CGIAR | Independent Advisory and Evaluation Service

System Transformation Science Group Evaluation: List of Annexes

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Annex 1: Methodology

The evaluation was guided by the quality standards, principles, and criteria specified by the CGIAR Evaluation Framework (CGIAR, 2022) and Policy (CGIAR, 2022a). They align to the Organization for Economic Co-operation and Development-Development Assistance Committee, (OECD-DAC) (OECD, 1991; OECD, 2019). The CGIAR Quality of Research for Development (Qor4D) framework (CGIAR, 2020) further guided the evaluation, specifically to support the quality of science assessment. In particular, the evaluation was guided by the CGIAR principles described in table below.

Table 1. CGIAR Evaluation Principles and Standards applied to the ST SG Evaluation

CGIAR evaluation standard/ principle	How these are mainstreamed
Relevance, use, and utility	• The evaluation team pursued an approach fostering the intentional use of the evaluation findings and recommendations for organizational learning and informed decision-making. The approach was based on stakeholder engagement throughout the process, from the scoping phase, during which inputs were collected to tailor evaluative questions, to collaborative work on final recommendations. • The evaluation timeline was primed for use, including learning sessions with portfolio (P25) initiative drafters and ISDC members planned during the process.
Independence and lack of bias	• IAES staff and members of the evaluation team involved in the evaluation signed statements related to potential conflicts of interest. None of the evaluation team had a conflict of interest. • Evaluation team members were independent external experts drawn from the jointly vetted Evaluation Function roster of experts. IAES had a layered quality assurance system (see relevant section).
Transparency	• Evaluation purpose, objectives, and methods were thoroughly explained to stakeholders during all evaluation activities. • The evaluation's participatory approach fostered multiple perspectives and provided feedback loops, check-ins, and sense-making. • The evaluation outputs—reports, case studies, and management response—were published on the IAES website. Stakeholders were involved in the review and evaluation validation processes (see relevant sections). • The evaluation knowledge management, communications, and dissemination plan were co-created and included as a line item in the evaluation budget.
Legitimacy and participation	• The evaluation adopted a participatory approach based on a constant consensus-building process, facilitated by the evaluators at all levels and with all stakeholders.
Responsiveness to gender, diversity, and inclusion	• The evaluation sought balanced participation of women and men throughout the data collection process. • Evaluation questions were formulated with adequate gender focus, and specific indicators were designed to assess the achievements from a gender perspective. • Appropriate methods for data collection were guaranteed, ensuring the protection of women. If needed, specific group interviews with female participants were organized to create an atmosphere where women felt free to express their opinions and views. • To the extent possible, the evaluation team collected, analyzed, and presented sex-disaggregated data to gain insights on how the SG contributed to gender equality and social inclusion.

CGIAR evaluation standard/ principle	How these are mainstreamed
Ethics and equity	• High standards of integrity were adopted; sensitive data was protected; confidentiality provisions were safeguarded, and full respect for local cultures was ensured.
Evaluability	• Data availability was among the selection criteria for case studies and deep dives.
Credibility and robustness	• The evaluation adhered to international rigorous standards and criteria. • Evaluation approaches and methods included data triangulation through different sources.
Measurability	• The evaluation matrix included both quantitative and qualitative indicators. • Qualitative analysis was based on comparison among different groups of stakeholders and sources.
Mutual accountability	• Real-time information on the evaluation process was ensured. • Any potential delays or deviations were promptly communicated.
Efficiency	• Findings and recommendations from previous reviews/evaluations were linked to the evaluation exercise. • The evaluation was streamlined to minimize the time and resources required and to optimize value, for instance, the selection of countries for field visits was coordinated in view to ensure efficiency between the three SG evaluations.
Comparative advantage	• Comparative advantage was framed among evaluation sub-questions, namely under Coherence.
Fairness, confidentiality, and no harm	• The team was guided by the principles of conducting evaluations in a conflict-sensitive fashion, e.g., avoiding doing harm, understanding the drivers of conflict, fostering peacebuilding, as well as ensuring the confidentiality and the security of everyone involved. High standards of ethics and integrity were adopted while collecting data. Sensitive data was protected; and confidentiality, provisions for safeguard and full respect for local cultures were ensured.
System framing and complexity awareness	• Context analysis was ensured through stakeholder engagement, in-depth interviews with key actors, and desk review, to capture the complexity of the realities examined and the work done by CGIAR.
Capacity building	• Capacity building was pursued through stakeholder engagement and collaboration. • To the extent possible, field evaluation activities, such as participatory workshops, spread an evaluation culture and fostered stakeholders in strengthening their evaluation capacities. • Learning events linked to the knowledge management and dissemination plan were developed in collaboration with user groups and the management response process.
Relevance, use, and utility	• The evaluation team pursued an approach fostering the intentional use of the evaluation findings and recommendations for organizational learning and informed decision-making. The approach was based on stakeholder engagement throughout the process, from the scoping phase, during which inputs were collected to tailor evaluative questions, to collaborative work on final recommendations. • The evaluation timeline was primed for use, with learning sessions with portfolio (P25) initiative drafters and ISDC members planned during the process.

Annex 1.1: Overall Approach

In accordance with the evaluation Terms of Reference (ToR), the exercise adhered to the specificities of a **cluster evaluation**. In the CGIAR approach, this cluster evaluation used Science Groups (SGs) as the entry point and therefore consisted of three independent evaluations, each one taking into account the initiatives under each SG. While the cluster evaluation ensured greater efficiency by reducing individual project-level evaluations, it supported the identification of success factors and potential risks by leveraging comparison among different initiatives gathered under the same cluster. Cluster evaluations allowed for identifying synergies (systemic coherence) and strategic issues to better inform CGIAR's understanding of its effectiveness in delivering on its mandate and on areas of potential improvement, leveraging the influence of each SG.

The evaluation team acknowledged that this exercise played the role of supporting decision-making processes related to future programming and, as such, it was a part of a continuous learning process in which all actors involved contributed and will be able to use the findings in their work. The evaluation was designed with the aim of providing indications on success and failure to replicate the former and avoid the latter in the future.

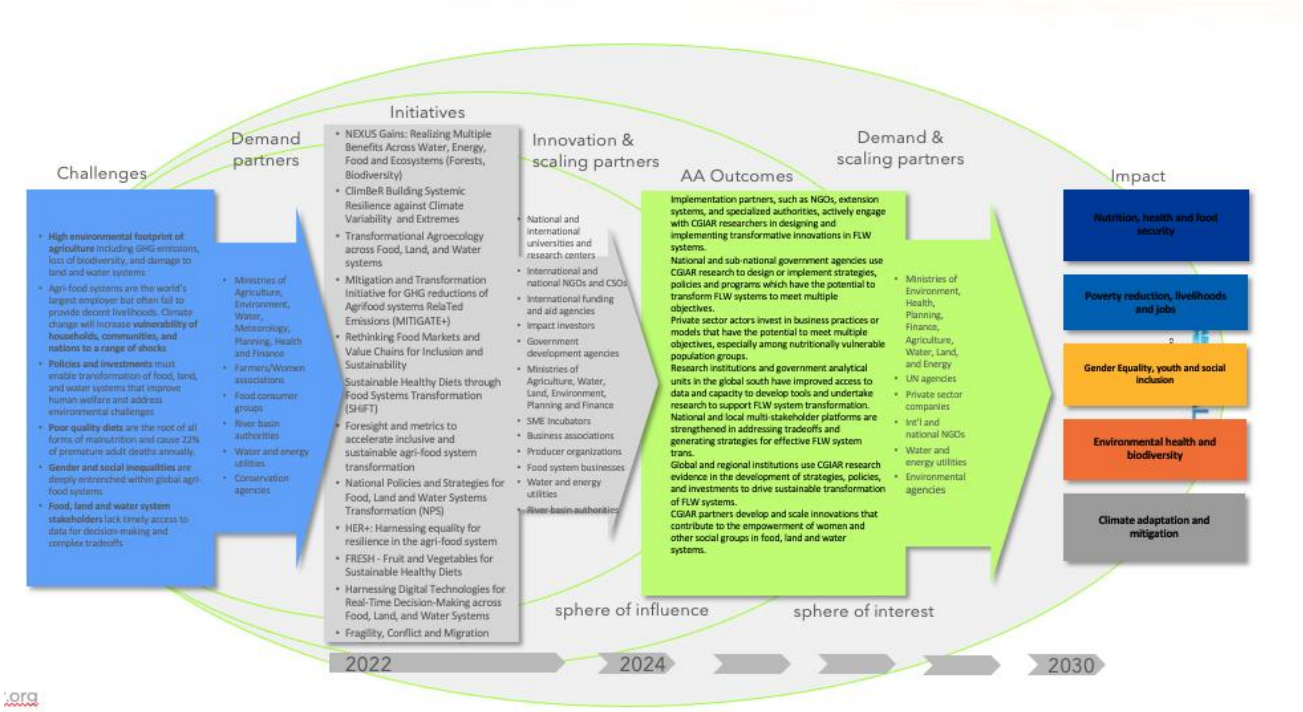
The approach merged **developmental evaluation (DE)** and **utilization-focused evaluation (UFE)** approaches. Such a combination was most suitable given that the current CGIAR Portfolio had only been implemented for two years. DE was intended to provide real-time feedback and generate rapid learning, while UFE was based on the principle that evaluations should be planned and conducted in ways that enhanced the likely utilization of the findings and of the process itself, to inform decisions and improve performance. The evaluation also included elements of **real-time evaluation (RTE)**, which stressed monitoring and real-time adjustment. RTE was adopted to ensure that authors of CGIAR initiative proposals, as well as members of the ISDC, could benefit from early-stage evaluative evidence in time to inform the development and review of the next Portfolio.

The exercise sought to maintain an adequate balance between **learning and accountability** objectives. In this sense, while good practices, lessons learned, and recommendations were identified for learning, evaluation findings were structured taking into consideration aspects related to performance and achievements in terms of outputs and outcomes and to determine whether activities implemented under the SG had been generating an effect in changing the initial needs and problems.

The evaluation adopted a **participatory approach** based on a constant consensus-building process, facilitated by the team at all levels and with all stakeholders. In this framework, the evaluation engaged with a variety of stakeholders to identify critical issues and good practices.

The evaluation process was **gender-sensitive and balanced**, ensuring the representation of women during interviews and focus group discussions. In addition: i) some of the evaluation questions were formulated with adequate gender-focus; ii) specific indicators were designed to assess the achievements from a gender perspective; iii) appropriate methods for data collection were guaranteed, ensuring the protection of women; and iv) to the extent possible, the evaluation team collected, analyzed, and presented sex-disaggregated data to assess how the SG was contributing to gender equality and social inclusion.

Figure 1. ST SG ToC



Source : Revised ToC, CGIAR 2022-2024 Investment Prospectus

As indicated in the ToR, an initial **Theory of Change (**ToC) was developed for each SG. The ST ToC (see Figure 1) described the logical chain linking the challenges affecting system transformation; the 12 ongoing initiatives under the SG; the envisaged seven outcomes[1]; and long-term impacts in five areas[2] related to Sustainable Development Goals (SDGs). While the SG ToC provided the broad framework for the ST's work, each individual initiative had its own ToC, which linked the Work Packages (WPs) to the end of initiative (EoI) outcomes and to long-term impacts.

The evaluation team referred to both types of ToC throughout the evaluation exercise. On the one hand, the team assessed the SG-level ToC soundness and checked the validity of the assumptions underlying the causal chain linking challenges to outcomes and to long-term impact. On the other hand, the team

[1] Action Area (AA) outcomes: (i) Implementation partners, such as NGOs, extension systems, and specialized authorities, actively engage with CGIAR researchers in designing and implementing transformative innovations in food, land and water (FLW) systems; (ii) National and sub-national government agencies use CGIAR research to design or implement strategies, policies and programs which have the potential to transform FLW systems to meet multiple objectives; (iii) Private sector actors invest in business practices or models that have the potential to meet multiple objectives, especially among nutritionally vulnerable population groups; (iv) Research institutions and government analytical units in the global south have improved access to data and capacity to develop tools and undertake research to support FLW system transformation; (v) National and local multi-stakeholder platforms are strengthened in addressing tradeoffs and generating strategies for effective FLW system transformation; (vi) Global and regional institutions use CGIAR research evidence in the development of strategies, policies, and investments to drive sustainable transformation of FLW systems; and (vii) CGIAR partners develop and scale innovations that contribute to the empowerment of women and other social groups in food, land and water systems. Source: ST ToC as of mid 2023.

[2] Five Impact Areas related to SDGs: Nutrition, Health and Food Security, Poverty Reduction, Livelihoods and jobs, Gender Equality, Youth and Social Inclusion, Environmental Health and Biodiversity, Climate Adaptation and Mitigation.

referred to the initiative-level ToCs to assess performance against expected positive changes; reasons underpinning success and reasons behind slow progress; and to guide thematic specific analysis.

Annex 1.2: Data Collection

The evaluation adopted a mixed methods design, combining the strengths of quantitative methods with those of qualitative approaches. While quantitative data collection analysis made it possible to highlight general features and trends, qualitative methods allowed deeper understanding of stakeholders' perceptions on reasons behind successes or slow progress. Quantitative and qualitative information and data from primary and secondary sources were constantly triangulated to ensure consistency and credibility of results. The data collection process relied on the following activities.

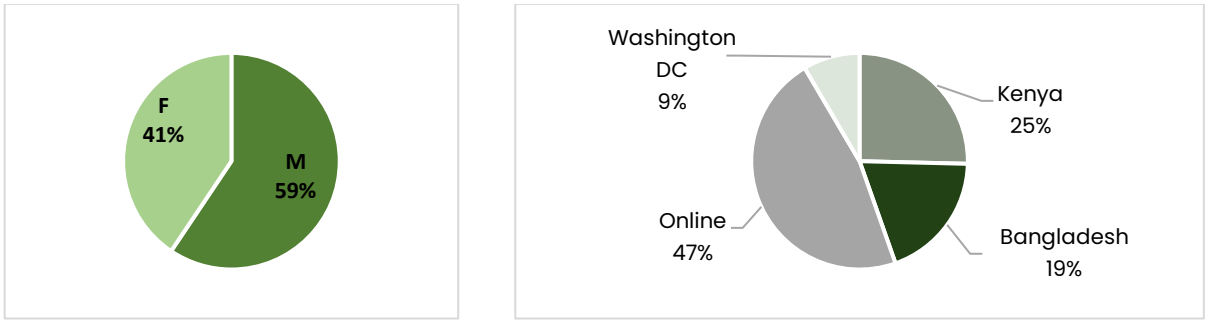
DESK REVIEW

An analysis of key documents and information resources was carried out, including corporate strategic documents, programmatic and reporting documents, relevant evaluations and evaluability assessments, review of CGIAR Results Dashboard, national and sectoral development strategies and plans of countries concerned by the analysis.

KEY INFORMANT VIRTUAL AND FACE-TO-FACE INTERVIEWS

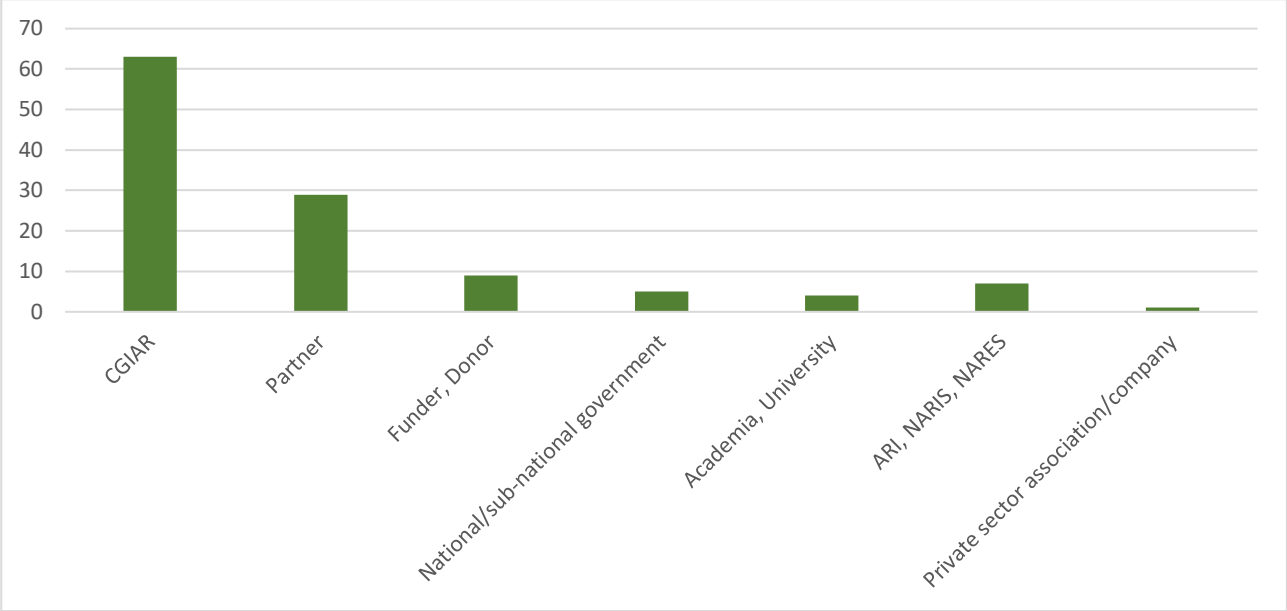
Semi-structured virtual and face-to-face interviews during field missions were conducted with internal and external stakeholders, guided by the Map of Stakeholders and according to the interview protocol and guidelines presented in Annex 3, prepared by the evaluation team leader (TL) and shared with Subject Matter Experts (SMEs). Overall, 100 people were interviewed (see Annex 4). The figures below represent the breakdown of interviewees by country, gender and stakeholder type.

Figure 2. ST Interviewees by Gender, Modality and Location (n 119)



Source: ST SG Master List of Stakeholders, internal document

Figure 3. Numbers of Interviewees by Type of Stakeholder



CASE STUDIES AND DEEP DIVES

Given the breath of the activities covered by the SG, a case study and deep dive method was adopted. Case studies provided a thematic perspective for the evaluation, allowing the team to include in the main report evidence that shows the SG's work in a particular area of intervention. Deep dives allowed a thorough analysis on specific topics, challenges, outcomes, opportunities that cut across SG's work. This method fostered a deeper understanding of specific issues, providing insights useful for the general analysis. Case studies and deep dives were processed both remotely, by the SMEs, and through field visits in selected countries. The evaluation team selected the set of case studies and deep dives shown in the table below. Selection criteria are also indicated.

Table 2. Case Studies and Deep Dives

Case studies/deep dives	Initiatives covered	Selection criteria
CASE STUDY No. 1 Diversifying food systems and diets for improved nutrition	Int 33: FRESH Int 30: SHiFT Int 29: Food Markets Int 26: HER+	Strategic importance as a key outcome/SDG focus.
CASE STUDY No. 2 Strengthening resilience to climate change	Int 23: ClimbeR Int 24: Foresight INT 28: Nexus Gains Int 35: Fragility Int 26: HER+ Int 25: Digital	Highest number of reported initiative results of strategic importance, at it is a key SDG focus.
CASE STUDY No. 1 Transformational agroecology	Int 31: Agroecology Int 32: Mitigate+ Int 26: HER+	High number of reported initiative results.
DEEP DIVE No. 2 Strengthening policies and institutions for food, land and water transformation	Int 27: NPS Int 24: Foresight Int 26: SHiFT	Key to system transformation (includes capacity/institution building for policy and implementation).

Field visits

Two countries were visited for the ST evaluation: Kenya and Bangladesh.[3] Field visits allowed for direct observation of some Initiative activities. Countries for field work were selected strategically, according to pre-determined criteria: regional representation, Initiative diversity, and reported number of results/ activities in the country.

Focus group discussions

During the field missions, several focus group discussions with internal and external stakeholders were conducted to trigger a dialogue on strengths and weaknesses of initiatives, as well as on good practices and lessons learned.

Portfolio analysis

The ST portfolio-wide analysis included:

- Analysis of the validity of the SG and selected initiatives' ToCs;
- Content analysis of quantitative data from various sources including the CGIAR Results Dashboard and annual/technical reports.
- Content analysis of qualitative data presented in the Initiative technical reports.

Online survey

An online survey across three SGs and core stakeholders was conducted by IAES between April and May 2024 to gather quantitative and qualitative data and information, specifically by focusing on aspects related to efficiency and coordination mechanisms. A total of 437 respondents was recorded, almost half (46%) have engaged with CGIAR for more than ten years; and 21% were engaged between five to ten years. Out of 166 external respondents, the top respondent groups included: 17% government (national/sub-national); 22% representatives of the National Agricultural Research and Extension/Innovation System (NARS, NARIS) and 25% from university/research organizations. (full survey report available online, with selected results for ST SG respondents presented in Annex 10).

[3] An additional visit to the headquarters of IFPRI in Washington, DC was carried out by the TL.

Annex 1.3: Additional Analytical Approaches

Primary and secondary data collected were analyzed with a regular process of triangulation through the different sources and the mixed approach. Different types of analysis were carried out:

- Content qualitative analysis from interviews, desk review, and participatory evaluation activities, such as focus group discussions.
- Quantitative analysis of data emerging from the online survey, Results Dashboard, and technical reports.
- Comparative analysis of information obtained from different stakeholders, countries, and initiatives.
- Process analysis on the implementation of selected initiatives or WPs to assess delivery mechanisms, internal coordination arrangements, and related challenges. The process analysis particularly guided the assessment of the SG's work efficiency.
- Analysis of the validity of the SG rationale and ToC, which particularly guided the assessment of relevance.
- Portfolio performance analysis (based on data availability) using any indicators and data of progress available to compare expected outputs and outcomes with actual performance. This analysis supported the assessment of the SG's work effectiveness.
- Assessment of the Quality of Science (QoS), to assess the quality and validity of scientific processes and outputs. QoS was assessed by key informant interviews, three case studies and one thematic deep dive.

Annex 1.4: Phases of the Evaluation

The evaluation process unfolded through the various phases described in the 2024 Science Group Evaluation Terms of Reference.

Annex 1.5: Limitations

The main limitation to this evaluation relates to the exercise taking place only two years after the SG initiatives' launch in 2022, making it challenging to assess performance against planned outcomes. Against this backdrop, the exercise was not intended to assess mid or long-term effects but rather the presence of the preconditions needed to attain the expected results in the future.

Another limitation is that the evaluation team could not access aggregated summary data on outputs and outcomes achieved at both initiative and SG levels against the corresponding Results Frameworks. While the Results Dashboard presented valuable quantitative information, it did not allow for a direct comparison of achievements against the plans outlined in the ToC. Furthermore, the structure of the technical report does not facilitate conducting such a comparative exercise between the quantitative data on the Results Dashboard and the qualitative information collected from interviews and narrative reports. Regarding the country-level case study, a limitation was that neither CGIAR as a whole, nor the SG, have a country results framework that could have guided the inquiry, and against which assessing results achieved. Against this backdrop, the country level assessment relied mostly on qualitative analysis.

The tight timing for data collection and completion of the report compared to the wide geographical and thematic coverage of SG's work was another important limitation.

Annex 2: Case Studies–Executive Summaries

Annex 2.1: Diversifying Food Systems and Diets for Improved Nutrition

Nutrition, health, and food security is a focus area for the Sustainable Development Goals (SDGs) and a key Impact Area for the CGIAR and the evolving portfolio reorganization. Focusing primarily on four ST initiatives that have a substantial focus on food systems and diet diversification (National Policies and Strategies (NPS), Rethinking Food Markets, Sustainable Healthy Diets (SHiFT), and Fruit and Vegetables for Sustainable Healthy Diets (FRESH), the case study examined the progress and difficulties experienced by CGIAR in delivering on its commitment to elevate its response to nutrition, health, and food security challenges during the Initiatives' first two years of implementation.

Key Findings and Recommendations

Finding 1 (relevance) – Increasing research investments in Fruit & Vegetable, consumer demand, market innovations and food systems policy is a step in the right direction, but nutrition remains siloed and not mainstreamed or well-coordinated across CGIAR initiatives. The goal of diversifying food systems and diets for improved nutrition also requires adjustments in Genetic Innovation (GI) and Resilient Agrifood Systems (RAFS) SG initiative priorities, e.g., nutritional value as a clearer breeding priority, expansion of breeding efforts beyond staple commodities, and consideration given to nutrition in the selection of crop and livestock mixes being promoted for resilience. The nutrition platform and ST/SG leadership could play a much more active role in elevating nutrition across the SGs and all initiatives.

Recommendations. i) The nutrition platform and SG leadership should play a much more active role in elevating and integrating nutrition and diet diversification considerations across the portfolio, supported by an expanded group of nutritionists and social scientists who can provide evidence, showcase trade-offs and synergies with climate/resilience objectives, and advocate to change the dominant production-focused mindset. ii) Budgets should include some flexible funds to permit initiatives to respond to new high priority country requests.

Finding 2 (effectiveness) – Although nearly all case study initiatives reported they were fully on track by 2023 to achieve their end of initiative (EoI) outcomes, the output and outcome evidence provided makes it difficult to assess progress towards EOI outcomes independently. The focus initiatives all used initiative-level Theories of Change (ToCs) to track progress and make ongoing adaptations, but the correspondence of reported progress to EoI outcome targets was inconsistent across the initiatives. The ST/initiative structure deepened cross-center programmatic collaboration within initiatives, but collaboration between initiatives remains difficult. The lack of well-resourced country convenors or platform leads with a mandate to work across initiatives has lessened the effectiveness of ST initiatives and the CGIAR portfolio overall. In contrast to most CGIAR initiatives which are split by function, Rethinking Markets, SHiFT, and FRESH feature cross-learning and real-time collaboration across the value chain. FRESH features an end-to-end approach, and all three initiatives have an expanded focus on consumer demand, food environments and markets. Initiative researchers were optimistic about the potential for these approaches to accelerate progress by connecting supply with actual consumer demand, pinpoint critical problems in the value chain infrastructure and consumer behavior and provide evidence-based options to policymakers to address these constraints. However, at this early stage of initiative development, it was not possible to confirm whether the approach has led to accelerated achievements.

Recommendations. i) Continue to prioritize demand-driven research and significant partner engagement in research design and implementation. ii)Take a more holistic programming approach across value chains to bring together production, supply, consumption and demand. iii) More work on ToCs is needed to

ensure that projected end of program outcomes and impacts are reasonable and achievable within the timeframe, and that reporting is consistent not only with ToC numerical targets but also its logic, e.g., clarifying the role(s) of the initiative, innovation or publication played in changing practices or policy.

Finding 3 (efficiency) - Budget uncertainty, annual vs. multi-year budget allocations, the necessity for ongoing program adaptation and rebudgeting, and persistent late arrival of funding diminished the effectiveness of initiatives overall and were extremely frustrating to initiative leaders, staff, partners and stakeholders. The costs of ever-more-frequent redesign and the toll it takes on CGIAR's most important asset–its scientists–does not seem to be recognized. Although initiatives were strongly encouraged to partner with external and local organizations, the difficulty of being a partner sends the opposite signal. There is continuing confusion over the role of initiatives *vis-a-vis* the centers and worries that the mega-program design process may inadvertently encourage a return to center partisanship.

Recommendations. i) Rationalize CGIAR budget, HR and administrative policies to (a) align policies across centers; (b) Permit multi-year agreements and budgeting with external partners and a return to leadership roles for external partners, as in CGIAR Research Programs (CRPs); ii) Clarify the role of centers in program and budget management; and iii) Streamline the science program development process and provide clear information to scientists, external partners and stakeholders.

Finding 4 (coherence) - While One CGIAR and the SG/initiatives have led to somewhat more integration, the CGIAR still lacks an effective policy and program coherence coordination mechanism globally. As a result, CGIAR initiatives tend to continue working in silos, doing a piece of research in countries without close collaboration, engagement, and integration–with other initiatives and, critically, with countries themselves. Greater efforts are needed to improve coordination across initiatives and links to external partners and stakeholders. Country convenors were an important initial idea to facilitate coordination within the same country and with external stakeholders, but they were not resourced and lacked authority to effectively coordinate across centers and initiatives.

Recommendations. i) At global level, strengthen the SG and platform lead functions to improve coherence and better integrate impact areas across programs. ii) At country level, appoint well-resourced country coordinators and platform leads, independent of any centers, with a mandate to coordinate across initiatives and within countries.

Finding 5 (quality of science) - The four case study initiatives significantly expanded CGIAR research efforts and global, regional, and national influence in the areas of food systems transformation, food environments, consumer demand, and the fruit and vegetables value chain. Research aligns with the objectives of national and local partners and is being co-created with them. However, measuring scientific quality, the extent of policy influence, and the effectiveness of capacity development in the research for development environment remains difficult. It is not clear that a consistent and rigorous internal review process for non-peer-reviewed knowledge products and oversight of ethics policies is being implemented across the initiatives and centers.

Recommendations. i) Review and rationalize ToC and MELIA indicators to ensure they are fit-for-purpose across the portfolio, including for programs that are primarily focused on social sciences. ii) Develop and apply improved measures, both qualitative and quantitative, for measuring scientific quality, policy influence, and the effectiveness of capacity development in the research for development environment. iii) Clarify and monitor the oversight process for research quality and ethics policies. iv) Develop and implement a policy on the position of the CGIAR in the research-for-development (R4D) continuum across regions and countries. v) Develop metrics and a plan for data collection related to local partner participation, including amounts and percentage of research resources provided to local partners across the initiatives, as well as lead and co-authorship of research products and presentations by local partners.

Annex 2.2: Strengthening Resilience to Climate Change

This case study forms part of a systematic evaluation of the three SGs, aiming to furnish evidence-based insights and strategic recommendations pertaining to climate resilience, primarily within the ambit of the ST SG. It seeks to address the fundamental shifts required across societal, environmental, and economic dimensions to achieve sustainable system transformations, aligned with the IPCC AR6 report, which advocates for comprehensive and rapid transitions across all sectors.

The case study focuses on the enhancement of resilience of both ecosystems and human communities to climate change impacts, with an emphasis on transformations within food, land, and water systems. It also scrutinizes the integration of gender and partnerships within selected Initiatives.[4] Data collection methods included an analysis of 66 documents, 21 interviews, four focus group discussions, and a five-day field visit to Kenya, selected from a roster of potential countries for in-depth analysis.

The evaluative criteria included relevance, effectiveness, efficiency, coherence, and quality of science, while incorporating considerations of gender and partnership dynamics. Quality of science was evaluated in accordance with modified Quality of Research for Development (QoR4D) guidelines, initially reviewing a broad spectrum of applicable journal articles and reports, followed by a focused evaluation of a select subset of recent scholarly papers and technical reports. Data were systematically categorized and analyzed using advanced content analysis and note management software tools before documentation of findings in a prescribed format. The synthesis underwent a series of internal reviews to refine the findings into a more comprehensive 50-page report, available online.

Key Findings

Relevance: ST's climate resilience work demonstrated strong relevance to global climate resilience priorities as outlined in the IPCC 6th Assessment (2022), while also addressing national and local vulnerabilities to climate change. Of the 119 climate-related outputs produced in 2022, 44% focused on climate adaptation (a proxy for resilience building). These were predominantly in the fields of climate information services, climate smart agricultural practices, agronomy, irrigation innovations and transformative social adaptation policies and practices, mostly in low- and middle-income countries. Interconnectedness between food, water and land, at landscape level, was also addressed in ST. This was achieved through rigorous stakeholder engagement, adaptability, and alignment of ToCs with local and global climate change challenges. Initiatives effectively co-designed climate resilience solutions with stakeholders, addressing specific agri-food system needs. Adaptable strategies ensured continued relevance despite financial constraints, while integration with broader goals around climate action enhanced impact.

ST initiatives included in this case study did not, however, critically assess the trade-offs between addressing immediate, short term stakeholder needs with long-term impact in building resilience to slow changes, indicated in its foresight work although not identified by stakeholders. This is crucial for sustaining effectiveness and aligning with fundamental objectives, and in some instances the teams struggled to find such balance. Some Initiatives stopped short of providing practicable climate adaptation solutions, relevant to smallholder farmers' practices. Few solutions were relevant to the unique vulnerabilities of ultra-poor farmers or the most vulnerable sectors of society such as the elderly, disabled people, orphans and female-headed households. Additionally, budget uncertainties, essential to maintain relevance, complicated resource allocation and potentially hampered efficiency.

Effectiveness: Together, ST's portfolio of initiatives, with their complementary strengths, was well positioned to contribute to global, national and local climate resilience solutions through more sustainable food, land

[4] The case study covers the following initiatives: ClimbeR, Foresight, Nexus Gains, Fragility, HER+ and Digital.

and water systems. The ST initiatives were effective in addressing climate resilience challenges through strategic collaborations with research institutions, capacity building, and adaptive implementation. All initiatives relevant to this case study made substantial progress towards their objectives despite challenges like budget cuts and socio-political conditions. Regional integrated interventions, providing climate information services and technologies, led to substantial benefits across the targeted regions, notably improving agricultural yields and enabling better climate adaptability for millions of small holder beneficiaries. Several projects within ST's climate-related portfolio demonstrated substantial potential for scaling and influencing broader initiatives, applicable to strengthening climate resilience. With notable exceptions such as AICCRA, these scalable innovations were more applicable to achieving intermediate outcomes such as engagement, rather than the goal of building resilience to climate change.

While great strides have been made in producing relevant outputs, with climate resilience leading the way, ST continued to struggle with cross-disciplinary integration in addressing the complex challenges of climate resilience. There was a distinct shortcoming in bridging the biophysical, social and economic sciences, beyond policy work, to provide solutions to climate vulnerability across entire value chains. Notable exceptions were the policy work of IFPRI in East Africa, and the regional integrated initiatives (AICCRA and Ukama Ustawi) where active coordination played an important role in promoting integration. However, even there, a whole value chain approach was lacking. Potentially maladaptive interventions, for example focusing on enhanced production of single crops such as maize in response to donor priorities rather than crop diversification, inadvertently undermined climate resilience objectives. Challenges such as budget constraints and socio-political conditions have occasionally hampered effectiveness, necessitating continuous adaptation and innovative solutions to maintain momentum and achieve long-term goals. At higher organizational levels within CGIAR, resource allocation and other administrative processes often lacked the flexibility required to support continuous adaptation. This contrasted with the adaptability observed at the project and individual researcher levels.

Efficiency: ST initiatives included in the case study used available resources efficiently through strategic collaborations, careful allocation of available resources, capacity building, and adaptive management practices in achieving climate resilience outcomes. Initiatives included here were creative and adaptable to funding uncertainties and tended to stay the course mapped out in their inception briefs. For instance, most initiatives effectively leveraged partnerships to enhance resource utilization and achieve their objectives. Foresight approaches held promise to cost-effectively achieve climate resilience objectives at policy and national planning levels. However, challenges such as governance inefficiencies, competition, and overlapping mandates in the climate resilience field hindered optimal performance. Making optimal use of available skills and physical resources distributed across several regions presented a particular challenge to cost-effectiveness, as did poorly coordinated data sharing arrangements across boundaries. External factors such as donor priorities and fluid global socio-economic conditions also impacted efficiency.

Coherence: ST's climate resilience work partially maintained coherence through strategic alignment with overarching goals of CGIAR and the IPCC, cross-sector integration, consistent implementation, and collaboration, ensuring that their efforts contributed meaningfully to broader CGIAR and global objectives to transform food, land, and water systems under climate stress. Many initiatives exemplified successful alignment and integration, enhancing their impacts and sustainability. Inclusive, gender-sensitive adaptation and leveraging investments to strengthen climate-smart investments hold potential to enhance the adaptive capacity of small holder farmers to climate change. However, the case study showed that lack of coherence in organizational strategies and initiatives posed several risks to impactful climate resilience research. These included strategic fragmentation; disjointed efforts affecting synergies; compromised practicability due to over-emphasis on publishing in high impact journals; misalignment of research outputs with policy timelines; ineffective multi-sector integration resulting in missed opportunities for collaborative impacts. Structural challenges such as siloed operations require more unified

approaches, more structured collaboration, strategic design, early co-design, and regional coordination to be effectively addressed.

Quality of Science: ST maintained high standards of scientific quality in climate research through robust management processes, credible methodologies, stakeholder engagement, and capacity building. In cases where interdisciplinary approaches were adopted, the practical applicability and intermediate influence of these research outputs was evident. Many initiatives exemplified these high standards by producing high quality, credible papers in high impact journals. These papers were downloaded by on average 125 readers per article. Highly cited papers were those that outlined new conceptual approaches to transformative climate research, and integration of social issues with biophysical factors. Research teams that benefited from the cascading effects of previous CRPs (e.g., CCAFS and WLE) were able to produce more credible papers than new programs.

However, challenges such as funding uncertainties and incomplete integration of research findings into policy changes remain. Funding uncertainties had negative impacts on succession planning and capacity development, particularly of postgraduate students and postdocs whose time frames exceeded the duration of funding cycles, necessitating creative use of bilateral funds. While ST tried to promote consistency and reliability in its climate resilience research by promoting standardized methodologies and shared protocols across centers, these measures were cumbersome and came at a cost to researchers' time. There was furthermore a lack of unified understanding of the exact meaning and implications of transformative adaptation to climate change across initiatives, where it was mostly understood to be any outcome that benefited food systems sustainability. Policy briefs and recommendations, though greatly valued by external interviewees, mostly preceded peer reviewed papers, which presented a trade-off dilemma to ST: either err on the side of caution by delaying policy briefs until research had been peer reviewed, or favor expedience but run the risk of unreviewed policy recommendations. Some collaborators shared concerns about the fairness and equitability of research partnerships. This related particularly to intellectual property issues and sharing of data and authorship credits.

Despite these challenges, ST's commitment to producing high-quality, impactful science ensured that its initiatives made progress in addressing global agricultural and climate resilience challenges, potentially contributing to sustainable development goals. This approach holds promise for CGIAR's science leadership role in resilience of food systems to climate change.

Recommendations

Recommendations applicable to the development of future science programs:

1. **Comparative advantage:** Build on CGIAR's comparative advantages in the field, for example.:
    - The ability to forecast climate related trends and impacts on food systems, using evidence-informed scenario approaches.
    - The capacity to measure and assess evidence of the impacts of climate change on people and food systems.
    - Providing evidence of the transformative impacts of national policies and strategies in building the resilience of food, land and water systems to climate change.
    - The ability to work with reliable partners in research, development and implementation of solutions to enhance the adaptive capacity of food systems to the negative impacts of climate change.
2. **Stakeholder feedback enhancement**: Implement 'listening sessions' and consistent engagement to align CGIAR's initiatives with partner and stakeholder priorities, reflecting a commitment to documenting and monitoring feedback on climate resilience policies.
3. **Interdisciplinary collaboration**: Promote collaboration across all science programs and accelerators, fostering a holistic approach to reducing food system vulnerabilities to climate change, as recommended.

4. **Enhancement of theories of change**: Clearly define and differentiate goals related to climate adaptation, mitigation, and transformative responses, ensuring coherence across CGIAR's ToC.
5. **Data-sharing and integration**: Develop robust data management and strategic data-sharing platforms that link climate data to food systems, supporting the translation of research into practice.
6. **Local capacity building**: Enhance in-country research capacities through scalable adaptation strategies and supporting climate policies, aiming to ensure sustainable governance at the interface of people, land, water, and food systems.
7. **Promotion of transformative innovations**: Assess, refine and scale climate change adaptation innovations in collaboration with local communities, ensuring technical soundness and social acceptance before wider implementation, aligned with the goal of facilitating just transitions and sustainable development.

Annex 2.3: Transformational Agroecology

Case Study Scope, Objectives and Methods

The case study on transformational agroecology is based on the following considerations: relevance, effectiveness, efficiency, coherence and quality of science of the SG initiatives. A mixed methodology (comprising of desk review of relevant documents; key informant interviews (through virtual meetings and face meeting during the field visit in Kenya); and qualitative analyses of data collected) was applied to generate the evidence, draw conclusion and recommendations.

Key Findings

Relevance: Overall, the respondents perceived that the selected topics addressed the needs and priorities of the external stakeholders across Initiatives. There are several examples that demonstrate this across the SG initiatives. This was made possible due to the involvement of partners and stakeholders through structured consultations in the priorities and needs setting. The process for identification of these partners at the national and sub-national levels was based on previous CGIAR work and relationship. However, there are some emerging issues: a) The poorest population are rarely involved in the research activities because their interest differs and are not powered to participate in research activities; and b) Inability of trained farmers to access lucrative niche organic agriculture markets.

Effectiveness: This case study indicates that overall, across the ST SG Initiatives, there is good progress towards the EoI outcomes, based on the respective initiative annual reports (for 2022 and 2023) and perceptions of the respondents. Despite this, the funds allocation across the SG initiatives from CGIAR pool funding is inadequate and unpredictable.

Efficiency: Internal respondents unanimously highlighted the key challenge of inadequate funding across Initiatives. The respective Initiative annual reports for 2022 and 2023 indicate that the proportion of the proposals' budgets approved (allocated) across Initiatives for 2022 and 2023 was lower than promised during the proposal writing stage. A lack of dedicated funds for gender and inclusion actions offered further complications as inadequate funding limited mainstreaming of gender and inclusion activities in initiative interventions.

Coherence: The CGIAR ST SG research portfolio is coherent to some extent based on the experiences from the implementation of the CGIAR SG initiatives. Thus, Initiatives have collaborated at country and sub-regional levels to develop joint products and engagements. However, there were complications use to the inadequate resources allocated to facilitate the collaboration. The ST Initiative research activities are aligned with the priorities at the national and sub-regional levels, and they are based on consultations and

collaboration within other CGIAR entities (i.e. the centers and initiatives in other SGs) and partners at national and sub-regional levels.

Quality of Science: A majority of consulted stakeholders (both internal and external to CGIAR) perceive that the ST Initiative research activities are aligned with the priorities at the national and sub-regional levels. Furthermore, there is collaboration across initiatives in the generation of the knowledge products. Despite this, it's still early to observe the changes from the use of the knowledge products, but there are some examples of the use of knowledge products to inform policy response and actions at national level. However, there are challenges compromising the QoS. Some of these are: a) Representativeness and reliability of results from field trials; b) Lack of guidelines for Intellectual Property Rights; and c) Limited budget allocations and budget cuts across Initiatives.

Conclusions

Overall, this case study indicates that across the SG Initiatives, progress towards the EoI outcome is on track as stipulated in the respective Initiatives annual reports 2022 and 2023. Bilateral funding at the country and sub regional levels has been mobilized across Initiatives for bridging the pooled funding gaps. Overall, the inadequate and unpredictable funding compromises effective implementation of the Portfolio. The CGIAR ST research portfolio is coherent to some extent based on the experiences from the implementation of the CGIAR SG initiatives. The implementation across the SG initiatives generated achievements, lessons learned and emerging issues (i.e. challenges and opportunities) at different scales, which should be tapped into for acceleration towards the EoI outcome targets in the rest of 2024 and for the design of science programs (e.g., Multifunctional Landscapes) in the next portfolio.

Recommendations

Relevance

1. The Agroecology Initiative should support the agroecology smallholder farmers group certification, through the Participatory Guarantee System to enable them to access lucrative niche organic agriculture markets for increased incomes from their farm products.
2. The Gender Equality Initiative should broaden gender research beyond food systems and climate change, for inclusion of other sectors e.g., health, environment. Furthermore, conducting joint research activities for responding to the polycrisis issues (e.g., nexus between gender and climate change, migration, humanitarian response and other mega trends) at the national, sub-regional and global levels with strategic research partners.

Effectiveness

1. Development of CGIAR guidelines and support for inclusion and participation of vulnerable communities (that have few or no assets, have limited engagement with country leadership) in research and development activities across SG Initiatives at different scales (national and sub-regional).
2. Advancing responsive capacity building at national level to facilitate the development and implementation of the national gender action plans.
3. Consolidating mechanisms for utilization of the information (e.g., about the extent trends and drivers that are affecting food, land and water system) from the CGIAR research models and partial analyses for responsive action at the national and sub-regional levels.

Efficiency

1. Dedicate a certain proportion of the budgets within initiatives (e.g., up to 5% of the total budget for the initiative) for supporting implementing of the mainstreamed gender and inclusion interventions.

Coherence

1. Enhance integration of climate change in other Initiatives as appropriate. For instance, integrating climate change in modelling work conducted by the Foresight Initiative. Thus, integration of greenhouse emissions into the Foresight Initiative models. What does diet change or land use change mean for greenhouse gas emissions?
2. Consolidate coordination mechanisms across SG initiatives within and across the programs at the country and sub-regional level for enhanced collaboration and coherence in the delivery of the planned results (i.e. outputs and outcomes). For instance, the role of country convenors should be re-defined with clearer terms of reference (ToRs) and budget.

Quality of Science

1. Deepen research outputs with a focus on scaling out of agroecology innovations that have already been developed, for further improvement.
2. Research designs for field trials should be more representative for reliability and generation strong conclusions and recommendations for policy response and actions at different scales.

Recommendations for CGIAR:

1. The SG Initiatives should strengthen the collaboration with advocacy actors at the country, sub regional and global levels so that CGIAR research outputs can be used as evidence for informing the advocacy engagements for influencing decisions and responsive actions at the respective levels.
2. SG initiatives should align their research outputs to better influence relevant process at the global level, e.g., the United Nations intergovernmental panel on climate change.
3. ST SG initiatives should consider engaging policy and decision makers right from the inception and throughout the research activities, rather than involving them at the dissemination stage. This approach enhances the legitimacy and use of the research outputs for responsive policies and actions at the national and sub-regional levels.

Recommendations for the Science Program on Multifunctional Landscapes:

1. Interventions in the science program should build on, consolidate and upscale the outstanding results and best practices achieved and demonstrated, across the transformational agroecology-natural group of Initiatives, respectively.
2. During development of the ToC for SGs' science programs, more consultations should be conducted with scientists, key stakeholders at the national and sub-regional levels, so that the indicators and targets are properly aligned and contextualized.
3. CGIAR should consider development of an overarching CGIAR gender strategy at science program levels.

Annex 3: Deep Dive–Executive Summary

Annex 3.1: Strengthening Policies and Institutions for Food, Land and Water Transformation

The CGIAR 2030 Research and Innovation Strategy commits CGIAR to partnering with others to achieve transformative change and multiple benefits for food, land, and water (FLW) systems. Strengthening policies and institutions is central to the work of the ST SG, which seeks to collaborate with national programs, partners and stakeholders to create evidence-based policies and market solutions for systemic change. This deep dive study examines progress and challenges through the lens of three ST initiatives that have a strong focus on policies and institutions: Foresight, National Policies and Strategies (NPS), and Sustainable Healthy Diets (SHiFT).

Key Findings

Relevance

- At individual initiative level, local and regional partners were more engaged in initiatives overall compared to the CRPs, but the initiative design process was too short to allow their full participation in initiative design and priority setting. Most local and regional partners continue to see themselves as research priority takers endorsing priority themes identified by the initiatives themselves.
- Taken as a whole, CGIAR policy- and institution-strengthening efforts do not purposefully respond to priorities and strategies in the countries and regions where it is engaged.
- Some progress has been made in evolving CGIAR policy and institutional research from its historic focus on increasing agricultural productivity to the broader lens of FLW transformation, but more work is needed to articulate CGIAR's role in broader cross-sectoral policy research and trade-off analysis and ensure that CGIAR has the resources and partnerships to be effective in this space.
- There is also need for criteria to determine CGIAR's role and balance among shorter-term country-responsive policy research activities, research on longer-term, cross-sectoral themes, and capacity sharing, institutional development and policy implementation.

Effectiveness

- Although all deep dive initiatives reported they were fully on track by 2023 to achieve their EoI outcomes, apart from NPS, the output and outcome evidence provided made it difficult to assess progress towards EoI outcomes independently. In other cases, the correspondence of reported progress to EoI outcome targets was inconsistent, or planned outputs, outcomes and EoI outcome were too general to allow meaningful tracking against the theory of change (ToC).
- Strong internal and external partnerships greatly facilitated progress on strengthening policies and institutions.
- Initiatives developed innovative approaches to active learning for individual and institutional capacity strengthening including collaborations with regional policy networks to deliver training and south-south capacity sharing.
- Key challenges included the difficulty of working with CGIAR as an external organization, given complex administrative and budget policies and budget turbulence; the lack of clarity on the definition of strategic transformation and CGIAR's role in achieving it; and an inadequate disciplinary mix to address emerging policy coherence and policy implementation challenges.

Quality of Science

- The deep dive initiatives significantly expanded CGIAR research efforts and global, regional, and national influence on strengthening policies and institutions related to FLW including new research on

food environments, although work on cross-sectoral FLW issues including trade-off analysis remains limited.
- Assessing scientific quality in the research for development environment remains challenging. The default measure for scientific credibility in policy research remains peer-reviewed articles in high-impact journals, but continued reliance on this measure may skew research incentives away from collaborations that are more useful to country partners, and the quality control process for more accessible, non-peer reviewed knowledge products is unclear.
- Metrics to assess the effectiveness of activities to strengthen individual and institutional capacity related to policy analysis and implementation remain extremely inadequate.
- CGIAR is not doing enough to ensure the fair and ethical treatment of partners, including their involvement in co-design, allocation of program resources, and recognition of partner contributions.
- Larger questions of how CGIAR's role in strengthening policies and institutions should vary depending on the level of development of country/regional institutions are not being adequately considered.

Recommendations

- Ensure that local, national and regional stakeholders fully participate in determining the priorities and design of the next round of CGIAR policy/institution strengthening programs.
- Establish specific indicators and track progress on the fair and ethical treatment of partners, including their involvement in co-design, allocation of program resources, and recognition of partner contributions including lead and co-authorship of knowledge products.
- Articulate how the design of new policy/institution strengthening programs (together with the larger portfolio of CGIAR initiatives) will respond to specific priorities and strategies in the areas where CGIAR is engaged.
- Clarify CGIAR's role in broader cross-sectoral policy research and trade-off analysis relative to its traditional focus on agri-food systems. If broader cross-sector work remains a priority, assess capacity and resource gaps to be effective in this space and develop a roadmap to address them.
- Develop criteria and a process for determining CGIAR's role in and the balance among shorter-term country-responsive policy research activities; research on longer-term, cross-sectoral (often global) themes; and capacity sharing, institutional development and policy implementation.
- Identify strategic disciplinary gaps and address them through new hires or strategic partnering to address emerging challenges including cross-sector modeling and policy analysis, policy coherence and policy implementation, as well as gaps in subject matter and service areas (e.g., nutrition, political economy, sociology, behavioral science, psychology, communication, partnership development).
- Ensure that outputs and outcomes are consistently reported across programs and aligned with the ToC, and the relationship to EoI outcome and impact is clearly articulated in the planning stage and in interim progress reports.
- Continue to expand south-south capacity sharing, and collaboration with other policy institutes and networks, to strengthen models and extend the reach of individual/institutional capacity development efforts.
- Make partnering with CGIAR simpler and fairer for all external organizations, including local partners.
- Develop and implement metrics to assess scientific quality for knowledge products (in addition to peer-reviewed journal articles) that better reflect the research for development mission and ensure that metrics are used in career advancement assessments as well as regular program progress reports.
- Develop and implement metrics to better assess the effectiveness of activities to strengthen individual and institutional capacity related to policy analysis and implementation.
- Develop and implement a policy that establishes priority areas for CGIAR's to strengthen policies and institutions which consider the progressive devolution of leadership and delegate responsibilities to local and regional institutions over time as capacity strengthens.

Annex 4: Evaluation Matrix for Evaluation of ST SG

Table 3. ST Evaluation Matrix

CGIAR evaluation criteria	Key evaluation questions	Sub-Questions/Area of inquiry	Indicator/Focus	Data collection method
Relevance	To what extent does the ST SG research Portfolio respond to the needs and priorities of its internal and external stakeholders?[5]	a) What needs and priorities were identified by internal and external stakeholders of the ST research portfolio? Which stakeholders (and how) were stakeholders engaged in the prioritization process? Which stakeholders were involved? How were traditionally underrepresented groups–women, youth, the very poor- represented in the priority-setting process? b) How did the ST SG research portfolio respond to the priorities and needs identified by stakeholders? If priorities changed or new priorities emerged over time due to contextual events, how did the ST portfolio respond? How well did activities under ST SG ensure flexibility and adaptability of the research Portfolio, to increase its relevance and reprioritize around emergent needs? c) What lessons were learned, or what good practices emerged, from the priority-setting experience of the ST SG?	Evidence based on document review stakeholder survey and Interview response. Stakeholder (including national level) perception. Alignment of SG research to national priorities and plans.	Desk review of relevant docs Case studies and deep dives (in-depth analysis) External survey Key informant interviews
	How well have the ST SG strategies and objectives been articulated in terms of a ToC and impact pathways and drawing on comparative advantage?	d) How well aligned are the SG objectives, scope of initiatives and activities? e) What is the evidence-base behind assumptions underlying the impact pathways? How valid were they considering internal and external contextual factors?	Evidence based on document review.	

[5] External stakeholders refers to entities external to the CGIAR system such as policymakers, national governments and NARES, researchers and the scientific community

CGIAR evaluation criteria	Key evaluation questions	Sub-Questions/Area of inquiry	Indicator/Focus	Data collection method
Effectiveness	To what extent has the selected ST SG initiatives/work package (WP) achieved and/or is expected to achieve, its objectives, including any differential results across subgroups of users/clients?	a) What progress has been achieved towards planned outputs of the activities carried out by the SG? What conclusions can be drawn regarding the potential or actual achievement of the planned outcomes? b) What are the main constraints–both internal and external – that the ST SG faced in implementing their activities? How have these constraints been addressed? c) What key successes have emerged during the implementation of ST SG activities? Are there particular lessons/ opportunities that–if applied- could increase the effectiveness of the entire portfolio? d) How does the experience of the ST SG so far correspond to the ToC? Has the ToC been useful in guiding ST management responses and adaptations? Why or why not? e) How has resource availability affected the outcomes/outputs achieved by the ST?	Progress against capacity, innovation, policy, partnership related indicators. Evidence of progress against planned output/outcome indicators. Stakeholder perception. Planned budget versus allocation and expenses.	Monitoring data, outputs and outcomes Internal survey Key informant interviews Budget and expenditure data Case studies and deep dives.
	How well were the cross-cutting themes of gender and climate change integrated into design and implementation?	f) To what extent were gender considerations considered in designing and implementing the SG initiatives? g) To what extent have the ST SG initiatives contributed to the promotion of gender equality and women's empowerment? h) To what extent climate change mitigation, and adaption have been mainstreamed while designing and implementing SG initiatives?	Extent to which gender dimensions were considered in design and implementation. Use of gender disaggregated data in monitoring progress Evidence on use of mitigation and adaptation indicators	Same as above.
	To what extent does the ST SG draw on the capacities of the Impact Area platforms and vice versa?	I) Has the ST SG utilized capacities of the Impact Area platforms and vice versa? j) What are the key lessons learned and good practices in utilization of these capacities for delivery of the planned results?	Evidence based on document review. Key interview response.	Annual progress reports. KI with internal stakeholders. Proposal review findings.

CGIAR evaluation criteria	Key evaluation questions	Sub-Questions/Area of inquiry	Indicator/Focus	Data collection method
	To what extent did the ST SG design enhance partnerships reach (internal and external) of CGIAR, and how aligned it was to the Partnership Framework?	k) To what extent is the 2022 Framework for Partnerships and Advocacy being implemented at the SG level? l) What actions are being taken to implement the recommendations from the independent High-Level Advisory Panel Report on Partnerships? m) What has been the role and comparative advantage of the SG in piloting the research agenda with external partners, including partners' capacity building to do own research for/and development?	Key indicators based on partnership framework. Quality of partnerships. Extent to which partners were involved in priority setting.	Document review.
Efficiency	To what extent is the governance and management of the ST SG deemed suitable for achieving the objectives?	a) Have the financial and human resources been made available adequately and in a timely manner for smooth implementation of the ST SG Portfolio? If not, what are the priorities for improvement? b) How has budget allocation, timeliness, and management affected ST SGs cohesion, mission, and delivery? c) What are the key opportunities for enhancing efficiency across the research portfolio of ST SG?	Evidence based on key informant interview and document review. Selected performance management indicators. Review of fund allocation criteria. Evidence based on desk review and interviews. Evidence from case study and deep dive analysis.	Review of grant proposals. Portfolio analysis of budget and expenditure. Key Informant Interviews. Internal stakeholder survey. Case Studies and deep dives.
	How has the CGIAR's Integration Framework Agreement design and roll-out aided ST SG to effectively stimulate the learning, monitoring, and adaptability of the SG Portfolio, through initiatives?	d) How has the 2023 CGIAR Integration Framework affected the ST research portfolio and operations? What is different (for better and worse) than before the One CGIAR reforms? e) What were the new challenges and how timely have been the financial and other mechanisms that were implemented in response to the agreements made in the Integration Framework?	Evidence based on key interviews and survey. Same as above.	Document review. KI interview. Internal stakeholder survey.
	What are the internal and external factors influencing efficiency within a system of legally independent centers, considering the constraints of limited resources?	f) What mechanisms and (to what extent the) systems (e.g., finance, human resources, digital) at the ST SG level have supported an effective administration and achieved efficiencies in delivery within the ST SG portfolio?	Same as above.	Document review. KI Interviews.

CGIAR evaluation criteria	Key evaluation questions	Sub-Questions/Area of inquiry	Indicator/Focus	Data collection method
		g) Has the research funding mechanism been effective for funding critical continuous operations and operational improvements? h) How adequately have the ST SG fulfilled their role in raising funds to support the Portfolio?		
Coherence	How coherent and compatible been the design and implementation of the ST SG Portfolio with Partnership Framework towards CGIAR's 2030 Research Strategy? In what ways have SGs addressed key considerations and opportunities for enhancing coherence across, between, and within each SG?	a) How has the ST SG operationalized CGIAR's collective vision in the 2030 Research Strategy and CGIAR's Integration Framework Agreement? b) In what ways has the ST SG addressed key considerations and opportunities for enhancing coherence within the ST Portfolio and with RAFS and GI SGs? c) How and to what extent has the ST SG architecture facilitated coherence, coordination and collaborative research and innovation offers from CGIAR, considering comparative advantage? d) Has comparative advantage been assessed and operationalized effectively within ST SG partners and with external partners? What has worked well, and what needs to be improved? e) How do different role players understand the vision, meaning and real-world relevance of system transformation? To what extent there is a common understanding? f) What measures have been taken to enhance coherence of the ST SG research Portfolio delivery and how effective have they been?[6] g) What new opportunities exist for enhancing coherence across research portfolios of ST SG and across the SGs?	Evidence based on desk review and interviews. Stakeholder perception. Management indictors related to coherence. Evidence based on survey.	Internal survey KI interviews Document review.

[6] Examples to be considered for each SG evaluation: coherence with non-pooled portfolio activities as well as within the pooled portfolio; coherence between the SG portfolio and center activities or strategies.

CGIAR evaluation criteria	Key evaluation questions	Sub-Questions/Area of inquiry	Indicator/Focus	Data collection method
Quality of Science (credibility and legitimacy)	To what extent do the management processes of the ST SG ensure the QoS including credibility, legitimacy, relevance to next stage users, and potential effectiveness, of the research and operations? In what ways are the research outputs[7] by the ST SG of high quality and influential?	a) How adequately did SG collaborate with CGIAR centers and/or their grants held bilaterally to enhance the scientific credibility of CGIAR? b) How aligned is the research adhering to good scientific practice, including aspects such as peer review, to ensure the highest standards of credibility? c) How did the ST SG collaborate with NARES to enhance the scientific credibility of CGIAR? d) To what extent did the Integration Framework facilitate integration of science delivery for the ST SG? e) What is the evidence that ST SG research initiatives have been co-developed with researchers in the global south? f) What is the evidence regarding how SG outputs influenced global discourses e.g., citing in scholarly research? g) How effectively are the research findings presented and logically interpreted, reflecting a commitment to clear communication and comprehension? h) What factors are influencing the quality and influence of research outputs and how can they be enhanced?	Evidence based on QoS review indicators. Stakeholder perception. Extent to which research portfolio has been codesigned with partners, Including in global south. Appropriateness of research design. Adequacy of research communication and dissemination. Use of research in influencing national policy and decisions.	Document review. Stakeholder survey. KI Interviews. Case studies and deep dives.

[7] Outputs vary considerably but are often tangible products or services, e.g., new seeds or germplasm, or technical outputs such as policy documents, journal articles, technical briefs, and new soil management.

Annex 5: Key Informant Interview Guide (Combined)

This is a short guide on conducting and analyzing in-depth semi-structured interviews for the CGIAR SG Evaluation**.** This document is expected to guide the work of Team Leaders (TLs), Subject Matter Experts (SMEs), and other people involved in data collection through interviews.

COLLECT DATA

Interview tips

Please bear in mind the following while conducting in-depth interviews:

a) **Prior to the interview, read carefully and understand the questions,** if you have any doubt contact the SG TL. Learn the question so you can ensure to ask key questions as interviews often jump topics.
b) **Stakeholders wearing multiple hats**: interviewees are likely to be involved in multiple initiatives and/or work packages (WPs) and you may not be aware of all those when you invite the person. At the start of meetings, inquire about participants' roles and adapt the meeting protocol accordingly. Then, inform the other SG evaluation TLs if one of the other roles is related to the scope of other SG.
c) **Be prepared for questions about IAES and the Evaluation Function:** Familiarize yourself with these topics to provide answers https://iaes.cgiar.org/evaluation. In case Svetlana and/or Ibtissem are taking part to the interview, you can delegate to them for explanation. (Evaluation Policy & Framework brief). Impact assessments are an input into our evaluations-our focus is process/performance evaluations.
d) When asking/posing questions, **try to be as clear as possible, speak slowly** and in a clear voice.
e) **Be open-minded**: Avoid bringing in your school of (scientific) thought, giving the feeling of being judgmental or critical on what the interviewee is saying. These attitudes could hinder the full and free expression of opinions by the interviewee.
f) **Be a good listener:** Use a proactive listening approach: focus on what the interviewee says, waiting for them to finish expressing them thoughts before moving to the next question; if necessary, paraphrase what the speaker is saying to convey that the interviewer is listening and that the message has been received.
g) **Expect emotions such as frustration and sadness:** this could affect framing of the discussion. Be attentive to signs of anxiety and allow space for individuals to express concerns related to uncertainty and morale due to CGIAR reform, or other work challenges.
h) **Ask open-ended questions**, these types of questions help to avoid being answered like Yes/No and require the interviewer to elaborate on their point. Yes or no questions are one-dimensional and do not stimulate discussion and are better suited for surveys. Similarly, 'why' questions put people on the defensive and lead them to take a 'politically correct' side on controversial issues.
i) **Submit factual questions before opinion questions**: for example, ask "What activities were implemented?" before asking "What are strengths and weaknesses of activities implemented?".
j) **Using probes:** for example, "Would you give me an example of what you are mentioning?", or "Could you elaborate on that further?". This is very important for evidence of what the interviewee says.

Introduction to the interview for all Stakeholders

1. **Thank you**

I want to thank you for taking the time to meet with me today. My name is … and I am an independent consultant working on behalf of the Independent Advisory and Evaluation Service (IAES, formerly CGIAR Advisory Service CAS) of CGIAR.

2. **Introduction and purpose of the evaluation**

If needed, you can proceed with a short explanation of CGIAR and IAES by summarizing the following: **CGIAR** is a global research partnership dedicated to transforming food, land and water systems in a climate crisis. CGIAR works on agricultural research for development (AR4D), science and innovation for vulnerable and marginalized people across the world. The 2030 CGIAR Research and Innovation Strategy provides a good overview of the regions, Impact Areas and impact pathways. The 14 research centers that are part of the CGIAR system are non-profit research organizations conducting innovative research for development (https://www.cgiar.org/research/research-centers/).

The **IAES's** Evaluation Function delivers and supports **process and performance evaluations,** not impact assessments, which provide accountability, support to decision making, and lessons for improving quality and effectiveness of agricultural research for development outcomes.

This is an external independent evaluation of the CGIAR System Transformation (ST) Science Group (SG). The evaluation is conducted upon the request of the CGIAR System Council.

Note: it is possible that not all interviewees may understand/remind what this entails. If necessary, provide a short explanation or reminder about the ST SG. Information available at https://www.cgiar.org/research/cgiar-science-groups/.

The evaluation combines summative and formative dimensions; the purpose of the evaluation is to contribute to the steering of evidence-based decisions, support CGIAR's institutional learning, and provide accountability.

The objective of the evaluation is to determine:

- where success lies at the SG and initiative levels, and CGIAR at large.
- roll-out and implementation difficulties of the portfolio.
- reasons and factors behind successes and difficulties.
- good practices, lessons learned and recommendations for future CGIAR programming.

The evaluation covers **the SG Initiatives implemented during the period 2022 to early 2024.** This implies that results achieved under previous CGIAR Research Programs (CRPs) and Impact Area Platforms are not considered under the scope.

3. **Introduction to the interview (duration, how the interview will be conducted)**

The interview will take from 45 minutes to one hour.

The questions may be cited to help interviewees know in advance what will be asked; however, preference is for general areas specified above.

You can paraphrase the following suggested statement:

I will be asking you some questions regarding your work on this initiative/under this SG/thematic area, in your center.

This will include (1) a bit of background on your involvement in this SG/initiative, (2) any successes that you note, (2) any challenges that affect achieving success, (4) lessons learned and recommendations to improve future programming.

I will be taping the interview to do not lose any information (I can't write fast enough to get all information down). *Of course, the recording will stay in a protected evaluation folder of evaluation, and it is just to help me/us (the evaluation team) to remind what you say. If you have any objection or bad feelings towards recording, I will take only notes.*

NOTE: Normally, recording government officials is not allowed or appropriate. In the case of CGIAR stakeholders, the National Agricultural Research Extension Services (NARES)[8] may or may not be government *per se*. Therefore, I suggest not to record in the case of government's officials. This requires an additional effort in terms of capturing at best the contents of the interview and faithfully transcribing what the interviewee says. In all other situations, I strongly recommend you record the interview (**with an appropriate explanation of the use that will be done and explanations of provisions for confidentiality and protection**).

Are there any questions about what I explained?

4. **Confidentiality and consent**

All information and comments you provide will be kept confidential. This means that your interview responses won't be shared with anyone and only used by the evaluation team members to elaborate findings and conclusions. **We will ensure that any information included in the report does not identify you as the respondent, unless you insist to be quoted**. You don't have to talk about anything you don't want to.

Are you willing to participate in this interview?

What to say at the end of each interview

Would you like to add anything else?

I'll be analyzing the information you and others provided, which will be used to draft the evaluation report. If something is not entirely clear, or if I need more information, I will contact you quickly. Thank you for your time!

ANALYZING DATA

Organize the **interview notes** soon after the interview when contents are still fresh in mind.

Then take adequate time to **transcribe the interview**, bearing in mind that generally, transcript requires more time than the interview itself. Interview transcripts should be as much detailed as possible and faithfully report what the interviewee said, avoiding mixing what was said with interviewer's interpretations and personal opinions, **the latter are indeed useful and can be placed in footnotes.**

In this phase, **verification and validation of the data and findings collected from the interviews is also required**. For example, if the interviewee says that the initiative strongly integrated a gender dimension, this should be supported through concrete examples and verified thorough appropriate desk review, quantitative data, additional interviews.

Considering the evaluation's timeline, interviews' transcripts should be uploaded in the SharePoint **within two days** from the date of the interview.

A final report on main findings from interviews conducted and desk review will be requested to SMEs. The report should also include the description of the evaluation methodology adopted, any limitations and the list of persons interviewed, and documents consulted.

[8] A designated group in column in Master Stakeholder Mapping–column G.

INTERVIEW QUESTIONS

NOTE: All questions below are linked to the evaluation matrix**. The interview may be time-consuming so adequate time should be planned (around one hour).** You may consider providing the key interviewees with a list of themes or copy of the questions to facilitate the process. Although not all interviewees will be asked all the questions (depending on their role and the activities in which they are involved in), by the end the evaluators and SMEs should have collected enough answers to all the questions contained in the core interview guide.

Per each evaluation criteria, select appropriate questions considering the role of the person/organization interviewed.

Although some questions can be skipped, if adequate information is gathered prior to the interview through desk reviews and email exchanges or through other meetings, the interview is challenging. **Do not go in a hurry, it is preferable to skip a few questions rather than asking all of them roughly. You may also consider arranging a follow-up with the interviewee to complete any important pending questions.**

After the interview's introduction (see above, pages 2-3), continue one by one with the questions below according to the type of stakeholder.

Questions marked with X may be eliminated according to what was mentioned in the Note. OR indicates that you can select one of two similar questions.

INTERVIEW QUESTIONS-SCIENCE GROUP LEVEL

SG Directors, Science (thematic) Directors, M&E Focal Points, Staff at SG level

GENERAL QUESTION

1. *X Please, briefly describe **your role and involvement** in the ST SG or in CGIAR.*

NOTE: Question 1 is not a requirement but is preferable. The brief description should take no more than five minutes. This is included to provide an opportunity for the interviewee to explain their work in their own words, it can be used as a sort of icebreaker and helps to set the scene for the following questions. If you believe you do not have enough time for all the questions and if you have already gathered enough information on interviewee's role -through desk review and prior email exchanges, you can go directly to the next question.

RELEVANCE

2. *Could you briefly explain how **the SG-specific rationale** was conceptualized, and mention any (internal and external) **consultative process and co-design carried out**?*
3. *What is the evidence-base behind the **assumptions and casual links** underlying the impact pathway contained in the SG **theory of change** (ToC)?*
    a. *Have any **risk assessments** been carried out? If so, could you explain how risks were identified?*
4. *Have any **contextual changes, or ToC developments,** affected the SG rationale? Can you give specific examples of contextual changes in target countries and explain how these affected the initiative rationale or its implementation? If the contextual changes were negative, what actions were taken to address the impacts?*
    a. *Could you share any example of the **SG responsiveness to emerging concerns** and changing contexts, both in terms of rationale and modality of work?*

EFFECTIVENESS

5. Since the start of new CGIAR portfolio, between 2022-24, what would you consider to be the top SG **achievements *vis-a-vis* the SG ToC** (probe if necessary)? How are these achievements contributing to CGIAR Impact areas? (By asking this question, guide the conversation around one or more specific Impact Area–i) Nutrition, Health & Food Security; ii) Climate Adaptation & Greenhouse Gas Reduction; iii) Poverty Reduction, Livelihoods & Jobs; iv) Gender Equality, Youth and Social Inclusion; v) Environmental Health and Biodiversity).
6. Could you mention **any success** at initiative or a country level in one or more of the SG thematic areas and explain **which factors you would attribute the positive result?** Please, tick the relevant area-one or more-and provide explanations.
7. To what extent has the SG supported **research innovation** at country, regional or global level? Is there any evidence **of innovative solutions or new knowledge** generated by the SG **being used/implemented** by partners and stakeholders, e.g., NARES, ministries, partners? Could you provide examples?
8. What are the **main difficulties or challenges** affecting the SG efforts in successfully implementing its portfolio of initiatives, and align to ToC aspirations?
9. What have been the **missed opportunities** and how could the SG could intervene in those areas?
10. Has the SG adopted any specific **gender strategy/approach** to promote equality and women's empowerment across its initiatives and activities? How and why did you tag the initiative for gender? Have you engaged with the Gender Platform? If so, could you provide examples?
11. Broadly, the SG initiatives are labelled as ('principal' or 'significant') for **climate change** adaptation and/or mitigation-could you provide more information on how climate change is considered/tackled at SG level? Is there any specific guidance for initiative leads existing on this?
12. Are you aware of the **CGIAR Partnership Framework**? How would you consider the SG or initiative or center capacity to broker **institutional collaborations** and to establish **partnerships** in countries/regions covered by the initiatives?
    a. Is the SG able to partner with **different types of stakeholders**? Could you provide examples?
    b. How would you consider the **responsiveness** of these partners so far?
    c. Do you believe that SG partnerships have definite **complementing value** in terms of resources, capacities, advocacy and outreach? If yes, could you please describe?
    d. How helpful/inhibiting is the **CGIAR architecture suited** to the **establishment and operationalization** of partnerships?

EFFICIENCY

13. During the period 2022-24, have **financial and human resources** been made available in an **efficient and timely manner** for the smooth implementation of the SG Portfolio/initiative?
    a. How **timely have financial resources** been identified and implemented to enhance the responsiveness of research to new challenges or **emerging needs**?
14. Do you believe there is adequate **balance between available resources and expected results**? If not, what measures could be taken?
15. What is the role of the SG, and/or the centers, in **raising funds** to support the Portfolio?
16. What are the **SG monitoring mechanisms** and to what extent the **results** linked to the implementation of the SG activities are effectively **assessed, monitored, and reported?**

What and how **monitoring data and evaluation evidence inform strategic planning? How are outcomes measured at the SG level?**

17. Has the SG developed any **mechanism to capitalize results** from different initiatives? If so, could you describe it and explain how it contributes to **organizational learning?**
18. Do you think there is sufficient **complementarity and coordination** among SG initiatives, among different SGs, between the SG and the platforms, and among different CGIAR centers? Could you elaborate on that further?
19. What have been the specific **operational and strategic challenges affecting efficiency** and how can these be improved in the future?
20. What **cost recovery mechanisms** are in place for services and functions provided across centers, and how could these be optimized for best value-for-money in delivering the SG Portfolio?

COHERENCE

21. What is your opinion on the **SG alignment** with centers' priorities? Could you share examples of alignment?
22. In your opinion, to what extent is SG's work based on **CGIAR's comparative advantage**? Could you give an example? / Could you elaborate that further?
23. How and to what extent have **GTIs and RII** engaged one another to assess, prioritize and align around regional and national priorities?
24. How has the **SG architecture facilitated coherence, coordination and collaborative research** and innovation offers from CGIAR, considering comparative advantage?
25. Has the SG facilitated **reduction in duplication of research efforts** within CGIAR? If so, how?

QUALITY OF SCIENCE
QoS DESIGN

26. X To what extent does the **SG Research Portfolio address global/regional problems**? Could you provide examples?

NOTE: This question can be skipped if enough information is collected through questions under RELEVANCE.

27. Is the **adopted methodology appropriate and credible** for the planned research? Could you elaborate on that further?
28. X Could you provide any examples of how the SG research has been co-designed with external partners and stakeholders?

NOTE: This question can be skipped if enough information is collected through questions under RELEVANCE.

QoS INPUTS

29. Is the **disciplinary skill base** appropriate and sufficient to satisfactorily implement the SG Research Portfolio?
    a. Are additional skills needed?
    b. Would integration with other initiatives provide needed skills?
30. Is the **composition of the team** sufficiently diverse (gender, nationality, age) to legitimately implement planned research activities?
31. Are **resources** (laboratories, fields) adequate to implement the research activities?
32. Is **capacity building** offered within the SG Research Portfolio appropriate for planned research activities?
33. Is **donors' commitment** to funding for the SG Research Portfolio secure and adequate?

QoS PROCESSES

34. Are **roles and responsibilities** sufficiently clear and with due recognition?
35. Are **partnerships** inclusive and recognized?
36. Are **leadership and management processes adequate** to support research scientists in an uncertain environment?
37. Has the **recent restructuring of CGIAR research portfolio** negatively affected the generation of quality outputs?
38. Are **incentives** in place within the SG to reward performance?
39. Have potential internal and external negative consequences and **risks** been sufficiently recognized and articulated?

QoS OUTPUTS

40. Are **peer-reviewed publications** generated of sufficiently high quality and open access? (use of bibliometrics and altimetric)
41. Are other **written outputs** such as working papers, technical reports and policy briefs of high quality and relevant to next stage users?
42. Are **physical outputs** such as improved varieties, technologies, methodologies, digital innovations etc. of high quality, of IPG value, aligned with SDGs as well as influential and relevant to next stage users?
43. Do the outputs position the SG Research Portfolio for **uptake** and impact? (also relates to IPGs). Is there a scaling **readiness assessment system** in place?
44. Is there sufficient effective **engagement with policy makers?**
45. Are there any **factors affecting the quality of the scientific outputs** or preventing access to or use of the knowledge generated under the SG Research Portfolio?

GOOD PRACTICES, LESSONS LEARNED, RECOMMENDATIONS

46. Can you cite **good practices and lessons learned on the SG modality of work?**
47. Please provide your **recommendations/suggestions** for improving the relevance, effectiveness, efficiency, QoS of the SG and to inform the P25 development.

INTERVIEW QUESTIONS-INITIATIVE LEVEL

Initiative Leaders, co-leaders, country focal points, WP leaders, M&E focal points, other staff at initiative level, CGIAR implementing centers

GENERAL QUESTION

1. X Please, briefly describe **your role and involvement** in the Initiative.

NOTE: Question 1 is not a requirement but is preferable. The brief description should take no more than 5 minutes. This is included to provide an opportunity for the interviewee to explain his/her work in their own words, it can be used as a sort of icebreaker and helps to set the scene for the following questions. If you believe you do not have enough time for all the questions and if you have already gathered enough information on interviewee's role, through desk review and prior email exchanges, you can proceed to the next question.

RELEVANCE

2. In your opinion, what are the **country-regional-global research and development needs and priorities** that might be adequately addressed through this initiative and how is the initiative consistent with these needs and priorities?
3. In your opinion, what is the initiative's **added value** for the country and/or for the topic addressed, and/or for the involved stakeholders?
4. Have any **contextual changes affected the initiative rationale** compared to the period in which it was conceptualized and launched? Can you give specific examples of contextual changes in target countries and explain how these affected the initiative rationale or its implementation? If the contextual changes were negative, what actions were taken to address the impacts?
5. Did the initiative design process **include participatory bottom-up mechanisms** to respond to local demand? If so, could you provide examples? Or: Can you explain **how local partners participated in the research design process?** What were the processes or stages by which country or regional needs were incorporated to respond to contextual demand?
6. To what extent have the **assumptions** contained in the ToC of the initiative occurred? Are there **new hypotheses** that have emerged after the ToC formulation? How are these affecting the implementation of the initiative?

EFFECTIVENESS

7. Overall, what **progress** has been made towards the initiative expected outputs and what is the likelihood that these outputs will lead to the planned end-of-the initiative outcomes? Any related **constraints?**
8. Or: Considering the period 2022-24, what **preliminary changes** can be observed as result of the initiative and/or could you mention **any success and explain to which factors** you would attribute the positive effects?
9. To what extent has the initiative supported **research innovation** at country, regional or global level? Is there any evidence of **innovative solutions or new knowledge** generated by the **initiative been used/implemented** by partners and stakeholders? Could you provide examples?
10. Or: To what extent do you think the **knowledge** generated by the initiative has a potential to be **actionable** by local partners and organizations?
11. To what extent is the initiative **supporting capacities** through knowledge brokering, the sharing of know-how and peer-to-peer learning among partners and stakeholders? Please, provide examples.
12. To what extent is the initiative contributing to the development, improvement, and implementation of **policies** that improve the resilience of agri-food systems?
13. What **constraints–both internal and external**–has the initiative faced in implementing its WPs and activities? How have these constraints been addressed?
14. Could you explain whether and how the initiative takes **gender** into account both in terms of design and implementation?
15. What is, to date, the **initiative outreach to the vulnerable poor** and marginalized groups? Are there any related challenges?
16. Do you believe the initiative **partnerships** have definite **complementing value** in terms of resources, capacities, advocacy and outreach or not? Could you please describe it? How would you consider the **responsiveness** of external partners so far?
17. Are there any specific **challenges related to partnerships** within this initiative?
18. To what extent is the initiative interacting and establishing **synergies** with other initiatives, CGIAR platforms and/or other SGs?

19. To what extent is the initiative reinforcing **collaboration among CGIAR centers**? Please provide examples.
20. To what extent have **climate change mitigation and adaptation** been mainstreamed while designing and implementing the initiative? Please provide concrete examples.

EFFICIENCY

21. Have **financial and human resources** been made available in an **efficient and timely manner** for the smooth implementation of the initiative?
22. Have any **budgetary constraints** affected the delivery of results?
23. Do you believe there is adequate **balance between available resources and expected end-of-the-initiative outcomes?**
24. What is the role of the SG, and/or centers, in **raising funds** to support the initiative?
25. Does the initiative have a **monitoring system established** (M&E responsible, budget for monitoring, frequency and modality of data collection across countries, M&E digital tools, partners taking part to the system)**?** To what extent the **results** linked to the implementation of the initiative are effectively **assessed, monitored, and reported?** Could you explain how **monitoring informs strategic planning? How are outcomes measured at the initiative level, particularly regarding capacity building?**
26. Has the initiative developed any **mechanisms to capitalize on results** from different countries and partners? If so, could you describe it and explain how it contributes to organizational learning?
27. What have been the specific **operational challenges affecting efficiency** and how can these be improved in the future?
28. To what extent **coordination and communication mechanisms** within the initiative-and between the initiative and the SG-are suited to deliver results?
29. OR: How would you consider the efficiency of the SG and the initiative institutional set-up?
30. How efficiency affects partnerships (look at budget cuts for example).
31. In last two years, with the occurred changes, do you feel more, or less, frustrated ? Why? (remember that MoUs and budgets are signed by centers, not by CGIAR).
32. Do you have this initiative under your job description?

COHERENCE

33. In your opinion, to what extent is the initiative based on **CGIAR's comparative advantage** (https://iaes.cgiar.org/isdc/publications/identifying-and-using-cgiars-comparative-advantage)? Could you elaborate that further?
34. What is the comparative advantage **of having CGIAR** dealing with this topic/initiative?
35. What is the comparative **advantage of having this initiative under the SG?**
36. What is the comparative advantage and value added of having SGs? How do they help addressing challenges in efficiency, different resources, different topics?
37. Based on the experience of this initiative, how has the **SG architecture facilitated coherence, coordination and collaborative research and innovation** offers from CGIAR?

QUALITY OF SCIENCE
QoS DESIGN

38. X To what extent does the **SG Research Portfolio address global/regional problems**? Could you provide examples?

NOTE: This question can be skipped if enough information is collected through questions under RELEVANCE.

39. Is the **adopted methodology appropriate and credible** for the planned research? Could you elaborate on that further?
40. X Could you provide any examples of how the SG research has been **co-designed** with external partners and stakeholders?

NOTE: This question can be skipped if enough information is collected through questions under RELEVANCE.

QoS INPUTS

41. Is the **disciplinary skill base** appropriate and sufficient to satisfactorily implement the SG Research Portfolio?
    a. Are additional skills needed?
    b. Would integration with other initiatives provide needed skills?
42. Is the **composition of the team** sufficiently diverse (gender, nationality, age) to legitimately implement planned research activities?
43. Are **resources** (laboratories, fields) adequate to implement the research activities?
44. Is **capacity building** offered within the SG Research Portfolio appropriate for planned research activities?
45. Is **donors' commitment** to funding for the SG Research Portfolio secure and adequate?

QoS PROCESSES

46. Are **roles and responsibilities** sufficiently clear and with due recognition?
47. Are **partnerships** inclusive and recognized?
48. Are **leadership and management processes adequate** to support research scientists in an uncertain environment?
49. Has the **recent restructuring of CGIAR Research Portfolio** negatively affected the generation of quality outputs?
50. Are **incentives** in place within the SG to reward performance?
51. Have potential internal and external negative consequences and **risks** been sufficiently recognized and articulated?

QoS OUTPUTS

52. Are **peer-reviewed publications** generated of sufficiently high quality and open access? (use of bibliometrics and altimetric)
53. Are other **written outputs** such as working papers, technical reports, and policy briefs, of high quality and relevant to next stage users?
54. Are **physical outputs** such as improved varieties, technologies, methodologies and digital innovations of high quality, of IPG value, aligned with SDGs as well as influential and relevant to next stage users?
55. Do the outputs position the SG Research Portfolio for **uptake** and impact? (also relates to IPGs). Is there a scaling **readiness assessment system** in place?
56. Is there sufficient effective **engagement with policy makers?**
57. Are there any **factors affecting the quality of the scientific outputs** or preventing access to or use of the knowledge generated under the SG Research Portfolio?

GOOD PRACTICES, LESSONS LEARNED, RECOMMENDATIONS

58. Can you cite **good practices and lessons learned on the SG modality of work?**
59. Please, provide your **recommendations/suggestions** for improving the relevance, effectiveness, efficiency, QoS of the SG and to inform the P25 development.

INTERVIEW QUESTIONS FOR CGIAR external partners-NARES, academia, governments, CSOs, private sector, UN agencies

NOTE: The list of questions for external stakeholders should be fine-tuned according to the type of stakeholder interviewed. This is a general set of questions that could be further detailed according to the specific role and experience of each stakeholder.

1. X Please, briefly describe your involvement/the institution/organization's involvement in activities related to the SG.

NOTE: Question 1 is not a requirement but is preferable. The brief description should take no more than five minutes. This is included to provide an opportunity for the interviewee to explain their work in their own words, it can be used as a sort of icebreaker and helps to set the scene for the following questions. If you believe you do not have enough time for all the questions and if you have already gathered enough information on interviewee's role -through desk review and prior email exchanges-you can proceed to the next question.

RELEVANCE

2. To what extent are the SG initiatives (or this initiative) **relevant to your institution/organization's situation?** That is, are the SG initiatives aligned with needs and priorities of your institutions/organization? Explain why.
3. Do you believe that you (your institution/organization) have (has) been **able to contribute to the design and planning of the SG initiatives (or this initiative)?** If yes, how? If not, what is your opinion on this?
4. What do you consider as **the SG (or this initiative) added value** in promoting resilient agri-food systems compared to other international organizations?

EFFECTIVENESS

5. Considering the period 2022-24, **what preliminary changes** can be observed because of the initiative? Could you mention **any success and explain which factors** contributed to the positive effects?
6. To what extent do you think the **knowledge** generated by the initiative has a potential to be **actionable** by local partners and organizations? Please, provide examples, if any.
7. Or: Are you engaged (your organization/institution) in **up-scaling and replicating research and knowledge generated under the initiative?** If yes, please summaries.
8. Do you think that the SG's work has in any way strengthened your organization's/Institution's capacities and outreach? If yes, how and in which areas?
9. Or: Did you receive any specific **training or capacity building from CGIAR to be part of this initiative? I**f yes, please explain.
10. Based on your experience of collaboration with the SG (or with this initiative), what are the **main difficulties and challenges** affecting efforts in successfully implementing the SG's activities?
11. To what extent has the SG/CGIAR mobilized partnerships in your region/country? Please give examples. What could be other opportunities for partnerships?

EFFICIENCY

12. Based on your experience with this initiative, to what extent do you think there is an adequate **balance between available resources (human, financial) and expected end-of-the initiative outcomes?**
13. In implementing this initiative, what is your appreciation of **the quality of the coordination mechanisms with your organization/institution?** (Were role and tasks

clear enough? Was the initial timeline respected? Did you receive enough guidance on the implementation of the activities? Were tools for collaboration efficient?)

14. Have you (or your institution/organization) been involved in **monitoring and capitalizing results** achieved under the initiative? If yes, could you please describe how?

COHERENCE

15. Do you think there is sufficient **complementarity, synergy and coordination** with other ongoing initiatives in the same thematic areas?
16. Have you noticed any **duplications of efforts** compared to other ongoing research initiatives in the country (or duplication around the same topic)?

QUALITY OF SCIENCE

17. Could you provide any examples of how research activities within the initiative have been **co-designed** with external partners and stakeholders?

NOTE: This question can be skipped if enough information is collected through questions under RELEVANCE.

18. In your opinion, is there any **factor affecting the quality of the scientific outputs or scientific processes adopted under the initiative** and/or preventing you from accessing or using the knowledge generated?
19. Basing on your experience within this initiative, are **resources (human resources, funds, laboratories, fields) adequate** to implement the planned research activities?
20. Is it likely that the outputs planned under the initiative will be scaled-up? (also relate to IPGs). Have you noticed the presence of any **scaling readiness assessment system in place?**

GOOD PRACTICES, LESSONS LEARNED, RECOMMENDATIONS

21. Can you cite **good practices and lessons learned emerging from your participation or knowledge of this initiative?**
22. **What do you view as major opportunities for the SG in your region/country?**
23. Please, provide your recommendations/suggestions for improving the effectiveness of the SG and/or of this initiative. Or: What could be done better for improving the results and contributions of SG/CGIAR in your region/country or at initiative level?

INTERVIEW QUESTIONS FOR Donors

1. How did the (name of the donor) come to be involved with the SG (or with this specific initiative) and **how does it relate to your own organizational interests and priorities?**
2. How else have you previously been involved in the work of CGIAR?
3. Who are your most **strategic partners** in promoting research and development around resilient agri-food systems? In your opinion, has the SG effectively liaised with these partners? Please, explain.
4. What could be **other opportunities for partnerships?**
5. What do you consider the main challenges related to long term support to the SG/initiative?
6. Please, provide your **recommendations/suggestions** for improving the effectiveness of the SG and/or of this initiative. Or: What could be done better for improving the results and contributions of SG/CGIAR in your region/country or at initiative level?

Annex 6: List of ST Stakeholders Consulted in Interviews

Interviewee	Gender	Location	Type
David Spielman	M	United States	CGIAR
Deanna Olney	F	United States	CGIAR
Joseph Karugia	M	Kenya	CGIAR
Namukolo Covic	F	Ethiopia	CGIAR
Evan Girvetz	M	Kenya	CGIAR
Purnima Menon	F	India	CGIAR
Tek Bahadur Sapkota	F	Mexico	CGIAR
Inga Jacobs-Mata	F	South Africa	CGIAR
Ana Maria Loboguerrero	F	Italy	CGIAR
Jon Hellin	M	Philippines	CGIAR
Elisabetta Gotor	F	Italy	CGIAR
Keith Wiebe	M	United States	CGIAR
Tonja Schutz	F	Kenya	CGIAR
Andrea Gardeazabal	F	Mexico	CGIAR
Jawoo Koo	M	United States	CGIAR
Daniel Gilligan	M	United States	CGIAR
Hazel Malapit	F	United States	CGIAR
Alan Nicol	M	Ethiopia	CGIAR
Clemens Breisinger	M	Kenya	CGIAR
Claudia Ringler	F	Canada	CGIAR
Matthew McCartney	M	Sri Lanka	CGIAR
Muzna Alvi	F	India	CGIAR
Inge Brouwer	F	Netherlands	CGIAR
Nicholas Minot	M	United States	CGIAR
Robert Vos	M	United States	CGIAR
Mark Lundy	M	Colombia	CGIAR
Chris Dickens	M	Sri Lanka	CGIAR
Marcela Quintero	F	Colombia	CGIAR
Sarah Freed	F	Kenya	CGIAR
Louis Verchot	M	France	CGIAR
Wei Zhang	F	United States	CGIAR
Pepijn Schreinemachers	M	Thailand	Partner
Roland Schafleitner	M	Austria	Partner
Jenny Smart	F	United States	CGIAR
Katrina Kosec	F	United States	CGIAR

Interviewee	Gender	Location	Type
Frank Place	M	United States	CGIAR
Channing Arndt	M	United States	CGIAR
Laura Cramer	F	Kenya	CGIAR
Jo Swinnen	M	United States	CGIAR
Khuloud Odeh	F	France	CGIAR
Loraine Ronchi	F	United States	Funder, Donor
Jackline Nekesa Makokha	F	Kenya	National/sub-national government
Mary Kanui	F	Kenya	CGIAR
Evans Ilatsia	M	Kenya	National/sub-national government
Gideon Obare	M	Kenya	Partner
Lilian Kirimi	F	Kenya	Partner
Timothy Njagi	M	Kenya	Partner
Mercy Kamau	M	Kenya	Partner
Mithika Mwenda	M	Kenya	Partner
Philip Kilomzo	M	Kenya	Partner
Josephine Love	F	Kenya	National/sub-national government
Rosinah Mbenya	F	Kenya	Partner
Brigit Habermann	F	Kenya	CGIAR
Mwikamba Kaibui	M	Kenya	Academia, University
Pascale Sabbagh	F	Belgium	CGIAR
Paolo Sarfatti	M	Italy	Academia, University
Ravi Kumar	M	UK	Academia, University
Lawrence Haddad	M	UK	Partner
Esther Kagai	F	Kenya	CGIAR
Nyang'ori Ohenjo	M	Kenya	Partner
Todd Crane	M	Kenya	CGIAR
Bernard Kimoro	M	Kenya	National/sub-national government
Annet Abenakyo Mulema	F	Kenya	Partner
Agatha Tuo	F	Kenya	CGIAR
Paul Kamau	M	Kenya	Partner
Anne Chele	F	Kenya	Partner
Dr. Shaikh Mohammad Bokhtiar	M	Bangladesh	ARI, NARIS, NARES
Dr. Abul Fatta Md. Tariqul Islam	M	Bangladesh	ARI, NARIS, NARES
Dr. Md. Amirul Islam	M	Bangladesh	ARI, NARIS, NARES

Interviewee	Gender	Location	Type
Dr. Mohammad Yunus	M	Bangladesh	ARI, NARIS, NARES
Akbar Hossain PhD	M	Bangladesh	ARI, NARIS, NARES
Dr. Md. Golam Mahboob	M	Bangladesh	ARI, NARIS, NARES
Mostafa Faruq Al Banna	M	Bangladesh	National/sub-national government
Ms. Farzana Yasmeen	F	Bangladesh	Funder, Donor
Joseph Lessard	M	Bangladesh	Funder, Donor
Dr. Muhammad Khan	M	Bangladesh	Funder, Donor
Mr. Saso Martinov	M	Bangladesh	Partner
Dilruba Sharmin PhD	F	Bangladesh	Partner
Anil Kumar Das PhD	M	Bangladesh	Partner
Nur Ahamed Khondaker	M	Bangladesh	Partner
Farhana Sarker	F	Bangladesh	Partner
Dr. Khondaker A. Mamun	M	Bangladesh	Partner
Jamal Uddin	M	Bangladesh	Partner
Mohammad Habibullah (PhD)	M	Bangladesh	Private sector association/company
Rudaba Khondker (Dr.)	F	Bangladesh	Partner
Dr. Mohammad Monirul Hasan	M	Bangladesh	Partner
Ms. Temina Lalani-Shariff	F	India	CGIAR
Dr. Humnath Bhandari	M	Bangladesh	CGIAR
Dr. Debashish Chanda	M	Bangladesh	CGIAR
Dr. Akhter Ahmed	M	Bangladesh	CGIAR
Abedin, Jainal	M	Bangladesh	CGIAR
Benoy Kumar	M	Bangladesh	CGIAR
Mr. Razin Kabir	M	Bangladesh	CGIAR
Aggrey Agumya	M	Ghana	ARI, NARIS, NARES
Boaz Keizire	M	Kenya	Partner
Ousmane Badiane	M	Rwanda	Academia, university
Antony Chapoto	M	Zimbabwe	Partner
Manei Nanu	F	Kenya	Partner
Santeto Tiampati	F	Kenya	Partner
Laura Awour	F	Kenya	Partner
Aditi Mukherji	F	India	CGIAR
Debbie Templeton	F	Australia	Partner
Sara Schmidt	F	Germany	Funder, Donor
Stefan Kachelriess-Matthess	M	Germany	Funder, Donor
Shakuntala Thilsted	F	United States	CGIAR

Interviewee	Gender	Location	Type
Els Lecoutere	F	Belgium	CGIAR
Cargele Masso	M	Kenya	CGIAR
Nicoline de Haan	F	Kenya	CGIAR
Jean Baile	M	Philippines	CGIAR
Sophia Baumert	F	Kenya	Funder, Donor
Gary Jahn	M	US	Funder, Donor
Jerry Glover	M	US	Funder, Donor
Allison Poulos	F	Italy	CGIAR
Solomon Adebayo	F	Nigeria	CGIAR
Nancy Ajima	F	Kenya	CGIAR
Rao James	M	Kenya	CGIAR
Christine Chege	F	Kenya	CGIAR
Leroy Mwanzia	M	Kenya	CGIAR
Marc Schut	M	Rwanda	CGIAR

Annex 7: Online Survey Results

The online survey is one of the data collection methods conducted for the evaluation.

The survey was released on April 26 and closed on 15 May 2024. The survey was designed in such a way that respondents were directed to a set of specific questions based on their respective types of engagement with CGIAR. Two versions of the survey were released, one in English and one in Spanish.

A total of 437 individuals responded to the survey, out of an estimated 1,223 recipients. For more details, the online survey report is available at this link

Annex 7.1: Survey Results for System Transformation Science Group

7.1.1 Overview of ST SG Respondents

Table 1 below reveals that the majority of the 64 respondents who indicated that most of their work fell under the ST SG[9] were female. More than half of the respondents fell into the role category of Scientist/Researcher/PhD student, followed by Initiative/Work Package lead/co-lead. 75% of respondents are involved with CGIAR for at least five years, with 53% of respondents are involved for more than ten years.

Table 4. Profile of ST SG Respondents

Profile of respondents	No. respondents	Percentage
Gender		
Male	28	*44%*
Female	35	*55%*
Rather not say	1	*2%*
Role		
Scientist/Researchers/PhD student	35	*55%*
Initiative/Work package Lead/ co-Lead	16	*25%*
Science Group/Platform Managing Director	9	*14%*
Support Global Group (P&C, Finance, PCU, D&D, other)	5	*8%*
MELIA/Coordinator/PPU	*4*	*6%*
Other	*5*	8%
Period of involvement with CGIAR		
Less than 2 years	5	*8%*
2 to 5 years	11	*17%*
5 to 10 years	14	*22%*
More than 10 years	34	*53%*

[9] The question on affiliation to a SG was asked to internal CGIAR staff/consultants only, and not to external partners.

The geographical distribution of the 64 respondents spanned 24 countries across five continents (refer to Appendix 1 for a detailed list of countries and respondent counts). Respondents were primarily engaged in 22 distinct initiatives and 67% of them also contribute to other initiatives (see Figures 1 and 2 below). In Figure 1, ST initiatives are highlighted in orange, RAFS initiatives in green and GI initiatives in light green.

Figure 4. Main Initiative of Respondents-ST SG [10]

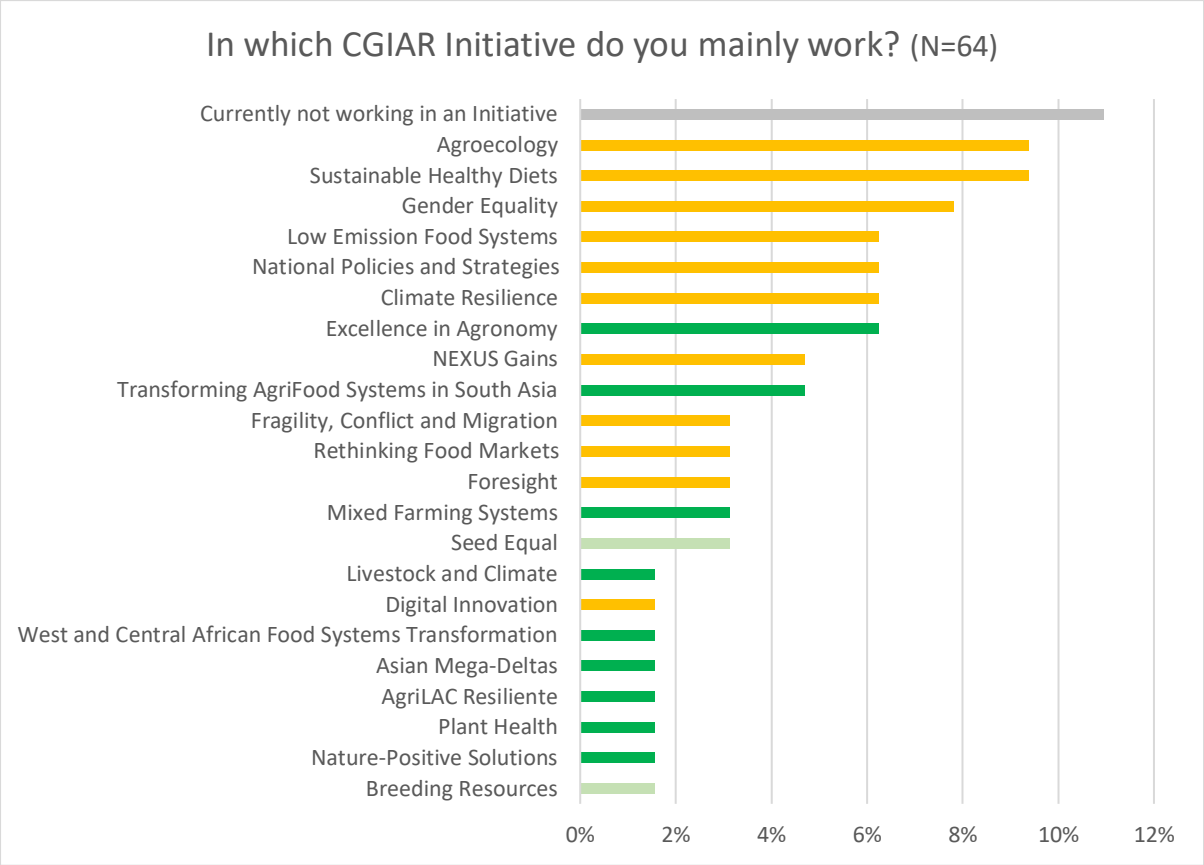
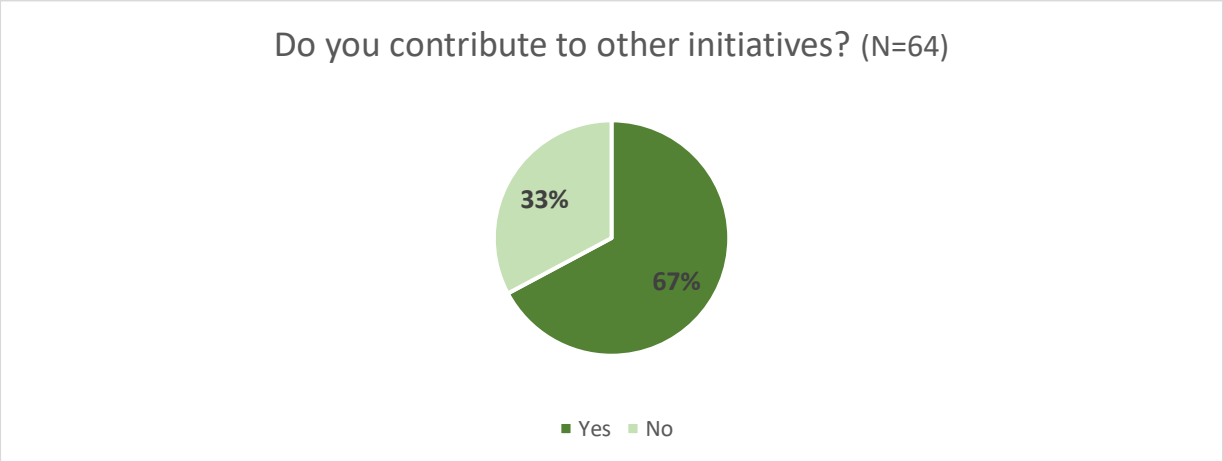
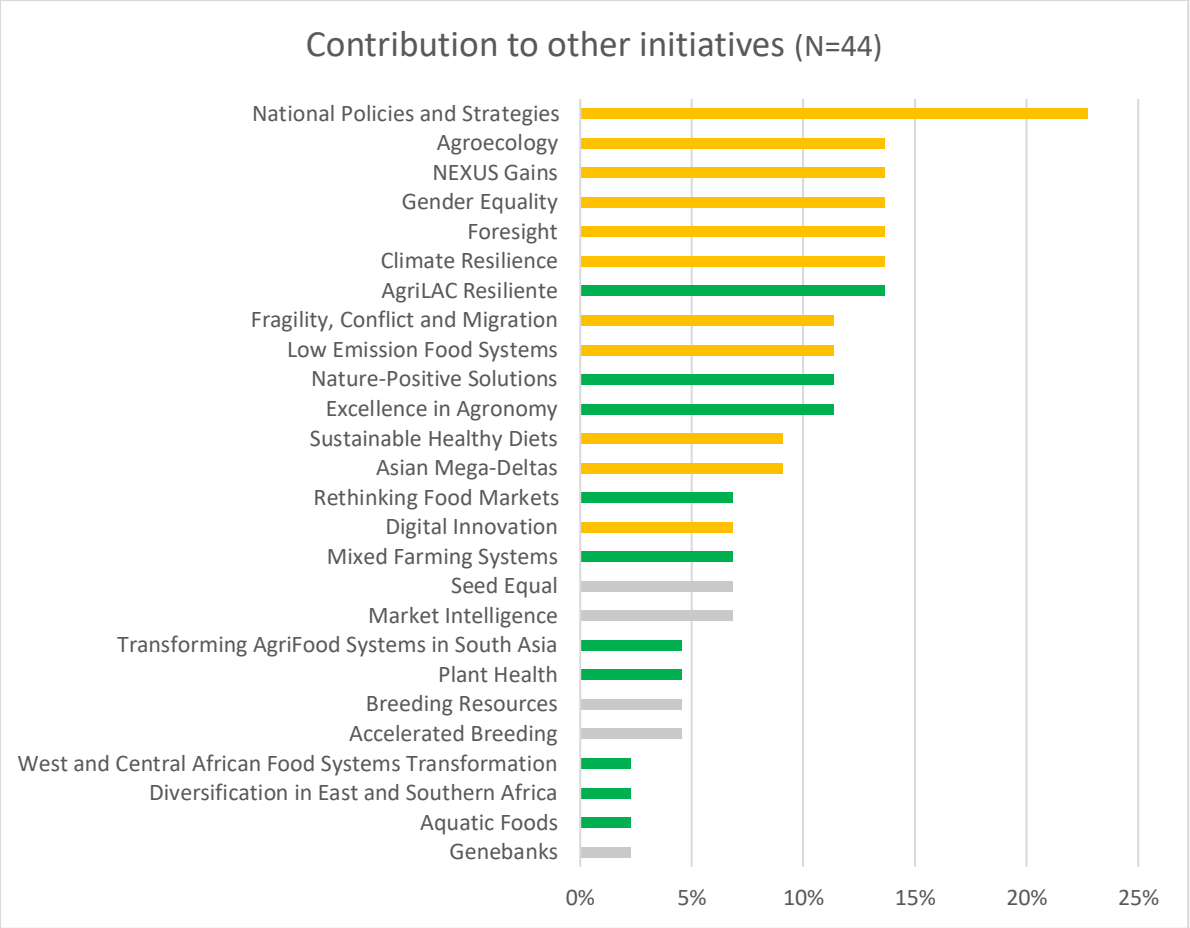


Figure 5. Contribution to other Initiatives-ST SG



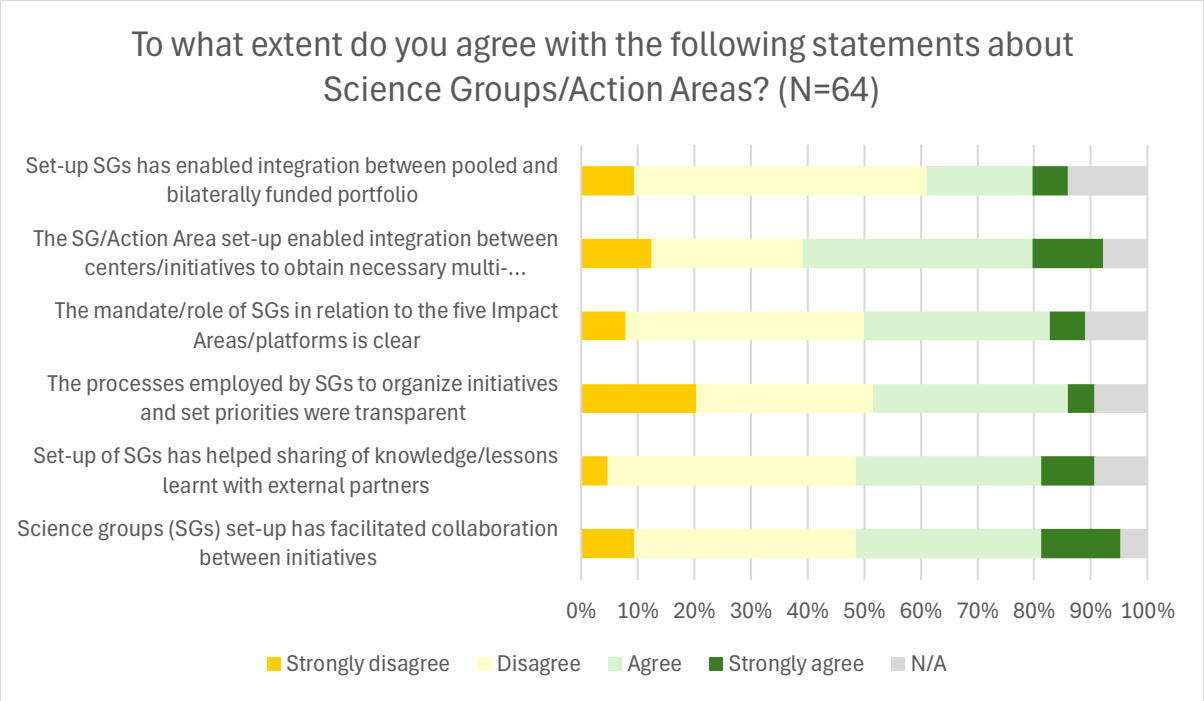
[10] In Figure 1, RAFS initiatives are highlighted in green, ST initiatives in yellow and GI initiatives in red.

Figure 6. Contribution to other Initiatives-ST SG



7.1.2 Relevance

Figure 7. Collaboration and Integration-ST SG



The survey results provide valuable perspectives on how stakeholders perceive the role of SGs or Action Areas in promoting collaboration, knowledge sharing, transparency, and integration within initiatives. Overall, the survey results indicate that the set-up of SGs or Action Areas were perceived with mixed feelings in various aspects, including collaboration, knowledge sharing, transparency, clarity of mandate, and integration, as shown in Figure 8.

Figure 8. Priorities of the 2030 Research Portfolio-ST SG

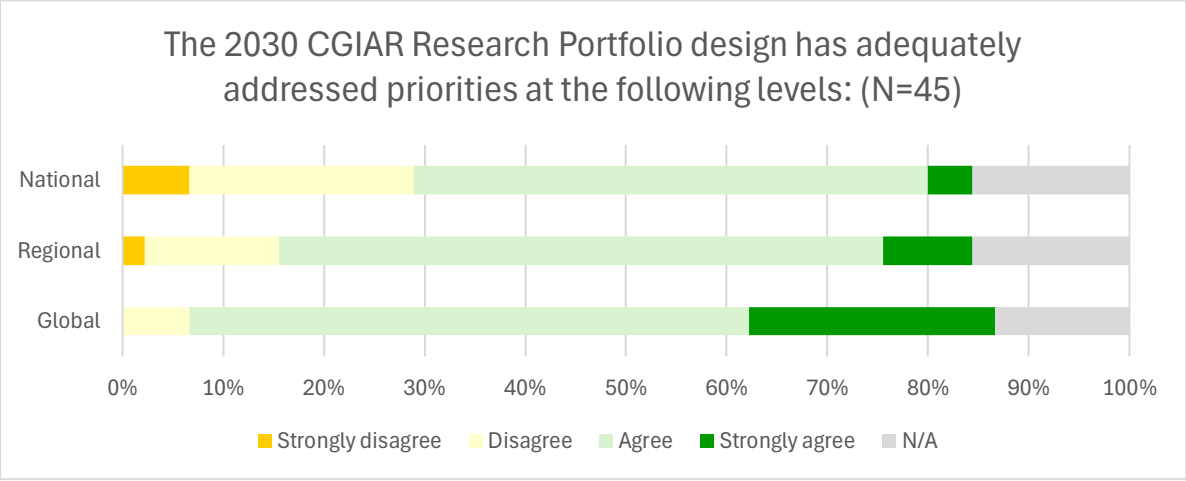


Figure 9. System Transformation Strategies and Interventions-ST SG

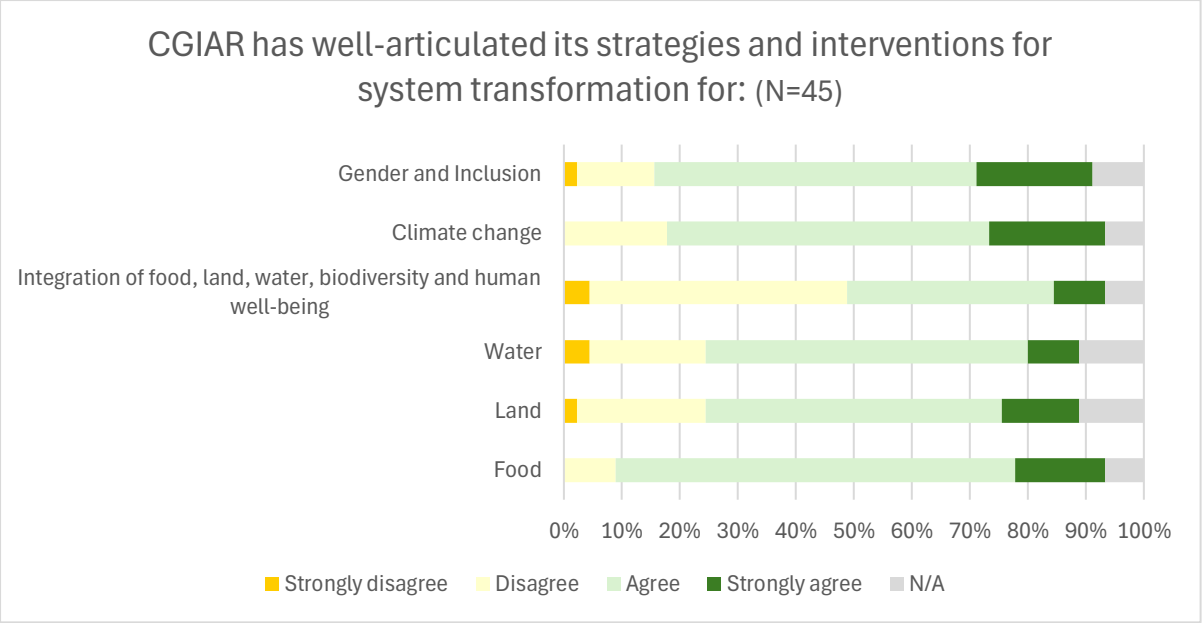


Figure 10. SG/Action Area ToC-ST SG

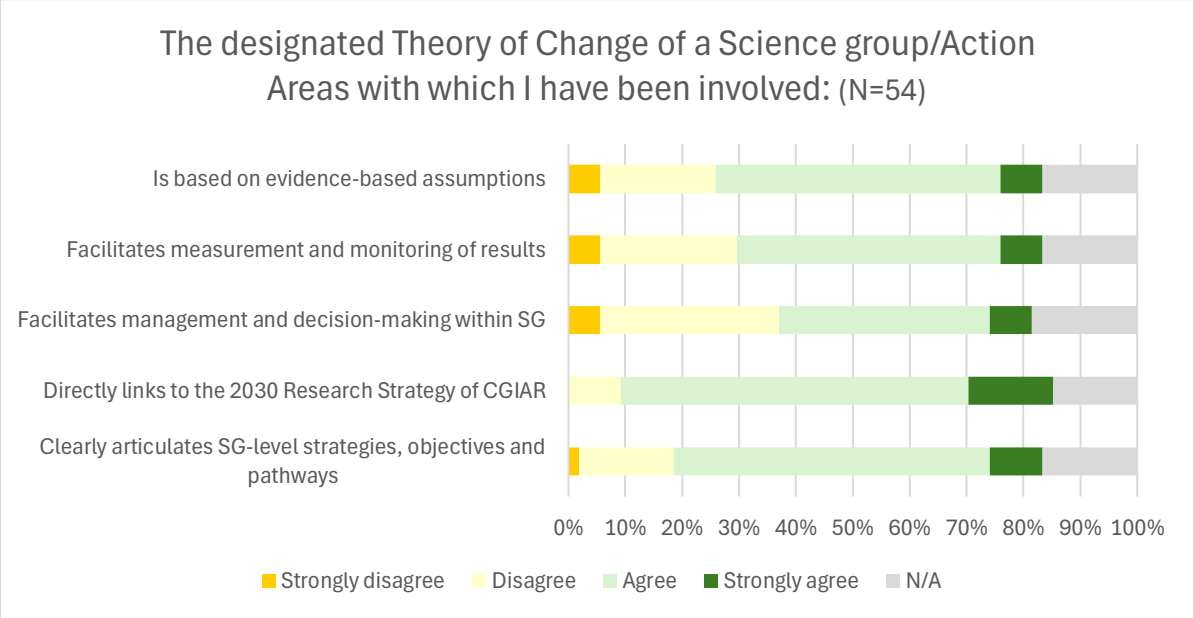


Figure 11. Initiatives ToC-ST SG

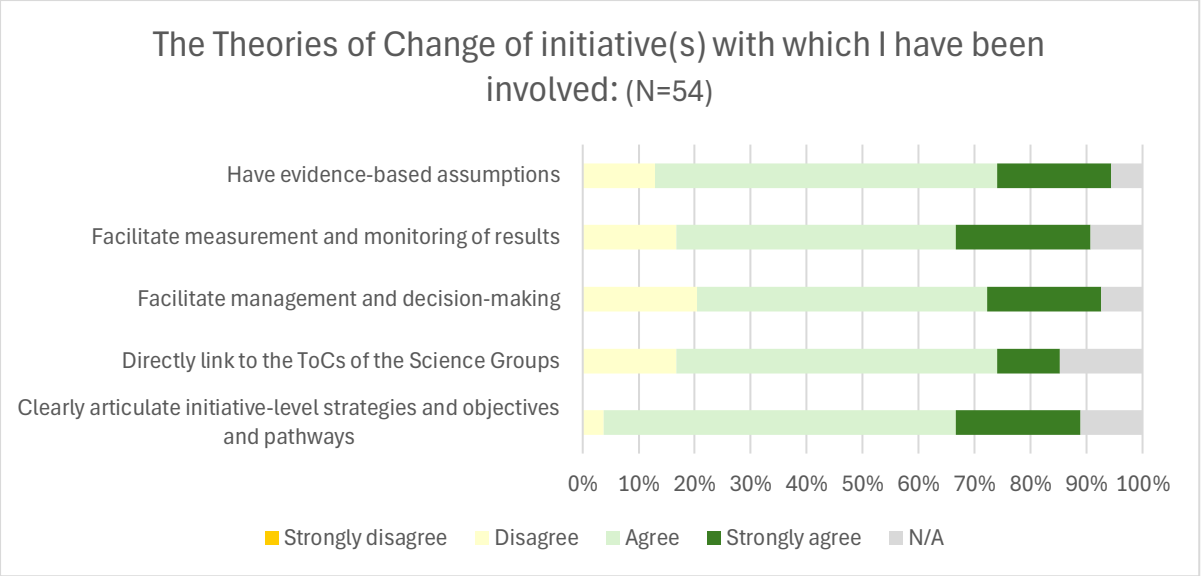


Figure 12. CGIAR's Comparative Advantage-ST SG

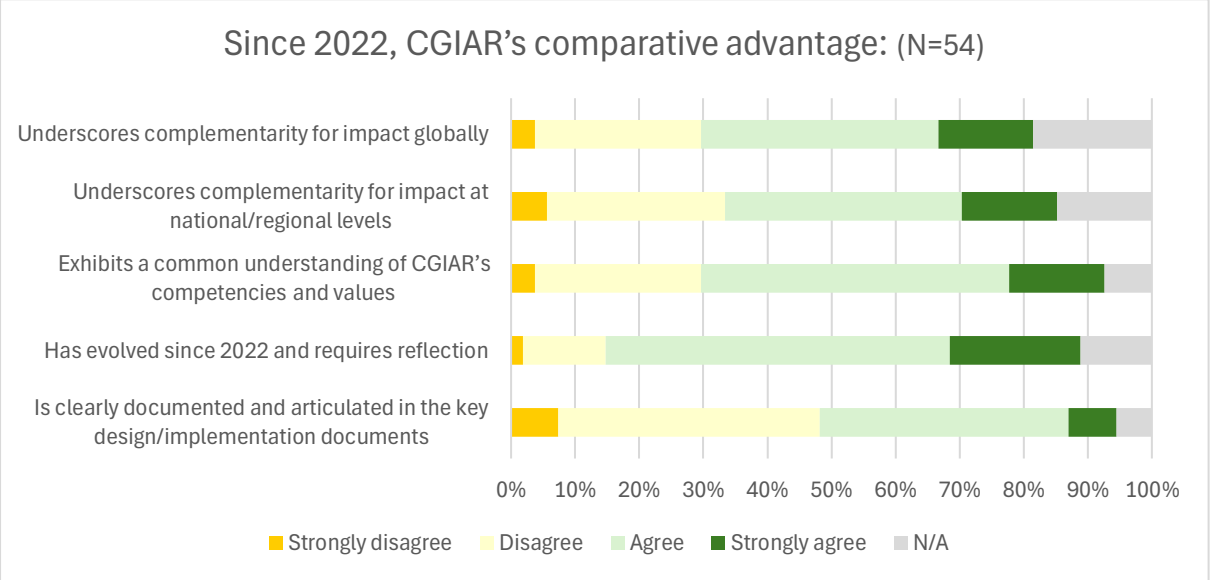
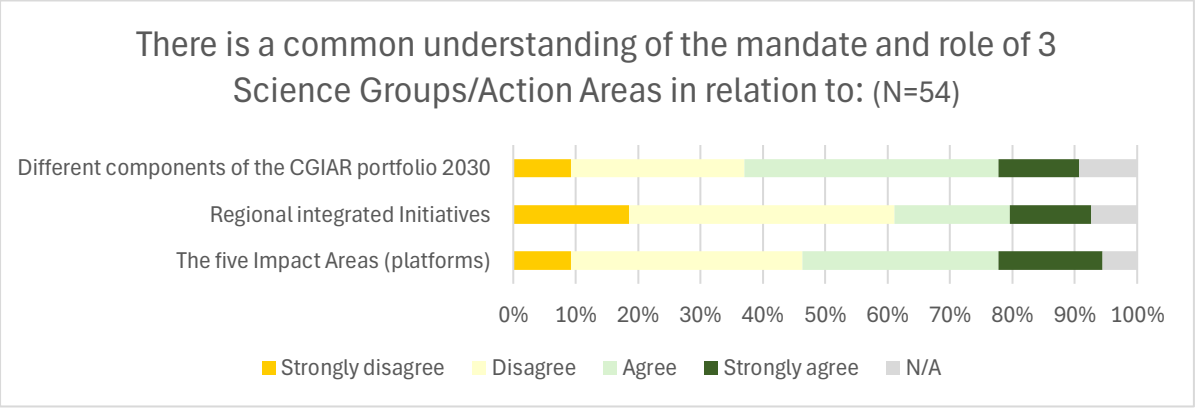


Figure 13. Mandate of SGs/Action Areas-ST SG



7.1.3 Effectiveness

Figure 14. Effectiveness-ST SG

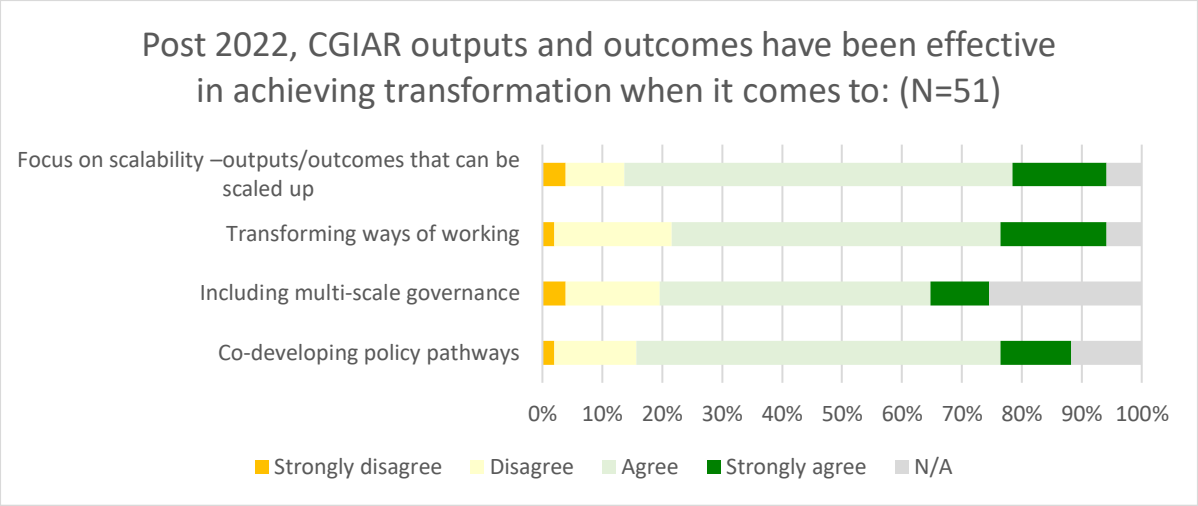


Figure 15. Gender Tagging-ST SG

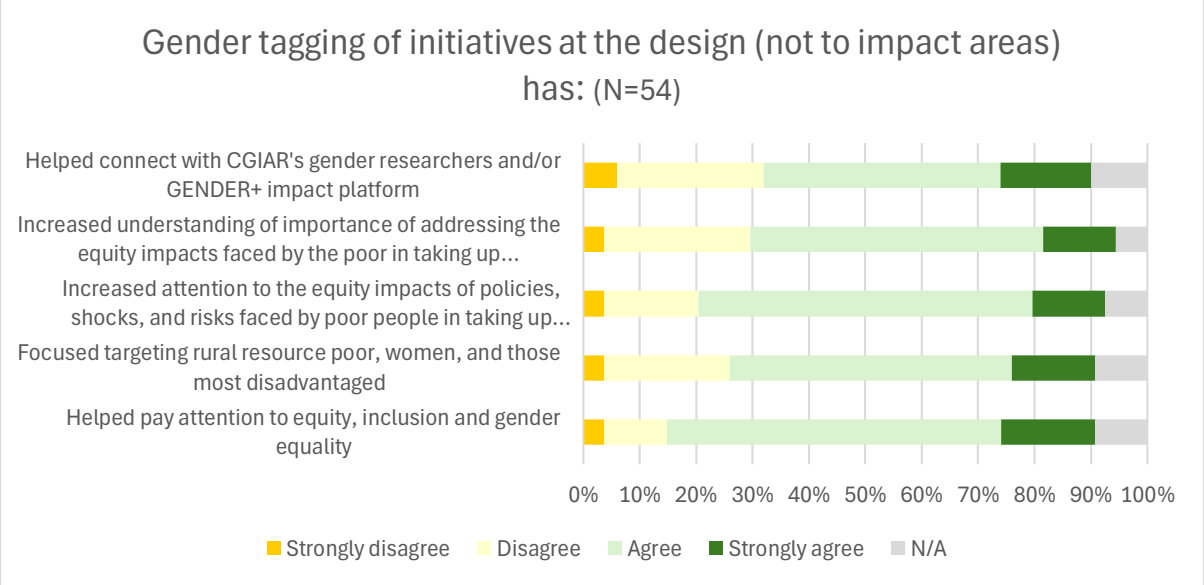
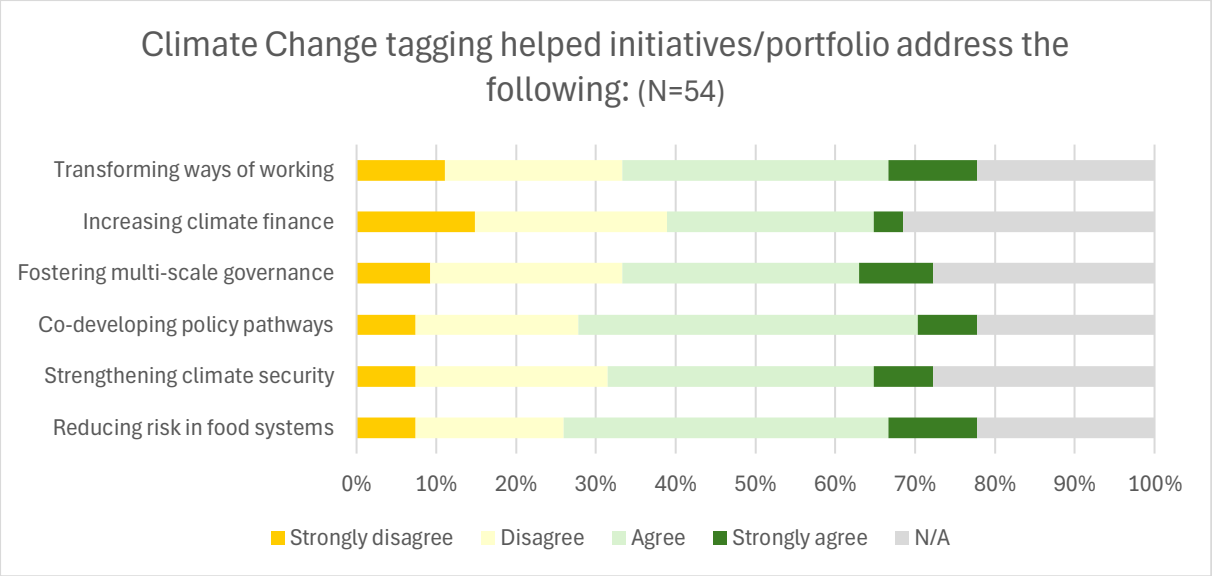


Figure 16. Climate Change Tagging-ST SG



Most stakeholders agree that climate change tagging has helped in reducing risks within food systems. This indicates that tagging has been effective in bringing attention to and mitigating climate-related risks in agricultural practices and food security. Nonetheless, some stakeholders disagree, pointing to a need for further efforts to ensure that risk reduction strategies are consistently applied and effective.

Similarly, the tagging has been perceived positively in strengthening climate security. Most stakeholders believe that climate change tagging has successfully enhanced efforts to safeguard agricultural systems against climate-related threats. However, there remains a portion of stakeholders who disagree, suggesting that more comprehensive or robust measures may be required to fully achieve climate security.

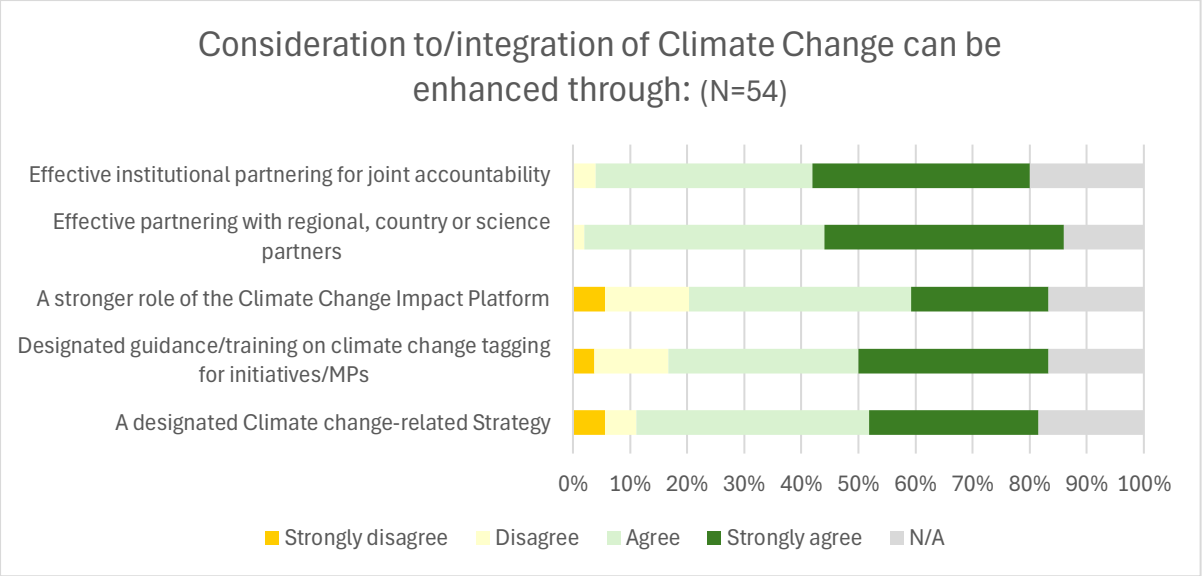
The most positive feedback comes in the context of co-developing policy pathways is seen as beneficial by many, with a significant number of stakeholders agreeing that it has facilitated policy development.

Responses indicate that climate change tagging has had a positive influence on fostering multi-scale governance. A notable portion of stakeholders agrees with this impact, but there is also a significant number who are either neutral or disagree. This suggests that while progress has been made, there is still work to be done in ensuring governance structures at all levels are effectively addressing climate change.

Increasing climate finance through climate change tagging has received mixed responses. While many stakeholders agree that tagging has helped in mobilizing financial resources for climate-related initiatives, a considerable number remain neutral or disagree. This points to challenges in securing adequate and consistent funding for climate initiatives, highlighting an area for potential improvement.

Compared to the other areas, a higher number of respondents disagree that climate change tagging has led to a transformation in the ways of working, suggesting ongoing efforts are needed to fully embed these changes.

Figure 17. Enhancement of Integration of Climate Change -ST SG



7.1.4 Partnerships

Figure 18. Partnerships-SG Research Portfolio -ST SG

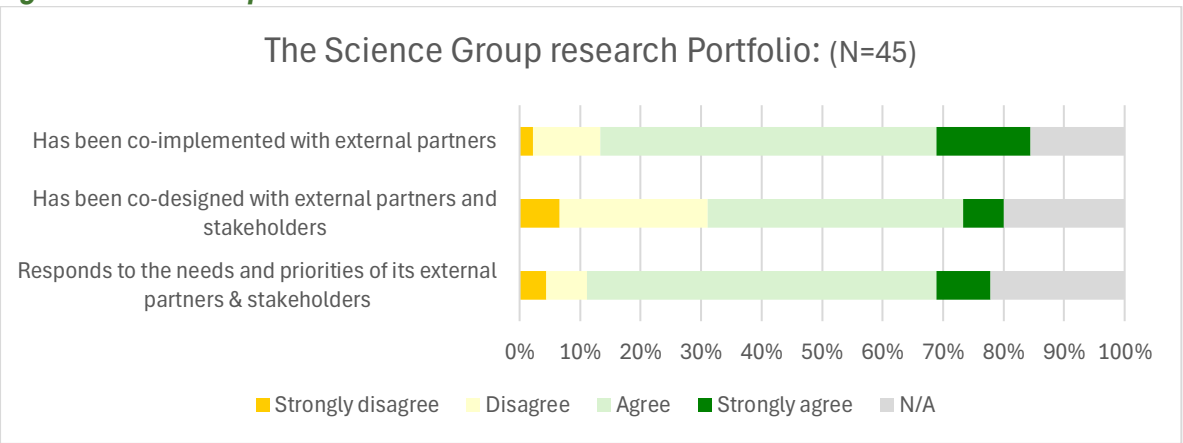
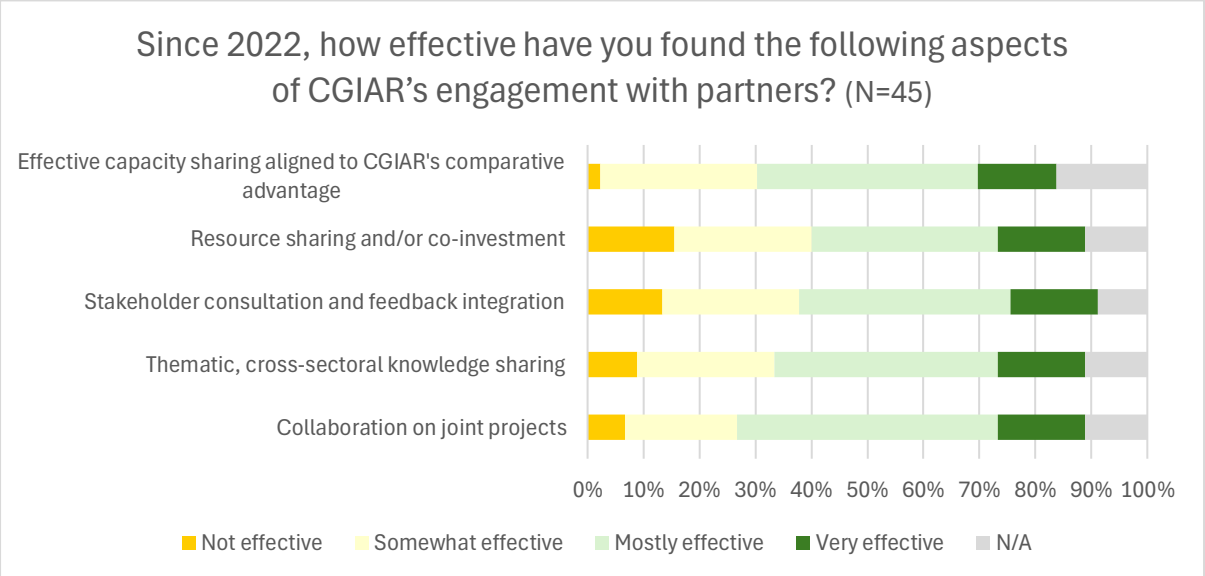
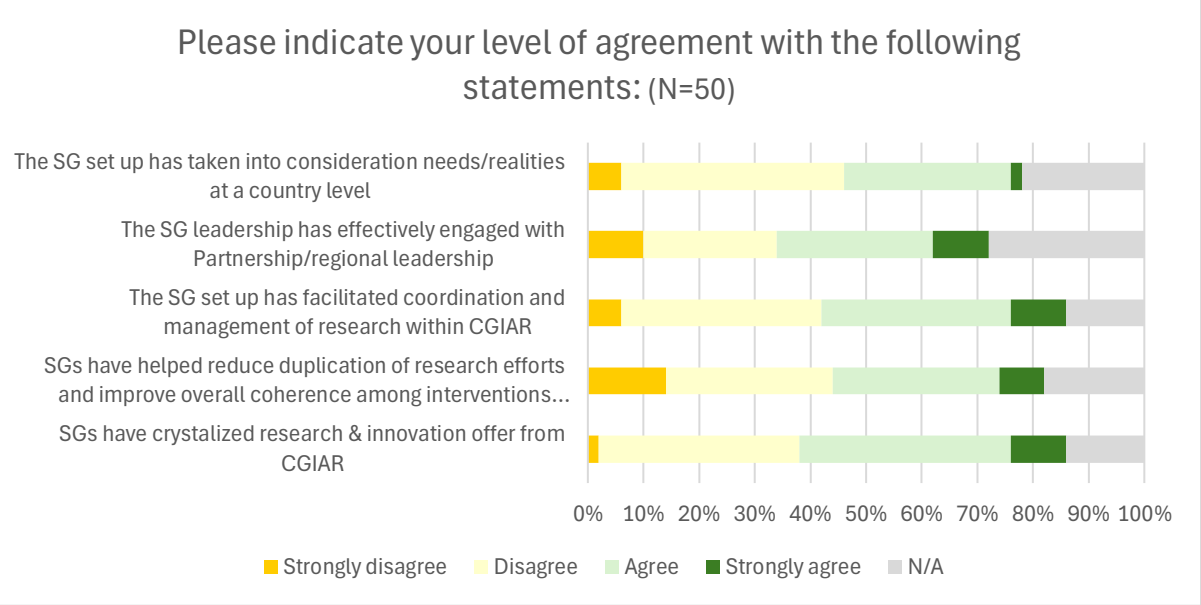


Figure 19. CGIAR's Engagement with Partners-ST SG



7.1.5 Coherence

Figure 20. Coherence-ST SG



Almost half of the respondents (46%) do not believe that SG setup has taken into consideration country-specific needs and realities, indicating the importance of attention to local contexts for effective implementation.

If we exclude respondents who did not express an opinion, slightly more than half believe that SG leadership effectively engage with partnership and regional leadership, while the rest disagree, suggesting the need for improved engagement strategies.

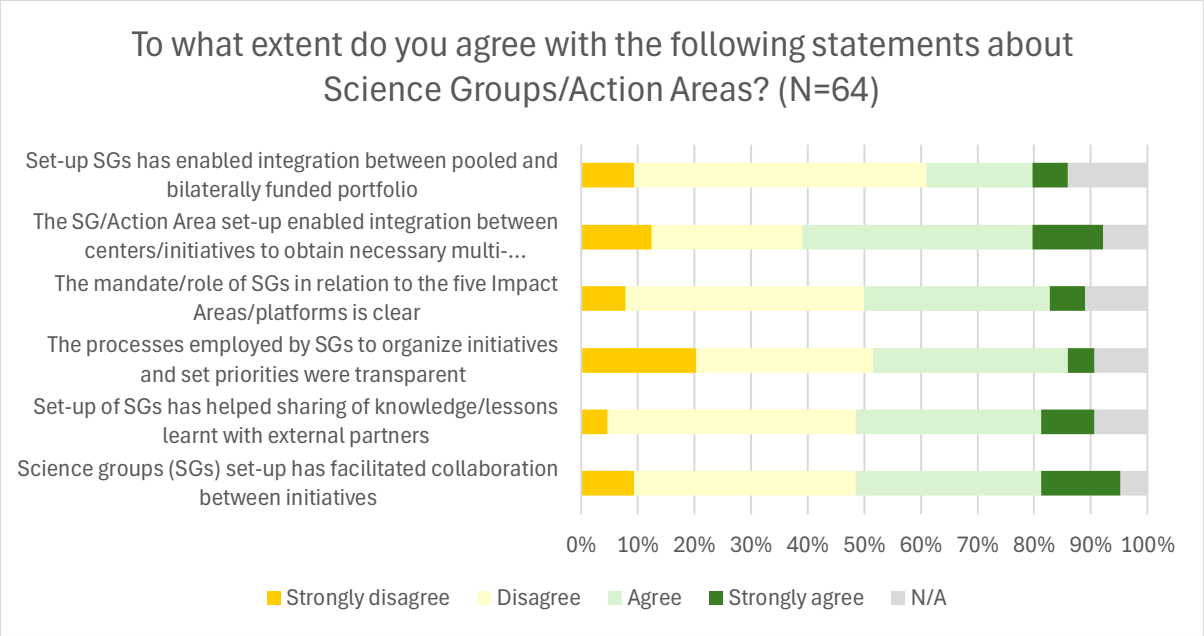
Respondents are generally equally split between those who acknowledge the SG setup's positive impact on coordination and research management, and those who disagree with that statement.

Among the respondents who expressed an opinion on whether the creation of SGs has helped reducing research duplication and improving coherence among interventions, the majority disagree, indicating a need for deeper investigation into their concerns.

Additionally, half of the respondents recognize the SG consideration of country-specific needs and realities, enhancing the relevance of SG initiatives. While most agree, a minority disagrees, emphasizing the importance of consistent attention to local contexts for effective implementation.

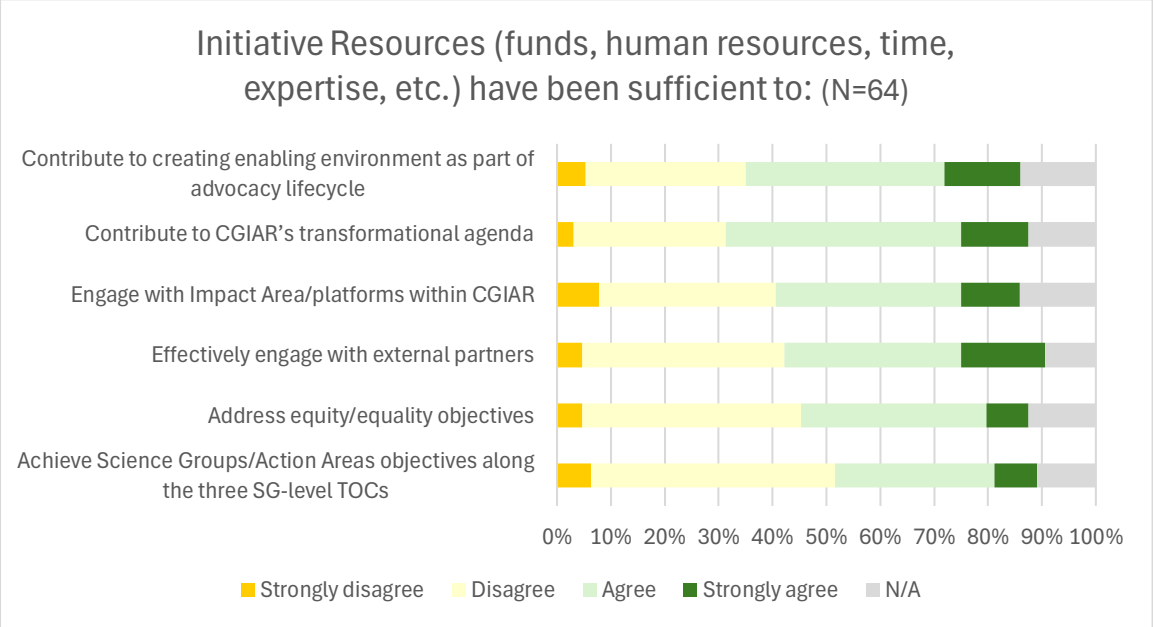
Responses are more positive on whether SGs have crystalized research and innovation offer from CGIAR, with 48% of respondents expressing a positive view.

Figure 21. Coherence-all SGs



7.1.6 Efficiency

Figure 22. Initiative Resources-ST SG



During the transition from CRPs to the current structure of SGs, respondents' roles underwent significant changes. 42% reported experiencing adjustments in their roles in agreement with management, and 16% of respondents reported having experienced role changes without proper documentation or consultation (see Figure 17). On the other hand, 13% of respondents expressed uncertainty about whether their roles had changed during the transition.

Figure 23. Transition from CRPs to Action Areas: Impact on Roles-ST SG

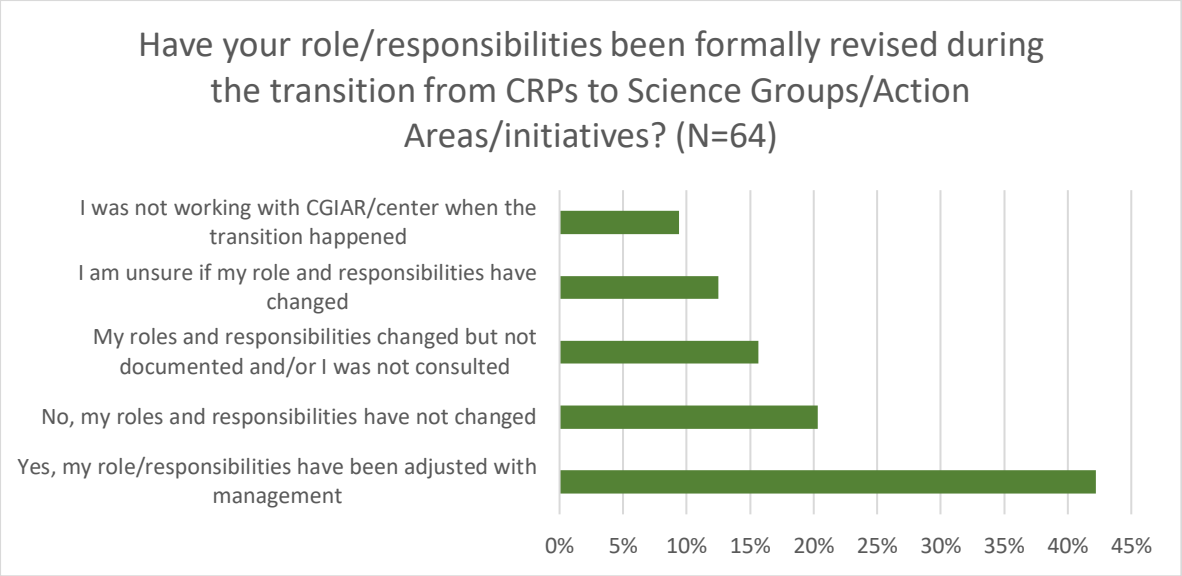
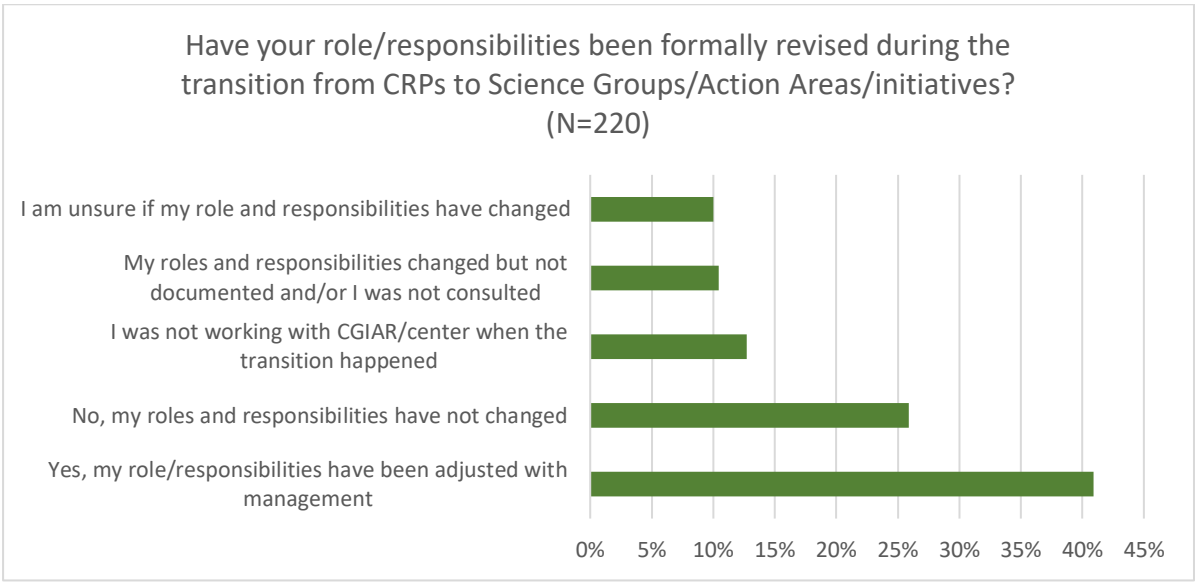
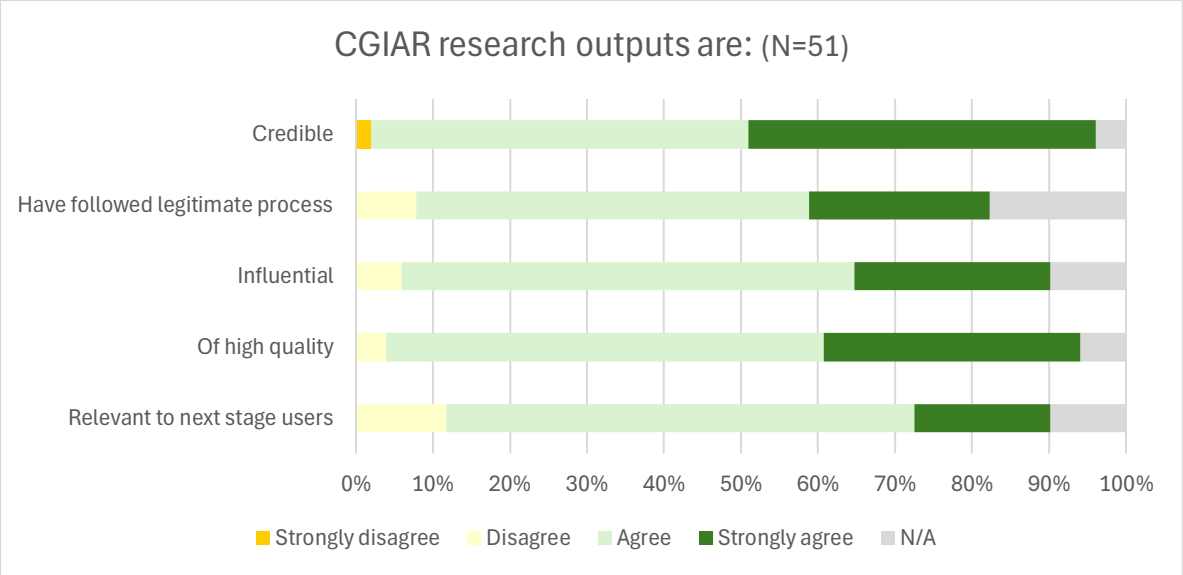


Figure 24. Transition from CRPs to Action Areas: Impact on Roles–all SGs



7.1.7 Quality of Science

Figure 25. Quality of CGIAR Outputs-ST SG



Survey results suggest that most respondents hold a positive view of CGIAR research outputs across various dimensions—credibility, quality, influence, relevance, and legitimacy. This indicates strong overall confidence in the work produced by CGIAR.

Credibility: CGIAR's research outputs are perceived as highly credible by almost all respondents (94%).

Quality: The quality of CGIAR's research is another area where stakeholders expressed high levels of satisfaction (90% of respondents agree that CGIAR's research outputs are of great quality).

Influence: CGIAR's research is viewed as highly influential by 84% of respondents.

Relevance to next-stage users: 79 % of respondents believe that CGIAR's research is relevant to next stage users, while 12% disagree (the highest percentage of disagreement compared to the other criteria).

Legitimacy of process; Finally, the perception that CGIAR's research follows a legitimate process is shared by 75% of respondents, while 8% disagree.

Factors perceived by some stakeholders to have affected the quality of the CGIAR scientific outputs:

- Funding uncertainty is prominent in the feedback from the stakeholders, with one comment noting that "funding uncertainty makes it difficult to plan proper research" and another commented that "funding or rather underfunding has limited delivery in some initiatives, forging new teams always needs time before effective, spreading work over many regions with initiatives is logistically challenging for 'global teams".
- The pressure to deliver a high number of outputs in a limited time was also mentioned by several stakeholders, with respondents noting that "sometimes products are rushed out and are lower quality than they should be", that "good research takes time" and that "leaders/teams being overcommitted has driven a push to produce as many outputs as possible regardless of the quality, which has also discouraged work-life balance, impacting wellbeing of staff and their ability to generate quality outputs".
- Reform fatigue and constant change, which increases the administrative burden, was also mentioned, one respondent noted "the constant organizational changes and funding adjustments have affected staff's morale" and another that "constant change has affected it negatively. We need to deliver on the current commitments, not engage in more change. Give it a chance to work!"

Figure 26. Influencing Transformative Changes-ST SG

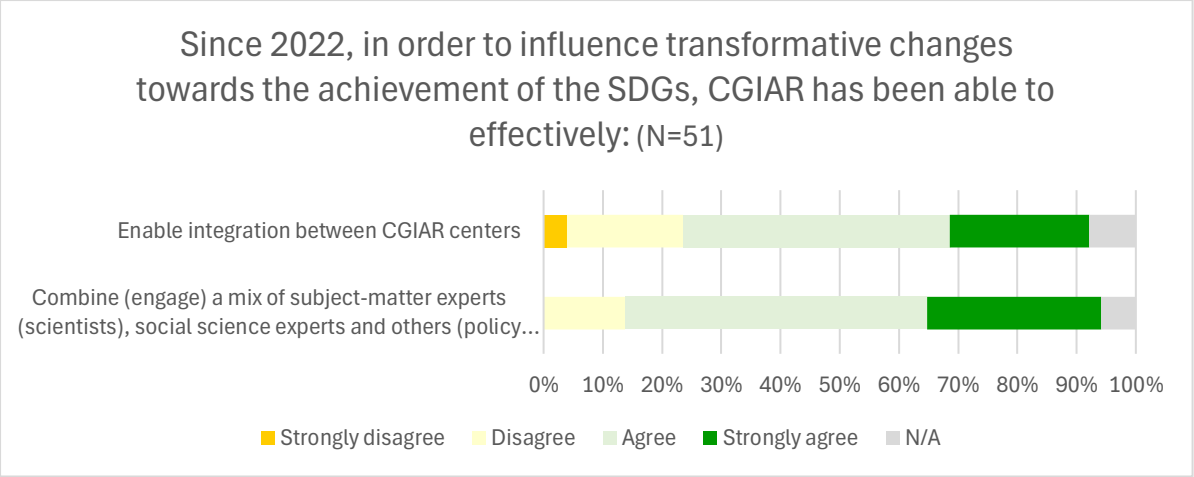


Figure 27. Engaging the Global South-ST SG

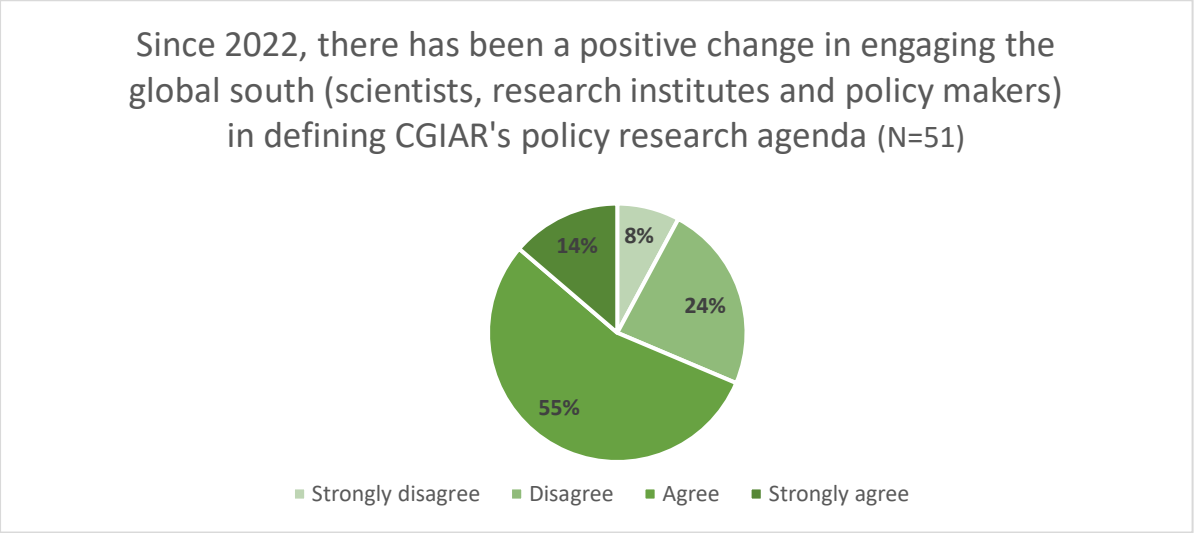


Figure 28. Rigor of CGIAR Scientific Methods–ST SG

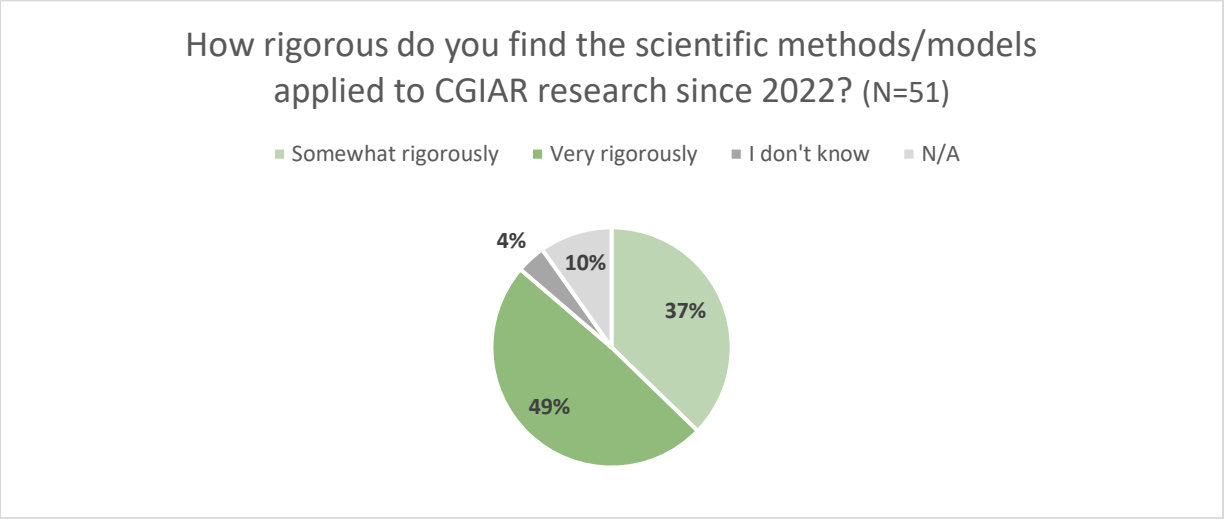
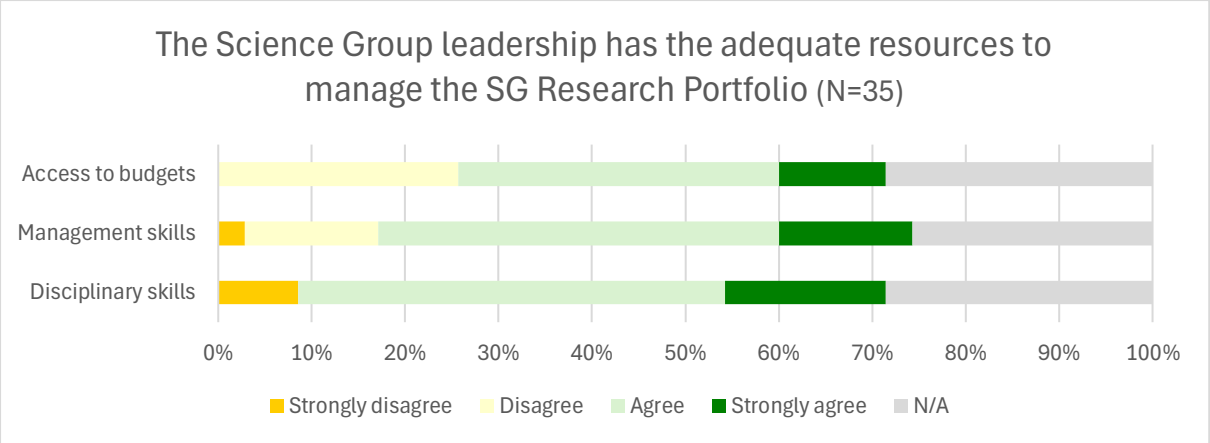
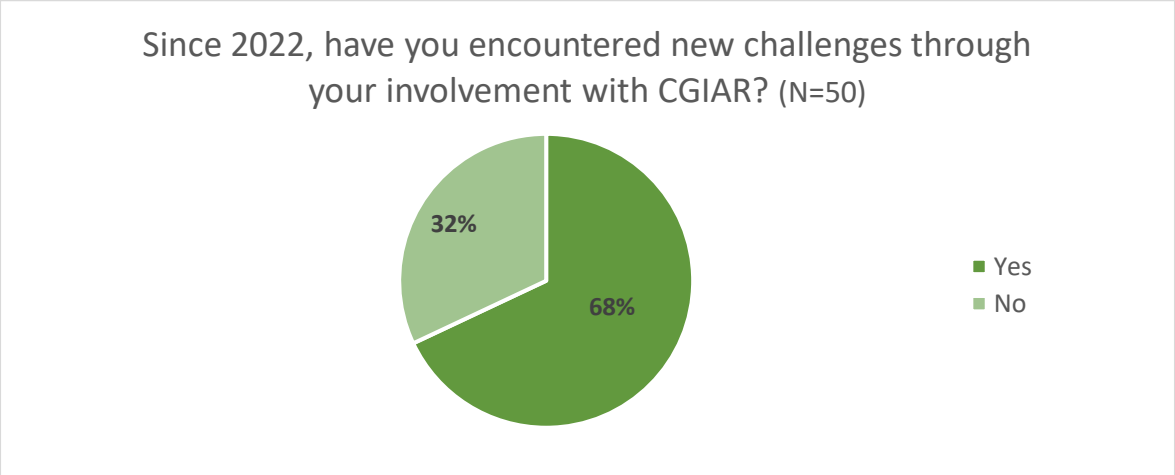


Figure 29. Resources to Manage the SG Research Portfolio-ST SG



7.1.8 New challenges since 2022

Figure 30. New Challenges since 2022 -ST SG



What challenges have you encountered since 2022? (N=34)

Respondents identified the following challenges:

- **Funding uncertainty:** Initiatives are budgeted every year which create challenges for their implementation as long-term activities. One respondent indicated that frequent changes in budget allocation late in the year have made them redraw budget documents, and revisit work plans and ToCs. Another respondent commented that budget decisions are made at SG level, but initiatives may not know the justification for decisions until much later, "if at all".
- **Constant organizational changes:** The rocky transition from CRPs to initiatives, and the cumbersome processes set up by Global Groups were mentioned, as well as unclear management decisions from the System Office and the lack of coordination on communications and outreach.
- **Administrative burden:** Some respondents lamented the fact that the administrative burden has increased since 2022, with more time spent on administrative tasks, reporting requirements and too many meetings.

7.1.9 Looking Forward

Considering CGIAR's comparative advantage, what role should it play towards achieving SDGs? At what level(s)? (N=24)

Respondents identified the following:

- Produce and deliver research and innovations, in collaboration with partners, being careful not to compete with them, but to complement them.
- Partner with local governments and with those who can use CGIAR research to design policies.
- Generate evidence to support the achievement of SDGs at national, regional, and global levels.
- Increase coordination at country level, which is still fragmented

Figure 31. Top Three Challenges of Evolving CGIAR Portfolio–ST SG

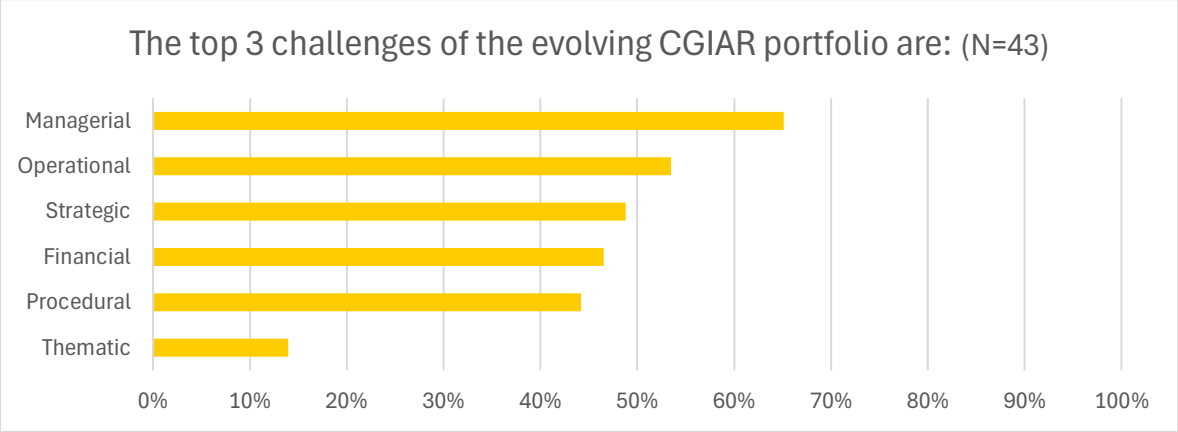


Table 5. Location of Respondents-ST SG

Country	Percentage of respondents	Number of respondents
United States of America	19%	12
India	16%	10
Colombia	14%	9
Italy	6%	4
Vietnam	6%	4
Sri Lanka	5%	3
Kenya	3%	2
Netherlands	3%	2
Peru	3%	2
Senegal	3%	2
Bangladesh	2%	1
Belgium	2%	1
Cambodia	2%	1
Canada	2%	1
Ethiopia	2%	1
France	2%	1
Germany	2%	1
Malawi	2%	1
Mexico	2%	1
Niger	2%	1
Nigeria	2%	1
Philippines	2%	1
Portugal	2%	1
Tanzania	2%	1
Total		**64**

Annex 8: Evaluation of Quality of Science

https://iaes.cgiar.org/evaluation/publications/applying-cgiar-quality-research-development-framework-process-and as referenced in the TORs

The commitment to research for development (R4D) shapes CGIAR's institutional identity, making QoS a cornerstone evaluation criterion within QoR4D framework. This framework describes research quality based on four key elements: relevance, scientific credibility, legitimacy, and effectiveness. The Quality of Science (QoS) evaluative criterion focuses on scientific credibility and legitimacy (see Guidelines). The QoS evaluation criterion is one of seven CGIAR evaluation criteria which underlines the identity of CGIAR as a global research for development (R4D) partnership and assures evaluative coverage of two elements of Quality of Research for Development (QoR4D) that are not explicitly covered by OECD/DAC criteria.

The evaluation assessed the QoS of research outputs and knowledge products across the CGIAR ST portfolio based on metrics such as journal impact factors, downloads, citations, Altimetric attention scores, and the substantive contribution of the research to advancing key topics relevant to each Initiative. The assessment considered peer-reviewed publications in high-impact journals as well as reports, briefs, tools, and other research products. The QoS EQ as presented in the ST SG evaluation report are:

EQ3 To what extent do the management processes of the SGs ensure QoS (including credibility, legitimacy, relevance to next stage users, and potential effectiveness) of the research and operations?

EQ4 In what ways are the research outputs[1] by the ST SG of high quality and influential?

EQ5 How do the research outputs contribute to advancing science?

a) How adequately did SG collaborate with CGIAR centers and/or their grants held bilaterally to enhance the scientific credibility of CGIAR?

b) How aligned is the research adhering to good scientific practice, including aspects such as peer review, to ensure the highest standards of credibility?

c) How did the ST SG collaborate with NARES to enhance the scientific credibility of CGIAR?

d) To what extent did the Integration Framework facilitate integration of science delivery for the ST SG?

e) What is the evidence that ST SG research initiatives been co-developed with researchers in the global south?

f) What is the evidence regarding how SG outputs influenced global discourses e.g., citing in scholarly research?

g) How effectively are the research findings presented and logically interpreted, reflecting a commitment to clear communication and comprehension?

h) What factors are influencing the quality and influence of research outputs and how can they be enhanced?

Key QoS findings from the evaluation are presented below. Box 1 together with Tables 6-8 provide illustrative examples of the QoS metrics and contributions for selected research outputs for the Nutrition, Climate Resilience, and Transformative Agroecology case studies as well as the Strengthening National Policies deep dive.

1. **Key findings from the ST evaluation:**

Management processes and methodological rigor - CGIAR maintains high standards of scientific quality through robust management processes and credible methodologies. These are essential in ensuring the reliability and verification of research outputs across various initiatives.

Strengths: All case studies reflect the use of robust management and credible methodologies. Interdisciplinary approaches enhance the comprehensiveness and impact of scientific outputs, aligning closely with community needs and enhancing the practical applicability and legitimacy of research.

Areas for Improvement: There is a recognized need to continuously refine methodologies to integrate new scientific advances. Additionally, the enhancement of frameworks for interdisciplinary collaboration is needed to overcome the challenges posed by diverse terminologies and methodologies across fields.

Stakeholder engagement and practical applicability - Active engagement with stakeholders ensures that the research remains relevant and practically applicable, crucial for maintaining the legitimacy of the scientific work.

Strengths: Strong stakeholder engagement practices ensure that initiatives are well-aligned with community needs and are practical and sustainable.

Areas for Improvement: Bridging the gap between scientific research and its practical application on the ground is crucial. This requires more targeted outreach and improved communication strategies to enhance the translation of research into practice.

Influence and scaling of research outputs - The potential of research outputs to influence policy and practice is a significant marker of QoS.

Strengths: The case studies highlight the strategic focus on producing influential outputs that can scale and address broader societal issues effectively.

Areas for Improvement: The actual scaling of research findings into broader applications is limited and requires enhanced partnerships with policymakers and industry stakeholders to improve the scaling process.

Capacity development for science - Developing research capacity, particularly among young researchers and within local contexts, is vital for sustaining the quality and applicability of research over time.

Strengths: Building research capacity is emphasized as crucial, especially among emerging scientists and within the local contexts where CGIAR operates.

Areas for Improvement: There is a need for more structured and sustained investment in capacity-building programs to develop a broader pool of skilled researchers.

Lessons Learned:

A. Continuous Methodological Improvement - Updating and refining methodologies continuously to keep pace with scientific advancements enhances the credibility and applicability of research.
B. Enhancing Interdisciplinary Collaboration - Developing improved frameworks for interdisciplinary collaboration can help integrate multiple scientific perspectives more effectively.
C. Bridging Research and Practice - Developing strategies for better communication and practical application of research findings is essential to enhance their impact.
D. Strengthening Partnerships for Scaling - Forming and maintaining strong partnerships with policymakers and industry stakeholders are crucial for the effective scaling of research outputs.

Conclusion:

CGIAR's commitment to maintaining high standards of scientific quality is evident across its initiatives. The organization successfully integrates robust management processes, credible methodologies, and strong stakeholder engagement to enhance the legitimacy and practical applicability of its research. However, continuous improvement in methodology, collaboration frameworks, communication strategies, scaling mechanisms, and capacity building remains essential to further enhance the quality and impact of scientific research

Box 1. Examples of Quality Outputs Sampled for the Nutrition Case Study and National Policies Deep Dive

1. Knowledge Platform for Inclusive and Sustainable Markets (KISM) https://www.kismfoodmarkets.org/
The KISM platform is a gateway to help farmer organizations, food businesses, governments, and practitioners access cutting-edge research and tools on innovative food systems and markets for better-informed decisions on inclusive and sustainable food value chains.

Three meta-studies were completed that have helped inform the design of the innovations being piloted in the different contexts. An updated set of internationally comparable policy indicators that help assess the type of incentives provided to agricultural producers and value chain actors was expanded and enhanced in partnership with FAO, the IDB, OECD and the World Bank (http://agincentives.stage.ifpri.info/). It was applied for global scenario analysis showing potential win-win-win outcomes of repurposing existing support for better food system outcomes through poverty reduction, increased accessibility of healthy diets, and lower greenhouse gas emissions. In 2023, stakeholder workshops, webinars, scoping studies, and innovation testing were carried out in Bangladesh, Ethiopia, Honduras, Nigeria, Uganda, and Uzbekistan with thousands of farmers in each country.

Workshop reports, Blogs, News, Power Points:

- https://www.cgiar.org/news-events/news/expert-consultation-workshop-shrimp-value-chain-in-bangladesh/
- https://www.ifpri.org/blog/measuring-extent-risky-practice-using-toxic-chemicals-cattle-tick-control-uganda
- https://www.cgiar.org/news-events/news/measuring-the-extent-of-a-risky-practice-using-toxic-chemicals-on-cattle-for-tick-control-in-uganda
- https://www.cgiar.org/news-events/news/rethinking-food-markets-initiative-stakeholders-workshop-in-nigeria/
- https://alliancebioversityciat.org/publications-data/avances-en-la-investigacion-de-innovaciones-en-la-cadena-de-valor-de-granos
- https://alliancebioversityciat.org/publications-data/diseno-experimental-de-estudio-piloto-productores-de-frijol-en-honduras

2. Consumption and dietary intake of fruit and vegetables
Researchers expanded the evidence base through literature reviews and secondary data analysis for each focal country, exploring knowledge across the Fruit & Vegetable value chain. Continued analysis of the impact of the combined agriculture and behavior change to climate change adaptation approach showed positive impacts on micronutrient intake in Sri Lanka as well as dietary patterns in Benin.

Working paper and research briefs:

- https://www.cgiar.org/research/publication/consumption-dietary-intake-fruits-vegetables-sri-lanka-focus-traditional-indigenous-fruits-vegetables
- https://www.cgiar.org/news-events/news/fresh-participates-in-9th-joint-multisectoral-nutrition-review-jmnr-in-tanzania/

3. Strengthening formal vegetable seed systems in Benin
A policy brief was written to propose strategic actions for strengthening formal vegetable seed systems (in Benin)
Policy Brief: https://worldveg.tind.io/record/75811?v=pdf

4. Post-harvest losses
Studies on postharvest losses were conducted in Benin, the Philippines, and Tanzania. In the Philippines, food loss assessment studies were conducted in urban markets.

Reviews and working papers
- https://cgspace.cgiar.org/items/f289d43f-b8e8-4566-b5ce-b1efdc29dac8
- https://cgspace.cgiar.org/items/676da2c7-a7c1-4c7c-9fc6-95e6d65e70f7
- https://cgspace.cgiar.org/items/5126f41b-43fc-4042-8bde-fdb9f7f5c1c8

5. Sustainable healthy diets
In 2022, knowledge products provided evidence on (a) the consumption patterns of marginalized groups and their individual and food environment drivers (30% of the total); and (b) promising solutions to improve consumption of sustainable healthy diets and/or overcome barriers limiting the provision of sustainable nutritious foods (22% of the total). These knowledge products and the new evidence generated through research will contribute to building the body of research needed to design and test solutions to increase the demand for sustainable healthy diets and/or improve the ability of micro, small, and medium-sized enterprises (MSMEs) and the informal sector to deliver sustainable nutritious foods.

Reports, e-course, working paper, journal articles*:
- https://www.fao.org/nutrition/education/food-dietary-guidelines/regions/countries/ethiopia/en/
- https://www.cgiar.org/news-events/news/launch-of-the-food-systems-governance-e-course/
- https://cgspace.cgiar.org/items/f868b2d8-07a6-4ce0-a395-65f190962ad8
- https://cgspace.cgiar.org/items/3c53f097-5232-4df0-87f2-c7dcbe185ccc

*Bene, C. et al. (2022) Can economic development be a driver of food system sustainability? Empirical evidence from a global sustainability index and a multi-country analysis. PLOS Sustainability and Transformation 1(5): e0000013. 25 p. ISSN: 2767-3197; https://cgspace.cgiar.org/items/73e2bad8-77da-4b62-8559-647a20c1b0f3 - Attracted an AAS of 29 with eight citations
*Herens, M.C. et al. (2022) Transforming food systems: Multi-stakeholder platforms driven by consumer concerns and public demands. Global Food Security 12: 100592; https://www.sciencedirect.com/science/article/pii/S2211912421001000?via%3Dihub - Attracted an AAS of 2 with 19 citations

In 2023, knowledge products provided evidence on (a) promising solutions to improve consumption of sustainable healthy diets and/or overcome barriers limiting the provision of sustainable nutritious foods; (b) lessons learned from other sector transformations; and (c) consumption and food environment drivers. This new evidence will contribute to building the body of research needed to test solutions to increase the demand for sustainable healthy diets and/or improve the ability of MSMEs and the informal sector to deliver sustainable nutritious foods.

Noteworthy achievements include supporting the development and implementation of Vietnam's National Action Plan for Food Systems Transformation and the development of a Training of Trainers program to bolster expertise in food systems governance.

Two large, complex surveys in Vietnam and Ethiopia were completed in Year 2. Both were conducted in collaboration with local partners, NIN and the Mekong Development Research Institute in Vietnam and EPHI and Laterite in Ethiopia. Across both countries, this has generated food environment data from more than 5,000 households and 10,000 food outlets and unique insights into adolescents, their mothers and their food environments and the MSMEs selling food.

Table 6. Altimetric Attention Scores (AASs) for the 10 most Influential Publications Nutrition Case Study and Strengthening Policies Deep Dive

Publication	Journal	AAS	Downloads	Citations
The state of food systems worldwide in the countdown to 2030 https://doi.org/10.1038/s43016-023-00885-9	Nature Food	582 (99th percentile)	48K	16
Act now before Ukraine war plunges millions into malnutrition https://doi.org/10.1038/d41586-022-01076-5	Nature	424 (99th percentile)	N/A	N/A
Four ways blue foods can help achieve food system ambitions across nations https://doi.org/10.1038/s41586-023-05737-x	Nature	292 (99th percentile)	23K	33
Changes in children's and adolescents' dietary intake after the implementation of Chile's law of food labeling, advertising and sales in schools: A longitudinal study https://doi.org/10.1186/s12966-023-01445-x	International Journal of Behavioral Nutrition and Physical Activity	77 (96th percentile)	5931	5
Resilience and food security in a food systems context https://doi.org/10.1007/978-3-031-23535-1	Book	88 (96th percentile)	75K	24
Aquaculture governance: five engagement arenas for sustainability transformation https://doi.org/10.1016/j.cosust.2023.101379	Current Opinion in Environmental Sustainability	76 (95th percentile)	N/A	6
Food consumption–production response to agricultural policy and macroeconomic change in Nigeria https://doi.org/10.1002/aepp.13161	Applied Economic Perspectives and Policy	41(95th percentile)	N/A	9
How do food safety concerns affect consumer behaviors and diets in low- and middle-income countries? A systematic review https://doi.org/10.1016/j.gfs.2021.100606	Global Food Security	39 (90th percentile)	N/A	50
Food inflation and child undernutrition in low- and middle-income countries https://doi.org/10.1038/s41467-023-41543-9	Nature Communications	41 (90th percentile)	6714	8
Measuring consumption over the phone: Evidence from a survey experiment in urban Ethiopia https://doi.org/10.1016/j.jdeveco.2022.103026	Journal of Development Economics	33 (85th percentile)	N/A	12

Table 7. Example of Assessment of QoS Metrics-Climate Resilience & Agroecology Case Study

Reference	Journal Impact Factor	No. downloads & accesses	No. citations	Altimetric notes	Contribution/Notes
Climate Resilience Case Study					
Breure, Timo S., Natalia Estrada-Carmona, Athanasios Petsakos, Elisabetta Gotor, Boris Jansen, and Jeroen C. J. Groot. "A Systematic Review of the Methodology of Trade-off Analysis in Agriculture." *Nature Food* 5, no. 3 (March 1, 2024): 211–20. https://doi.org/10.1038/s43016-024-00926-x.	23.2	6142	1	In the 94th percentile (ranked 15,961st) of the 297,482 tracked articles of a similar age in all journals and the 58th percentile (ranked 14th) of the 34 tracked articles of a similar age in *Nature Food*	Highlights critical aspects for trade-off analysis to guide agricultural landscapes towards climate-smart practices.
Bullock, Renee Marie, Philip Miriti, and Tanaya DuttaGupta. "Young Women's and Men's Climate Adaptation Practices and Capacities in Kenya Livestock Production Systems." *Frontiers in Sustainable Food Systems* 7 (December 14, 2023). https://doi.org/10.3389/fsufs.2023.1197965.	5.3	948	0	Above-average attention Score compared to outputs of the same age (60th percentile).	Provides recommendations for inclusive and sustainable policies that provide support to youth in livestock and strengthen their adaptation capacities.
Chevallier, Romy. "Strengthening Africa's Climate-Smart Agriculture and Food Systems through Enhanced Policy Coherence and Coordinated Action." *South African Journal of International Affairs* 30, no. 4 (October 2, 2023): 595–618. https://doi.org/10.1080/10220461.2024.2318712.	1.1	712	1	Altmetric score = 10. News=1; Twitter = 2; Mendeley = 1	Explores actions to strengthen and better align Africa's climate adaptation and mitigation responses in the agricultural sector, with far-reaching policy recommendations.
Cramer, Laura, Todd Crane, and Art Dewulf. "Knowledge Brokers within the Multiple Streams Framework: The Science-Policy Interface for Livestock and Climate Change Discussions in Kenya." *Environmental Science & Policy* 147 (September 1, 2023): 44–56. https://doi.org/10.1016/j.envsci.2023.05.018.	6	37	2	72 reads and downloads	Refines the concept of knowledge brokers and establish their role across problem, policy and political streams in meeting dual adaptation and mitigation needs. Applies the Multiple Streams Framework in a lower income country and demonstrate that international organizations must be among the actors considered.
Dolinska, Aleksandra, Emeline Hassenforder, Ana María Loboguerrero Rodriguez, Benjamin Sultan, Jérôme Bossuet, Jeanne Cottenceau, Michelle Bonatti, et al. "Co-Production Opportunities Seized and Missed in Decision-Support Frameworks for Climate-Change Adaptation in Agriculture – How Do We Practice the 'Best Practice'?" *AGRICULTURAL*	6.6	31	1	7 tweets, 1 Facebook page, 29 Mendeley	Best practices to shift from research-led processes of decision-support towards co-production with non-academic actors, bridging the gaps between science, policy and practice.

Reference	Journal Impact Factor	No. downloads & accesses	No. citations	Altimetric notes	Contribution/Notes
SYSTEMS 212 (December 1, 2023): 103775. https://doi.org/10.1016/j.agsy.2023.103775.					
Hellin, Jon, Giriraj Amarnath, Andrew Challinor, Eleanor Fisher, Evan Girvetz, Zhe Guo, Janet Hodur, et al. "Transformative Adaptation and Implications for Transdisciplinary Climate Change Research." *Environmental Research: Climate* 1, no. 2 (September 22, 2022): 023001. https://doi.org/10.1088/2752-5295/ac8b9d.	Not listed	4368	10	Picked up by 6 news outlets Blogged by 1 Posted by 23 X users On 2 Facebook pages 27 readers on Mendeley	Maps out a research agenda for change in the climate response, from an incremental to a more far-reaching and radical transformative one. How agricultural research can more readily contribute to transformative adaptation, along with the personal and practical challenges.
Hellin, Jon, Eleanor Fisher, Mary Ng'endo, Ana María Loboguerrero, Nyang'ori Ohenjo, and Sabrina Rose. "Enhancing Indigenous Peoples' Participation in Climate Policy Processes." *PLOS Climate* 3, no. 4 (April 1, 2024): e0000392. https://doi.org/10.1371/journal.pclm.0000392.	Not listed	1261	0	17 shares on Twitter	Applies a social equity lens to enhancing Indigenous Peoples' participation in climate policy processes. The premise of climate justice, tackling the root causes of complex inequalities and making political choices about the (re)distribution of benefits.
Läderach, Peter, Bina Desai, Grazia Pacillo, Shalini Roy, Katrina Kosec, Sandra Ruckstuhl, and Ana Maria Loboguerrero. "Using Climate Financing Wisely to Address Multiple Crises." *PLOS Climate* 3, no. 2 (February 13, 2024): e0000355. https://doi.org/10.1371/journal.pclm.0000355.	Not listed	1063	0	23 discussions on Twitter	Evaluates existing financing mechanisms for their potential to create synergies between social protection, peace, and inclusion objectives on the one hand and climate resilience outcomes on the other.
Nelson, Gerald C., Jennifer Vanos, George Havenith, Ollie Jay, Kristie L. Ebi, and Robert J. Hijmans. "Global Reductions in Manual Agricultural Work Capacity Due to Climate Change." *Global Change Biology* 30, no. 1 (2024): e17142. https://doi.org/10.1111/gcb.17142.	11.6	2690	5	2690 accesses	Physical work capacity metric (PWC) estimates an individual's work capacity relative to an environment without any heat stress. Computed PWC under recent past and potential future climate conditions, from five earth system models for three emission scenarios. Recommendations for shifting to less labor-intensive crops or crops with labor peaks in cooler periods or shift work to early morning.
Rosenstock, Todd S., Namita Joshi, Alcade C. Segnon, Laura Cramer, Caroline Mwongera, Andreea C. Nowak, Lucy Njuguna, Elliot R. Dossou-Yovo, Peter Steward, and Julian Ramirez-Villegas. "Decision Support Tools for Agricultural Adaptation in Africa." *Nature Food* 5, no. 3 (March 1, 2024): 186–88. https://doi.org/10.1038/s43016-024-00936-9.	23.2	315	0	This article is in the 80th percentile (ranked 64,596th) of the 334,715 tracked articles of a similar age in all journals and the 43rd percentile (ranked 21st) of the 37 tracked articles of a similar age in *Nature Food*	Discusses the challenges and opportunities in designing Decision Support Tools (DSTs) for agricultural adaptation in Africa, focusing on enhancing their effectiveness in light of climate change. Calls for blending scientific and local knowledge to create more impactful adaptation strategies.

Reference	Journal Impact Factor	No. downloads & accesses	No. citations	Altimetric notes	Contribution/Notes
Transformative Agroecology Case Study					
Sarah K et al. (2022) Research strategies to catalyze agroecological transitions in low and middle-income countries. Sustainability Science Journal - https://link.springer.com/article/10.1007/s11625-022-01163-6	6.8	5902 downloads and 6399 accesses;	5	Altimetric score 23.	Article involved collaboration among researchers from various CGIAR centers at the multi-institute, multi-county and north and south. The article suggests strategies and priorities for research to better support agroecological transitions using these catalysts of change as entry points. It underscores that the engagement of governments, private sector, civil society, farmers and farm workers in this research agenda is essential.
Waeber, Patrick O.; Carmenta, Rachel; Estrada Carmona, Natalia; Garcia, Claude A.; Falk, Thomas; Zhang, Wei; et al. 2023. Structuring the complexity of integrated landscape approaches into selectable, scalable, and measurable attributes. Environmental Science and Policy 147(2023): 67-77. https://doi.org/10.1016/j.envsci.2023.06.003	4.9	88	33		Article involved collaboration among researchers from various CGIAR centers at the multi-institute, multi-county and north and south. The article presents the 'Integrated landscape approaches (ILA) mixing board,' a tool developed a tool—to structure the complexity of ILA into selectable and scalable attributes in a replicable way to allow planning, diagnosing, and comparing ILA. The application of the tool would allow comparative analysis of the complexity of ILA in a structured and manageable way thereby enhancing the understanding of ILA performance and informing the development of evidence-based land use policy.
Prasanna M. B., Carvajal-Yepes M., Kumar P. L., Kawarazuka, N., Liu, Y., Mulema A. A., McCutcheon, S., Ibabao, X. (2022). Sustainable management of transboundary pests requires holistic and inclusive solutions. *Food Security* 14, 1449–1457. https://doi.org/10.1007/s12571-022-01301-z	5.9	4833 downloads and 5000 accesses	10	Altimetric value of 20	Joint publication involving Scientists from CGIAR centers and International Development Research Centre. The article presents reflections with clear pointers that major pests and diseases low- and middle-income countries in Africa, Asia and Latin America can be controlled through integrated approaches, further multi-institutional and multi-disciplinary efforts. Furthermore, plant health management requires stronger interface between the biophysical and social sciences, and empowerment of local communities.
Ferguson, Amy; Murray, Catherine; Tessema, Yared Mesfin; McKeown, Peter C.; Reymondin, Louis; Loboguerrero, Ana Maria; Talsma, Tiffany; Allen, Brenden; Jarvis, Andy; Golden, Aaron; Spillane, Charles. 2022. Can remote sensing enable a Biomass Climate Adaptation Index for agricultural systems? Frontiers in Climate. https://doi.org/10.3389/fclim.2022.938975	3.3	363 are downloads,	1	Altimetric score of 6	Article involved collaboration among researchers from various CGIAR centers at the multi-institute, multi-county and north and south. The article presents a "Biomass Climate Adaptation Index" (Biomass CAI) for agricultural systems, where climate adaptation progress across multiple scales can be measured by satellite remote sensing. The Biomass CAI can be used at global, national, landscape and farm-level to remotely monitor Agri-biomass productivity associated with adaptation interventions, and to facilitate more tailored "precision adaptation". The Biomass CAI places focus on decision-support for end-users to ensure that the most effective climate change adaptation investments and interventions can be made in agricultural and food systems.

Table 8. Example Analysis of Reports and Briefs (QoS)-Climate Resilience and Transformative Agroecology Case Studies

Publication	Relevance/Explanation
1. Climate Resilience	
Alahacoon, Niranga, and Giriraj Amarnath. "Climate Smart Governance Dashboard: Technical Guide." International Water Management Institute (IWMI). CGIAR Initiative on Climate Resilience, December 1, 2023. https://hdl.handle.net/10568/139292.	The Climate-Smart Governance (CSG) Dashboard is an innovative platform, providing data on climate-related hazards, vulnerability, climate scenarios, and sector-specific information. It plays a crucial role in supporting nations undertaking the UNFCCC National Adaptation Plan (NAP) process. It enhances adaptive capacity and resilience, minimizing vulnerability to climate change impacts.
Alvi, Muzna, Farha Sufian, Claudia Ringler, Tushar Singh, Ezaboo Beniwal, and Sehrish Raja. "Women's Empowerment and Energy Access: Insights from India, Nepal, and Pakistan." CGIAR, December 31, 2023. https://hdl.handle.net/10568/137410.	This policy note identifies indicators that reflect women's and men's agency in the context of energy use and develops a first version of the Women's Empowerment in Energy Index (WEEI) to measure changes in women's agency over time.
Ciat, Alliance of Bioversity International and, Kenya Ministry of Agriculture and Livestock Development, and Climate Smart Agriculture Multi-Stakeholder Platform. "Kenya National Climate Smart Agriculture (CSA) Monitoring and Evaluation Framework. Climate Action Reporting Requirements. [Module 1]," February 21, 2023. https://hdl.handle.net/10568/129160.	Aims to strengthen the capacity of the agriculture sector to implement, monitor, and report adaptation actions in a transparent manner at both national and county levels. To achieve this, the project has developed three training modules that will help to operationalize the CSA reporting tool for the agriculture sector. This will increase stakeholders' knowledge on the need to track, report, and increase transparency in the reporting of adaptation actions.
Fredenberg, Emily, Kevin A. Karl, Simone Passarelli, Jaron Porciello, Vieshnavi Rattehalli, Amy Auguston, Gracian Chimwaza, et al. "Vision for Adapted Crops and Soils (VACS) Research in Action: Opportunity Crops for Africa," 2024. https://doi.org/10.7916/3hd1-8t86.	The Vision for Adapted Crops and Soils (or "VACS") brings together dedicated communities and individuals from research, advocacy, and policy to shine a light on opportunities that opportunity crops provide to build more resilient and food systems. Scaling up production and access to more diverse, climate-resilient crop varieties that support good nutrition and better. This report outlines the guiding concepts of the VACS approach, provides an overview of the research conducted and recommends areas of focus for the movement going forward as well as ways to engage in VACS.
Ingasia, Oscar Ayuya, Arnold Jong Otieno, Getrude Alworah Okutoyi, Eileen Bogweh Nchanji, Cosmas Kweyu Lutomia, Boaz Shaban Waswa, and Fredrick Ochieng Ouya. "Training and Field Report: Identifying and Measuring the Effectiveness of Different Combination of Socio-Technical Innovation Bundles on Empowerment and Resilience in Kenya," November 21, 2023. https://hdl.handle.net/10568/134704.	The report identifies and prioritizes socio-technical bundled innovations for women's empowerment and resilience. Looks at missing social innovations providing evidence about the reasons for women's limited uptake of innovations and developing decision-support tools to guide the design and implementation of STIBs, particularly paying attention to gender and social inclusion.
Kenduiywo, Benson, Telvin Denje, Gracsious Maviza, Shadrack Auma, Linda Ogallo, Kemoli Sagala, and Kenneth Mwangi. "Climate Security: Resilience, Fragility and Displacement in the Borderlands of the Horn of Africa," August 2023. https://hdl.handle.net/10568/131733.	The report discusses the complex interplay between climate change, insecurity, and conflict in Eastern Africa, emphasizing the need for integrated and multilateral approaches to address these issues. Key pathways such as threats to food and water security, climate-induced mobility, historical grievances, and governance challenges are highlighted. It calls for comprehensive planning, cross-disciplinary approaches, climate security-sensitive interventions, and enhanced coordination among member states to manage climate change impacts, promote stability, and attract climate finance.
Mohammed, Kamaldeen, Dina Najjar, and Elizabeth Bryan. "Women's Resilience and Participation in Climate Governance in the Agri-Food Sector: A Strategic Review of Public	The review emphasizes government policies that promote women's agency and voices in climate change resilience at multiple scales; national frameworks for integrating gender in climate policy, and women's resilience capacities in the agri-food sector. The review also details how and under what conditions these

Publication	Relevance/Explanation
Policies." International Center for Agricultural Research in the Dry Areas, December 1, 2022. https://hdl.handle.net/10568/126986.	policies succeed in enabling women to acquire voice and agency in climate change resilience through specific well-being outcomes.
Murabula, Sarah, Lennart Hientz, Brenda Binge, Caroline Mwongera, Cyrus K. Muriithi, Ivy Wambui Kinyua, and Jamleck Osiemo. "The ABC of Crop Insurance as a Risk Management Tool: A Manual for Farmers," April 1, 2023. https://hdl.handle.net/10568/130263.	A farmer guide to provide them with information on crop insurance such as the advantages of crop insurance, types of crop insurance, what to consider when choosing an insurance policy, the claims process, and the costs associated with crop insurance. It has three main objectives 1) To enhance your understanding of crop insurance for better decision making 2) To simplify crop insurance and related concepts. 3)To increase your awareness of the role of crop insurance in agricultural risk management.
Nico, Gianluigi, and Carlo Azzarri. "Weather Variability and Extreme Shocks in Africa: Are Female or Male Farmers More Affected?" 0 ed. Washington, DC: International Food Policy Research Institute, 2022. https://doi.org/10.2499/p15738coll2.135870.	N/A 107 downloads, 304 views Objective of this study is to empirically quantify how women and men differentially adapt their intensity of participation in agricultural employment under weather variability and extreme climatic events. Heat waves and reduce the number of hours worked by 40% and 14% in case of a heat wave or drought event, respectively.
Pacillo, Grazia. "ClimBeR Analyses Position Climate-Security Risks at the Top of National, Regional, and Pan-African Policy Agendas for a More Resilient and Peaceful Future.," 2024. https://hdl.handle.net/10568/141797.	Increased African negotiators' and policymakers' capacities and knowledge on climate security issues in Africa.
Rutting, Lucas, Marieke Veeger, and Breymann F. Randolph Von. "Disruptive Seeds and Transformation Pathways for Guatemala's Food System." CGIAR Initiative on Climate Resilience, February 1, 2023. https://hdl.handle.net/10568/128635.	Summarizes the Disruptive Seeds approach to transformative change and briefly explains how it is applied in the context of ClimBeR's Policy Pathways research in Guatemala. It also highlights a few promising seed initiatives (i.e., sustainable, bottom-up initiatives that can contribute to transformative change).
2. Transformational agroecology	
Koo, Jawoo; and Goss, Courtney. 2023. ICTforAg 2023: Cultivating inclusion. Digital Innovation Technical Note. Washington, DC: International Food Policy Research Institute (IFPRI).	The report presents the proceedings of the ICTforAg, an annual convening where agricultural stakeholders and technology experts come together to share knowledge, find solutions, and form partnerships to address challenges in agri-food systems across low- and middle-income countries. The ICTforAg provides a platform for growing communities and catalyzing meaningful conversations, insights, and collaborations, increase participation of participants from the developing world, promote knowledge sharing and learning, and inspire practitioners to develop inclusive and sustainable ICT solutions.
Boubaker Dhehibi, Asma Souissi, Aymen Frija, Hassen Ouerghemmi, Veronique Alary, Zied Idoudi, Udo Rudiger, Mourad Rekik, Mohamed Zied Dhraief, Meriem Oueslati Zlaoui, Rihab Mejri, and Mourad Ouji. Value chain analyses and actors mapping: Case of Tunisia.	The value chain analyses proposed an olive oil business model to encourage the olive producers to produce a labelled olive oil to improve their revenues, enhance livelihoods and create a system of values that includes land (terroir).
Balana, Bedru B.; and Fasoranti, Adetunji S. 2022. A historical review of fertilizer policies in Nigeria. IFPRI Discussion Paper 2145. Washington, DC: International Food Policy Research Institute (IFPRI). https://doi.org/10.2499/p15738coll2.136448	This discussion paper presents the historical review of fertilizer policies in Nigeria. Thus, it highlights the key factors affecting limiting the functionality of the fertilizer value chains. It also denotes that the newly adopted national agricultural policy (National Agricultural Technology and Innovation Policy (NATIP) promises to build on ATA and APP and gradually deregulate the fertilizer sector to incentivize private sector investments in local fertilizer production and distribution. NATIP also requires the incorporation of practical approaches to tackle important exogenous constraints. There is anticipation that the NATIP's commitment to policy continuity and addressing exogenous challenges will bring efficiency and effectiveness to the fertilizer sector in Nigeria.

Annex 9: List of Documents Consulted

CGIAR ST Narrative, https://www.cgiar.org/portfolio-narrative/action-area-focus/systems-transformation/.

Proposals

- Haan, N. de and Gilligan, D. 2021. *Harnessing gender and social equality for resilience in agrifood systems.* Proposal. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/121107
- Katrina Kosec, K., Laderach, P. and Ruckstuhl, S. 2022. *Fragility, Conflict, and Migration*. Proposal. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/128445
- Koo, J. and Gardeazabal, A. 2021. *Harnessing digital technologies for timely decision-making across food, water, and land systems*. Proposal. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/121103
- Loboguerrero Rodriguez, A.M. and Hellin, J. 2021. *Building systemic resilience against climate variability and extremes*. Proposal. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/121114
- Njuki, J. and Nicol, A. 2021. *National Policies and Strategies for Food, Land and Water Systems Transformation. Proposal*. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/121129
- Olney, D., Singh, R.G. and Schreinemachers, P. 2021. *Fruit and vegetables for sustainable healthy diets*. Proposal. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/121106
- Quintero, M. and McCartney, M. 2021. *Transformational Agroecology across Food, Land, and Water systems.* Proposal. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/121133
- Ruel, M. and Lundy, M. 2021. *Sustainable Healthy Diets through Food Systems Transformation.* Proposal. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/121132
- Uhlenbrook, S. and Ringler, C. 2021. *Realizing multiple benefits across water, energy, food and ecosystems (forests, biodiversity).* Proposal. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/121130
- Verchot, L. and Zhang, W. 2021. *Mitigation and Transformation Initiative for GHG reductions of Agrifood systems RelaTed Emissions*. Proposal. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/121134
- Vos, R. and Wiegel, J. 2021. *Rethinking Food Markets and Value Chains for Inclusion and Sustainability*. Proposal. Montpellier, France.: CGIAR System Organization. https://hdl.handle.net/10568/121131
- Wiebe, K. and Gotor, E. 2021. *Foresight and Metrics to Accelerate Food, Land, and Water Systems Transformation*. Proposal. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/121135

Inception Briefs

- CGIAR System Organization. 2022. CGIAR Initiative on Agroecology: Inception Brief. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/125112
- CGIAR System Organization. 2022. CGIAR Initiative on Climate Resilience: Inception Brief. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/125101
- CGIAR System Organization. 2022. CGIAR Initiative on Digital Innovation: Inception Brief. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/125108

- CGIAR System Organization. 2022. CGIAR Initiative on Foresight: Inception Brief. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/125104
- CGIAR System Organization. 2022. CGIAR Initiative on Fruits and Vegetables: Inception Brief. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/125103
- CGIAR System Organization. 2022. CGIAR Initiative on Gender Equality: Inception Brief. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/125105
- CGIAR System Organization. 2022. CGIAR Initiative on Low-Emission Food Systems: Inception Brief. Montpellier, France: CGIAR System Organization. https://hdl.handle.net/10568/125106
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Annex 10: Updates on Recommendations from 2021 Synthesis and Lessons Learned from a Decade of CGIAR Research Programs

As part of the 2021 Synthesis and Lessons Learned from a Decade of CGIAR Research Programs, CGIAR Advisory Services (CAS) produced separate briefs for each Action Area. The brief revealed valuable lessons and recommendations for future research programs within One CGIAR. Key recommendations are detailed in the following table:

Table 9. 2021 Recommendations for ST Action Area

Rec AA/CGIAR	Recommendation	Management response	Action plan	Timeframe	Status	Update ST evaluation team
One GCIAR	Prioritize partnership development and stakeholder engagement. Develop and implement a systemwide strategy for equitable engagement and effective communication with partners and stakeholders of all categories in the foresight, planning, delivery, and follow-through of CGIAR research, with metrics derived from partner perspectives.	EMT and the System Board support this recommendation and initiated the development of a CGIAR-wide Engagement Framework which will set out a process for stewardship of partners from foresight to delivery, including the criteria for establishment of key feedback metrics and partnership communication.	1. Draft 1 of the Engagement Framework outlining the overarching structures, processes, procedures and principles for capacity sharing/strengthening for uptake by mid-January 2022, finalized by June 2022. 2. Draft Strategy ready for circulation in August 2022 with external partners. 3. Operationalization of a partnership health survey for all partnerships, and tailored strategies for strategic partners, with agreed metrics. 4. Draft 2 of the Engagement Framework taking into consideration the recommendations of the High-Level Advisory Panel (HLAP) on stakeholder engagement with the Global South. 5. Advanced draft of a CGIAR Partnerships Strategy that considers the changing global science and innovation landscape. As part of the strategy, a partnerships health survey will be conducted, and metrics to monitor these established.	22/12/2021 12/01/2023	Delayed	

Rec AA/CGIAR	Recommendation	Management response	Action plan	Timeframe	Status	Update ST evaluation team
One GCIAR	Focus more on institutional capacity development, especially of national boundary partners. Develop and implement a systemwide strategy and partnerships with other agencies to facilitate development of required capacities for uptake, transformation, and use of CGIAR products. CGIAR and its programs should more actively advocate and help leverage financial resources for capacity development of national partners in pathways to impact. This requires a clearer and more consistent positioning of CGIAR and its role within the research-for-development (R4D) continuum and new metrics on the efficacy of capacity development in enabling others to take forward CGIAR's research processes and products for themselves.	While EMT and the System Board see this recommendation as key to ensuring the long-term institutional capacity of boundary partners, it is important to recognize that this capacity sharing will flow in different directions, particularly south-south. The role of CGIAR is viewed as facilitating provision of comprehensive capacity development by CGIAR as well as partners from the global north and south orientated towards uptake of innovation for the transformation of food, land and water systems.	1. Draft 1 of the Engagement Framework outlining the overarching structures, processes, procedures, and principles for capacity sharing/strengthening for uptake by mid-January 2022, finalized by June 2022. 2. Draft strategy ready for circulation in August 2022 with external partners. 3. Draft strategy for capacity strengthening available for December 2022, finalized in April 2023. 4. Pilot launch of CGIAR Academy by July 2023. 5. Institutional capacity strengthening better incorporated in second tranche of CGIAR Initiatives, 2023-26.	1.6/30/2024 2.9/31/2023 3.12/31/2024 4.12/31/2024 5.12/31/2024	In progress	
One GCIAR	Define CGIAR's comparative advantage in delivery of different elements of the ambitious 2030 Research and Innovation Strategy and its projected scale of funding: review where internal investments and capacities are most needed and where gaps can be more effectively met through external partnerships	At the macro level, identification of CGIAR's areas of comparative advantage for the next decade have been identified through the System Reference Group, the interim Investment Advisory Groups, and the Investment Advisory Groups-which have collectively advised on (a) the Action Areas where CGIAR effort is best expended, and (b) the specific initiatives that CGIAR should prioritize. At the next stage, in the design of CGIAR initiatives, a more detailed level of capacity and comparative advantage definition is required, by working closely with partners to define the niches and roles most suited to each.	The design of CGIAR initiatives provides the venue for the action plan. CGIAR Initiative design teams are ´multi-partner, working with demand, delivery, and scaling partners to co-define all partners' roles and responsibilities within the innovation system and delivery pathway. Leads and deputies have identified where external partnerships are best placed to deliver research and pathways to impact; for some initiatives, the partner will play an equal-partner role alongside CGIAR. SG directors will work collectively to 'right-size' initiative budgets, including an understanding of different partners' roles based on comparative advantage.	Initial round for completion by November 2021. Then ongoing as the portfolio progresses under the oversight of the Portfolio Performance Panel.	In Progress	

Rec AA/CGIAR	Recommendation	Management response	Action plan	Timeframe	Status	Update ST evaluation team
One GCIAR	Strengthen country and regional coordination structures to enable all CGIAR centers and research Initiatives to explore integrative solutions at local, landscape, and relevant sub-national, national, and regional scales, ensuring coherent and responsive engagement with national stakeholders and agendas. These can leverage the assets and scientific knowledge, local relationships, and reputation developed by centers.	The EMT, with support from global and regional directors, has been working in developing a CGIAR Engagement Framework that follows and deepens the work of TAG5 and guidance from the SB and the SC (SC12-06 Operational Structure).	This Engagement Framework aims to hardwire/institutionalize across the operational structure the necessary conditions for effective engagement with partners at all levels, while ensuring continuity in the relationships during the transition.	Consultation in the framework is ongoing and as an interim support country convener will be appointed in 2022 to start engagement with partners in countries RDs held series of regional and country specific consultation.	In progress	
One GCIAR	Shift practices and evaluation away from seeking to attribute development impacts to CGIAR research and toward determining and valuing the essential contribution CGIAR is making with others, both through its research and by mobilizing collective actions among diverse public, private, and civil society partners to transform innovation systems for development impact.	The System Council-approved CGIAR Performance and Results Management Framework (PRMF) 2022-30 states that CGIAR will invest in obtaining causal evidence of impact on specific global targets that can be jointly attributed to CGIAR and its partners acknowledging that such impacts are not obtained by CGIAR alone.	There is no portfolio-level baseline of evaluations or impact assessments that do or do not use a multi-partner contribution approach to development impacts. This baseline will be established as a basis for actions to ensure that evaluations and impact assessments of CGIAR's contribution to Sustainable Development Goals use a multi-partner approach, as relevant. Methodological guidelines on designing and delivering multi-partner contribution to development impact will be included as part of the new CGIAR Evaluation Policy.	For completion by end 2022, with reporting at end of 2022.	Delayed	
One GCIAR	Enhance determination of QoS through bibliometric analyses, and facilitate comparison across CRPs and new research Initiatives by (1) maintaining the same data sources	EMT and the System Board support systematic bibliometric analysis of published research as required for QoS management (per recommendation no. 6).	A commercial service provider will be engaged to provide bibliometric analysis of published research. The Recommendation on key parameters and availability of data for further	For completion by mid-2022, with	Delayed	

Rec AA/CGIAR	Recommendation	Management response	Action plan	Timeframe	Status	Update ST evaluation team
	over time; (2) obtaining citation data annually to enable direct comparisons unaffected by the number of years elapsing; (3) retaining data from analyses in their raw format, including all metadata, to allow data to be reanalyzed in the future and visualized in new ways; and (4) developing standard guidance and indicator definitions.	Commercial service providers (e.g., Web of Science) are available.	research will be considered when selecting the service provider.	reporting at end of 2022.		
ST	Rather than tackling climate change, NRM, and agriculture for nutrition and health separately, CGIAR should consider them together, holistically, exploring science-policy synergies and tradeoffs across the areas as food systems transform.	The recommendation to work towards multiple objectives simultaneously is in line with the 2030 CGIAR Research and Innovation strategy and is one of the key reasons for the reform of CGIAR. There are mechanisms in place at various levels to drive such an outcome.	This is handled at initiative level where each one will aim to contribute to multiple Impact Areas of CGIAR and to describe synergies and tradeoffs (e.g., in project benefit analyses). Some initiatives are designed specifically to consider synergies, such as the national policies and strategies for FLW ST and Foresight Initiatives in ST and the regionally integrated initiatives (RIIs). At the same time, many initiatives will be giving significant attention to specific Impact Areas to meet the information gaps identified by key stakeholders in those areas (e.g., nutrition, climate change). Where these high-level tradeoffs are identified, management will convene discussions across Initiatives. In the longer term, results on synergies and tradeoffs should influence global discourses, including funder strategies.	Ongoing throughout 2022-24 business plan period.	In progress	Considerable progress was made at the planning and design phase to combine various initiatives synergistically. However, there have been challenges in implementation and in realizing demonstrable results. Analytical approaches and products remain predominantly focused on the agriculture sector, and the question remains whether this will be adequate to address the cross-sector analysis and trade-off challenges posed by key initiatives in their proposals. Increasing research investments in fruits and vegetables, consumer demand, market innovations and food systems policy is a step in the right direction, but nutrition remains siloed and not mainstreamed or well-coordinated across CGIAR initiatives. The goal of diversifying food systems and diets for improved nutrition also requires adjustments in Genetic Innovation (GI) and Resilient Agrifood Systems (RAFS) SG initiative priorities, e.g., nutritional value as a clearer breeding priority, expansion of breeding efforts beyond staple commodities, and consideration

Rec AA/CGIAR	Recommendation	Management response	Action plan	Timeframe	Status	Update ST evaluation team
						given to nutrition in the selection of crop and livestock mixes being promoted for resilience.
ST	To achieve a stronger focus on poverty reduction across all programs, target the rural resource poor, women, and those most disadvantaged. Increase attention to understanding and addressing the equity impacts of policies, shocks, and risks faced by poor people in taking up technologies and research solutions.	Agreed that poverty reduction as an objective requires more attention. While CGIAR has conducted an impressive amount of research that speaks to poverty (in modeling, diagnostic and adoption studies) it has not been well-coordinated. The effects of COVID-19 have reinforced the importance of addressing poverty for CGIAR.	Initiatives will need to demonstrate how they contribute to poverty reduction. Reviews by SGs and the ISDC will strive to ensure adequate attention to poverty reduction among the first set of Initiatives and subsequent ones. It is important to ensure CGIAR has the requisite capacity to strengthen research on this area. Enhancing capacity is the responsibility of SG directors with support from two key platforms: Poverty Reduction, Livelihoods and Jobs Platform and Gender Platforms, which have a mandate to enhance quality of research in this area, through e.g., application of sound frameworks and methods.	Ongoing throughout 2022-24 business period.	In progress	A key strategy for improving focus on poverty reduction is to involve the vulnerable groups in planning and design. However, there was limited engagement with poor households in formulation ST SG research portfolio. Nevertheless, there is a strong gender focus in the initiatives and several good examples of success in women's empowerment. SG Initiatives are tagging their contributions towards poverty reduction, livelihoods improvement and job creation based on their ToC, but this is not in consultation and coordination with the Poverty Reduction, Livelihoods and Job Impact Area Platform. However, the coordination mechanisms need to be streamlined to ensure that tagging by the SG initiatives is aligned to the Platform targets at outcomes and impact levels.
ST	Address the linkages between environmental sustainability and resilient agri-food systems. Relationships between the dynamics of environment, ecosystems, biodiversity, and livelihoods in agro-ecosystems will require significant attention.	Agreed that this remains an important area of research for CGIAR.	This involves ST and RAFS principally. Some initiatives are designed to address these linkages directly. At a higher level, SG directors will identify areas for collaboration, e.g., complementarity of approaches in the same geographies and with the RIIs. Complementarities would include high level problem identification, tradeoff analysis and governance options from ST SG paired with the farm and community level technical and institutional options evaluated by the RAFS SG.	Ongoing throughout the 2022-24 business plan period.	In progress	There is a lack of clear mechanism for the Impact area platforms for providing technical support across initiatives, e.g., in identification of the underlying gaps/weaknesses for addressing the linkages between environmental sustainability and resilient agri-food systems. Addressing these gaps requires additional resources which have been a key issue in addressing the recommendation.

Rec AA/CGIAR	Recommendation	Management response	Action plan	Timeframe	Status	Update ST evaluation team
ST	Identify a handful of place-based programs in high-priority agro-ecologies, where the triple challenge of achieving sustainable food production, enhancing human well-being, and conserving ecosystem services can be addressed and where national commitments bring opportunity for impact at scale through integrated innovation systems.	Agreed. CGIAR will aim to support countries in meeting the triple challenge in most countries where it works. However, some countries will have larger CGIAR investments to support this, through complementary thematic initiatives or through the RIIs.	Several mechanisms are in place to foster collaboration and coordination across the portfolio. This includes regular meetings involving EMT, SG directors and regional directors. Ongoing dialogues with regional and national stakeholders will shape the choices of where CGIAR invests its research funds. Country conveners' managers will help facilitate coordination at national level. While this applies broadly, efforts will be made in a subset of focus countries in CGIAR, where numerous initiatives, notably the RIIs, will coordinate in working in common sites to consider multiple challenges in those sites. In addition, a coordinated approach for comparisons across these sites and countries will be undertaken, to identify common and context-specific lessons (such as level of development and natural resource endowment). While the broad goals are shared across the full CGIAR portfolio, note that the Nature Positive Production Initiative in RAFS and the Agroecology Initiative in ST are taking on this recommendation directly in specific high-priority agro-ecologies.	Ongoing throughout the 2022-24 business plan period.	In Progress	Considerable degree of work on integrated innovation systems has evolved in a few countries particularly Kenya, Ethiopia, Nigeria, India, Egypt, and Vietnam. The actual success in realizing integration varies depending on country capacity and program maturity. The role of country coordinators is seen crucial and there is a need to mainstream this role for sustaining gains and multiplying/ scaling up achievements. The success of RIIs remains to be measured and documented.
CC	Ensure that public, private, and civil society stakeholders are involved in foresight and priority setting processes and have a sense of ownership about the research agenda.	EMT and System Board have consistently supported the inclusion of stakeholders in the design and delivery of CGIAR's strategy and will continue to keep his engagement a priority.	Via Engagement Framework 1. CapSha needs and opportunities with NARIS partners better considered in the preparation of the second cycle of Research Initiatives through CapSha-issued guidelines.	Ongoing throughout 2022- 24 business plan period.	In progress	
CC	Strengthen the systematic incorporation of equity issues into research design and analysis. Diversify partners and skills-including,	EMT and System Board agree with this recommendation, and we plan to build on many good examples from within CGIAR to enhance our	Initiative Design Teams were constituted to be diverse in gender, in research discipline and partner type to respond to complex challenges. Socio-	Ongoing throughout 2022-24	In progress	

Rec AA/CGIAR	Recommendation	Management response	Action plan	Timeframe	Status	Update ST evaluation team
	for example, social scientists and experts from the private sector, sustainable finance, and humanitarian sectors—to better address the root causes of sustainable development challenges. Expand socioeconomic work, including poverty and livelihood assessments, adoption studies, policy and institutional analyses, and in-depth gender and youth studies, with strengthened in-house capacity and/or additional partners.	strategic partnerships along the impact pathway and to identify and develop core competences to meet 2030 goals.	economic work will be prominent throughout the portfolio. SGs will formally reviewing Initiatives on an annual basis to assess progress, including on addressing equity issues. At the levels of the global director for Partnerships and Advocacy and the Impact Area Platforms, more strategic approaches to collaboration are already being explored with leading organizations in these topical areas (e.g., WFP for humanitarian sectors). Also see response to recommendation 11 on inclusion of equity in research design.	business plan period		
CC	Invest in training researchers in systems science. Build research from a shared understanding of food systems that integrates objectives related to production, livelihoods, environment and biodiversity, and health and nutrition; that takes a holistic approach to agri-food systems and risk management; and that uses participatory innovation approaches to engage with farmers and rural communities.	EMT and System Board agree this is highly needed technical area for capacity strengthening. Many researchers have a significant role in systems science and many other researchers are appropriately working within a specialized niche. Training resources need to be allocated selectively such that the research portfolio responds.	CGIAR is building from strong capacities in some sub-system areas noted (e.g., production, livelihoods, environment) and in systems research at farm scale. However, it is recognized that system science is required to address complex development challenges at national and other higher levels. We plan to strengthen system science capacity with partnerships with a few ARIs and to strengthen in-house capacity of CGIAR and national partners to ensure that system science is applied across different spatial scales from global to sub-national within the Portfolio.	Ongoing throughout 2022-24 business plan period.	In progress	
CC	Improve the coverage of cross-cutting themes (e.g., gender, youth) in MELIA by strengthening evaluators' relevant disciplinary skills as applied to evaluation design and implementation.	EMT and System Board support strengthened MELIA capacity coverage of cross-cutting issues such as gender and youth in CGIAR.	Methodological guidelines on designing and delivering evaluations relevant and appropriate to gender and youth issues will be included as part of the new CGIAR Evaluation Policy. Additional Gender MELIA expertise is being engaged in 2021 and will contribute to the development of the methodological guidelines.	Ongoing throughout 2022-24 business plan period.	In progress	

Rec AA/CGIAR	Recommendation	Management response	Action plan	Timeframe	Status	Update ST evaluation team
CC	Expand the availability of technical assistance on MELIA to research managers, scientists, and partners.	EMT and System Board support expanding MELIA assistance to research managers, scientists, and partners.	New MELIA-related structures are being designed for CGIAR, including a Portfolio Performance Unit and a Project Coordination Unit. Technical support to stakeholders will be strengthened through these and other relevant units. The SC-approved PRMF contains a range of cutting-edge methods to better plan for, learn from, and demonstrate contribution to impact. Progress, bottlenecks, and solutions will be described on a regular basis and shared with key stakeholders.	Ongoing throughout 2022-24 business plan period.	In progress	
CC	Develop strategies for developing partnerships and institutional capacity, to facilitate a more systematic approach in both areas. Establish explicit time-bound targets and exit strategies for the progressive transfer of responsibilities and resources to enable local partners to sustainably take on a research or innovation area for themselves.	EMT and the System Board agree on the need for a more systematic approach to partnerships development and stewardship, and institutional capacity building with local partners. This, however, needs to be done in a manner that responds to stated needs and timelines (demand driven) and leverages existing strengths, and not through unilateral assessments of capacity gaps.	1. Draft 1 of the Engagement Framework outlining the overarching structures, processes, procedures, and principles for capacity sharing/strengthening for uptake by mid-January 2022, finalized by June 2022. 2. Prepare and deploy strategies for progressive transfer of responsibilities and resources, with corresponding metrics and milestones, to local partners in select geographies, prioritized by regional directors. 3. Co-design One CGIAR Academy with this purpose as one of its core drivers.	Ongoing throughout 2022-24 business plan period	In progress	
CC	Draw on CGIAR's value as a broker of networked actions by making greater use of research and development partnerships to fill knowledge and skill gaps in research processes and innovation webs, enabling CGIAR to focus on its own strengths and areas of comparative advantage. These partnerships, including south-south partnerships, should include the private sector throughout the food	EMT and the Systems Board support this recommendation. A Partnerships Stewardship, Innovation and Intelligence Unit will be set up to support regional and SGs to put in place the systems and structures to ensure a networked approach to research and development (R&D) efforts, reducing transaction costs and duplications, and leveraging	1. Draft 1 of the Engagement Framework outlining the overarching structures, processes, procedures, and principles for capacity sharing/strengthening for uptake by mid-January 2022, finalized by June 2022. 2. Design, test and deploy the systems and support structures for networked approaches to R&D with regional and SGs, finalized by December 2022. 1. Design, test and deploy activities that	Ongoing throughout 2022-24 business plan period.	In progress	

Rec AA/CGIAR	Recommendation	Management response	Action plan	Timeframe	Status	Update ST evaluation team
	system, non-CGIAR ARIs, small and medium-sized enterprises, and civil society organizations (CSOs), to help scaleup innovations, value addition, and market access. Facilitate partnerships linking non-CGIAR ARIs to local and national partners for collaborative research and capacity development in new Initiatives. Explore opportunities for CGIAR programs to contribute productively to national development agendas, foster synergies, and reduce duplication of effort. For example, the GENEBANK and Excellence in Breeding (EiB) platforms were established as service providers to CGIAR but have the potential to strengthen genetic conservation and use and advanced breeding capabilities in national systems.	synergies across sectors and geographies to increase our collective impact.	align and leverage the insights and assets from SGs, Regions and Centers, namely in CapSha, institutional partnerships, and partnerships intelligence.			
CC	Put higher priority on ensuring that research agendas respond to local, national, and regional strategies and Initiatives to facilitate the achievement of outcomes at scale. Initiate or strengthen long-term, transdisciplinary research at dedicated field facilities strategically located in relevant landscapes of developing countries. Co-locate activities from many programs in these geographic areas to better coordinate outcome-driven research activities, build partnerships, and share infrastructure.	This is one of the main drivers in the new strategy and portfolio. The CGIAR 2030 Research and Innovation Strategy clearly defines the importance of a prioritization process where the demand (local, national, and regional strategies/initiatives) will get a higher priority in setting the research focus. In many global Initiatives and all the RIIs, activities will be linked in the key countries/locations building on strong partnerships. Infrastructure will be shared and optimized for the system.	RII teams will continue organizing stakeholder meetings and meetings with the global initiatives to coordinate plans. Initiative plans will be further designed and operationalized with partners using shared infrastructure.	First steps are made in the Initiative design. In the first phase of the agenda 2022-2024 the initiatives will be rolled out using the shared infrastructure .	In progress	
CC	Develop consistent policies and practical, ethical guidance to inform CGIAR engagement with local partners at different levels	EMT and the Systems Board strongly support this recommendation, acknowledging that policies, ethics guidance,	1. Draft 1 of the Engagement Framework outlining the overarching structures, processes, procedures, and principles for capacity sharing/strengthening for	Ongoing throughout 2022-24	In progress	

Rec AA/CGIAR	Recommendation	Management response	Action plan	Timeframe	Status	Update ST evaluation team
	(communities, government, private sector, NGOs, ARIs). Communicating in the right way with local partners is essential; CGIAR should expand its inhouse communications and outreach capacities and ensure that country-based staff are well trained. Develop guidelines for future work based on the experiences of the systems CRPs and Global Integrating Programs in developing, funding, and managing Platform-based research initiatives with broadening participation and community engagement.	improved communications and in-house training for staff will be crucial to improve our engagement with local partners at different levels. CGIAR should continue to foment a culture of collaboration that is responsive to local needs and demands, that leverages local capacity and talent, and that also affords opportunity for local actors to shape and influence CGIAR's research locally and beyond.	uptake by mid-January 2022, finalized by June 2022. 2. Design, test, and deploy the policies, ethics guidance and internal capacity development opportunities in support of improved engagement with local partners, finalize by December 2022. 3. Collaborate with Communications and Outreach in producing and mainstreaming the messages and narratives that reflect CGIAR's commitment to working with local partners in a respectful, accountable, and transparent manner to achieve collective impact, finalized by December 2022.	business plan period.		
CC	Strengthen social science capacities by increasing in-house resources and/or making better use of skilled external partners. Integrate social scientists into action research projects and develop appropriate incentives to encourage interdisciplinary and systems research.	EMT and System Board agree that the major challenges in meeting our commonly shared development challenges have strong socio-economic dimensions requiring social science attention.	CGIAR aims to house disciplinary expertise in three well-coordinated SGs to achieve transdisciplinary cooperation.	Ongoing throughout 2022-24 business plan period.	In progress	
CC	Invest in creating a shared vision—including stakeholders and researchers—on what could be achieved in a group of research activities at the region, country, landscape, or community level and a ToC on how to achieve change. A successful process will require significant attention to facilitating communications among the different levels of researchers and stakeholders.	RDs have been involved in the presentation and consultation with regions and countries of RII or in partnership with regional partners such regional research institution or regional unions. A platform has been creating between RDs and SGDG to develop the enabling environment necessary to craft this shared vision.	Development of a shared strategy for coordination that reflects the shared vision of SGDs and RDs.	By the end of 2022.	Delayed	

Rec AA/CGIAR	Recommendation	Management response	Action plan	Timeframe	Status	Update ST evaluation team
CC	Collaborate with ARIs and the private sector on action research that unlocks access to finance, inputs, and innovation-based enterprise opportunities for women, youth, and other marginalized groups, building on index insurance, blended (public-private and public-private-producer) finance models, and other emerging approaches.	EMT and System Board agree on the importance of finance for fostering the types of transformations the CGIAR seeks to contribute to and engagement with the private sector and ARIs in doing so. This will be critical in managing future climate risk, as well supporting the scaling of adaptation solutions. CGIAR recently developed expertise and forged new partnerships with the financial community (e.g., through CCAFS and Harvest Plus) and have had ongoing work on weather insurance and credit arrangements for producers with private sector partners. Clearly, we need to transform our own ambitions and partnerships with the private sector and international finance institutions as well as to enhance this knowledge and skills within CGIAR.	Action research focusing on access among CGIAR target beneficiaries, especially low-income women, to finance (credit and insurance), financial services and information.	Ongoing throughout 2022-24 business plan period.	In progress	
CC	Pursue direct links between CGIAR R4D actions—coordinated in country—and official development assistance (ODA) loans and grants to countries, as well as direct co-financing through such mechanisms where feasible and were demanded by national programs.	RDs have responded to countries request for capacity building from the CGIAR in the development of agricultural development plans and coordinated multidisciplinary teams to supports countries. Also, RDs are collaborating with regional bodies to develop shared research agendas. GD P&A, IFRM, Coms (with the support of TTTs to define the CGIAR value proposition to partner governments and National Agricultural Research and Extension System (NARES) by promoting a model that will improve delivery of products and impacts farmers and other clients.	Country engagement strategies that include mapping and tracking of alignment between CGIAR work, national policies, and ODA.	Ongoing throughout 2022-24 business plan period.	In progress	

Rec AA/CGIAR	Recommendation	Management response	Action plan	Timeframe	Status	Update ST evaluation team
CC	A wholesale review of CGIAR capacities and opportunities around big data and practical field applications for pro-poor sustainable development should involve: • Expanding the use of remote sensing and GIS; •Exploring ethical applications of artificial intelligence, big data, and citizen science that would specifically benefit the poor; • Assessing lessons from the rapidly expanding use of open data and digital tools for breeding, weather and agronomic information, extension, and marketing.	EMT and System Board fully support CGIAR to expand further the incorporation of big data and digital technologies in research. Recognizing the transformative potential of earth observation, machine learning, robotics, and sensor technologies to advance CGIAR's digital capabilities, CGIAR 2030 Research and Innovation Strategy lists digital revolution as one tool. Across the investment portfolio, more than half of the initiatives are planning to use big data and digital technologies as a key research and development tool. While researchers are encouraged to continue utilizing big data and innovative digital technologies creatively, institutional shared-learning, ethics training, and safeguard mechanisms will be established to ensure the technical applications are designed and developed responsibly, inclusively, and ethically. CGIAR aspires to become a trusted intermediary in using digital technologies.	The Digital Initiative will take responsibility for providing cross-cutting services, including a review of key opportunities for CGIAR work on digital applications in low-income settings, and coordination of relevant research and innovation across CGIAR. All CGIAR researchers will be supported to access enabling datasets (e.g., remote sensing data from satellites and UAVs, high-frequency market intelligence data) and empowering data analytics tools (e.g., high-performance computing resources, large-scale modeling tools) through Shared Services, public-private R&D partnerships, and technical support mechanisms. Digital Services and the Digital Transformation Initiative will coordinate across the Initiative Portfolio to identify opportunities for Initiatives to innovate, synergize, and accelerate their impact pathways using big data analytics and digital technologies. Digital Services will support researchers to utilize necessary digital infrastructure with minimum overhead, on-demand. A collaborative data analysis platform with synthetic data analytics functionality will be developed for researchers to analyze data safely without accessing potentially sensitive data. Overseeing mechanisms will be established to ensure all researchers comply with CGIAR Open and FAIR Data Assets Policy and adhere to CGIAR Research Ethics Code.	Ongoing throughout 2022-24 business plan period.	In progress	

Annex 11: Evaluation Team Background and Declarations of Conflicts of Interest

Team Lead	Photo

Krishna Belbase is currently a freelance consultant with three decades of professional contributions in international development and evaluation. He worked as senior evaluation officer in UNICEF's Evaluation Office, New York from 2007-17 and as regional chief of monitoring and evaluation for the Middle East and North Africa Region during 2003-2006. Previously from 1992-2002, he worked with UNICEF as chief of nutrition program in Botswana and Pakistan and as technical advisor for community-based nutrition and nutrition information systems based in New York. Krishna has a solid academic and research background, holding a Ph.D. from Cornell University. His subject focus includes food and nutrition security, and social protection within the broader context of the SDGs.

Subject Matter Experts

Julie Howard is an independent consultant focusing on food and agricultural system development in sub-Saharan Africa and related US policies and programs. She is a non-resident Senior Adviser in the Global Food and Water Security Program at the Center for Strategic and International Studies, and a Director of the World Vegetable Center. Dr. Howard co-authored the 2021 Synthesis of Learning from a Decade of CGIAR Research Programs. From 2011-2014, Dr. Howard was the first chief scientist in the Bureau for Food Security and senior adviser to the USAID administrator, directing the research, policy, and capacity development programs of Feed the Future, the US global hunger and food security initiative. Previously she served as CEO of the Partnership to Cut Hunger and Poverty in Africa, a nongovernmental research and advocacy organization, and as a faculty member and senior adviser at Michigan State University. She holds a Ph.D. in agricultural economics from MSU and was a Peace Corps Volunteer in the Dominican Republic.

Christo Fabricius is Professor Emeritus and Lead: Capacity for African Resource Management (CARMa-Afrika) at Nelson Mandela University in South Africa. Specializes in MERL of social-ecological systems, at the interface of people, landscapes and livelihoods, and community-based natural resource management. A former Global Lead Scientist with WWF International and Lead Author if IPBES and the Millennium Ecosystem Assessment, Dr Fabricius has designed MERL systems for FAO, the African Climate Foundation, WWF International and the Kavango-Zambezi Trans-frontier Conservation Area. He

Dr. Joshua Sserufusa-Zake Kangaawo is a Natural Resource and Environmental Management Ugandan Scientist. He has a Ph.D. in Natural Resources and Life Sciences (2015) of the University of Natural Resources and Life Sciences in Vienna, Austria; A Msc. Soil Science (2008) and Bsc. Agriculture (Soil Science) (2002), both from Makerere University. With his 22 years of experience, he has contributed to development program/project design, implementation, monitoring and evaluation, policy formulation and implementation linked to the Agriculture, Water, Environment and Natural Resources and climate action in Uganda, and the East Africa region and expert opinions for several reviews.

Evaluation Analyst

Lea Corsetti brings her social science expertise and international experience to the forefront of evaluations across diverse sectors. She is a passionate evaluator with a global perspective and dedication to participatory approaches. Combining her social science and anthropology background from Wageningen University and Research, Lea brings several years of experience to diverse evaluations across sectors like agriculture, livelihoods, and global health. Lea actively fosters the global evaluation community as a key member and communications manager of the European Evaluation Society. A winner of the 2022 yEES! competition and active participant in p2p+ Europe and EvalYouth, she is dedicated to supporting young professionals in the evaluation sphere.

S/N	Conflict of interest statements	Krishna Belbase	Julie Howard	Christo Fabricius	Joshua Sserufusa-Zake Kangaawo	Lea Corsetti
1	Main employer and any other organization that provides you with remuneration (which may be named participants in the project/ program/ proposal you are being asked to review/evaluate.	Independent Consultant	Center for Strategic and International Studies (honoraria) Board Member of Directors for the World Vegetable Center, which is a partner in FRESH.	Professor Emeritus and Lead	Advisor and Consultant at Regenerate Africa	Research Analyst
2	Are you aware whether a relative, close friend, close colleague or someone with whom you have financial ties is receiving funding from or giving advice to a project/program/proposal you are being asked to review/evaluate?	NO	NO	NO	NO	NO
3	Does any project/program/proposal you are being asked to review/evaluate cite any of your own current research?	NO	Was a co-author of the 2021 Synthesis, a background document for this evaluation.	NO	NO	NO
4	Does any project/program/proposal you are being asked to review/evaluate name researchers with whom you have active collaborations, recently published joint papers or are in regular email correspondence?	NO	Asked to review FRESH. In regular email correspondence with several of the researchers World Vegetable Center researchers involved and have a joint publication with Pepijn Schreinemachers and others (2021).	NO	NO	NO
5	Does any project/program/proposal you are being asked to review/evaluate name any of your past PhD students are active participants?	NO	NO	NO	NO	NO
6	I declare that the information provided on this statement is true and complete.	Dated: 3 December 2023	Dated: 3 June 2024	Dated: 8 January 2024	Dated: 2 February 2024	Dated: 24 November 2023

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