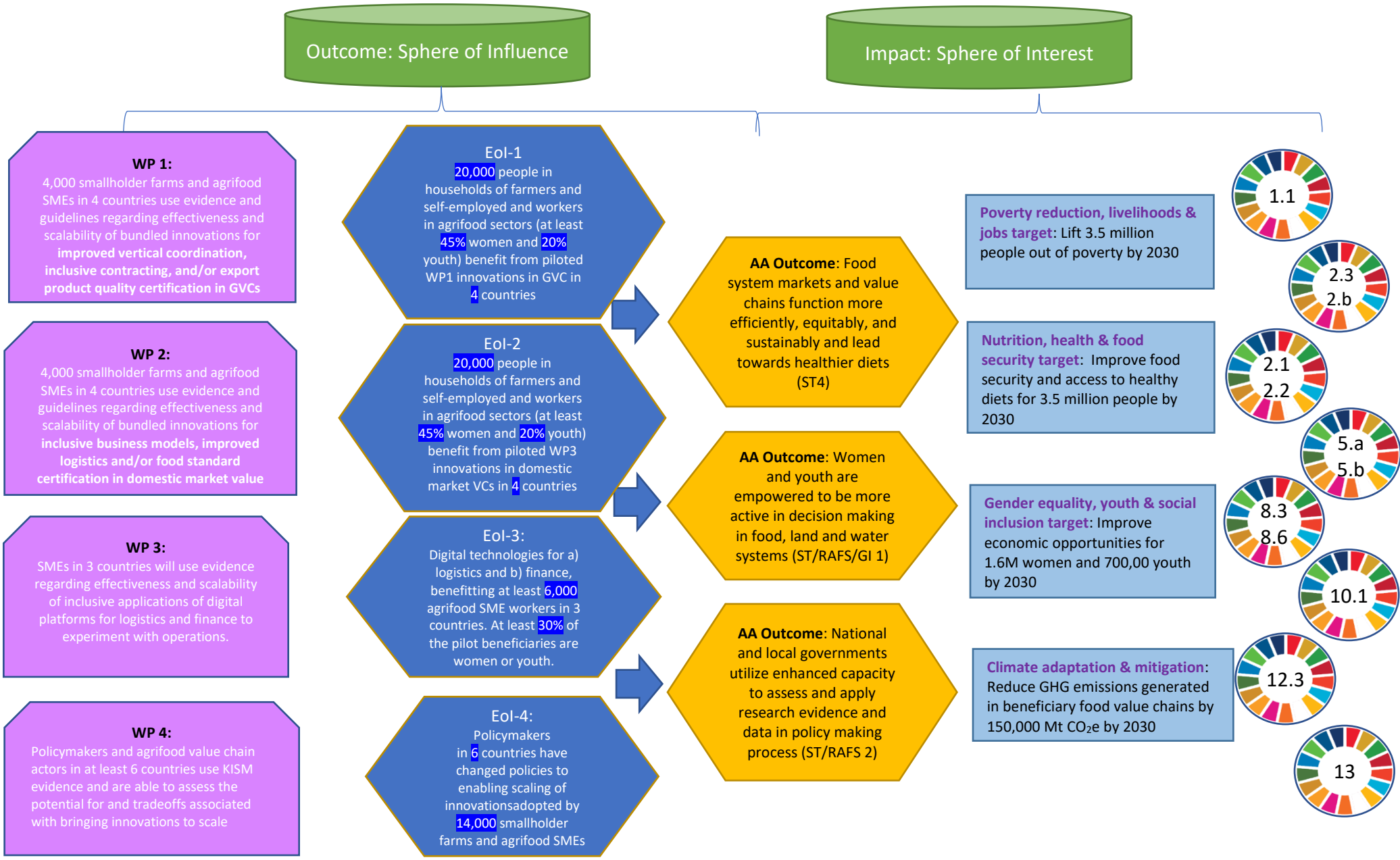
- **150 kMt of CO_2eq averted** (= sum for 8 value chains (i) of [(emission intensity) x (current output + 18% production growth to 2030)]$_i$ x 25% probability).

Environmental health and biodiversity. The Initiative's innovations could improve environmental health and biodiversity, via reduced pressure on land use and greater sustainable use of land and water resources. Quantifying such gains is difficult at this stage since the specific intervention areas in each country have not yet been identified.

Inter-Initiative synergies. There are very likely synergies between the projected benefits of this and other CG Initiatives, but no additional impacts from these synergies have been accounted for at this stage. By implication, the above projection of benefits should be considered conservative, though avoiding potential double counting of beneficiaries across Initiatives. The potential for synergies will be identified in greater detail during the inception stage of the Initiative.

3. Research plans and associated theories of change (TOC)

3.1 Full Initiative TOC



3.1.2 Full Initiative TOC narrative

In collaboration with local partners, the four Work Packages (WPs) of this Initiative will produce key deliverables (outputs) consisting of robust evidence bases and rigorous impact assessments of the top technological, process, and policy innovations for inducing positive changes in markets and value chains in Bangladesh, Ethiopia, Nigeria, Uganda, Uzbekistan, and Central America. The findings will be packaged into guidelines, policy briefs and tools for market and policy analysis, and will be communicated, tested, and improved upon further using communities of practice, various communication channels and events, and capacity building activities.

These outputs and activities will generate 4 tangible WP-level outcomes:

- **WP1 and WP2**: Smallholders and SMEs in export and domestic value chains across 6 geographies will use evidence regarding the effectiveness and scalability of bundled innovations to experiment with operations.
- **WP3**: SMEs in 3 countries will use evidence regarding effectiveness and scalability of inclusive applications of digital platforms for logistics and finance to experiment with operations.
- **WP4**: Stakeholders in at least 6 geographies will use KISM evidence to assess the potential for and tradeoffs associated with bringing innovations to scale.

By the end of the Initiative in 2024, it is expected that around 40,000 people in households of self-employed, owners and workers of participating farms and agrifood businesses will directly benefit from the piloted innovations (20,000 each in domestic and global value chains). Participation and uptake will be encouraged through co-design of the innovations with key local stakeholders, in order to move from WP-level outcomes toward End-of-Initiative (EOI) outcomes. In addition, SMEs in 3 countries are expected to use digital platforms to improve their access to logistics support and finance, benefitting at least 6,000 workers, especially women and youth amongst them. Additionally, policymakers in 6 target geographies will have changed policies to enable the scaling up by providing regluatory frameworks and stimulating adoption of innovations by 14,000 smallholder farms and SMEs. A rigorous gender- and youth-sensitive lens will enable women and youth to comprise, respectively, 45% and 20% of these beneficiaries.

Co-design and active engagement with partners from governments, producer organizations, private businesses, financial institutions, and development agencies are expected to further scale up these innovations, contributing to key outcomes of the Systems Transformation Action Area by 2030. These include food markets and value chains that are economically viable, environmentally sound, and socially inclusive at a large scale; the empowerment of women; and a greater capacity on the part of governments to use evidence in policymaking.

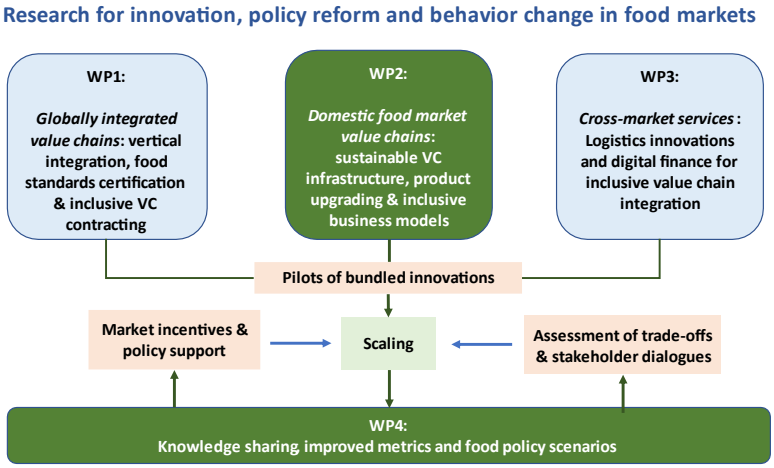
At a higher level, the fulfillment of these outcomes is expected to achieve sustained development impacts by 2030, including lifting 3.5 milion people out of poverty and ensuring their food and nutrition security; creating renumerative business and employment opportunities for 1.6 million women and nearly 700,000 youth; and reducing GHG emissions generated in selected food value chains by 150,000 Mt CO_2e.

These impacts will contribute to SDG targets 1.1 (eradicate extreme poverty); 2.1 and 2.2 (end hunger and all forms of malnutrition); 2.3 (double agricultural productivity and incomes of small-scale food producers); 2.4 (ensure sustainable food production systems); 2.b (producer support); 5.a (give women equal rights to economic resources); 5.b (enhance the use of ICTs to empower women); 8.2 (higher productivity through upgrading and innovation and higher value added); 8.3 (support decent job creation and entrepreneurship); 8.6 (enhance youth employment opportunities); 10.1 (reduce inequality); 12.3 (reduce food loss and waste); and 13 (take urgent action to combat climate change).

The Initiative will closely collaborate with other CGIAR Initiatives to enhance impact, including: SHIFT; National strategies; Foresight and metrics; Urban and peri-urban agrifood systems; HER+; ClimBer; Resilient Aquatic Foods; Market Intelligence; Digital Transformation; MITIGATE; and Regional Integrated Initiatives corresponding to targeted market contexts of this Initiative.

3.2 Work Package TOCs

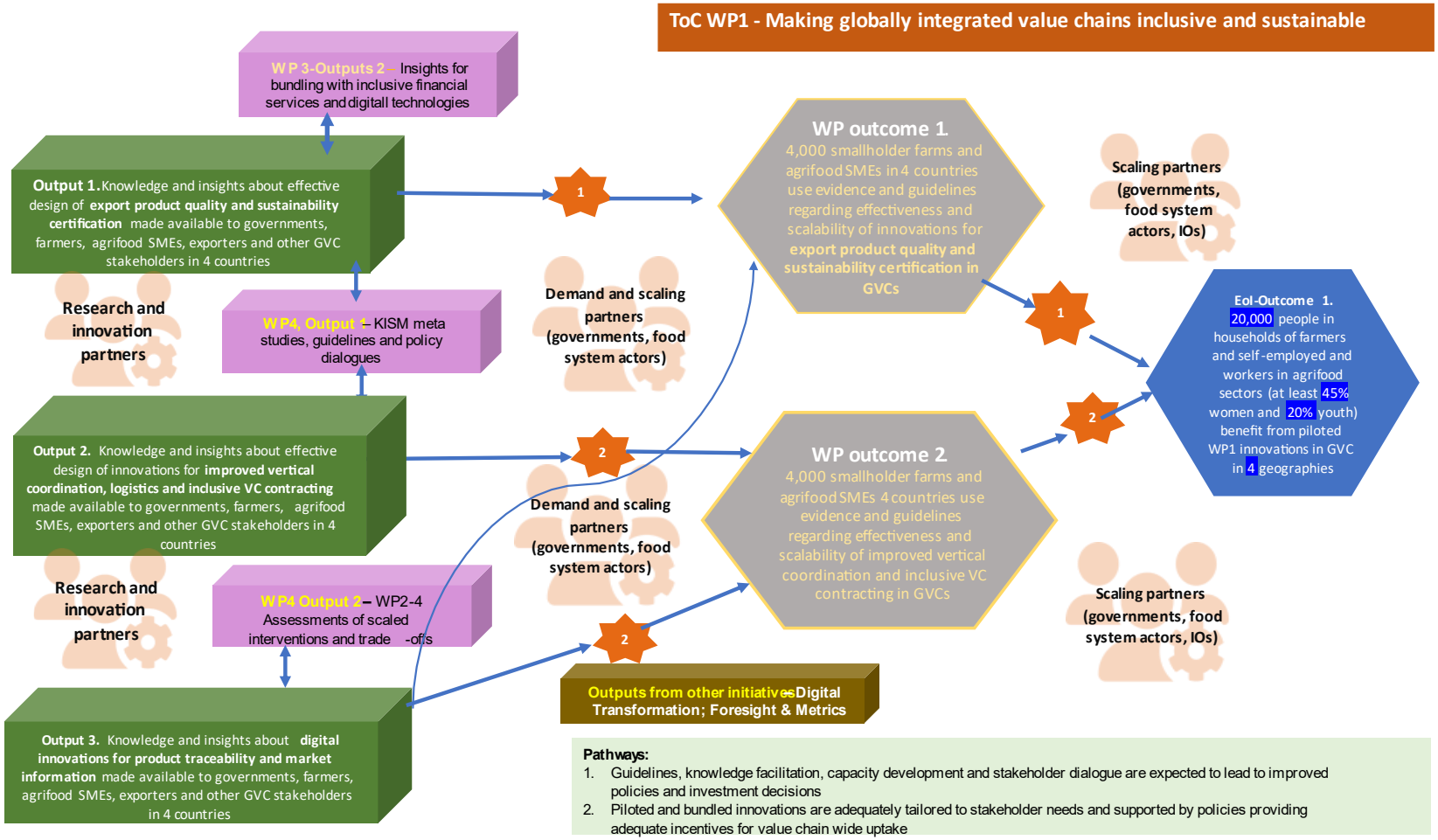
Following stakeholder consultations in targeted countries, **Work Packages (WPs)** have been identified under this Initiative. They are linked as presented in this diagram:



WP 1 and **WP2** focus on different types of markets for high-value food commodities; that is, one on globally integrated value chains catering to international markets and another on food value chains serving domestic markets in the targeted countries. **WP3** looks at inclusive business models for using digital technologies in cross-food-market services, especially in logistics and finance. **WP4** collects inputs and lessons from the first three and creates a knowledge platform for policy dialogue and exchange of evidence and ideas, as well as a global agrifood database that can be used for global and country scenario analyses to assess the potential for and tradeoffs associated with scaling. Each of the Work Packages will identify the obstacles to creating inclusive and sustainable food markets and value chains and test bundles of scalable game-changing innovations and incentive schemes to overcome those obstacles.

Work Package 1: Making globally integrated value chains inclusive, efficient, and environmentally sustainable

3.2.1 WP1 – Theory of change diagram



3.2.2 WP1 research plans and theory of change

Work Package title	***Making globally integrated value chains inclusive, efficient, and environmentally sustainable***
Work Package main focus and prioritization	Work Package 1 focuses on increasing participation and profitability of smallholders and agrifood SMEs in global value chains (GVCs) by testing and scaling interventions in three areas: (a) innovations to improve vertical coordination among GVC actors, (b) mechanisms for upgrading product quality, including for food safety and sustainability, and (c) identifying and scaling digital innovations for tracing products and making market information accessible to GVC participants. The goal is to deepen understanding of the opportunities and risks of expanding GVCs and lower barriers for small-scale producers and SMEs, including women and youth, to participate and benefit from them.
Work Package geographic scope Global/Region/Country)	Bangladesh, Ethiopia, Central America (Guatemala/Honduras), Uzbekistan

WP1 - The science:

1. WP1 - Research questions, methods, and key outputs

Global value chains (GVCs) are rapidly evolving, driven by changes in consumer demand, logistics, and technology. Expanding high-value markets represent opportunities for smallholders and agrifood SMEs to gain remunerative employment, climb out of poverty, and improve their diets (**29**). However, there are challenges:

- Vertical coordination in GVCs is difficult because of strict standards, long distances, and differences in scale between farmers and processors/exporters.
- Smallholders and agrifood SMEs are vulnerable to the market power of large processors/exporters in concentrated market structures and face greater obstacles in meeting export standards.
- Smallholders and agrifood SMEs often lack adequate access to information on production methods, market prices, and export standards.

WP1 will focus on three research questions:

A. *How can vertical coordination be strengthened to benefit smallholders and agrifood SMEs, including women and youth?* This component will work with farmers, SMEs, and exporters to identify and test promising interventions to strengthen both value chain contracting arrangements and producer organizations. Although research shows that contract farming raises income among participating farmers, formal contract farming remains rare among staple crops, being more commonly used for quality-sensitive and/or perishable export crops (**30, 31**). Additionally, farmer and SME organizations can increase the bargaining power of small actors and help them benefit from economies of scale in input distribution and marketing.

B. *How can product quality be improved to benefit smallholders and agrifood SMEs?* This component explores policies and innovations to improve food product quality, including food safety, sustainability, social attributes, and other value-adding attributes that can meet strict

food standards in export markets. It will collaborate with farmers and processors/exporters to identify constraints to upgrading quality, and test interventions to overcome these constraints. Interventions may involve a low-cost means of verifying products' environmental footprint and social impact, improved methods of testing quality, aligning standards with buyers' needs, and improving incentives for farmers and SMEs' compliance (**32**). Interventions will be evaluated for their impacts on women and vulnerable groups, and those that facilitate food safety, social inclusion, gender equity and environmental standards will be prioritized.

C. *How can digital information services be improved to benefit smallholders and agrifood SMEs?* The use of digital platforms to provide information on weather, production methods, environmental impacts, inputs, prices, and quality requirements, is particularly important for export commodities, which are often specialized, high-quality foods. The added value of information on high-value foods likely outweighs the cost of establishing the information system. Unfortunately, smallholders and SMEs face enormous obstacles in accessing such services (**33, 34**). This component will engage smallholders and SMEs to assess their information needs, identify low-cost sources of information, and test innovations that efficiently collect, process, and distribute such information, with attention to their impacts on women and youth.

To address each of these questions, the Initiative will first conduct market and value chain assessments to identify key bottlenecks and market potential and, subsequently, conduct rigorous causal impact assessments of piloted socio-technical innovations. Innovations will be co-designed with local innovation and scaling partners.

Further detail regarding the research questions, proposed methods, and outputs for this Work Package can be found here.

WP1 - Theory of change

2. WP1 - The causal processes

WP1 will bring together three types of innovations to lower the barriers of smallholders and SMEs in participating in lucrative and sustainable GVCs and vertically coordinated arrangements with processors/exporters. WP1 will produce evidence-backed innovation designs (Outputs 1-3) on inclusive contracts, quality and sustainability certification, improved vertical coordination, and digital innovations that deliver crucial product information and extension services. With the support of WP4's knowledge platform and assessments of potential for scalability, these outputs will enable 8,000 smallholders and agrifood SMEs in 4 geographies to experiment with innovation designs within their operations. As part of the initial scaling process, and as supported by pilot policy measures needed to diffuse the innovations, by the end of the Initiative, the innovations piloted under WP1 are expected to benefit around 20,000 people in households of self-employed, owners and workers of participating farms and agrifood businesses, including women and youth, (EOI-1), as they access technical assistance, inputs, and credit for upgrading products; benefit from collective action; participate in improved vertical coordination characterized by improved production, food quality monitoring and incentive systems; and access digital extension and market information.

3. WP-1 Key demand, innovation, and scaling partners

Geographies/countries	Demand partners	Innovation partners	Scaling partners
Ethiopia Bangladesh Uzbekistan Central America (Guatemala/Honduras)	Donor agencies (USAID, the World Bank, IFC, and the EU) Private sector arms of development banks (IFC, IDB INVEST, FMO) Farmer organizations, SME associations and networks, and private-sector associations, exporters Government agencies (Min. of Agriculture, Min. of Industry and Trade) Information providers (e.g., Esoko)	Universities and research institutes Certification and traceability service providers Farmer organizations Associations of SMEs, processors, and exporters	Farmer organizations Private sector processor and exporter associations Local and international NGOs Government agencies

4. WP1 - Key WP TOC assumptions and risks

Below are key assumptions for successful implementation, along with measures to reduce risk.

- WP has sufficient resources to test interventions. The risk of insufficient resources can be reduced by taking advantage of economies of scale when possible, being selective about studies, and looking for partners to fund the interventions.
- The tested interventions are successful in improving beneficiaries' access to GVCs. The risk of ineffective interventions can be minimized by careful preparatory work and stakeholder consultations.
- Successful interventions can be scaled up. Challenges in scaling up can be reduced by involving scaling partners in the research at its onset.

5. WP-1 Interdependencies and synergies with other Work Packages and other Initiatives

The outputs of WP1 will make use of and feed into the knowledge platform, KISM, and the market and modeling tools for assessing scalability and trade-offs developed under WP4. The research will further be informed by the innovations being tested for high-value foods in domestic value chains under WP2 and those for leveraging cross-value chain digital services for finance and logistics under WP3.

WP1 will be developed in collaboration with and serve the work undertaken by other CGIAR Initiatives, most notably, National Policies and Strategies, Digital Transformation, ClimBer, MITIGATE, HER+ and Regional Integrated Initiatives in ESA, WCA, South Asia, CWANA, and LAC.

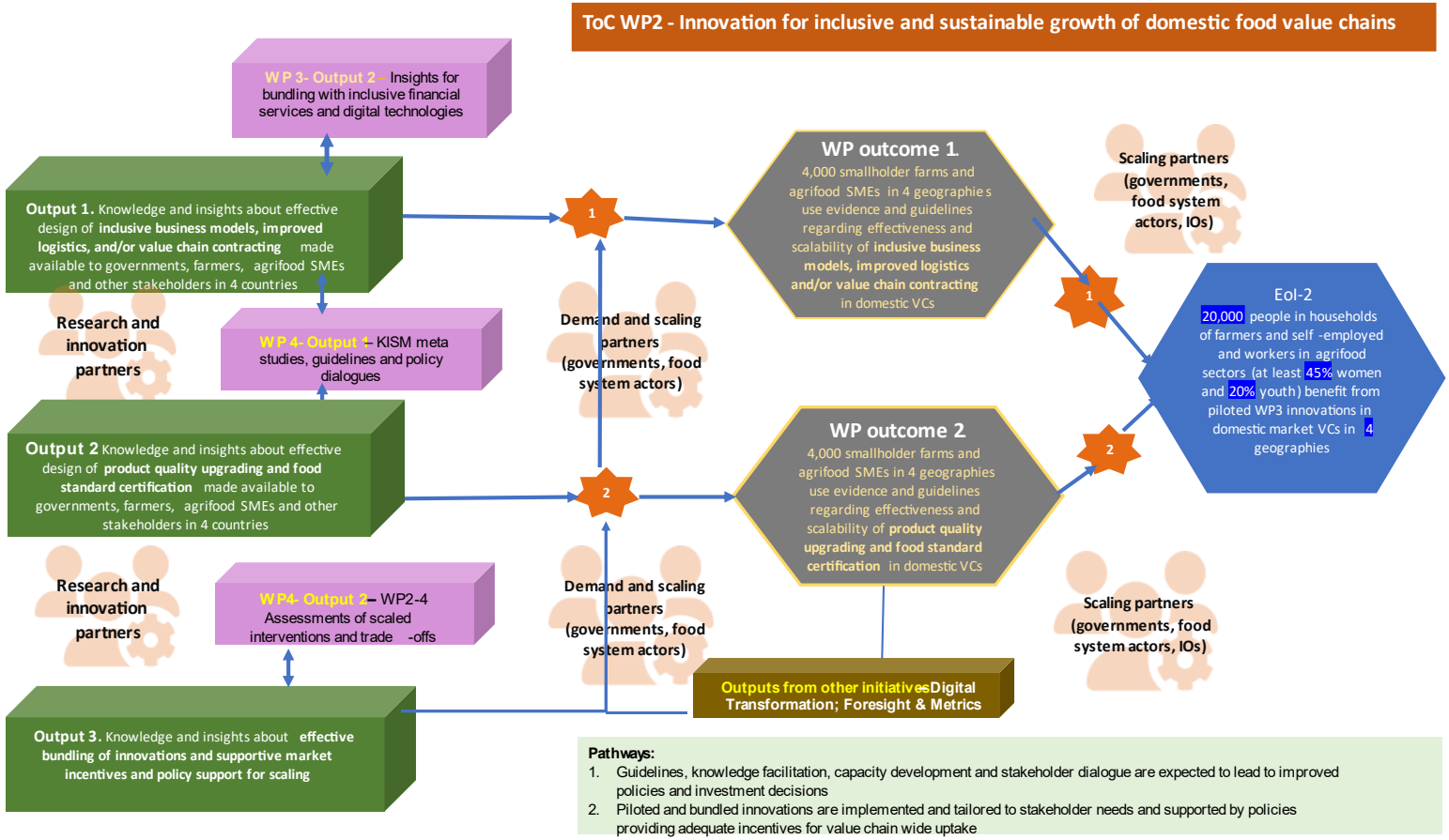
6. WP-1 Links to Innovation Package and Scaling Readiness Plan

WP1 will maximize the likelihood of effective scaling through:

- Background research and stakeholder consultations to ensure that piloted innovations are feasible and likely to succeed.
- Research collaboration with key public and private scaling partners to ensure that they understand the innovations, observe their benefit, and share the conclusions widely with their networks.
- Using findings of rigorous impact assessments to provide stakeholders with evidence regarding cost-effectiveness of innovations and their potential for scaling.
- Multi-pronged approach to disseminating the results using different media for different audiences. For WP1, this includes farmer organizations, SME associations, exporter, information providing services, and certification services.

Work Package 2: Innovation for inclusive and sustainable growth of domestic food value chains

3.2.1 WP2 – Theory of change diagram



3.2.2 WP2 research plans and theory of change

Work Package title	***Innovation for inclusive and sustainable growth of domestic food value chains***
Work Package main focus and prioritization	Work Package 2 focuses on improving participation and profitability of smallholder farms and agrifood SMEs in domestic food value chains (DFVCs) and lower their environmental footprints by identifying, adapting, and scaling interventions in three areas: (a) innovations to improve logistics and create inclusive business models and value chain contracts; (b) product quality upgrading and food standard certification; and (c) an enabling policy environment for sustainable development of DFVCs. The goal is to examine the effectiveness and synergies among these DFVC innovations and lower the barriers for small-scale producers and SMEs, including women and youth, to participate and benefit from them.
Work Package geographic scope (global/region/country)	Bangladesh, Nigeria, Uganda, Uzbekistan, and Central America (Guatemala/Honduras)

WP - 2 The science

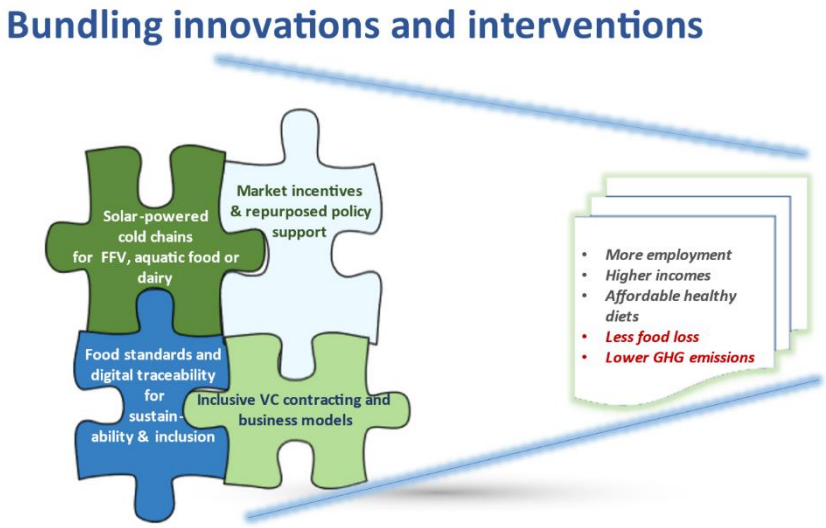
1. WP2 - Research questions, methods, and key outputs

The rapid advance of urbanization, income growth, and foreign investment in low- and middle-income countries present huge employment and income opportunities along DFVCs in these countries (**35**, **36**). However, smallholders, traders, processors, and distributors along DFVCs face considerable obstacles to seize such opportunities, including lack of infrastructure; low demand for higher-quality products; poor access to information, inputs, and services; and high costs to coordinate actions among numerous and often informal producers and traders (**37, 38)**. Overcoming these obstacles will require coordinated interventions at multiple levels of DFVCs, from on-farm production to quality control in distribution, to improved marketing to local consumers (**6**).

Work Package 2 will identify, adapt, pilot, and provide insights on how to scale beneficial Innovations by agrifood businesses engaged in DFVCs, answering the following research questions:

- Which bundled innovations, including inclusive business models and contracts and product quality upgrading, have a high potential for increasing smallholders and SMEs' competitiveness and profitability within traditional DFVCs?
- Which bundled innovations within DFVCs characterized by large-scale processors and traders sourcing inputs from smallholders, have a high potential for generating higher volumes and leading to higher quality of smallholder- or SME-sourced inputs, while delivering positive, meaningful outcomes for smallholder farmers, SMEs, and the environment?
- How can governments, NGOs, and research centers better support the inclusive and sustainable development of DFVCs and catalyze investments that ensure uptake and scaling of bundled value chain innovations?

Research will identify and assess, using rigorous impact evaluations of piloted innovations, how these 'bundles' of potential innovations and complementary interventions can induce changes in market behavior that ultimately lead to greater benefits for the poor, fairer value-added sharing in value chains, and adoption of sustainable practices (see illustration below).



Engagement will focus on value chains for food product groups with relatively high potential for product upgrading, improving diets, and greater value addition. As innovations will be co-designed with in-country innovation and scaling partners, they will also be piloted in value chains for high-value and nutrition-rich foods prioritized by these partners. They include fruits and vegetables (Nigeria), dairy (Uganda), farmed fish (Bangladesh), and grains and pulses (Central America). Where one type of innovation has already been introduced, the Work Package will seek to enhance impact through field experiments with the bundling of complementary innovations. For example, in Nigeria, pre-existing efforts in setting up solar-powered cold storage and transport for fresh fruit value chains will be reinforced with new inclusive contracting arrangements with urban processors and retailers and/or product quality and sustainability certification. In other contexts, a bundle of new innovations may be tested through careful engagement with local partners (e.g., new marketing tactics combined with innovation in business models).

Further detail regarding the research questions, proposed methods, and outputs for this Work Package can be found here.

WP2 - Theory of change

2. WP2 - The causal processes

Smallholders and agrifood SMEs often lack the means and knowledge to meet higher standards for food safety, nutritional value, and environmental footprints; are unable to influence consumer demand; and face high transaction costs to source materials. WP2 will provide evidence on effective designs for: inclusive business models and contracting, as well as improved logistics (output 1); upgrading product quality through certification (output 2); and an enabling policy environment for scaling these bundled innovations (output 3). These outputs will lead to innovation designs that 4,000 smallholders and SMEs working within DFVCs in 4 geographies can experiment with within their operations (outcomes 1 and 2). By the end of the Initiative in 2024, it is expected that around 20,000 people in households of self-employed, owners and workers of participating farms and agrifood businesses will benefit from these piloted innovations in 4 geographies. Targeted beneficiaries will include at least 45% women and 20% youth.

3. WP-2 Key demand, innovation, and scaling partners

Geographies /countries	Demand partners	Innovation partners	Scaling partners
Bangladesh Nigeria Central America (Guatemala/Honduras)	Farmer organizations Ministries of Agriculture, Trade, Industry and Commerce Donors Development banks Private sector (farmer organizations; agrifood SMEs and their associations; local and export traders and international food companies)	Farmer organizations National development agencies Private sector (farmer organizations; agrifood SMEs and their associations; local and export traders and international food companies) Local research partners International research partners: University of Illinois, MSU, WUR	Donors and development banks Private sector (farmer organizations; SME associations; exporters; and international food companies) Market authorities and relevant government ministries International organizations (FAO, IFC and other)

4. WP2 - Key WP TOC assumptions and risks

Key assumptions for the success of implementation of this Work Package include that:

- Agrifood businesses are willing and able to invest in innovation in DFVCs based on insights and lessons gained from this Work Package.
- Viable opportunities exist for adding value to DFVC products, which leads to meaningful benefits for upstream actors in the chain (smallholders, SMEs, workers).
- Government agencies and NGOs are engaged and willing to re-assess their strategies and policies based on evidence on the potential benefits and costs of scaling up such innovations within DFVCs.

5. WP2 - Interdependencies and synergies with other Work Packages

The outputs of WP2 will feed into and make use of the KISM knowledge platform and modeling tools in WP4. There will be synergies with WP1 to understand the dynamics across domestic and export value chains, and with WP3 on innovations in logistics and finance in domestic markets.

The Work Package will coordinate with four Regional Integrated Initiatives (ESA, WCA, South Asia, LAC) and four thematic Initiatives including HER+ (women's economic empowerment in markets), MIPP (product upgrading and marketing), and Urban/Peri-Urban Agrifood Systems and SHIFT (market incentives and conditions for quality upgrading, meeting consumer demand, food safety, nutrition, and environmental standards).

6. WP2 - Links to Innovation Package and Scaling Readiness Plan

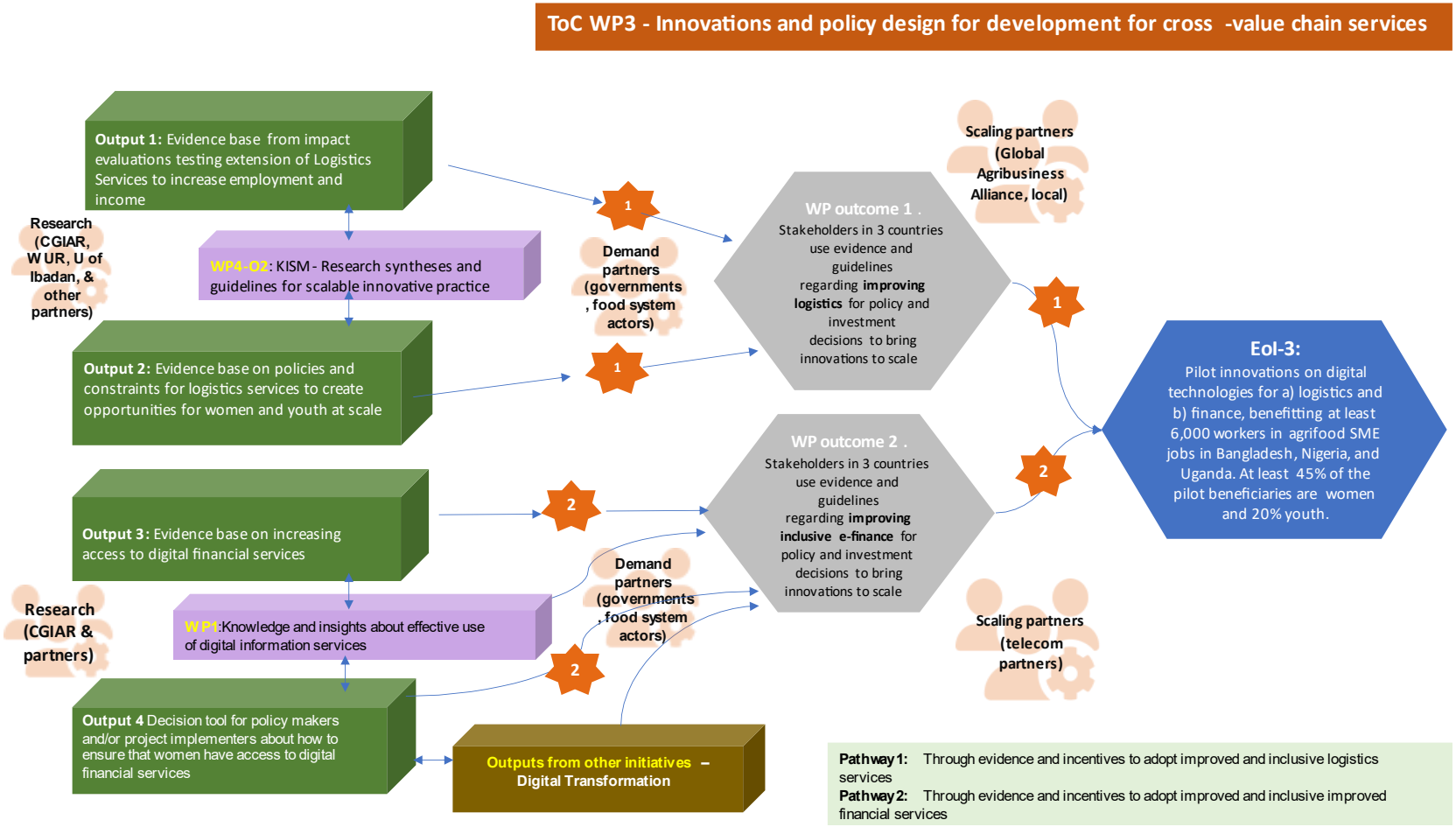
WP2 will ensure scaling readiness through:

- Careful selection of partners and active engagement with innovation and scaling partners throughout the Initiative.
- Capacity building among DFVC actors to help them understand standards, be incentivized to adhere to standards and engage in inclusive business models and digital platforms so that they can reach out and better connect to their buyers and sellers.

- Using findings of rigorous impact assessments to provide stakeholders with evidence regarding cost-effectiveness of innovations and their potential for scaling.
- Engaging public policymakers, particularly regulatory entities, to identify investments and policy interventions that improve performance of DFVCs, based on the evidence generated by the WP.

Work Package 3: Innovations and policy design for development for cross-value chain services to leverage new employment and income opportunities

3.2.1 WP3 – Theory of change diagram



3.2.2 WP3 research plans and theory of change

Work Package title	***Innovations and policy design for development of cross-value chain services to leverage new employment and income opportunities***
Work Package main focus and prioritization	Work Package 3 focuses on understanding how emerging innovations in cross-value chain services can be designed to increase employment and income opportunities within the agrifood sector, particularly among women and youth. Although digital services are essential for increasing the efficiency of value chains, they are often not accessible or relevant to smallholders and agrifood SMEs. WP3 will assess and test the potential for digital innovations in delivering finance and logistic services through inclusive business models, in order to generate better income and employment for these value chain actors.
Work Package geographic scope (global/region/country)	*Bangladesh, Uganda, Nigeria*

WP3 The science

1. WP3 - Research questions, methods, and key outputs

The central research question of WP3 is: how can cross-food value chain and market services function better to increase employment and boost income of smallholders and SMEs, including women and youth? It focuses on two types of cross-value chain services: (a) logistics and (b) value-chain finance.

Logistics, an important component of value chains, includes supply chain management, transportation, traceability, digital platforms for e-commerce, and (cold) storage (**5**). Nascent logistics services are often targeted at large-scale enterprises with greater market power. This component will assess the ways in which cross-value chain services can be cost-effectively targeted at smallholder farmers and agrifood SMEs. It will work with logistics firms to test inclusive business models and digital platforms for extending these services to these beneficiaries. For example, value chains for high value products often include apex buyers, who buy from small-scale producers and traders. Digital product traceability can ease create trust among buyers and suppliers and underpin certification of product quality.

WP3 will study emerging logistics firms in Bangladesh, Nigeria, and Uganda. It will conduct a selective landscape analysis, developing country-specific policy and institutional studies to build an understanding of the opportunities for and constraints against inclusion, and of scaling potential. As a first step, the Work Package will undertake a comparative 3-country study on the policies and constraints that hinder opportunities for women and youth employment in logistics. It will then co-develop promising scalable innovations with partners and test them using randomized control trials (RCTs), including rigorous cost-effectiveness analysis. These findings will result in a new evidence base about methods to promote logistics services while increasing employment and incomes for smallholders and agrifood SME workers, especially women and youth.

New methods of extending **value chain finance**, particularly through digital financial services (DFS), can help reduce transaction costs for poor farmers and agrifood SMEs, allowing them

to invest in producing higher-value, income-generating food products. DFS include transactions, savings, credit, and potentially insurance products, and can be bundled with the logistics tools discussed above. Whereas DFS have promise, they need reliable internet connections, suitable mobile phones, and a network of mobile money agents in order to be effective. This component will investigate cost-effective ways of improving access to and adoption of DFS among smallholders and agrifood SMEs, especially women and youth.

WP3 will test the effectiveness of the identified innovations using randomized control trials in pilots in each country. The findings will be used for country-specific, scalable designs for improving DFS access, with specific attention to designs that benefit women, given that digital services currently mostly favor men (**39**).

The WP will strive to test innovations against the clear counterfactual of not using them or not being encouraged to use them, to be able to make causal statements about their use.

Further detail regarding the research questions, proposed methods, and outputs for this Work Package can be found here.

WP3 - Theory of change

2. WP3 - The causal processes

Cross-value chain services have the potential for increasing incomes and employment opportunities, by reducing transaction costs, broadly defined, of doing business with upstream and downstream actors (**40, 21**). However, as these services emerge in value chains, they often first reach value chains involving companies and farms with market power. WP3 will engage with stakeholders to understand policy constraints, and with nascent companies to build an evidence base for successful models of inclusive logistics services and policies supporting them (outputs 1 and 2) and inclusive DFS, including a decision tool that can help policymakers ensure that these services are accessible to women and youth (**41**) (output 4). Successful engagement models are defined as profitable for involved companies and lead to either increased farm incomes or increased incomes or employment in SMEs. Users of cross-value chain services are expected to reap higher returns from their transactions by reducing costs of interacting with other value chain actors, improving growth incentives. For DFS, regulatory constraints will be studied as they can restrict agricultural lending and value-chain financing opportunities (**42, 43**).

It is expected that the communication of WP3's findings on innovation designs, using a multi-stakeholder process, will result in SMEs in 3 countries experimenting with these designs to improve their logistics and finance (outcomes 1 and 2). By the end of the Initiative, it is expected that at least 6,000 agrifood SME workers in 3 countries will benefit from implementing pilot innovations, with women and youth representing, respectively, at least 45% and 20% of the beneficiaries (EOI-3).

3. WP3 Key demand, innovation, and scaling partners

Countries / geographies	Demand partners	Innovation partners	Scaling partners
Uganda Nigeria Bangladesh	Ministries of Agriculture	Local universities and research organizations	Local: MFIs; SME associations *International:*

Countries / geographies	Demand partners	Innovation partners	Scaling partners
	International NGOs working on incorporating cross-value chain services in their work	Wageningen University and Research and Michigan State University World Bank CGAP	Global Agribusiness Alliance; Global Cold Chain Alliance

4. WP3 - Key WP TOC assumptions and risks

Key assumptions for the success of implementation of this Work Package are that:

- Cross-value chain services reduce transaction costs within the value chains in which they are used (including search costs, storage costs, costs of accessing finance, costs of market power).
- Reducing transaction costs will allow farmers and agrifood SMEs to make further investments, which are also assumed to increase their incomes.
- Cross-value chain services must reduce transaction costs enough for a specific firm that they are willing to finance the initial service use with projected benefits exceeding costs.

5. WP3 - Interdependencies and synergies with other Work Packages

This Work Package will help feed information into KISM in WP4 and can cross-pollinate with WP2 as some domestic value chains will also benefit from using cross-value chain services.

WP3 has clear synergies with the Digital Transformation (DX1), HER+, SHiFT, and Vegetables Initiatives, the latter under the assumption that cross-value chain services would extend to fruits or vegetables. The DX1 component links to climate financing being studied in CLIMBER. It could also potentially work with Initiatives on specific agricultural products, and there will be clear synergies with selected regional Initiatives (ESA, WCA, South Asia, Mega Deltas).

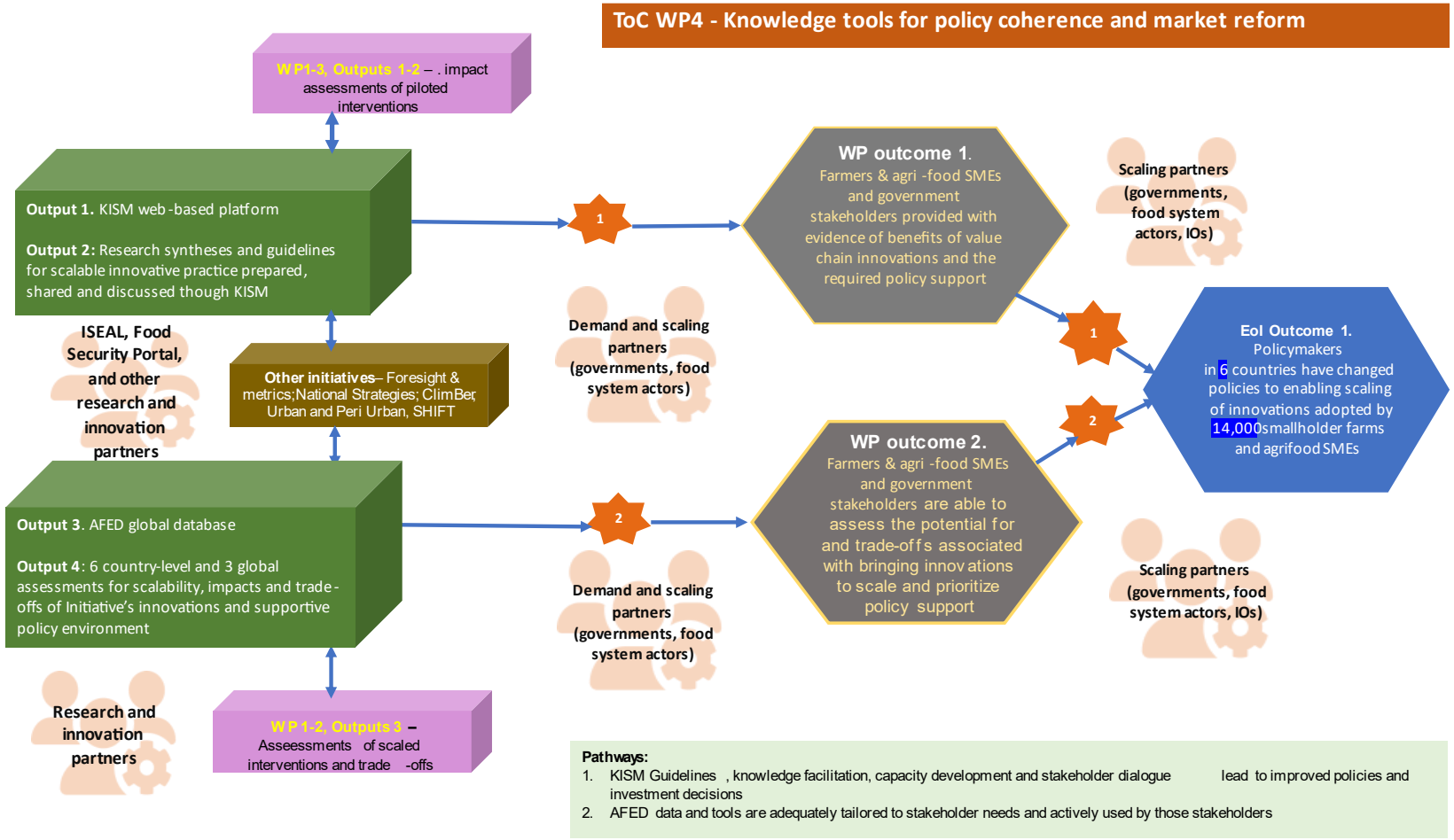
6. WP3 - Links to Innovation Package and Scaling Readiness Plan

The Work Package will support scaling readiness through:

- Careful selection of partners and active engagement with innovation and scaling partners throughout the Initiative.
- Supporting capacity building for SMEs in logistics and financial services in understanding and engaging in inclusive business models and digital platforms.
- Using evidence from randomized trials and cost-effectiveness analysis showing stakeholders that use of the logistics and e-finance innovations is profitable for all users.

Work Package 4: Knowledge tools for policy coherence and market reform for inclusive and sustainable food market transformation

3.2.1 WP4 – Theory of change diagram



3.2.2 WP4 research plans and theory of change

Work Package title	**Knowledge tools for policy coherence and market reform for inclusive and sustainable food market transformation**
Work Package main focus and prioritization	This Work Package fills pressing knowledge gaps by establishing (a) a **global knowledge platform (KISM)** that - with active engagement of stakeholders - collects and shares evidence on the effectiveness of policies and innovations for inclusive and sustainable food system transformation and (b) a new integrated **global database (AFED) and modeling tools** that measure and analyze the potential for income and employment generation, reducing environmental footprint and prioritizing policy support across value chains and markets. Ultimately, the goal is to enable evidence-based policy and public and private investment decisions that help create inclusive and sustainable food value chains and markets.
Work Package geographic scope (global/region/country)	Global

WP 4 The science

1. WP4 - Research questions, methods, and key outputs

Public and private decision-makers need timely and relevant data and analyses to set priorities and interact more effectively with other market actors to understand their needs and the constraints they face in contributing to inclusive and sustainable value chains.

No dedicated knowledge platform focused on both inclusiveness and sustainability of food value chains is currently available. Hence, responding to these two needs, this Work Package will first establish a **Knowledge Platform for Inclusive and Sustainable Food Markets and Value Chains (KISM)** to help farmer organizations, food businesses, governments, and practitioners make better-informed investment and policy decisions on inclusive and sustainable food value chains. KISM will allow stakeholders to work with researchers and share research and best practices on bundling and scaling market interventions. Through the platform, new evidence generated by the Initiative will be collected and disseminated along with systematic reviews (meta studies) of existing case studies and impact assessments, and market and policy environment analyses on effectiveness and scalability of interventions. This evidence will be made ready for decision making through (a) research syntheses; (b) guidelines on the adaptation and implementation of credible and innovative practices for market-based inclusive and sustainable business and value chain organization models; (c) policy dialogue; and (d) convening of partners and other stakeholder networks.

Second, to fill the data void, in collaboration with the Foresight and Metrics Initiative, a new, integrated **global Agri-Food Economy Database (AFED) linked to modeling tools** will be developed to assess potential for and trade-offs associated with the scaling of interventions and innovations that create jobs, boost incomes, and reduce environmental footprints along food value chains. AFED will be made accessible through KISM. The database will be compiled based on currently disjointed and fragmented data sources and reconciled using a comprehensive and systematic socio-economic and environmental accounting framework for the agrifood system. Using this methodology, it will be able to measure the economic and social importance of food markets and assess environmental impacts from farm to fork, substantially expanding and integrating existing CGIAR work in this area, including CGIAR's AGGDP+ and AGEMP+ project and CGIAR's greenhouse gas emissions database and measures of policy support to agriculture and food sectors by main food commodities of the

AgIncentives consortium (FAO-CGIAR-IDB-OECD-World Bank). Detailed by food commodities and value chains and across countries, AFED will allow researchers to calculate indicators on the shares of different segments of the food system in value added, total food consumption, international trade, employment by types of worker, wage and other factor incomes, GHG emissions, and other environmental footprints. These indicators can help decision-makers identify inequalities, the potential for employment and income generation, and sources of environmental pressures across the food system. AFED will be complemented by three modeling tools that can support decision-makers in assessing the full potential, scalability, market opportunities, priorities for and trade-offs associated with incentive schemes, and investments and innovations. Concretely, WP4 will develop and adapt the following tools: (a) food market potential and demand analysis; (b) value chain and policy and investment needs analysis; and (c) economy-wide and food-systemwide investment priority and impact analysis of interventions for inclusive and sustainable food systems, improving the existing economy-wide modeling frameworks for global and country-level food market and value chain analysis, MIRAGRODEP and RIAPA.

Further detail regarding the research questions, proposed methods, and outputs for this Work Package can be found here.

WP4 - Theory of change

2. WP4 - The causal processes

KISM (output 1) will draw from the outputs of WPs 1-3, AFED (output 3), and associated assessments of scalability, impacts, and tradeoffs (output 4) to provide key evidence on the potential of bundled innovations to achieve inclusive and sustainable value chains. This evidence will be translated into guidelines, research syntheses, and more (output 2) and shared for dialogue among key stakeholders in the 6 target geographies. The WP will provide capacity development so that stakeholders know how to use, adapt, and scale interventions to meet country- and value chain-specific needs and conditions (outcomes 1-2). By the End of the Initiative, this mechanism for knowledge facilitation, capacity development, and stakeholder dialogue is expected to lead to changes in policies and investment decisions that enable the scale up of innovations, benefiting 14,000 smallholder farmers and agrifood SMEs (EoI-4).

Beyond, the three-year first phase of the Initiative, stakeholders from many more countries are expected to make active use of KISM and AFED and contribute to much larger gains in terms of poverty reduction, decent employment creation, and lowering of GHG emissions.

3. WP-4 Key demand, innovation and scaling partners

<table>
<tr><th>Geography/countries</th><th>Demand partners</th><th>Innovation partners</th><th>Scaling partners</th></tr>
<tr><td>1. KISM (Global)</td><td rowspan="2">Donor community
International Farmer Organizations
Food business associations (WBCSD, FIA, SUN Business Network)
Governments and private</td><td>Food Security Portal
ISEAL and Evidensia
Technical Platform on Food Loss and Waste (TPFLW)</td><td rowspan="2">International research community (coordinated by CGIAR and ISEAL)
World Bank and other MDBs
FAO and IFAD
WTO
Governments and private</td></tr>
<tr><td>2. AFED and modeling tools (Global)</td><td>AGRODEP network
FAO-MAFAP
USDA-ERS</td></tr>
</table>

	sector stakeholders in targeted countries Research community		sector stakeholders in targeted countries Food business associations (WBCSD, FIA, SUN business network) Farmer organizations

4. WP-4 Key WP TOC assumptions and risks

Key assumptions for the success of implementation of this Work Package are that:

- Enough new and usable evidence for a broad range of food-sector stakeholders will be collected through KISM to entice active engagement by those stakeholders in dialogues leading to investment and policy decisions informed by the Initiative's findings.
- AFED, related modelling tools, and policy analyses are adequately conveyed to and used by stakeholders to inform their investment and policy decisions.
- Risks are specified in Table 7.3.

5. WP-4 Interdependencies and synergies with other Work Packages

WPs 1-3 of this Initiative will use the AFED database and the modeling tools to assess the value-chain and food systemwide impacts and trade-offs, as well as potential for scalability, of their proposed interventions. These WPs will also feed their outputs into KISM and use the platform to promote stakeholder dialogue and lesson sharing.

AFED and KISM will be developed in collaboration with and serve the work undertaken by other One CGIAR Initiatives, specifically Foresight and Metrics, National Policies and Strategies, ClimBer, and all Regional Integrated Initiatives. They will also be developed in collaboration with key stakeholders from the target countries to ensure relevance and usability.

6. WP4 - Links to Innovation Package and Scaling Readiness Plan

KISM and AFED will be co-created with all other innovations generated under this Initiative. Each of the innovations piloted under WPs 1-3 will feed into KISM for wider knowledge sharing and improvement, while AFED and the modeling tools will serve to identify potential for, and trade-offs associated with scaling of those innovations. KISM will provide the platform for national and international dialogue to identify scaling readiness among food-sector actors and scaling partners of the Initiative. It will leverage outreach through partnerships and establish a broader coalition to help elicit feedback, test, and replicate the Initiative's intervention models in other geographies and value-chain contexts, and share lessons widely. The platform will be created using functionalities of CGIAR's Food Security Portal and the Evidensia platform through partnership with the ISEAL Alliance, ISEAL's Living Income Community of Practice, and the community practices of FAO-CGIAR's Technical Platform for the Measurement and Reduction of Food Loss and Waste).

4. Innovation Packages and Scaling Readiness Plan

4.1 Innovation Packages and Scaling Readiness Plan

The Initiative's strategy for scaling readiness and scaling consists of four steps:

First, the Initiative will undertake market and value chain assessments for WP1, WP2 and WP3, identifying value chain bottlenecks, and potential for market growth, value addition, employment and income growth, and environmental footprint. These analyses will approximate the contribution of scaled innovations towards the Initiative's desired impacts.

Second, impact assessments of piloted innovations will identify the key conditions that determine the cost-effectiveness of scaled interventions and stakeholder consultations. The Initiative will engage public and private scaling partners throughout the research process to ensure that they understand and are on board with the piloted and complementary interventions. The step will further involve close coordination with other CGIAR Initiatives, particularly those for Digital Transformation, SHIFT, Foresight and Metrics, and National Strategies and the relevant Regional Integrated Initiatives.

Third, the Initiative will undertake scenario analyses that simulate the broader market and food-sector wide outcomes of scaled innovations and how policy support can reinforce the targeted impacts. These analyses will be communicated to policymakers to inform their decisions.

Fourth, WP4's Knowledge Platform (KISM) will engage stakeholders in other geographies and value chains to test and replicate the intervention models beyond the targeted countries.

Assigned as part of the resources for the four Work Packages, the Initiative will allocate US$1.5 million to implement the Innovation Packages and Scaling readiness plan (2022: US$0.5 million; 2023: US$0.5 million; 2024: US$0.5 million). Given the number of innovation packages to be tested (possibly 10), the Initiative aims to fully apply the Innovation Packages and Scaling Readiness approach to 51–75% of the total Initiative innovation portfolio by end of 2024. Accordingly, this scaling readiness plan would fit the second wave and the standard track (beginning in fourth quarter of 2022).

5. Impact statements

5.1 Nutrition, health & food security

Challenges and prioritization – More than 3 billion people cannot afford a healthy diet (3). The number of undernourished people is on the rise alongside the health impacts of unhealthy diets. Yet better integrated and inclusive value chains can contribute to improved nutrition, health, and food security in several ways. First, they improve market access of smallholders and agrifood SMEs thereby raising income and employment opportunities, especially for the many poor people whose livelihoods depend on those small-scale agrifood activities. As poverty and food insecurity are strongly linked, income improvements for the poor should be expected to be commensurate to improvements in food security. Second, given the Initiative's focus on value chains for nutrition-rich foods, the socio-technical innovations are also expected to improve the availability and affordability of healthy diets for all. Thus, being primarily oriented toward poverty reduction, livelihoods, and jobs and through targeting of nutrition-rich food value chains, types of innovations, and strategies for scaling these innovations, the Initiative will maximize its impact on nutrition, health, and food security.

Research questions –

- Are the innovations accessible to poor and food insecure farmers and workers of agrifood SMEs and contributing to improving their income opportunities and, hence, their food security, nutrition and health status?
- How effective are the innovations in improving the availability and affordability of nutrition-rich and safe food for poor consumers?
- Is the scaling readiness strategy adequately designed to secure food-insecure households engaged in selected agrifood value chains and services benefit disproportionately?

Components of Work Packages – WP1 focuses on export-oriented commodities, seeking to improve nutrition, health, and food security by raising the incomes of poor farmers and workers of agrifood SMEs. WP2 concentrates on domestic food value chains, so the nutritional impact of the intervention will be both through increased income of households engaged in the selected value chains, as well as through improved access to nutritious food for vulnerable consumers. WP3 focuses on improving income and employment opportunities in cross-value chain services, prioritizing benefits for women and youth. Economic empowerment of women achieved this way will significantly reinforce the nutrition and health impacts of their participation in food value chains. WP4 will contribute through policy frameworks that better manage the trade-offs between economic growth, inclusion, food and nutrition security and the environment.

Measuring performance and results – The end-of-Initiative outcomes, particularly those for WP1 and WP2, include improved nutrition and strengthened food security among target beneficiaries. The metrics include # of households benefitting from relevant CGIAR innovations, and the # of people meeting minimum dietary energy requirements.

Partners – Demand partners include donors, development banks, farmer organizations, private sector, and ministries of agriculture, social welfare, and health. Innovation partners include private sector, global and national research institutions, NGOs. Scaling partners include ministries of agriculture, private sector, UN Agencies (FAO, IFAD), NGOs, farmer and SME associations.

Human resources and capacity development of Initiative team – The Initiative team includes economists and other social scientists with extensive experience in the design and evaluation of innovations to improve food security and nutrition including diet diversity. Partners will provide local expertise and data on production, prices, food security, dietary patterns, and health. The Initiative's implementation team will collaborate closely with the SHIFT Initiative to access the expertise of nutritionists as well as to build capacity around measuring the health impacts of income and availability of nutritious foods.

5.2 Poverty reduction, livelihoods & jobs

Challenges and prioritization - Rapid modernization of the agricultural and food sectors is creating new opportunities for income generation in domestic and export-oriented value chains. However, the implications of these changes for the livelihoods of the poor are ambiguous. Smallholder farmers and SMEs may not have the resources to take advantage of these new opportunities while larger-scale actors may have financial incentive to avoid engagement with the poor. Focusing on promising innovations in the agrifood sector (i.e., digital financial services, certification, cold storage), this Initiative will provide rigorous evidence on if and how emergent value chain innovations can improve livelihoods and reduce poverty. Research activities will use diverse tools to assess, understand, and extrapolate the effects of these value chain innovations on poverty reduction, livelihoods and employment.

Research questions –

- Do certification standards and traceability needed to access export markets create new opportunities for income and employment? Do these opportunities reach the poor? (WP1)
- Can different business models and forms of farmer engagement in domestic food value chains be an effective tool in reducing poverty? (WP2)
- Can cross-value chain logistics and financial services unlock new income generating opportunities among smallholders and agrifood MSEs? (WP3)
- What value chains, business models, and bundles of innovations should be prioritized in different contexts to maximize impacts and what are the prospects for scalability? (WP4)

Components of Work Packages - WP 1-3 all directly target income growth and poverty alleviation by identifying and assessing promising innovations in the agrifood sector; in export-oriented value chains, domestic value chains, and with cross-value chain services. WP4 takes these empirical insights, engages local policymakers and, accessible through a public interface, provides policy-relevant best practices pertaining to prioritization of innovations along with projections for broader impact and scalability.

Measuring performance and results – The EoI outcomes for all four Work Packages include reducing poverty and improving livelihoods and jobs among target beneficiaries. The metrics include the number of people benefiting from relevant CGIAR innovations and the number of people assisted to exit poverty.

Partners – Demand partners include donors, development banks, farmer organizations, private sector, and ministries of agriculture, industry and/or trade, WTO. Innovation partners include private sector, global and national research institutions. Scaling partners include ministries of agriculture, industry and/or trade, large scale private actors and private sector coalitions (WBCSD), SME associations, INGOs, farmer organizations, UN Agencies (FAO, IFAD).

Human resources and capacity development of Initiative team - Given that poverty reduction, livelihoods and jobs is a primary Impact Area for this Initiative, the implementation team will be comprised primarily of social scientists, many economists but also including sociologists, geographers, policy and value chain experts with strong experience in engagement with policy makers in the public and private sectors. Capacity for rigorous impact assessment and surveys will be combined with capacity for rigorous qualitative, institutional, and political economy approaches. The Initiative implementation team will bring together and further develop expertise and capacity around approaches for studying inequalities generated by concentrated market structures and differences in market power between large-scale, vertically integrated businesses and small-scale operators (smallholders, SMEs).

5.3 Gender equality, youth & social inclusion

Challenges and prioritization - The modernization of agrifood systems across the globe provide unmatched opportunities to improve the lives of the world's poor. However, thoughtful design is critical to ensure that the most vulnerable are not left out or left behind. Modern value chains will raise on-farm productivity and incomes for farmers. Women, who provide on-farm labor but are often absent from lucrative nodes of value chains, can benefit from careful programming and new technologies that promote their involvement and increase their access to farm profits. Inclusive value-chain integration can provide millions of women and youth the prospect of making a decent living by creating new, off-farm job and income opportunities. Both women and youth are well poised to benefit from such opportunities given the right environment. Promoting skills development, entrepreneurship, and access to sustainable and digital technologies, and addressing structural and normative barriers to their participation through gender transformative approaches bundled with innovations, can help close existing gaps in opportunities and empower women and youth.

Research questions - Inclusion and a focus on women and youth is at the core of this Initiative, and all research questions and Work Packages will use this lens. Key research questions include:

- How can (bundled) value chain innovations for vertical coordination, product quality assurance, or market information be made beneficial for women and youth?
- How can governments and private sector scaling partners more effectively support the uptake and scaling of successful innovations that promote inclusion?
- How can digital cross-value chain logistics and financial services be leverage in business models tailored to the needs of women and young workers?

Components of Work Packages - Work Packages 1-3 are focused on strategies for increasing incomes and employment for vulnerable groups engaged in the agrifood sector, with a key focus on inclusion of women and youth. As such, contributions to this Impact Area run throughout the proposed work. Work in WP1, Output 2 on inclusive vertical integration and contracting, is especially pertinent. In WP2, highlighted outputs include knowledge and insights regarding the effective design of inclusive business models (Output 1). Outputs from WP3 include the understanding of constraints to more equitably shared benefits from digital innovations in logistics and financial services and, in particular, what innovations in business models are needed to leverage work to create income and employment opportunities for women and youth. WP4 will support assessment of scaling readiness through market potential, required sector-wide policy support and incentives to stimulate uptake, and through stakeholder dialogues and the dissemination of guidelines.

Measuring performance and results – The Initiative will generate rigorous evidence regarding how the proposed socio-technical innovations can be designed to specifically women and youth. The EoI outcomes for all four Work Packages include improvements in gender equality, opportunities for young people, and inclusion of poor households as farmers and workers in the agrifood system in the targeted geographical contexts. Metrics include women's empowerment in agriculture index (WEAI), # of women and/or youth benefiting from relevant CGIAR innovations, and # of women assisted to exit poverty.

Partners - demand partners include donors, development banks, farmer organizations, private sector, and ministries of agriculture, industry and/or trade. Innovation partners include private sector, women or youth business associations, global and national research institutions. Scaling partners include ministries of agriculture, industry and/or trade, large scale private actors, SME associations particularly for women and youth, INGOs, farmer organizations and UN agencies (FAO, IFAD).

Human resources and capacity development of Initiative team - To ensure proper attention is given to this Impact Area, the social scientists that work on this Initiative will include those with substantial experience studying, publishing on, and engaging with relevant

stakeholders on gender and youth inclusion. This will include both quantitative and qualitative skills, as well as expertise in program design and gender specific impact evaluations. This will include researchers with experience with WEAI and strong collaboration with the HER+ Initiative to align methods and metrics to cutting edge gender transformative approaches.

5.4 Climate adaptation & mitigation

Challenges and prioritization - Agriculture and food systems produce roughly 30% of greenhouse gas emissions globally through land use change, agricultural production, and pre and post farmgate activities (16). In developing countries land use change and agriculture are important contributors to emissions and prioritized in the majority of Nationally Determined Contributions (NDCs), yet pre- and post-farmgate activities, particularly energy use in processing and supply chains, will be increasingly important contributors to emissions from the food system over the next decade (16). If all food system actors do not radically alter land use, production practices and food supply chains, emissions targets in country NDCs will not be met. In response, this Initiative will test and scale cost-effective and productivity-enhancing innovations that contribute to climate adaptation and reduction of greenhouse gas emissions along value chains and provide evidence on how food market incentives (taxes, subsidies, food standards, labelling) can be reset to promote the diffusion of such investments and innovations along value chains.

Research questions

- What role can global standards and sustainability certifications play in driving behavior change of global supply chain managers sourcing food in the global south to support their transition towards deforestation free, carbon neutral supply chains? (WP1)
- What kinds of incentives within domestic food markets drive sustainability practices in on farm nodes of value chains? (WP2)
- How can improved logistics services within domestic food markets contribute to reduced emissions in pre- and post-farmgate activities, waste disposal and domestic transport? (WP3)
- How can improved, integrated economic and climate modeling tools for food systems support policymakers to implement coherent food market incentives to promote emissions reductions along domestic food value chains? (WP4)

Components of Work Packages - WP 1 will provide evidence and tools to support the use of product quality standards in global value chains to drive sustainable practices along the chain. WP 2 will support innovations in domestic food markets that can be scaled through Nationally Appropriate Mitigation Actions (NAMAs) or national Sustainable Production and Consumption Strategies to meet NDC targets. WP 3 will improve financial inclusion within the food system, creating new avenues for climate finance. WP4 will improve modeling tools for GHG emissions within domestic food systems and build capacity of policy makers for policy scenario analyses to inform decision-making.

Measuring performance and results - The EoI outcomes, particularly those for WPs 1 and 4, include climate adaptation and mitigation within the target geographies and markets. The metrics include # of tonnes of CO_2 equivalent emissions.

Partners – Demand partners include donors, development banks (climate funds), private sector and ministries of agriculture. Innovation partners include private sector, global and national research institutions, other CGIAR Initiatives and certifiers. Scaling partners include ministries of agriculture, large scale private actors, INGOs, certifiers, UN Agencies (IFAD, FAO).

Human resources and capacity development of Initiative team - The Initiative will engage researchers from the natural and social sciences with expertise in emissions calculations, private sector engagement and supply chains sustainability, deforestation drivers and

business models for low carbon production. We will collaborate with researchers from the MITIGATE Initiative in this area.

5.5 Environmental health & biodiversity

Challenges and prioritization – Unsustainable agricultural, livestock and fishery production practices and effects on land and water use change are degrading soils, depleting and contaminating freshwater sources, interrupting nutrient cycles and marine ecosystems beyond planetary boundaries, resulting in loss of forests and biodiversity. Land use and production practices are largely a function of market and policy incentives at global and national scales that currently promote unsustainable practices. While the impacts related to this Area are not easy to measure, the Initiative will seek to gain a deeper understanding of the trade-offs between market efficiencies, income generation and environmental outcomes for environmentally sustainable land, water and energy use and production practices to consider evidence and tools needed to support public and private sector agents to redirect policies and investments in support of conservation of biodiversity and environmental health.

Research questions – The below research questions are not core questions for the current phase of this Initiative but are questions we will begin to explore together with other relevant Initiatives such as Nexus Gains, Agroecology and Digital Transformation to understand how market-based approaches might accelerate gains for environmental health and biodiversity proposed in their Initiatives.

- What role can global standards and sustainability certifications play in driving behavior change of global corporate actors in supply chains operating in the global south to support their transition towards deforestation free or biodiversity friendly supply chains? (WP1 and 2)
- What kind of data and tools will support global corporate actors within the food system (exporters, retailers, brands) to monitor and improve environmental performance within their global supply chains and raise their ambition for contributions to SDGs 12, 14 and 15? (WP1)
- What are the trade-offs between market efficiencies, income generation and environmental outcomes for environmentally sustainable land and water use and production practices? (WP4)

Components of Work Packages - Work Packages 1, 2 and 4 in particular will seek to influence market actor behavior and policy incentives in favor of implementing sustainable land and water use practices in agriculture, livestock and aquaculture to reduce emissions. Co benefits of these practices include positive outcomes for environmental health and biodiversity on land and in water. We will engage through this Initiative with other Initiatives and partners to begin to explore tools and metrics for quantifying these co benefits for use in standards and modeling tools. Work carried out under Work Packages 1, 2 and 4 during this phase of the Initiative focused on emissions will lay the groundwork and global and local partnerships for expanding work to generate new knowledge and deepen impacts from market-based approaches to environmental health and biodiversity conservation in a follow-on phase.

Measuring performance and results – The Initiative does not anticipate having end of Initiative outcomes for this Impact Area and/or do not plan to measure impacts of the Initiative in this Impact Area during this phase. It will however focus on laying the groundwork for proposing TOCs, outcomes and metrics for subsequent phases through engagement with other Initiatives and partners.

Partners – No specific new partners (other than those for the previous area) will be engaged for this Impact Area.

Human resources and capacity development of Initiative team - We do not anticipate having expertise in environmental health and biodiversity among the Initiative team in this

phase, but plan to engage with experts in relevant CGIAR Initiatives (Nexus Gains, Agroecology, Digital Transformation) to scope and plan for future research, capacity building and incorporation of new expertise.

6. Monitoring, evaluation, learning and impact assessment (MELIA)

6.1 Result framework

CGIAR Impact Areas				
Nutrition, health and food security	**Poverty reduction, livelihoods and jobs**	**Gender equality, youth and social inclusion**	**Climate adaptation and mitigation**	**Environmental health and biodiversity**
Collective global 2030 targets				
The collective global 2030 targets are available centrally here to save space.				
Common impact indicators that the Initiative will contribute to and will be able to provide data towards				
# of people meeting minimum dietary energy requirements	# of people benefitting from relevant CGIAR innovations # of people assisted to exit poverty	# of women and # of youth benefiting from relevant CGIAR innovations	# tonnes CO_2e averted	N.A.
SDG targets				
2.1, 2.2, 2.3, 2.b	1.1	5.a, 5.b, 8.3, 8.6	12.3, 13	N.A.
Action Area title (Systems Transformation)				
Action Area outcomes		Action Area outcome indicators		
ST4 – Food system markets and value chains function more efficiently, and sustainably and lead towards healthier diets		STi 4.1 Number of commodity value chain x country combinations that use tested innovations to improve efficiency, inclusion, sustainability and nutrition objectives.		
		STi 4.2 Gaps between farm/processor gate and consumer prices (with some measures focused on smallholder farmers if possible)		
		STi 4.3 Domestic market price integration, both spatial and temporal		
		STi 4.4 Improved international price and exchange rate transmission		
		STi 4.5 Trends in relative prices of healthy to unhealthy foods		
ST & RAFS2 – National and local governments utilize enhanced capacity (skills, systems and culture) to assess and apply research evidence and data in policymaking process		STRAFSi 2.1 Number of policies/ strategies/ laws/ regulations/ budgets/ investments/ curricula (and similar) at different scales that were modified in design or implementation, with evidence that the change was informed by CGIAR research		
ST&RFS&GI1 – Women and youth are empowered to be more active in decision making in food, land and water systems		STi 1.1 - Number of farmers using climate smart practices disaggregated by gender		
		STi 1.2 - Number of farmers using agroecological practices disaggregated by gender		
		STRAFSGIi 1.1 Positive trends in the Women's Empowerment in Agriculture Index (WEIA) at various scales including nationally		

Initiative and Work Package outcomes, outputs and indicators											
Result type (outcome or output)	**Result**	**Indicator**	**Unit of measurement**	**Geographic scope**	**Data source**	**Data collection method**	**Frequency of data collection**	**Baseline value (out-come only)**	**Baseline year (out-come only)**	**Target value**	**Target year**
Work Package 1											
Outcome (WP1-1)	4,000 smallholder farms and agrifood SMEs in 4 countries use evidence and guidelines regarding effectiveness and scalability of innovations for **export product quality and sustainability certification in GVCs**	Number of smallholder farms and agrifood SMEs	Number	Ethiopia, Bangladesh Central America (Guatemala/ Honduras) Uzbekistan	Primary data collection	Process Tracing evaluation	Baseline/End of Initiative	0	2022	4,000	2024
Outcome (WP1-2)	4,000 smallholder farms and agrifood SMEs 4 countries use evidence and guidelines regarding effectiveness and scalability of **improved vertical coordination and inclusive VC contracting in GVCs** .	Number of smallholder farms and agrifood SMEs	Number	Ethiopia, Bangladesh Central America (Guatemala/ Honduras) Uzbekistan	Primary data collection	Process tracing evaluation	Baseline/End of Initiative	0	2022	4,000	2024
Output (WP1-1)	Knowledge and insights about effective design of **export product quality and sustainability certification** made available through policy briefs, guidelines, and dialogues to governments, farmers, agrifood SMEs, exporters and other GVC stakeholders in 4 countries	Number of information products	Number	Ethiopia, Bangladesh Central America (Guatemala/ Honduras) Uzbekistan	Project reports	Annual reporting process	Annual			12 (4x3/cy)	2024
Output (WP1-2)	Knowledge and insights about effective design of innovations for **improved vertical coordination, logistics and inclusive VC contracting** made available through policy briefs, guidelines, and dialogues to governments,	Number of information products	Number	Ethiopia, Bangladesh Central America (Guatemala/ Honduras) Uzbekistan	Project reports	Annual reporting process	Annual			12 (4x3/cy)	2024

	farmers, agrifood SMEs, exporters and other GVC stakeholders in 4 countries										
Output (WP1-3)	Knowledge and insights about **digital innovations for product traceability and market information** made available through policy briefs, guidelines, and dialogues to governments, farmers, agrifood SMEs, exporters and other GVC stakeholders in 4 countries	Number of information products	Number	Ethiopia, Bangladesh Central America (Guatemala/ Honduras) Uzbekistan	Project reports	Annual reporting process	Annually			12 (4x3/cy)	2024
Work Package 2											
Outcome (WP2-1)	4,000 smallholder farms and agrifood SMEs in 4 countries use evidence and guidelines regarding effectiveness and scalability of **inclusive business models, improved logistics and/or value chain contracting in domestic VCs**	Number of smallholder farms and agrifood SMEs	Number	Nigeria, Uganda Bangladesh Central America (Guatemala/ Honduras)	Primary data collection	Process Tracing evaluation	Baseline/End of Initiative	0	2022	4,000	2024
Outcome (WP2-2)	4,000 smallholder farms and agrifood SMEs in 4 countries use evidence and guidelines regarding effectiveness and scalability of **product quality upgrading and food standard certification in domestic VCs**	Number of smallholder farms and agrifood SMEs	Number	Nigeria, Uganda Bangladesh Central America (Guatemala/ Honduras)	Primary data collection	Process Tracing evaluation	Baseline/End of Initiative	0	2022	4,000	2024
Output (WP2-1)	Knowledge and insights about effective design of **inclusive business models, improved logistics, and/or value chain contracting** made available through policy briefs, guidelines, and dialogues to governments, farmers, agrifood SMEs and other stakeholders in 4 countries	Number of information products	Count per deliverable	Nigeria, Uganda Bangladesh Central America (Guatemala/ Honduras)	Project reports	Annual reporting process	Annually			12 (4x3/cy)	2024
Output (WP2-2)	Knowledge and insights about effective design of **product quality upgrading and food standard**	Number of policy briefs,	Count per deliverable	Nigeria, Uganda Bangladesh	Project reports	Annual reporting process	Annually			12 (4x3/cy)	2024

	certification made available through policy briefs, guidelines, and dialogues to governments, farmers, agrifood SMEs and other stakeholders in 4 countries	guidelines and dialogues		Guatemala/ Honduras Uzbekistan							
Output (WP2-3)	Knowledge and insights about **effective bundling of innovations and supportive market incentives and policy support for scaling** made available through policy briefs, guidelines, and dialogues to governments, farmers, agrifood SMEs and other stakeholders in 4 countries	Number of information products	Number	Nigeria, Uganda Bangladesh Guatemala/ Honduras Uzbekistan	Project reports	Annual reporting process	Annually			12 (4x3/cy)	2024
Work Package 3											
Outcome (WP3-1)	Stakeholders in 3 countries use evidence and guidelines regarding **improving logistics** for policy and investment decisions to bring innovations to scale	Number of policies/ strategies-	Number of policies/strategies enacted	Bangladesh, Uganda, Nigeria	Primary data collection	Process Tracing Evaluation	Once towards end of Initiative	0	2022	3	2024
Outcome (WP3-2)	Stakeholders in 3 countries use evidence and guidelines regarding **improving inclusive finance** for policy and investment decisions to bring innovations to scale	Number of policies/ strategies	Number of policies/strategies enacted	Bangladesh, Uganda, Nigeria	Primary data collection	Process Tracing Evaluation	Once towards end of Initiative	0	2022	3	2024
Output (WP3-1)	Evidence base on policies and constraints for logistics services to create opportunities for women and youth at scale	Number of information products	Number	Bangladesh, Uganda, Nigeria	Project reports	Annual reporting process	Annually			9 (3x3/cy)	2024
Output (WP3-2)	Evidence base from impact evaluations testing extension of Logistics Services to increase employment and income	Number of information products	Number	Bangladesh, Uganda, Nigeria	Project reports	Annual reporting process	Annually			9 (3x3/cy)	2024
Output (WP3-3)	Evidence base on increasing access to digital financial services	Number of information products	Number	Bangladesh, Uganda, Nigeria	Project reports	Annual reporting process	Annually			9 (3x3/cy)	2024
Output (WP3-4)	Decision tool for policy makers and/or project implementers to	Number of information products	Number	Bangladesh, Uganda, Nigeria	Project reports	Annual reporting process	Midline /End of			9 (3x3/cy)	2024

	ensure women have access to digital financial services						Initiative				
Work Package 4											
Outcome (WP4-1)	Farmers & agrifood SMEs and government stakeholders use evidence of benefits of value chain innovations and the required policy support in decision-making	Number of stakeholders evidenced to make use of WP4 knowledge	Number	Global, Ethiopia, Nigeria, Uganda Bangladesh Guatemala/ Honduras Uzbekistan	Primary data collection	Process Tracing Evaluation	Annual	0	2022	14,000	2024
Outcome (WP4-2)	Farmers & agrifood SMEs and government stakeholders are able to assess the potential for and trade-offs associated with bringing innovations to scale and for smart repurposing of existing agricultural policy support.	Number of stakeholders evidenced to make use of WP4 knowledge	Number	Global, Ethiopia, Nigeria, Uganda Bangladesh Guatemala/ Honduras Uzbekistan	Primary data collection	Process Tracing Evaluation	Annual	0	2022	14,000	2024
Output (WP4-1)	A knowledge platform (KISM) is established	Knowledge platform	Number (1) of platforms	Global Ethiopia, Nigeria, Uganda Bangladesh Guatemala/ Honduras Uzbekistan	Direct observation	N.A.	Once			1	2023
Output (WP4-2)	Research syntheses and guidelines for adaptation and implementation of scalable innovative practices prepared, shared and discussed though KISM	Number of research syntheses and guidelines	Count	Global Ethiopia, Nigeria, Uganda Bangladesh Guatemala/ Honduras Uzbekistan	Direct observation (on KISM)	N.A.	Annual			3 Meta studies (1/WP) and 15 guide-lines (1/cy/WP) (for WP1-3)	2024

Output (WP4-3)	Global Agrifood Economic Database (AFED) is established	Number of innovations	Number	Global	Direct observation (on KISM)	N.A.	Once			1	2023
Output (WP4-4)	6 country-level, economywide assessments for scalability, impacts and trade-offs of Initiative's innovations and 3 global scenario analysis and assessments of repurposing of agricultural support policies	Number of information products	Number	Global Ethiopia, Nigeria, Uganda Bangladesh Guatemala/ Honduras Uzbekistan	Project reports	Annual reporting process	Annually			9	2024
End-of-Initiative outcomes											
Output	Innovation Package and Scaling Readiness Plan	Number of selected Core Innovations	Number	Ethiopia, Nigeria, Uganda Bangladesh Guatemala/ Honduras Uzbekistan	Scaling Roadmaps	Project Reports	Once			3	2024
EoI Outcome 1	20,000 people in households of farmers and self-employed and workers in agrifood sectors	Number of beneficiaries, disaggregated by gender	Number	Ethiopia, Bangladesh, Guatemala/Honduras, Uzbekistan	Primary data collection	Impact Assessment Surveys	Baseline/Endline			4,000	2024
EoI Outcome 2	20,000 people in households of farmers and self-employed and workers in agrifood sectors (at youth) benefit from piloted WP3 innovations in domestic market VCs in 4 countries	Number of beneficiaries, disaggregated by gender	Number	Nigeria, Honduras, Bangladesh Guatemala/Honduras	Primary data collection	Impact Assessment Surveys	Baseline/Endline			4,000	2024
EoI Outcome 3	Digital technologies for a) logistics and b) finance, benefitting at least 6,000 agrifood SME workers in 3 countries. At least 30% of the pilot beneficiaries are women or youth.	Number of beneficiaries, disaggregated by gender	Number	Bangladesh, Uganda, Nigeria	Primary data collection	Impact Assessment Surveys	Baseline/Endline			6,000	2024

EoI Outcome 4	Policymakers in 6 countries have changed policies to enabling scaling of innovations adopted by 14,000 smallholder farms and agrifood SMEs	Number of policies	Number	Global Ethiopia, Nigeria, Uganda Bangladesh Guatemala/ Honduras Uzbekistan	Primary data collection	Process Tracing Evaluation	Annual			6	2024

6.2 MELIA plan

MEL plans - Data and information needed for MEL purposes will be regularly collected and reported once per year through CGIAR's management information system. The Initiative's MELIA focal point will ensure it is updated regularly. During its meetings, the Initiative's management team will regularly monitor whether activities and progress towards outputs and outcomes are on track and may consider course corrections if necessary. Work Package leaders will ensure annual work plans for specific activities are developed to ensure delivery of Initiative outputs and will monitor whether those activities are on schedule. Annual meetings, including stakeholders, will share information, help create additional synergies and assess progress towards both output goals and assisting to meet Action Area targets, and to assess whether the project and WP level TOCs must be adapted.

By the end of 2024, the Initiative will facilitate an independent review to assess its progress, its credibility, relevance, and the scaling potential of studied policies and innovations.

Key learning questions for the process evaluation in the Initiative and Work Package TOCs, include:

- Is the Initiative sufficiently engaging and bringing together farmers, agrifood SMEs and in the design of the innovation packages to ensure uptake and underpin scaling readiness for inclusive and sustainable value chain development?
- Has the Initiative created credibility and trust regarding the research findings about effectiveness and scalability of the socio-technical innovations promoted by the Initiative and did it manage to engage policy makers in rethinking policies to provide the enabling environment for the uptake of the innovations?
- Do the outputs and outcomes of the WPs confirm their respective TOCs, or is course correction necessary?
- Are WP teams effectively working as teams and exploiting synergies across the four WPs?

Impact assessment (IA) research plans – Impact assessment research is embedded in three of the Initiative's Work Packages of the Initiative. In WPs 1-3 candidate innovations will be identified in each country, and researchers will design causal impact assessments to both measure impacts attributable to the innovations and to identify scaling potential. Impact assessment findings should serve to verify validity of the Initiative's TOC and indicate if there is need for course correction. The impact assessments will test both for take-up of (bundles of) socio-technological innovations and the average impacts of exposure to those innovations. Impact assessment results will help inform the direction of future cycles of the Initiative, including what components need to be corrected and which are closer to scaling. Some impact assessments may be designed to last into a second phase, if impacts would take more time to develop based on established scientific insight.

To assess outcomes and impacts of WP4, we will track KISM and AFED use and functionality through standard web trackers and qualitative surveys among stakeholders. Furthermore, reports of stakeholder dialogues organized through KISM and the follow ups to those dialogues will document feedback on use of guidelines in uptake and diffusion of the Initiative's innovation package and influence of policy scenario analyses on policy decisions in the selected countries.

Scaling

The Initiative plans to use CGIAR's MIS to begin to trace scaling activities from the final quarter of 2022 and will at that time begin a process to design, implement, and monitor an Initiative scaling strategy. Since work in several WPs will involve private sector partners, a clear necessary condition for scaling is profitability (or potential profitability) of the innovation.

6.3 Planned MELIA studies and activities

Type of MELIA study or activity	Result or indicator title that the MELIA study or activity will contribute to	Anticipated year of completion (based on 2022-24 Initiative timeline)	Co-delivery of planned MELIA study with other Initiatives	How the MELIA study or activity will inform management decisions and contribute to internal learning
Causal impact assessment learning studies (WP1 countries)	Pilot bundled innovations on inclusive business models for being used by 4,000 farms and agrifood SMEs and directly benefiting at least 20,000 people in households of farmers and self-employed and workers in agrifood sectors in target countries. At least 45% of the pilot beneficiaries are women and 20% are young people.	2024	Potentially regional Initiatives	Expecting the combination of causal IA studies to benefit at least 20,000 people based on rough sample size estimates; can help adjust goals if innovations are not effective.
Causal impact assessment learning studies (WP2 countries)	Pilot bundled innovations being used by 4,000 farmers and agrifood SMEs and directly benefiting at least 20,000 people in farm households and workers in agrifood sectors in target countries. At least 45% of the pilot beneficiaries are women and 20% young people.	2024	Potentially regional Initiatives; Market intelligence initiative	Expecting the combination of causal IA studies to benefit at least 20,000 people based on rough sample size estimates; can help adjust goals if innovations are not effective.
Causal impact assessment learning studies (WP3 countries)	Pilot innovations on digital technologies for a) logistics and b) finance, affecting at least 6,000 agrifood SME jobs in Bangladesh, Nigeria, and Uganda. At least 30% of the pilot beneficiaries are headed by women or youth.	2024	Potentially regional Initiatives; the Digital Initiative	Expecting the combination of causal IA studies to benefit at least 6,000 employees of SMEs based on rough sample size estimates; may adjust if technologies not effective.
Theory-based evaluation (e.g., process tracing of policy advice)	Intermediate outcomes in WP1-WP4	2024	Potentially regional Initiatives; National Strategies Initiative	Will measure impacts on policy making process and on investment decisions by private sector stakeholders
Scaling readiness assessment study	Number of Initiative Innovation Packages that have undergone evidence based and validated Scaling Readiness assessments informing innovation and scaling strategies	2024	TBC	Used to help design, implement, and monitor an Initiative scaling strategy, and scaling readiness metrics can feed an optional Initiative innovation portfolio management system

7. Management plan and risk assessment

7.1 Management plan

The Initiative will be managed by an Initiative Leader supported by an Initiative Deputy Lead. The management team will further include Work Package (WP) Leads, and an M&E and Scaling expert. The **Initiative Leads** will oversee implementation of the overall work plan and budget in accordance with Initiative's results framework and stated outcomes, as well as ensure engagement of key global demand, innovation and scaling partners with the Initiative and coordinate with other thematic CGIAR Initiatives exploiting synergies in delivery. **WP Leads** will coordinate a team of researchers from multiple CGIAR centers; oversee timely and quality delivery of outputs by researchers and collaborating partners; manage the budget for collaborators and other direct expenses allocated to the WP. They will also be tasked with actively engaging partners and stakeholders relevant to the corresponding WP. For the engagement with country-level stakeholders and the organization of in-country work, WP Leads will be supported by a coordinator in each of the selected countries. The county coordinators will further support WP leads in coordinating activities with relevant Regional Integrated Initiatives and corresponding CGIAR's regional and country offices.

An advisory **Initiative Steering Committee** (aIST) will provide guidance to the management team on a semi-annual basis, in particular regarding how the research on innovations and policies can be made more impactful and how scaling readiness can be enhanced. The aIST will have 5 or 6 members, representing funders, global innovation and scaling partners, and one or more stakeholders' constituencies of one of the selected countries.

Members for the management team as well as for the WP teams will be selected based on relevant expertise and experience, while ensuring gender balance, diversity, and representation from the global South. Members of the management team are expected to engage actively in the implementation of the Initiative's research and activities. The WP teams are expected to deliver outputs as a team and do so in close collaboration with partners.

The Initiative's progress will be regularly monitored vis-à-vis work plans, TOCs, and MELIA plan and adjust work plans if needed, as part of an adaptive management approach. Monthly meetings of the management team and of WP teams will allow for timely shared decision making on operational issues. Quarterly meetings and seminar of the entire Initiative team (including key partners) will serve to present research findings, discuss progress on implementation, assess risks of not meeting planned outcomes; and adapt plans to emerging opportunities and challenges. Semi-annual meetings of the aIST with the management team will serve to discuss progress and provide strategic advice and guidance for the Initiative. During these meetings, as required, course corrections will be proposed, based on regular reviews and monitoring reports as to whether the theories of change of the Initiative and the WPs are effectively being followed and progress is being made towards stated outputs, outcomes, and, when observable, impacts.

7.2 Summary management plan

Start date	January 2022	2022				2023				2024				Description of key deliverables
Work Packages	**Lead organization (44)**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	
Work Package 1:	WP-lead (CGIAR)			□										*1.Scoping reports with market and VC analysis for selected globally integrated value chains in 4 countries shared with stakeholders.*
											□			*2. Design and impact evaluations of interventions related to coordination, quality upgrading, and/or information services in selected globally integrated value chains in 4 countries disseminated*
													□	*3. Studies of scaling readiness, model-based assessments of required policy support summarized in policy briefs and guidelines and discussed in stakeholder dialogues*
Work Package 2:	WP-lead (CGIAR)			□										*4.Scoping reports with market and VC analysis for selected domestic food value chains in 4 countries.*
											□			*5. Design and impact evaluations of piloted (bundled) innovations in selected domestic food value chains in 4 countries*
													□	*6. Studies of scaling readiness, model-based assessments of required policy support summarized in policy briefs and guidelines and discussed in stakeholder dialogues*
Work Package 3:	WP-lead (CGIAR)			□										*7. Scoping reports with market analysis for potential for inclusive digitalized logistics and financial services in 3 countries.*
												□		*8. Design and impact evaluations of piloted digital innovations in logistics and financial services in 3 countries*
													□	*9. Studies of scaling readiness, model-based assessments of required policy support summarized in policy briefs and guidelines and discussed in stakeholder dialogues*
Work Package 4:	WP-lead (CGIAR)			□ a		□ b		□ c						*10. Knowledge platform (KISM) (a) established, regularly updated with meta studies (b) and engaging stakeholders in regular dialogues (c)*
					□ a		□ b,c			□ b,c			□ b,c	*11. AFED data base created (a), regularly updated with stakeholders, and linked to modeling tools (c)*
					□			□		□			□	*12. Global and country-level policy analysis of repurposing existing policy support to create proper market incentives for inclusive and sustainable value chain development*
Innovation Packages & Scaling Readiness	Initiative deputy lead (CGIAR)			□										*13. Context-specific innovations profiled and packages designed*
					□									*14. Scaling readiness plans for innovation packages*
						□			□			□		*15. Assessments of scaling potential of innovation packages*
MELIA	M&E expert (CGIAR)			□									□	*16. Establish baseline and EoI values for all M&E indicators*
					□				□				□	*17. Annual MELIA progress reporting*
					□				□				□	*18. Stakeholder dialogues on key lessons*
Project management	Initiative Lead (CGIAR)	□	□	□	□	□	□	□	□	□	□	□	□	*19. Quarterly Initiative Team meetings*
					□				□				□	*20. Annual reporting and learning events with key stakeholders*
													□	*21. EoI evaluation and dissemination event*

7.3 Risk assessment

The Initiative Design Team undertook a risk assessment exercise to identify and evaluate the main risks and mitigating actions for the Initiative. Main risks refer to availability of resources for the Initiative; apparent ineffectiveness of piloted innovations caused by poor design or other hurdles to adoption among piloted beneficiaries; hurdles that severely limit scalability and scaling readiness; and lack of interest in active engagement with Knowledge Platform reducing the ability of platform to serve as a vehicle for scaling. These risks will be monitored throughout the implementation of the Initiative and assessments will be regularly reported to Global Science Directors as needed from a good governance perspective in line with the Risk Management Framework of the CGIAR System. The regular risk assessment will be integrated into the Initiatives workplan. The main risks and mitigation actions are described in further detail in Table 7.3 below.

Top 5 risks to achieving impact (note relevant Work Package numbers in brackets)	**Description of risk**	**Likelihood**	**Impact**	**Risk score Likelihood x Impact**	**Opportunities**
		Rate from 1-5	Rate from 1-5		
Initiative does not obtain sufficient, timely resources to test planned innovation pilots (WP1, 2 and 3).	Testing innovations can be costly and/or time-consuming, and because of local obstacles or inadequate funding, and despite stakeholder engagement, piloted innovations cannot be timely established in all 6 countries.	2	5	10	The Initiative will build on existing initiatives and interventions, focusing on those with a good chance of rapid results and lower costs.
Innovations and policy interventions that are tested are shown to far from effective in generating the desired outcomes and impacts per the TOC (WP1, 2, and 3)	The Initiative needs to focus on selected innovations to test without knowing the outcome of this testing. It is possible that the innovations do not create significant value added and relevance to the needs of value chain stakeholders or produce unintended adverse side effects.	2	5	15	The Initiative will manage risk by careful selection of innovations, following qualitative and quantitative scoping analysis for each market context, together with stakeholders, consultations with experts and assessment of experiences in other contexts, and most importantly engaging scaling and innovation partners in the design of piloted innovations.
Innovations may be successful at pilot phase but turn out to be difficult to scale up (WP1, 2 and 3).	There may be resistance to scaling up even successful interventions due to skepticism, risk-aversion, cost, or conflicts of interest between one or more stakeholders in the targeted value chains and/or cross value chain services	2	4	8	Forming multi-disciplinary research team and partnering with demand, innovation and scaling partners as well as careful attention to innovation packages and trade-offs to ensure capacity and incentives for scaling are in place will help mitigate this risk.
Stakeholders do not actively engage with knowledge platform (KISM), nor use AFED database and modeling tools (WP4)	If practicality and value added of the knowledge instruments is not evident, interest may be weak or wane over time.	3	5	15	Active involvement of next users in developing the new knowledge instruments will help reduce risk and provide opportunity for their impactful implementation. An assessment of the surrounding ecosystem of knowledge products and actors will also ensure the

Top 5 risks to achieving impact (note relevant Work Package numbers in brackets)	Description of risk	Likelihood	Impact	Risk score Likelihood x Impact	Opportunities
		Rate from 1-5	Rate from 1-5		
					proposed work adds value in the space.
Coordination and coherence of action within and between One CGIAR Action Areas and Initiatives is not realized.	Achievement of several Initiative outcomes and impacts depend on outputs from other Initiatives. If incentives and mechanisms for collaboration across Initiatives are not present, these synergies will not be realized, impacting Initiative results.	3	3	9	We will establish strong ties to Initiatives that are critical to our results through focal points/shared staff and coordinated research from inception to ensure clear line of sight to relevant synergies and mechanisms to realize those.

8. Policy compliance, and oversight

8.1 Research governance

Researchers involved in the implementation of this Initiative will comply with the procedures and policies determined by the System Board to be applicable to the delivery of research undertaken in furtherance of CGIAR's 2030 Research and Innovation Strategy, thereby ensuring that all research meets applicable legal, regulatory and institutional requirements; appropriate ethical and scientific standards; and standards of quality, safety, privacy, risk management and financial management. This includes CGIAR's CGIAR Research Ethics Code and to the values, norms and behaviors in CGIAR's Ethics Framework and in the Framework for Gender, Diversity and Inclusion in CGIAR's workplaces.

8.2 Open and FAIR data assets

The Initiative on "Rethinking Food Markets and Value Chains for Inclusion and Sustainability" will align with the OFDA Policy's Open and FAIR requirements, ensuring:

- Rich metadata conforming to the CGIAR Core Schema to maximize findability, including geolocation information where relevant and allowed.
- Accessibility by utilizing unrestrictive, standard licenses (e.g. Creative Commons for non-software assets; General Public License (GPL))/Massachusetts Institute of Technology (MIT) for software), and depositing assets in open repositories.
- Wider access through deposition in open repositories of translations and requiring minimal data download to assist with limited internet connectivity.
- Interoperability by annotating dataset variables with ontologies where possible (controlled vocabularies where not possible).
- Adherence to Research Ethics Code relating to responsible data (through human subject consent, avoiding personally identifiable information in data assets and other data-related risks to communities).
- As efforts to transform domestic and global value chains for agricultural commodities will require engagement with the private sector, the Initiative will adequately handle data and intellectual property from the research to avoid reputation risks for CGIAR by following CGIAR guidelines for private sector engagement.

9. Human resources

9.1 Initiative team - table

Administration, finance, HR, IT and other core administrative research support functions will be carried out by the high-quality teams within each implementing center to take full advantage of installed capacity decentralized institutionally and geographically within CCIAR centers and funded through indirect or other pooled institutional cost categories and are therefore not detailed in the table below. The Initiative will engage social scientists from across a range of social science disciplines including economics, sociology, public policy, geography, and business and the team will collaborate closely with natural scientists from other CGIAR Initiatives or partner organizations.

Category	***Area of expertise***	***Short description of key accountabilities***
Research	Agricultural and food market analysis	Lead and/or conduct research on market trends, market concentration and efficiency, trade integration, price discovery, and income distribution in agrifood markets
Research	Economic modeling	Lead and/or conduct research on modeling tools to assess tradeoffs, policy scenarios, agricultural and food subsidies reform; focal point for links to Foresight and Metrics Initiative
Research	Political economy and public policy	Lead and/or support research on the influence of the policy environment on value chain structures and performance; identify policy levers for maximizing impact.
Research	Value chain analysis and development	Lea and/or support development and application of analytical tools for value chains including work on governance and business models tools
Research	Private sector, value chain business models	Lead and/or support engagement with private sector around innovations in value chain organization and business models and analysis for design, implementation and assessment of business models in agrifood sectors
Research	Food standards and certification	Lead and/or support engagement with private sector and public agencies and undertake assessments of effectiveness of innovations in food quality upgrading, standard setting, and certification. Focal point for links with SHIFT Initiative
Research	Logistics for agrifood value chains	Lead and/or conduct research on digital platforms for logistics and inclusive business models for logistics services
Research	Financial inclusion	Lead and/or conduct research on digital financial services,
Research	Gender and empowerment	Lead and/or support gender research, ensure gender research questions are incorporated into study designs; support use and development of Women's Empowerment in Agriculture Index for Market Inclusion and similar tools; focal point for HER+ and CGIAR Gender Platform
Research	Youth economic empowerment	Lead and/or support youth focused research and provide support to assess impact of innovations on youth
Research	Food security and nutrition	Research on food security impacts of innovations, focal point for SHIFT
Research	Natural resource economics/ emissions /climate modeling	Lead and/or conduct research on incorporation of emissions scenarios and climate modeling into economic modeling tools; lead assessment of impact of innovations on climate and natural resource indicators; focal point for MITIGATE and CLIMBER Initiatives
Research	Applied research methods for studying markets and value chains	Lead and/or support to (a) quantitative research for robust statistical design and analysis; (b) qualitative methods for robust design and analysis; (c) support application of novel approaches to supply chains and markets including spatial analysis, big data approaches, discourse analysis and others.
Research	MEL and IA	Lead or support Initiative-level MEL and IA strategies and studies; design rigorous, Initiative-appropriate impact assessments to test TOC causal logic and assumptions; focal point for SPIA and One CGIAR MELIA entity.

Research	Gender Impact Assessment	Review plans for or support causal impact assessments to identify ways to maximize benefits for as well as appropriately measure impacts on women's economic empowerment
Research	Scaling Readiness	Lead and/or support scaling readiness including innovation profiling, innovation package design, scaling readiness assessments, and scaling strategies
Research	Country coordination	In-country stakeholder engagement and partnerships for impact
Research	Research assistance, diverse areas of expertise	Data management, data analysis, data collection, supervision of field work, etc.
Research Support	Scientific communications specialist	Support Initiative communications presence including in social media, with major stakeholders and within CGIAR; provide support for publications, manage branding guidelines.
Research support	Knowledge platform management	Develop web-based interface for Knowledge Platform (KISM), organize web-based stakeholder dialogues, make knowledge products accessible and sharable, etc.
Research support	Data management	Manages key databases for Knowledge Platform, AFED global database and other key databases generated and used by the Initiative

9.2 Gender, diversity and inclusion in the workplace

Based on required skill set and existing CG capacities, the Initiative team is expected to be comprised of approximately 30% women in professional roles, falling somewhat short of CGIAR's gender target of a minimum of 40% women in professional roles. Women will also be presented in leadership roles. There will also be a diversity of backgrounds among the team, with 40% of the proposed researchers being nationals from the global south. The Initiative management team will consciously consider diversity, particularly gender, when recruiting, following the guidance outlined in CGIAR's *GDI Inclusive Recruitment Toolkit*, and aiming to approximate the 40% target before the end of the project. It further envisages using mechanisms such as visiting researcher and post-doctoral positions to actively engage young professionals, in particular to help increase the pool of research for development scientists connected to the CGIAR in the future.

The Initiative management team will mindfully include diverse voices in project activities and decisions and select global and in-country partners intentionally to ensure broad representation in terms of diversity of backgrounds, voices, and experience. Such diversity will also be pursued within the Initiative team and particularly through partners in terms of professional background, seeking to partner not just with scientists and science institutions, but also individuals and institutions who represent the experience of key stakeholder groups targeted for behavior change, including women and youth, farmer organizations, both SME and large corporate food businesses, financial institutions sector, and policy makers. This will ensure the Initiative draws on the insights of these constituents in designing and scaling innovations.

9.3 Capacity development

Initiative team leaders and managers will complete training on inclusive leadership within 3 months of launch. Within 6 months from the start of the Initiative, all implementation team members will have completed training on gender, diversity, and inclusion, including on whistleblowing and how to report concerns. The Initiative kick-off with all staff will include an awareness session on CGIAR's values, code of conduct and range of learning opportunities available within CGIAR.

All staff will be provided with capacity development opportunities on the incorporation of gender inclusion and gender transformative approaches into research. Development opportunities will be made available for junior level Initiative team members, partners and stakeholders, including visiting researcher opportunities for mentorship, internships, thesis

advising, conference participation and training to support emerging professionals from under-represented groups.

The Initiative will develop and strengthen capacity for work in new areas that are not traditional strengths of CGIAR, as well as to keep at the cutting edge of new research results, theory and methods through targeted capacity building activities, engaging external research experts with complementary expertise, and co organizing capacity building and joint research activities with other CGIAR Initiatives and platforms. Priority areas for new capacity building include big data approaches for analyzing market information and value chain constraints; analysis of food standards and certification schemes for product upgrading and sustainability; research on inclusion of youth; causal impact analysis of bundled innovations and interventions; inclusive application of digital platforms for logistics and financial services; quantitative policy modeling for smart repurposing of support measures for the agrifood sector and analysis of trade-offs across multiple objectives.

10. Financial resources

10.1 Budget

10.1.1: Activity breakdown

Activity breakdown

USD	2022	2023	2024	Total
Crosscutting across Work Packages	561,600	642,600	659,133	1,863,333
Work package 1	1,976,400	2,097,900	2,242,485	6,316,785
Work package 2	2,222,640	2,519,748	2,728,291	7,470,679
Work package 3	2,076,192	2,240,784	2,449,667	6,766,643
Work package 4	1,874,880	1,970,136	2,180,822	6,025,838
Innovation packages & Scaling Readiness	501,120	518,616	536,987	1,556,723
Total	**9,212,832**	**9,989,784**	**10,797,384**	**30,000,000**

10.1.2: Geographic breakdown

USD	2022	2023	2024	Total
GLOBAL	3,125,369	3,354,403	3,614,727	10,094,499
LAC	1,064,592	1,172,231	1,263,702	3,500,525
Bangladesh	1,620,775	1,763,978	1,912,888	5,297,640
Ethiopia	578,986	615,509	619,641	1,854,136
Nigeria	1,199,375	1,324,037	1,441,310	3,964,722
Turkmenistan	570,390	605,074	648,202	1,823,667
Uganda	1,053,344	1,154,552	1,256,914	3,464,811
Total	**9,212,832**	**9,989,784**	**10,797,384**	**30,000,000**

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44. Note to GANTT chart in Section 7.1: the Initiative will not assign leading roles to specific CGIAR centers or partner organizations. Initiative and WP Leads will be selected based on relevant experience and expertise and lead multi-disciplinary, multi-center teams. The table indicates CGIAR centers best positioned to provide the experts for the indicated leadership roles. Until decided otherwise, the corresponding organizations will administer the relevant portions of the Initiative's