

Companion Document to the 2022-2024 CGIAR Investment Prospectus

Purpose

The document presents a Companion Document to the 2022-2024 CGIAR Investment Prospectus, provided to CGIAR's Independent Science for Development Council ('ISDC') alongside the initial set of CGIAR Initiative Proposals for the purposes of facilitating the ISDC's advice to the System Council on the coherence of the 2022-2024 CGIAR Investment Prospectus.

Background

At its 13th meeting, the CGIAR System Council approved the 2022-2024 CGIAR Investment Prospectus, taking note that the Investment Prospectus and its set of Initiatives were to be adaptively managed by the One CGIAR Executive Management Team ('EMT'), advised by the Investment Advisory Groups ('IAGs') that are chaired by the One CGIAR Science Group Directors ('SGDs').

Requesting that the EMT, IAGs and SGDs take note of and address the important inputs provided during SC13 (as articulated in the SC13 Meeting Summary at agenda item 3), the System Council requested that CGIAR's Independent Science for Development Council ('ISDC') provide advice to the System Council on the coherence of the Investment Prospectus as it takes further shape.

This document is a Companion Document to the Investment Prospectus and is prepared and presented by EMT in response to facilitate ISDC's advice on coherence of the CGIAR portfolio in response to the System Council's request.

Action Requested

The ISDC is requested to review this companion document and provide advice to the System Council in accordance with the approved Terms of Reference for that review.

Document category: Advance working document of the System Council, and not for formal public citation at this time.

Presented by: CGIAR Executive Management Team

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1. Introduction

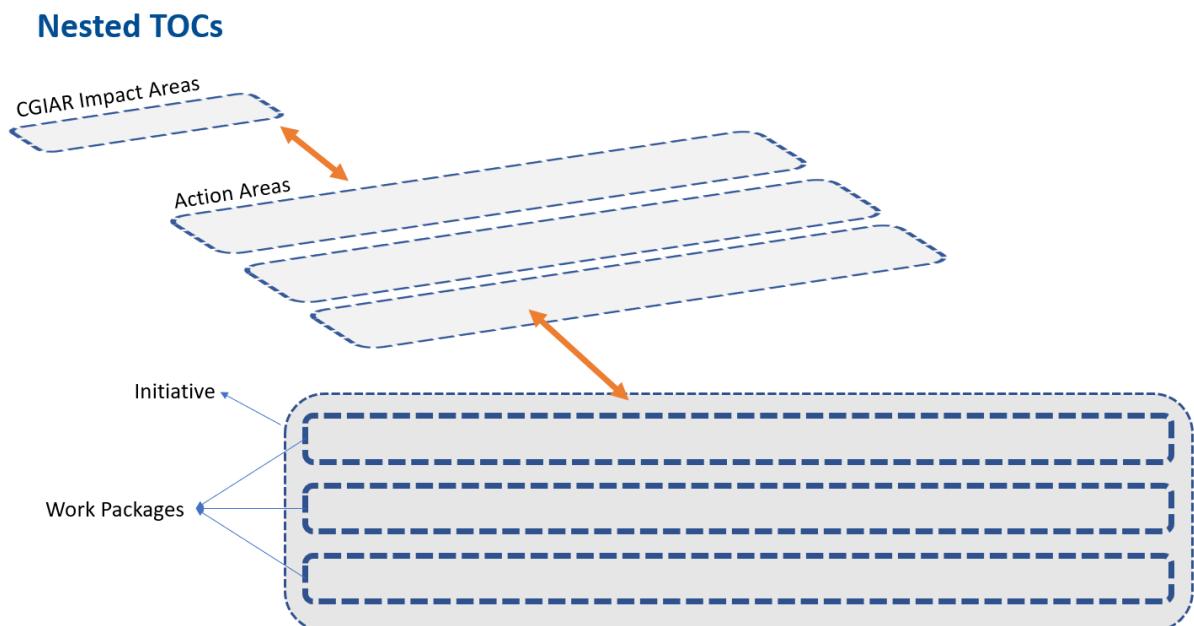
1. Aim: This companion document aims to provide an overview of the process by which the CGIAR portfolio of Initiatives was designed and the mechanisms with which it will be managed and monitored to achieve coherence during the 2022-24 investment cycle and beyond.
2. Document context: The companion document is expected to be read alongside the 2030 Research and Innovation Strategy (System Council document 11-03a) and the 2022-24 Investment Prospectus (System Council document 13-02), on which it builds. The 2030 Research and Innovation Strategy provides CGIAR's decadal vision, mission, targets, scopes of activity and ways of working. It lays out the principles and conceptual framework that shape CGIAR's contribution to the transformation of food, land and water systems in a climate crisis. The 2022-24 Investment Prospectus outlines a series of concepts for Initiatives – the key vehicle for CGIAR research and innovation under the pooled-funding mechanism – and frames how these will be organized and supported by the Action Areas and the Impact Platforms. This companion document focuses more on the operational level, and provides initial information on how CGIAR will deliver a coherent portfolio of research and innovation.
3. Scope: The document covers the process for developing CGIAR Initiatives and Platforms for which proposals are expected to be submitted to the System Council in 2021, and the operational mechanisms established and planned to create coherence on a dynamic, adaptive basis. It also considers the coherence of this work in the context of the full CGIAR portfolio of research and innovation from all funding sources. The document seeks to provide information across the following areas outlined by System Council's Strategic Impact, Monitoring and Evaluation Committee (SIMEC) to the ISDC in their terms of reference for review:
 - a. External coherence: How the CGIAR's core research for development competencies will be utilized across the portfolio in the context of other actors including complementarity, harmonization, and co-ordination with key geographic or thematic areas.
 - b. Internal coherence: Demonstrates cohesion through a set of effective relationships and synergies among the portfolio's constituent parts. Where relevant with a focus on coordinated management of various partnerships connectivity between Initiatives, themes and regions (and supporting CGIAR Performance and Results Management Framework elements) within a unified Theory of Change.
 - c. Interdependencies: Articulates a conceptionally rational approach to building and exploiting the cohesion and interdependence between the Initiatives; and, if there are significant areas of overlap or duplication of effort, how these will be identified, managed or resolved.
 - d. Management of funding uncertainties. Explains the approach to prioritization in terms of how funding will be allocated, and the EMT's risk management approach to that allocation with the goal to ensure that a coherent portfolio will be maintained even if some Initiatives will not get funded.
4. This version of the Companion Document (version 2) replaces version 1 submitted to ISDC through the CGIAR Advisory Services Shared Secretariat (CAS) on 30 September. Modifications are the set of summary tables and graphics on the Initiatives.

2. Coherence and cohesion through the Initiative design process

2.1 Key approaches to 'design in' coherence

5. The design process sought coherence in the following ways:
 - a. A CGIAR-level theory of change (TOC) was developed in the CGIAR 2030 Research and Innovation Strategy and cascaded through Action Areas to all Initiatives
 - b. A consultation process, building on regional advisory forums, regional consultation in Initiative design, guidance and facilitation from Regional Directors, initial advice from interim Investment Advisory Groups (iAGs) and ongoing advice from Investment Advisory Groups (IAGs), continuously refined the scope and vision of the portfolio
 - c. The Science Group Directors, with ongoing input from the IAGs, led the Initiative Design Teams (IDTs) to refine and deliver a set of Initiatives that comprise a coherent portfolio
6. The CGIAR 2030 Research and Innovation Strategy sets out a 10-year vision for CGIAR impact. At the heart of the Strategy was a theory of change describing the anticipated impact of all CGIAR efforts. This overall TOC cascaded down into three Action Areas, each with an inter-linked TOC. Nested within the Action Area TOCs, TOCs have been developed for every Initiative.
7. This cascade of nested TOCs provides the framing for a coherent portfolio. These TOCs were built through continuous dialogue, synergies and connectivity across the Initiatives, three Action Areas or Science Groups, and the CGIAR Impact Areas (Figure 1; Annex 2 shows the nested TOCs at Action Area and Portfolio levels, and the lower-level Initiative TOCs are in their proposals). These nested theories of change also align with an integrated results framework for CGIAR (Annex 1) that enable integrated measurement and management of the portfolio as a coherent whole.

Figure 1. CGIAR nested theories of change towards five impact areas



8. The process of portfolio design also built on a series of dialogues that helped to focus and bound the scope of work. These included the Transition Advisory Group (TAG), extensive consultations to develop the Strategy (including the interim Investment Advisory Groups), and the Initiative development process, which gathered inputs from three Investment Advisory Groups drawn from the System Council; these comprised both funder and regional representatives, and external experts identified by System Council members.
9. Extensive regional, national and stakeholder consultations also helped hone the scope and strategies, sharpen Initiatives' theories of change, and facilitate further engagement of demand, research and scaling partners. Consultations encompassed a wide array of regional and national policymakers across multiple ministries, research and civil society organizations, private sector players and other stakeholders. The Regional Directors advised on and facilitated these processes.
10. Since their appointment in May, the Global Science Group Directors have worked to ensure that the Initiatives add up to a prioritized and joined-up set of results and programming, within and across Action Areas. They are also examining how most effectively to ensure integration with the body of non-pooled-funded work. They have engaged with and continue to guide research Initiative design teams within their specific Action Areas in the development of full proposals, participated in regional and stakeholder consultations, additional priority-setting processes and the development of detailed theories of change to ensure synergies and connectivity among them.
11. Detailed cross Initiative reviews have taken place to eliminate any potential duplication. A dedicated all-IDT workshop, followed by a continuous process of communication, has been used to resolve any boundary issues across Initiatives. This said, should potential overlaps or duplication emerge when the Initiatives are implemented, mechanisms are in place to minimize or avoid them. These include:
 - a. Management by the Science Directors and the senior staff within the Science Groups.
 - b. Under the leadership of the Regional Directors, advice from the country and regional offices will also flag potential overlaps or duplication, based on their close interactions with local partners and stakeholders, and suggest course corrections.
 - c. Discussion by the portfolio performance management team, which will bring together the complementary views of the Science Directors, Regional Directors, Platform Directors and Global Director of Finance to provide portfolio advice to EMT, supported as needed with analyses from the Portfolio Performance Unit and the Impact Platforms.
 - d. Top-level oversight by the Executive Management Team supported by their leadership team of Global Directors to resolve any duplications and overlaps that require high-level adjudication.
12. The set of Initiatives are shown in Figure 2. While all the Initiatives are interlinked (as illustrated in Figure 3 for the first batch of submissions), some are explicitly cross-cutting and designed to provide support to other Initiatives. Three Initiatives in the Systems Transformation Science Group (Digital, Foresight and Policies & Strategies) are cross-thematic and seek to improve data and tools, enhance foresight, measure impacts, identify investment priorities and promote integration into transformation strategies, for all other Initiatives. Among these, the Digital Initiative is understood to be administratively housed in Systems Transformation but to be fully integrative across the three Action Areas.

Figure 2. Proposed CGIAR Initiatives and Impact Area Platforms

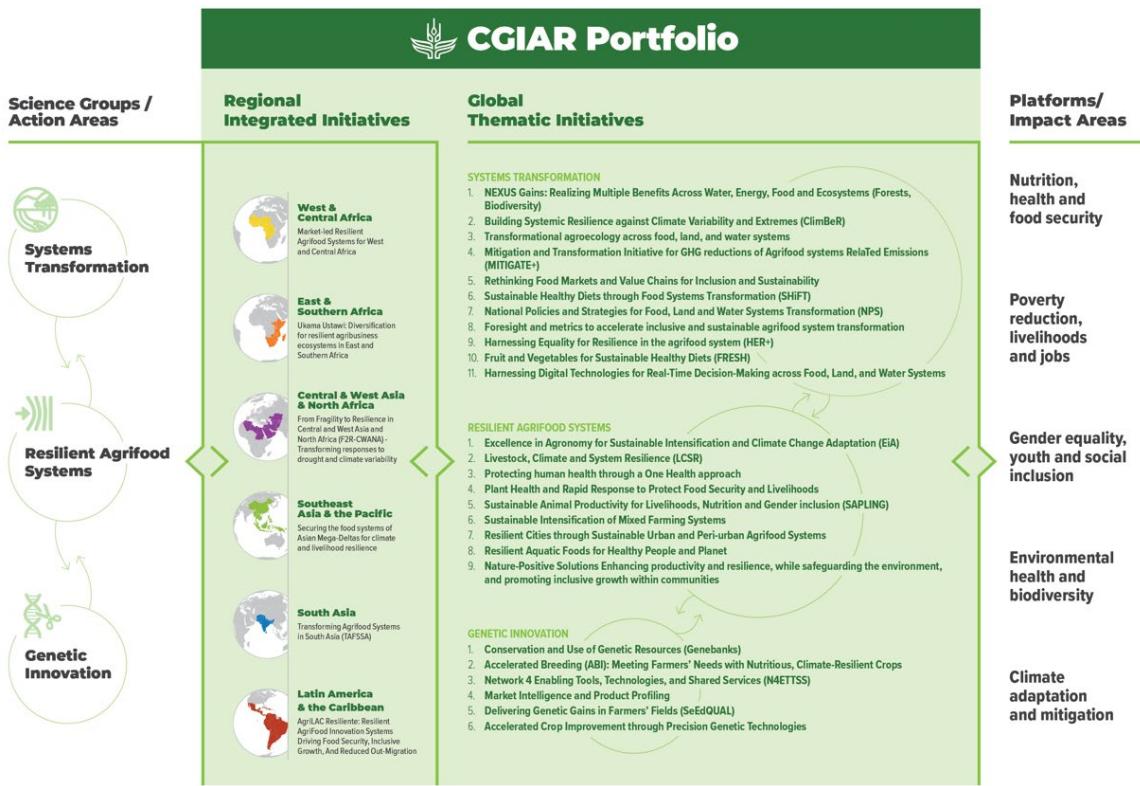
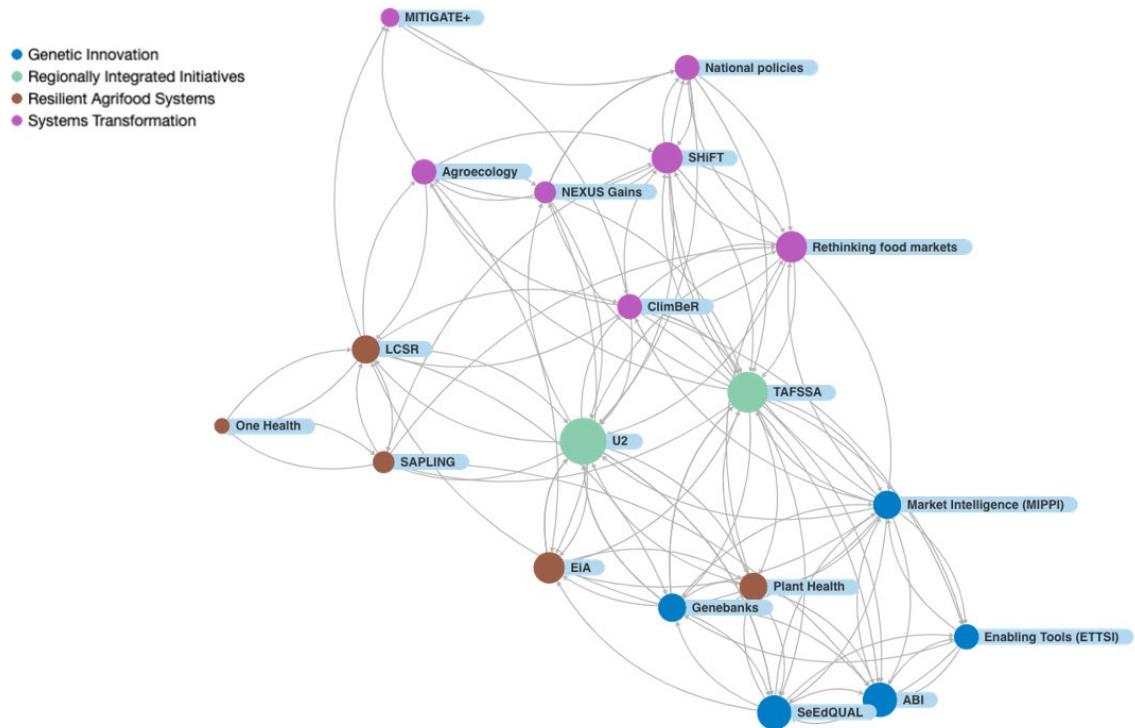


Figure 3. Analysis of interlinkages across Initiatives in the first batch of submissions (nodes sized by number of incoming links)



13. The strongest interdependence is between the Regional Integrated Initiatives (RIIs) and the thematic Initiatives; this is explained in further detail below. The RIIs integrate work across all three Science Groups and build on the outputs of the global Initiatives but steer them as well based on stakeholder demand.

2.2 Value proposition and priority-setting processes across and within Initiatives

14. Initiatives have a long-term vision towards the 2030 targets, while their work packages have a 3-year timeframe. New Initiatives may be developed as gaps are identified in CGIAR's achievements of its results framework, where CGIAR has a strong research contribution to make that is aligned with regional and investor priorities.
15. The Initiatives have produced theories of change that identify plausible pathways to generate impact over the 10-year period, and projected benefits against the five impact areas, based on interlinkages and complementarity across the Initiatives. Section 8 provides more detail on CGIAR's nested results framework.
16. The Initiatives' theories of change are deliberately linked, where appropriate. For example, some Initiatives deliver prototypes or proof of concepts that, once thoroughly validated, could be widely scaled. An example is the Enabling Tools, Technology and Services for Genetic Gains Initiative, where it is anticipated that only after Proof of Concept is achieved in a subset of crops, it will be rolled out to all CGIAR plant breeding efforts.
17. Initiatives can continue beyond three years in line with their longer-term visions. The rationale for 3-year cycles, is to provide a clear 'stage gate' decision moment that will draw on an independent evaluation of performance and results metrics. Depending on the outcomes of these stage-gates, Initiatives may be extended into further 3-year phases, or given the go-ahead to operate on a continuous basis beyond the 3-year endpoint subject to sustained performance against the agreed performance metrics and results; this will be an important mechanism for Initiatives for which continuity is crucial, such as the Genebanks, or those that support critical, and in some cases unique, research facilities.
18. New research areas, including Regional Integrated Initiatives, will need an inception phase to refine and implement research and operational plans and develop new partnerships, among other considerations. This will require lower capacity during that period, which will be reflected in budget allocations.
19. Within Initiatives, priority-setting is based on the following criteria:
 - a. The need to balance the inclusion of ongoing research in key areas (with a large impact history that supports the potential to deliver at scale across the five impact areas) with new areas of research.
 - b. Review of stakeholder strategy documents.
 - c. Extensive regional and national stakeholder consultations, in some cases also drawing on past consultations.
 - d. Building on past experience; that is, what has worked (or not), why, where, and how.
 - e. CGIAR's comparative advantage in human capacity, research infrastructure, partnerships and networks, and presence on the ground.
20. Each Science Group has convened a process to build a shared value proposition and set of priorities aligned with the theory of change of the Action Area and across Action Areas. These are described in the following three sub-sections.

Systems Transformation

21. The Systems Transformation (ST) Action Area responds to the need for a systems transformation approach for food, land and water systems: innovations and policies to eliminate the constraints that the poor face in accessing productive resources, knowledge, finance and markets. Appropriate national policies and global actions are needed to address the climate crisis, environmental degradation, water mismanagement, and loss of biodiversity. Strategies to deal with shocks and conflict – the major drivers of acute food insecurity – are also critical. A systems transformation approach is required to address the myriad set of challenges facing food systems.
22. The ST portfolio addresses structural constraints to food, land and water systems transformation while also increasing the impact of innovations, such as genetic and farming system innovations developed by the CGIAR, by bundling them with accompanying policy and institutional innovations. The rationale for each of the Initiatives, and the links among them, has been described in the Investment Prospectus.
23. To arrive at a coherent portfolio of best-bet Initiatives, Systems Transformation has closely followed the triangulation principle that incorporates the global evidence base, stakeholder demands, and investor preferences. This triangulation principle has been adhered to within each Initiative and for the ST portfolio as a whole. At a comprehensive level, investor preferences and priorities were outlined from February 2021 by the ST Investment Advisory Group.
24. The Initiative Design Teams then drew on their experience and deployed secondary data, foresight analyses, and consultations with external technical experts to identify priority topics, work packages, and countries. Working with support from the Regional Directors, these IDTs conducted multiple rounds of consultations with stakeholders to validate topics, identify national-level priorities and co-design Initiatives. They also refined an analysis of the global evidence base and interaction with investors. For example, on top of bilateral linkages with key investors, the IDTs engaged in a series of three events with the Investment Advisory Group plus other System Council members in August and September 2021.
25. At the portfolio level, the same series of events afforded opportunity for investors to provide input on the ST portfolio. In addition, IDT members and other CGIAR staff engaged in Initiative design; they simultaneously contributed to and benefited from outputs from the UN Food Systems Summit (UNFSS). The Summit highlighted the essence and complementarity of systems analysis and innovation with technology development and management at the agrifood systems level. The UNFSS also reiterated the importance of action and analysis at the global level, combined with local policy reforms and implementation. These and other elements are reflected in the ST portfolio.

Resilient Agrifood Systems

26. Agrifood systems – particularly those of small-scale producers – are increasingly exposed to climate hazards. This limits farmers' capacity to invest in more productive and sustainable production practices, business models and creates large gaps in livestock, fish and crop productivity. At the same time, agriculture contributes substantially to global greenhouse gas emissions, land degradation and the depletion of water resources, while women and youth in rural communities have unequal access to innovations, capacity development, or services.

27. The Resilient Agrifood Systems Action Area will tackle these interlinked challenges through a coherent set of nine Initiatives covering crops (3), livestock and aquatic foods (4), and farming systems (2). Initiative teams will partner with public and private research and development organizations and complement each other to deliver outcomes and impacts.
28. This Action Area will also house the Regional Integrated Initiatives, which will seek to integrate and scale results from Genetic Innovations, Resilient Agrifood Systems and System Transformation Action Areas based on a demand-driven approach with the partners.
29. A key input to priority-setting has been the Climate Adaptation Atlas developed by The Alliance of Bioversity and CIAT, which provided an important climate change lens to target systems and geographies. Regional stakeholder consultations, such as those undertaken as part of the Two Degree Initiative (2DI), and an analysis of global and regional organizations' strategies and priorities were also valuable inputs.
30. Within Initiatives, priority-setting across regions, agro-ecologies, farming systems and proposed activities has been undertaken against the set of criteria described above, and with particular attention to:
 - a. Creating space for new areas of research clearly demanded by CGIAR's 2030 vision, but without degrading existing strong areas that have a well-evidenced track-record of results.
 - b. Analysis of the relative importance of different cropping systems, livestock systems and aquatic food systems in terms of hectares, numbers of livestock, extent of fisheries or aquaculture, human population, vulnerability to climate change and other shocks, and the potential to achieve impact at scale.
 - c. Extensive regional and national stakeholder consultations, in some cases also drawing on past consultations, supplemented by reviews of stakeholder strategy documents and national priorities for food, land and water systems.
 - d. Building on past experience: a set of pragmatic choices based on what has worked (or not), why, where, and how.
 - e. Understanding of comparative advantage via established high-trust relationships with partners, particularly National Agricultural Research and Extension Services (NARES), where the most constructive contributions of CGIAR relative to partners has been carefully nuanced.
31. Going forward, the Initiatives will draw on the strategic regional and country engagements led by the Regional Directors, and on work of the CGIAR Foresight Team, to inform ongoing prioritization.

Genetic Innovation

32. The Genetic Innovation theory of change reflects the main challenges to be addressed: limited biodiversity underpins our crop and food systems; CGIAR breeding programs fail to systematically identify and address stakeholder priorities; breeding programs must increase rates of genetic gains by modernizing and jointly investing in shared services and tools, and the extent and sustainability of our impacts can be enhanced by novel partnership and innovative seed systems models. These challenges can be summarized as sustainably achieving sufficient replacement rates for crop varieties to adapt to climate, but also to changing market conditions, nutritional demands, funding landscapes and environmental constraints.
33. The Genetic Innovation Action Area addresses these challenges through the stewardship and use of genetic resources, implementing novel approaches and science to accelerate the improvement of crop varieties, and innovating seed systems to benefit more farmers through increased rates of variety adoption.

34. Novel elements of the portfolio include: 1) prioritization and product profiling to inform breeding investments at the system level, 2) a strategic and coordinated approach to modernization of breeding programs through tools, technology, and the centralized provision of enabling technologies and services, and 3) a dedicated Initiative for seed systems, with specialized attention and investments to ensure completion of our theory of change, reaching and benefiting farmers.
35. Metrics of success include faster adoption of new varieties by smallholder farmers, with shorter average lifetime of varieties. Outputs and outcomes from these Initiatives also feed into other crop-related innovations in other CGIAR Global Science Groups, such as agronomy, pest and disease resistance, plant health and improved environmental resilience that, in turn, deliver benefits across all five Impact Areas.
36. The value propositions of the six Initiatives form an end-to-end continuum, starting from Genebanks and prioritization (market intelligence), through breeding and centralized enabling technologies, and to delivery of affordable high-quality seeds to smallholder farmers. They build on CGIAR's core competencies in plant genetic resources conservation, distribution and use, breeding, applied biotechnology, state of the art data management systems, genotyping, phenotyping and social science. They depend on partnerships and are poised to co-create new models with NARES, Advanced Research Institutions, and the private sector for priority-setting, research, breeding, and the scaling-up and turnover of varieties.
37. The six Initiatives match the necessary and sufficient conditions to deliver not only higher genetic gains, but also accelerated adoption of novel varieties by smallholder farmers. The implementation of only a subset of Initiatives will put in jeopardy CGIAR's ability to deliver and achieve its full potential for impact.
38. For the current three-year investment cycle, crop-by-region combinations are prioritized for breeding efforts and for the use of pooled funding. This was informed by crop area, market and nutritional values of crop production, prevalence of poverty, gender and other criteria, in close alignment with recommendations from the Crops to End Hunger Initiative.
39. Further examples of prioritization include the Product Advancement Process, under which only genotypes that fulfil the expected specifications (the product profile) will be commercialized in prioritized markets. The Enabling Tools, Technology and Services Initiative's first focus on priority systems and crops, and only then would address the wide portfolio of crops breeding efficiencies. Also, the Precision Genetic Technologies Initiative will be submitted later, given its longer-term impact-potential.
40. Going forward, the Market Intelligence and Product Profiling function will develop pipeline investment cases and provide updated information on return on investments across regions, crops and Impact Areas. Prioritization driven by demand will be enhanced progressively as more data and evidence become available.

3. Coherence and cohesion in Initiative delivery

3.1 Key approaches to ‘build in’ cohesion

41. Operational mechanisms to deliver effective relationships and synergies among the portfolio’s constituent parts include the following:
 - a. EMT, supported by their leadership team, provide top-level cohesion across the full portfolio and across CGIAR
 - b. Initiatives are managed by three Science Group Directors in close collaboration
 - c. The Regional Directors steer the portfolio and individual Initiatives in terms of regional relevance and demand
 - d. The portfolio and Initiatives are interrogated in terms of impact potential by the Impact Area Platform Directors
 - e. The portfolio performance management team considers the whole portfolio, drawing on these aspects of demand, impact and science, to provide advice to EMT and their leadership team
 - f. Initiatives are stage-gated in a 3-year rolling business plan cycle
 - g. Initiatives and Platforms draw on capacities and talents of staff across all Science Groups and Divisions, bringing together a critical mass of skills across science, communications, engagement, capacity development, finance and administration
 - h. External coherence is actively driven through carefully managed partnerships at multiple levels
 - i. CGIAR implements procedures for carrying forward key research assets
42. Delivery of the set of Initiatives will be overseen by the three Science Group Directors. This will be the first set of pooled-funded CGIAR Initiatives to have cohesive oversight, enabling an unprecedented level of coordination and alignment.
43. The Impact Area Platforms will provide a key mechanism for internal (and external) coherence, guiding the portfolio towards effective investments and activities to achieve CGIAR’s ambitious 2030 targets; these are explained in further detail below.
44. Stage-gating of Initiatives will be informed by an active and consistent approach to monitoring performance and results, described in detail below.
45. The Initiatives will deliberately draw on skills across the three Action Areas rather than a siloed approach to staffing. At a more tactical level, cohesiveness will be achieved through job descriptions, performance plans and career development pathways reinforcing not only cohesion but also tight alignment with CGIAR’s overarching strategy and goals.
46. CGIAR also has multiple mechanisms in place to carry forward priority lines of work from Initiatives or Projects that are closing into future Initiatives or Projects. For example, from the CGIAR Research Programs and Platforms, a participatory analytic exercise identified the top-priority set of tools, data sets, partnership arrangement and communications assets ('golden eggs') to be taken forward from the CRPs. A 'transfer marketplace' was then convened with the new Initiatives, with a 90% take-up rate of golden eggs. In addition, standard protocols for data management, based on CGIAR's OFDA policy, and knowledge repositories also ensure that key knowledge assets are retained and utilized as Initiative and Project cycles turn over.

3.2 Role of Impact Area Platforms in enabling portfolio coherence

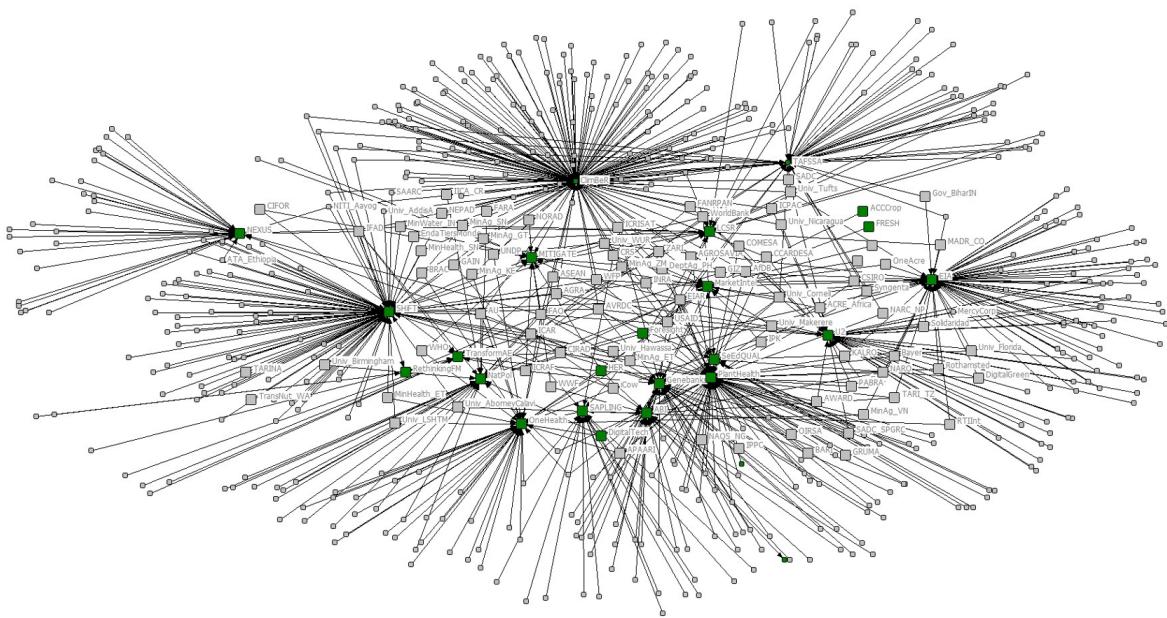
47. The Impact Area Platforms are an integral part of the machinery to deliver on CGIAR's mission and its 2030 Research and Innovation Strategy, helping to steer CGIAR to contribute most effectively to the SDGs and to achieve measurable impact across five agreed impact areas, benefitting the public good globally and in target geographies.
48. The Platforms will play a critical role in impact-oriented cohesion across the CGIAR Science Groups, Regional Directors' team, Partnerships and Advocacy Global Group (GE&I) and relevant staff in the IS&S Division. The Platforms will help CGIAR to offer a coherent and effective approach to achieve the targets described in the CGIAR Performance and Results Management Framework. They will be tasked with assisting a joined-up approach across the portfolio (both pooled and non-pooled funded) by identifying critical gaps and overlaps in effort and intended results, in order to allocate investments in the best way possible to achieve the collective targets across the five impact areas.
49. The Platforms will bring together networks of staff from CGIAR's Science Groups, GE&I and IS&S to achieve CGIAR's intended impacts through the following actions: (i) facilitate communities of practice and intellectual hubs for their respective impact areas, fostering global critical thinking; (ii) develop CGIAR and partners' capacity to achieve impact; (iii) amplify CGIAR's external profile and awareness of its pathways to impact in close collaboration with partnerships and advocacy staff; and (iv) advise management on the prioritization, design, and implementation of CGIAR Initiatives and non-pooled-funded projects. The platforms will not be vehicles for research, other than to coordinate syntheses and methods, and will support rather than compete with CGIAR Initiatives and projects.
50. Operationally, the Impact Area Platforms will be networks within the system, rather than stand-alone dimensions of a matrix structure. They will cut across the three Action Areas and will include staff from all Divisions as appropriate, including from all three Science Groups, as well as key external partners, modelling the communities of practice approach that has helped drive forward key agendas for CGIAR.

3.3 Mechanisms for external cohesion at country, regional and global levels

51. Unified CGIAR engagement with partners is critical to coherence and cohesion. It will help CGIAR realize its full potential to achieve its collective 2030 targets and the Sustainable Development Goals with partners by: listening and responding to demand above the level of sub-sectoral interests, avoiding duplicated and fragmented conversations, and driving a more ambitious agenda that seeks transformational system-level impacts.
52. Purposeful partnership building and stewardship will be instrumental to active, adaptive management of external coherence across the CGIAR portfolio of research and investment.
53. To frame this effort, CGIAR will shortly launch a Partnerships Engagement Framework that builds on work by Transitional Advisory Group (TAG) 5 on regional and country engagement and is based on guidance from the System Board and System Council (Document SC12-06 Operational Structure). Led by the Partnerships and Advocacy Global Group within the Global Engagement and Innovation Division, the framework will hardwire and institutionalize across CGIAR operational structure conditions for effective engagement with partners of all types, while enabling the continuity of current relationships. The framework will ensure a more integrated approach to partnerships at various scales and geographies, thus improving resource use and collective impact.

54. The Partnerships Engagement Framework provides coherent, highly coordinated and consistent systems to build and manage partnerships while creating formal structures that enhance individuals' engagement capacities and informal spaces for organizational learning to adapt to experience and changing circumstances. It also makes available to CGIAR and our partners a series of services and resources that facilitate the alignment, design, and implementation of innovative partnerships arrangements that create opportunities to market CGIAR innovations and technologies to diverse users.
55. Partnerships are central to the effective delivery of CGIAR's portfolio of Initiatives and will be cultivated and stewarded according to the systems, processes, and resources provided through the Partnerships Engagement Framework. Initiatives have identified a preliminary set of mission-critical partners of the following types:
- Demand: Individuals or organizations that have (expressed) an explicit or implicit demand for an innovation, change or who aspire to a specific goal or impact to which CGIAR can contribute.
 - Innovation: Individuals or organizations that CGIAR collaborates and co-invests with to improve the readiness of innovations to contribute to impact at scale.
 - Scaling: Individuals or organizations that CGIAR collaborates with to advance the uptake and use of innovations at scale.
56. Partner network analysis across the full set of Initiatives is a key tool for CGIAR to manage relationships effectively and respectfully. The Partnerships and Advocacy Global Group has already created databases of all Initiative partners and generated network analyses to guide the management of relationships during implementation (Figure 4).

Figure 4. Initiative partner network



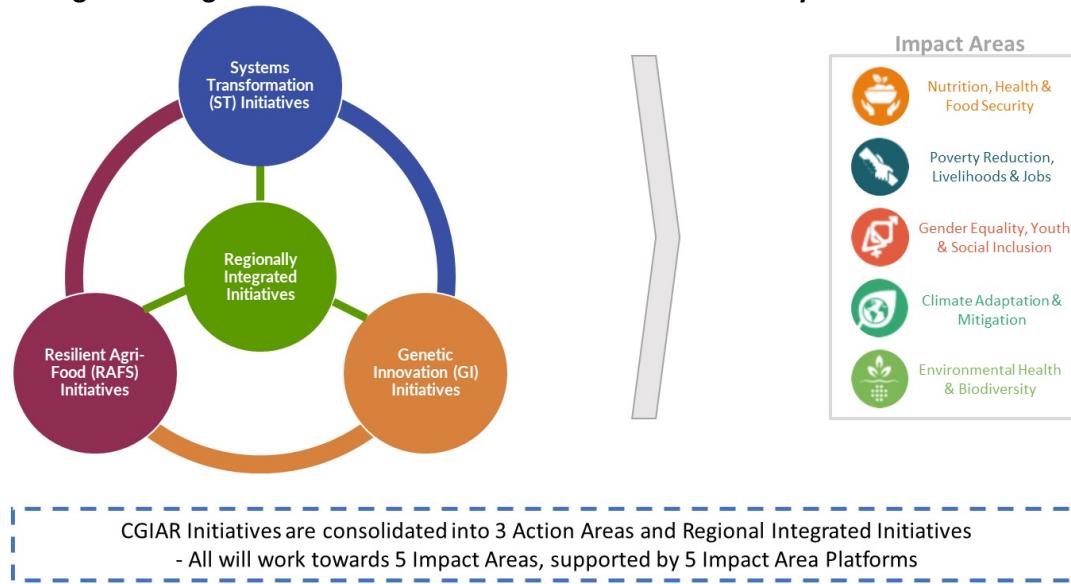
57. With the roll-out of Initiatives, partnerships at all levels will be facilitated by formally designated relationship holders from CGIAR. Employing the principle of subsidiarity, relationship holders will be individuals within CGIAR who engage directly with a partner and are closest to the day-to-day dynamics of the partnership. Relationship holders and managers will be stewards, rather than owners, of partner relationships, creating the spaces for all relevant CGIAR parties to engage with

partners in an effective, efficient, and coordinated manner, while maintaining a registry of engagements and commitments and ensuring proper follow up by relevant parties. They will not have to be present in all partner engagements, but rather serve as a single-window access for coordination, follow-up, and reporting purposes. Given that relationship holders and managers will be in constant contact with partners, they will also serve as a conduit of critical information to relevant Initiatives regarding partners.

3.4 Interconnectedness of thematic and regional integrated Initiatives

58. The ultimate success of CGIAR impact and the improved well-being of smallholders can only be secured through the interconnected operation of thematic and regional integrated Initiatives. For research-based solutions to deliver continuous transformative benefits at scale, co-ownership of a shared vision between thematic and Regional Integrated Initiatives (RII) for regional agrifood systems is of essence. Both the Science Group Directors and the Regional Directors will be closely involved in ensuring this internal coherence, as well as the fit of the RIIs with stakeholders' priorities (external coherence).
59. At the center of the CGIAR delivery framework (Figure 5), RIIs will play a major role in understanding needs and emerging opportunities in regional agrifood systems, as well as in leveraging and enriching CGIAR's networks to embed transformative innovations in specific socio-cultural, environmental, and institutional contexts. Under the guidance of the Regional Directors and drawing upon CGIAR's deep knowledge and longstanding partnerships within their geographical domain, RIIs are well positioned as innovation brokers, coordinating among diverse stakeholders and with the thematic Initiatives. To make regional demand is front and center in all CGIAR work, RIIs will be anchored in granular appraisals of customer needs at the regional and agrifood system levels.

Figure 5. Regional Integrated Initiatives at the center of CGIAR's delivery framework



60. Guiding principles to build interconnectedness between thematic areas and RIIs include:
- Multi-scale integration across agrifood systems: High-level policy innovations (ST) will be vertically integrated with landscape- and field-level innovations (GI; RAES). Complete value chain strategies (from pull to push) will be horizontally integrated with cross-system scaling strategies.
 - Continuous demand creation and solution feedback loops: Informed by priority challenges

and within-region emerging demands, RIIs will bundle existing and new insights arising from thematic areas and assess them through structured yet lean partnership platforms. Based on findings, RIIs will re-shape solution bundles to optimize accessibility, impact, and ROI for agrifood system actors. They will also provide granular feedback to thematic Initiatives, further reinforcing their connectedness.

- c. Three major steps: With multiple entry points for diverse stakeholders, RII activities will progress from strategic planning to tactical implementation (e.g. co-investment) to coordinated multi-stakeholder action (e.g. innovation hubs, living labs).
- d. Rapid testing and learning cycles: Potential solutions will be swiftly created through prototyping and a clever failure mindset, before their large-scale validation.
- e. Whole food system impact through partnerships: RIIs will embrace an inclusive, end-to-end agrifood system approach to transformation and leverage innovations and activities from other Initiatives, non-pooled funded projects and in-region partners (e.g. NARES; private sector).
- f. Focus on planetary boundaries: RIIs will bring climate change, and the sustainable management of land and water resources into the center of research, stakeholder engagement, and innovation testing.
- g. Increasing ability to implement: During the first three-year period, and with close guidance from both Regional and Science Directors, the focus will be on co-designing prototype implementation pathways, thoroughly testing them, and building the toolkit required. Based on learnings and early winnings, the effort will proceed towards wider implementation.

3.5 Common CGIAR policies to underpin portfolio coherence

61. Open and FAIR Data Assets: CGIAR enacted a new [Open and FAIR Data Assets Policy](#) in 2021, building on and institutionalizing a key area of work under The Big Data Platform. CGIAR is committed to sharing outputs of its research that are as open as possible and always Findable, Accessible, Interoperable and Reusable (FAIR). All Initiatives will follow these protocols and use common data systems.
62. Research Ethics: CGIAR enacted a new [Research Ethics Code](#) in 2020. All Initiatives will be subject to this policy, which will be operationalized by CGIAR's new Ethics Function.
63. Intellectual Assets: All intellectual assets produced or acquired by Initiatives will be managed to maximize their global accessibility, in accordance with the [CGIAR Principles on the Management of Intellectual Assets](#).
64. Gender, Diversity and Inclusion: CGIAR's [Framework and Action Plan for Gender, Diversity and Inclusion \(GDI\)](#) provides the targets, strategy and mechanisms to improve diversity in our global workplaces.
65. Performance and Results Management: CGIAR's [Performance and Results Management Framework](#) provides the conceptual framework and systems for effective measurement, learning and accountability from performance and results.

3.6 Management of funding uncertainties

66. As this document lays out, the set of Initiatives submitted in 2021 have been developed as a package that the CGIAR EMT and leadership believes will deliver on the 2030 Research and Innovation Strategy agreed with the System Council. The budgets attached to the Initiative proposals are '3-year target budgets' that describe the scale of effort and results (outputs,

outcomes and impacts) proposed for each Initiative. Many of the Initiatives being put forward could grow significantly larger than these target levels if early results and funder interest are strong.

67. The intention of the portfolio prioritization and design process is that all of the submitted Initiatives will receive at least a minimum amount of inception funding to explore the potential of the research topic and maintain the cohesion of the portfolio. Each Initiative is seen as an important and integral area for exploration and contribution by CGIAR, recognizing that the scale of effort across Initiatives will not be uniform and that some areas may grow while others may decline or even drop if they fail to demonstrate significant potential for impact or lack funders' interest.
68. It is also well understood that some Initiatives may need to be revised depending on ISDC feedback and funders' preferences, and that funding levels will differ among Initiatives, with some receiving more and others less than the amounts proposed. To be responsive to these essential adaptive learning loops, Initiative Design Teams have been asked to develop 'accordion' proposals – that can be scaled up or down depending on funding availability and regular review by the SGDs and EMT, with input from the IAGs and subject to approval by the System Board and System Council.
69. The initial proposed budget allocation across Initiatives is informed by the following criteria:
 - a. The potential to achieve results (outputs, outcomes and impacts) that deliver against the CGIAR Results Framework in a coherent manner, as described above.
 - b. Track record, but also the need to invest in new areas of research that respond to current demand connected to the Sustainable Development Goals and the widespread recognition of the need for transformation of food, land and water systems.
 - c. The nature of the research (e.g., the need for extensive infrastructure and research facilities).
 - d. The need to retain critical capacity and business continuity.
 - e. Funder and stakeholder priorities (thematic and geographic).
70. CGIAR will prepare three-year Financial Plans (adjusted annually) as well as annual Financial Plans for approval by the System Council. Annual budget allocations for individual Initiatives will be based on expected levels of funding and will reflect several considerations, with new or more exploratory Initiatives likely to be allocated smaller initial 'inception' funding that acknowledges the fact that start up in new areas needs to be built up in early years and also the possibility that after initial exploration there may be considerably more or less interest and potential impact than anticipated.
71. While it is hoped that the full set of Initiatives will be funded at least at 'inception levels' in 2022, in the event that an Initiative is not funded through the pooled funding mechanisms the SGDs and EMT will explore whether its exclusion would compromise the cohesion of the portfolio and whether the most critical elements of the Initiative could be appropriately incorporated into another Initiative.
72. Continual review of the portfolio will be done by the CGIAR science leadership, and will be systematized under the portfolio performance management team, providing advice to EMT, based on financial analysis by the Operations and Finance Group in IS&S and performance analysis from the Portfolio Performance Unit in RD&I. Depending on EMT recommendations to the System Board, Initiatives may be dropped if they do not attract sufficient funding (related to demand among both funders and regional stakeholders), as well as for under-delivery in terms of performance and results.

4. Coherence and cohesion through integrated portfolio performance management

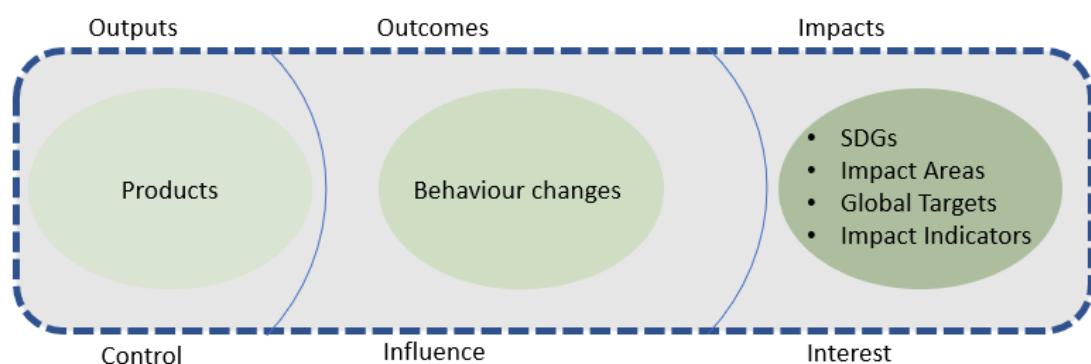
4.1 Integrated results framework at Initiative, Action Area and CGIAR levels

73. The alignment of all CGIAR research and innovation work into three Action Areas managed as three Science Groups supported by Regional and Country offices creates the opportunity for an integrated and comprehensive results framework for the full portfolio of pooled and non-pooled funded work. CGIAR has developed an over-arching results framework (Figure 6) that provides both a conceptual and operational logic for the delivery of results, as explained in the next paragraphs.

74. CGIAR's results framework is shown in Annex 1. It is directly aligned to the five Impact Areas and Sustainable Development Goals. Three distinct result types – outputs, outcomes and impacts – are mapped to the spheres of control, influence and interest, respectively.

75. The sphere of control is our operational environment and we have direct control over it. The sphere of influence is where interactions with other food, land and water systems participants occur and we exert direct influence over it. The sphere of interest houses social, economic, and environmental status and trends and we exert indirect influence over it via partners. The premise is that we cannot control all the changes we would like to see in a system, and that impact involves the interaction of many different factors and actors.

Figure 6. Connected CGIAR results at nested levels



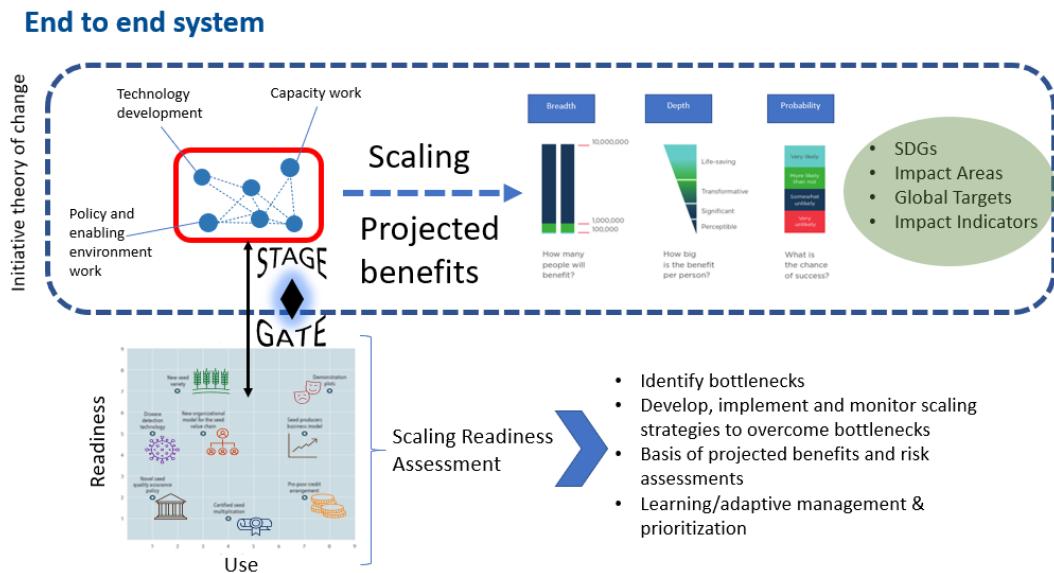
76. CGIAR's result types are mapped respectively to the spheres of control, influence and interest:
- Outputs: Knowledge, technical or institutional advancement produced by CGIAR research, engagement and/or capacity development activities. Examples of outputs include new research methods, policy analyses, gene maps, new crop varieties and breeds, or other research products. Outputs are generated by Initiatives and non-pooled projects.
 - Outcomes: A change in knowledge, skills, attitudes and/or relationships, which manifests as a change in output users' behavior, to which a combination of research outputs and related activities such as partnerships have contributed. Outcomes can occur within the lifespan of an Initiative/project, culminating in end-of-Initiative outcomes, as well further into the future, in which case the outcome is housed at the Action Area level.
 - Impacts: A durable change in the condition of people and their environment brought about by a chain of events or change in how a system functions and to which research, innovations, and related activities have contributed.

77. Each result type is accompanied by indicators. Together, the results and indicators constitute CGIAR's results framework. Further detail on indicators, including standard Indicator Description Sheets, will be developed in 2021-2022.
78. Each indicator selected for use by an Initiative contains the following details:
 - a. Unit of measurement (generic number/percentage/area/weight/yield (tonnes/hectare), individual (person)/household/currency).
 - b. Geographic scope (global/regional/national).
 - c. Data source (primary or secondary).
 - d. Data collection method.
 - e. Frequency of data collection.
 - f. Baseline value and year (outcomes only).
 - g. Target value and year.
79. Additional Initiative-specific indicators required and/or beneficial to understanding progress and contribution to impact that do not fit easily within other standard categories can be included in the CGIAR results framework. These may include indicators on PRMF concepts such as Innovation Packages, Scaling Readiness and Projected Benefits. The core set of CGIAR indicators will be reviewed every 3-year Investment Cycle.
80. Within nested theories of change based on a standard design protocol, Initiatives define 3-year results (outputs and outcomes) for which they will be accountable. Initiatives will systematically measure and be accountable for outcomes and associated outputs and will use the theory of change to project and demonstrate progress along impact pathways towards the 2030 collective global targets. CGIAR will invest in obtaining causal evidence of impact on specific targets that can be jointly attributed to CGIAR and its partners, acknowledging that such impacts are not obtained by CGIAR alone.
81. Operationally, CGIAR will have in place a set of interconnected mechanisms and responsible units to deliver on the results framework and to measure progress against it:
 - a. Portfolio performance management team: Responsible for advising EMT on the design, management, and delivery of the CGIAR 2030 Research and Innovation Strategy, with a focus on strategic choices and priorities for investment.
 - b. Portfolio Performance Unit: Responsible for measuring portfolio performance to provide timely analyses to support PPMT, EMT, governance bodies and funders in their decisions on investments in research and innovation; responsible for PRMF delivery and the CGIAR annual Portfolio report.
 - c. Project Coordination Unit: Responsible for coordinating the monitoring of agreed Initiative and project results and performance indicators, as well as the collation and reporting of these to SGDs, PPMT and PPU.
 - d. Impact Platforms: Responsible for analyzing the fit of the nested levels of the results framework to advise EMT, via the PPMT, of the most strategic activity, capacity, and investment to maximize effective delivery of Action Area outcomes and achievement of the 2030 collective targets for impact.
 - e. Regional and country offices: Responsible for enabling the alignment of CGIAR portfolio priorities with key stakeholders' priorities at regional and country level.

4.2 Measurement and reporting at multiple levels and timeframes

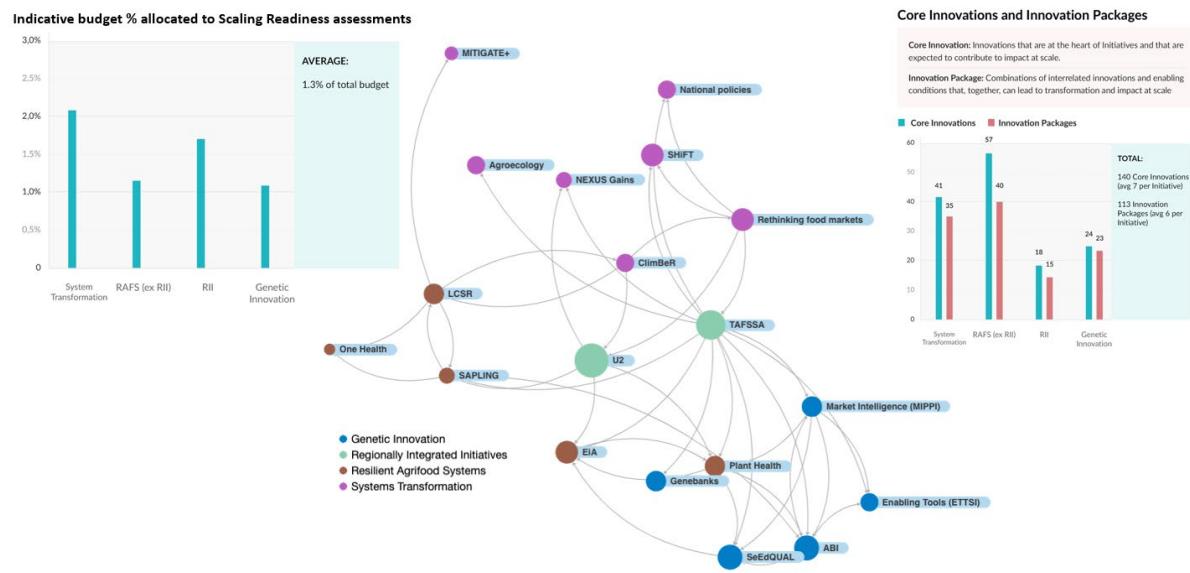
82. Key requirements for performance and results management are set out in the System Reference Group Recommendations to SC9 (Document SC9.02) and include:
 - a. Providing a clear line of sight for all funder investments, particularly to provide strong assurance in linking investments to results for those that fund at the most aggregate levels.
 - b. Systematic and transparent tracking of impact, performance, and expenditure.
 - c. Aligning to a common three-step prioritization process (Relevance, Effectiveness, Value) in the design phase.
 - d. Delivering a Performance and Results Management System that encompasses planning, monitoring, stage-gate decision points, and reporting, along with a dashboard open to funders via a common services information system.
83. The CGIAR approach to meeting these performance and results management requirements is contained in the SC-approved PRMF, which provides the conceptual basis and key building blocks to deliver an end-to-end innovation-to-impact management system. The interlinked planning, monitoring, reporting, evaluation and impact assessment processes required to effectively plan, manage and learn from the CGIAR contribution to impact include actions at the Initiative and portfolio levels, as outlined in the next two paragraphs.
84. CGIAR Initiatives will:
 - a. Project the benefits of their intervention against the CGIAR result framework, specifically to the common impact indicators, and assess related risks in a continuous process through design and into implementation stages.
 - b. Plan and report annual progress against a TOC that incorporates results and indicators across the spheres of control, influence, and interest.
 - c. Develop annual work and budgetary plans, track progress and provide an annual report against their stated objectives and results.
 - d. Be divided into distinct stages, separated by assessment and decision points known as ‘stage gates’. The stage gates will inform resource allocations within Initiatives to the most promising and impactful work packages, as well as framing adaptive management and learning.
 - e. Implement and/or commission evaluations and impact assessment studies, designed as an integral part of research to causally test assumptions underlying the TOC and thus contribute to their improvement and increased impact.
85. At the portfolio level, CGIAR will:
 - a. Deliver a portfolio-level annual plan of work and budget and an annual portfolio report comprising Initiative and non-pooled project results.
 - b. Invest in large-scale data collection through partnerships, to measure the reach and impacts of CGIAR innovations.
 - c. Invest in independent evaluations and impact assessment studies, designed as an integral part of research to causally test impacts.
 - d. Ensure that independent evaluations and impact assessments are used for both learning and accountability.
86. PRMF building blocks: To provide CGIAR with the necessary tools to navigate innovations to impact, the PRMF incorporates a set of key building blocks that together constitute a best-of-class approach to performance and results management (Figure 7). All Initiatives and non-pooled projects will use and align with the CGIAR results framework. Activation of all components will occur during the 2022-24 business cycle and will be used to refine the PRMF for the 2025-27 cycle.

Figure 7. Building blocks of CGIAR's Performance and Results Management Framework



87. Nested TOCs: Common CGIAR TOC guidance and design elements enable a high-level of TOC harmonization across Initiatives. An online TOC design and management module will house Initiative and non-pooled project TOCs, linked to results, indicator datasets, and CLARISA control lists. This will assist CGIAR to make best use of quality TOCs during design, implementation, and evaluation.
88. Common results framework: The CGIAR results framework contains a core set of common result and indicator categories that will apply to all Initiatives and non-pooled Projects. This will permit CGIAR to aggregate results and deliver a whole of portfolio annual report.
89. Innovation Packages and Scaling Readiness assessments: To navigate towards impact, Initiatives require a tractable level of information about the innovation systems they interact with. Grouping key system components (technology, policy, capacity) into context-specific innovation packages provides Initiatives with the level of detail needed to apply Scaling Readiness assessments. These assessments will identify scaling bottlenecks and be used to implement scaling strategies with partners. CGIAR will use innovation packages as learning labs, growing CGIAR capacity to manage and learn from the packages during the 2022-24 investment cycle (Figure 8).

Figure 8. Indicative Scaling Readiness metrics including shared Innovation Package plans for the first batch of proposals



90. **Projected Benefits:** Projected benefits illustrate reasonable orders of magnitude for impacts that could arise as a result of the impact pathways set out in Initiative's theories of change. For each impact area, projections consider breadth (numbers reached), depth (expected intensity of effect per unit) and probability (a qualitative judgement reflecting the overall degree of certainty or uncertainty that the impact pathway will lead to the projected order of magnitude of impact). Projections will be updated during delivery, to help inform iterative, evidence-driven, dynamic management by Initiatives and identification of gaps at the portfolio level. Note that Projected Benefits are not suitable for CGIAR or Initiative-level accountability or target-setting, as genuine impact at scale is beyond the timeframes and direct control of the Initiatives, and the projections do not estimate CGIAR's attributable share of the different impact pathways.
91. **Impact Assessment:** The portfolio of Initiatives and non-pooled projects will help CGIAR to achieve targets along a continuum of common outcomes and impact indicators that require assessment over 2022-2030. Impact assessment is essential to monitor, learn lessons, and guide continuous improvement in current and future cycles of the Investment Plan. Impact will be assessed at multiple levels addressing different research questions along an impact pathway. CGIAR will apply three types of impact assessment studies across Initiatives to answer key learning questions:
 - a. Longitudinal and panel studies with periodic data collection over long-time horizons will provide insights on outcomes and to monitor progress on core indicators (e.g., adoption of technologies). Coupled with qualitative analyses, they will inform Initiatives regarding achievement of objectives and unintended consequences.
 - b. Quasi-experimental assessments will measure the impact of CGIAR interventions for key indicators and impact areas.
 - c. Randomized Control Trials (RCTs) and other cutting-edge impact studies will generate high-quality evidence about the impact of specific innovation packages or other innovations for key indicators. RCTs will help validate other impact assessment approaches and inform appropriate scaling strategies for impact.
92. **Stage-gates:** Stage-gates will be applied as part of CGIAR Initiative delivery and will aid assessment of Initiative design and implementation. Stage-gate assessment principles and criteria will guide

and encourage strategic focus, careful Initiative design, and learning through implementation. Stage-gate decisions will determine resource allocation within and across Initiatives to the most promising and impactful components, as well as frame adaptive management and learning.

Annex 1. CGIAR Results Framework Table

Note: The CGIAR results framework is work in progress and will be revised before the CGIAR System Council meeting scheduled for December 2021. This will include horizontal rationalization across Initiatives and Action Areas, as well as vertical rationalization between the End of Initiative outcome, Action Area outcome, and CGIAR impact result levels.

Collective 2030 global targets across five impact areas (SDG-related and other 2030 targets to which CGIAR will contribute, and assess impact against)					
Impact Area	Nutrition, health and food security	Poverty reduction, livelihoods and jobs	Gender equality, youth and social inclusion	Climate adaptation and mitigation	Environmental health and biodiversity
Collective global 2030 targets	<p>End hunger for all and enable affordable, healthy diets for the 3 billion people who do not currently have access to safe and nutritious food.</p> <p>Reduce cases of foodborne illness (600 million annually) and zoonotic disease (1 billion annually) by one third.</p>	<p>Lift at least 500 million people living in rural areas above the extreme poverty line of US \$1.90 per day (2011 PPP).</p> <p>Reduce by at least half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.</p>	<p>Close the gender gap in rights to economic resources, access to ownership and control over land and natural resources for over 500 million women who work in food, land and water systems.</p> <p>Offer rewardable opportunities to 267 million young people who are not in employment, education or training</p>	<p>Implement all National adaptation Plans (NAP) and Nationally Determined Contributions (NDC) to the Paris Agreement.</p> <p>Equip 500 million small-scale producers to be more resilient to climate shocks, with climate adaptation solutions available through national innovation systems.</p> <p>Turn agriculture and forest systems into a net sink for carbon by 2050, with emissions from agriculture decreasing by 1 Gt per year by 2030 and reaching a floor of 5 Gt per year by 2050</p>	<p>Stay within planetary and regional environmental boundaries: consumptive water use in food production of less than 2,500 km³ per year (with a focus on the most stressed basins), zero net deforestation, nitrogen application of 90 Tg per year (with a redistribution towards low-input farming systems) and increased use efficiency; and phosphorus application of 10 Tg per year.</p> <p>Maintain the genetic diversity of seed varieties, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed genebanks at the national, regional, and international levels.</p>
Common impact indicators	#people benefiting from relevant CGIAR innovations #people meeting minimum dietary energy requirements #people meeting minimum micronutrient requirements #cases communicable and non-communicable diseases	#people benefiting from relevant CGIAR innovations #people assisted to exit poverty	women's empowerment and inclusion in the agricultural sector #women benefiting from relevant CGIAR innovations #youth benefiting from relevant CGIAR innovations #women assisted to exit poverty	#tonnes CO ₂ equivalent emissions #plans with evidence of implementation #\$ climate adaptation investments #people benefiting from climate-adapted innovations	#ha under improved management #km ³ consumptive water use in food production #ha deforestation #Tg nitrogen application #plant genetic accessions available and safely duplicated

Systems Transformation Action Area outcomes	Indicators
ST 1 - Farmers use technologies or practices that contribute to improved livelihoods, enhance environmental health and biodiversity, are apt in a context of climate change, and sustain natural resources.	STi 1.1 - Number of farmers using climate smart practices disaggregated by gender STi 1.2 - Number of farmers using agroecological practices disaggregated by gender STi 1.3- Measurable implications of adoptions such as production, profitability, input use, product quality and associated price, environmental and health damage avoided, livelihood, and employment
ST 2 - Consumers have the information, incentives and wherewithal to choose healthy diets.	STi 2.1 Diet quality score
ST 3 - Governments and other actors take decisions to reduce the environmental footprint of food systems from damaging to nature positive.	STi 3.1 Area of land under improved mitigation plans (or area that is decreasing in net carbon emissions – more ambitious and longer term) STi 3.2 Area under improved water use plans (or water use efficiency measures – more ambitious and longer term) STi 3.3 Trends in measures of non-point pollution where available.
ST 4 - Food system markets and value chains function more efficiently, equitably, and sustainably and lead towards healthier diets	STi 4.1 Number of commodity value chain x country combinations that use tested innovations to improve efficiency, inclusion, sustainability and nutrition objectives. STi 4.2 Gaps between farm/processor gate and consumer prices (with some measures focused on smallholder farmers if possible) STi 4.3 Domestic market price integration, both spatial and temporal STi 4.4 Improved international price and exchange rate transmission STi 4.5 Trends in relative prices of healthy to unhealthy foods
Shared Systems Transformation and Resilient Agrifood Systems Action Area outcomes	Indicators
ST & RAFS 1 - Smallholder farmers implement new practices that mitigate risks associated with extreme climate change and environmental conditions and achieve more resilient livelihoods	STRAFSi 1.1 Number of smallholder farmers who have implemented new practices that mitigate climate change risks, disaggregated by gender and type of practice
ST & RAFS 2 - National and local governments utilize enhanced capacity (skills, systems and culture) to assess and apply research evidence and data in policy making process	STRAFSi 2.1 Number of policies/ strategies/ laws/ regulations/ budgets/ investments/ curricula (and similar) at different scales that were modified in design or implementation, with evidence that the change was informed by CGIAR research
Resilient Agrifood Systems Action Area outcomes	Indicators
RAFS 1 - Smallholder farmers use resource-efficient and climate-smart technologies and practices to enhance their livelihoods, environmental health and biodiversity	RAFSi 1.1 Number of resource-efficient and climate-smart technologies at stage IV (uptake by next user), disaggregated by type
RAFS 2 - Research and scaling organizations enhance their capabilities to develop and disseminate RAFS-related innovations	RAFSi 2.1 Number of organizations
RAFS 3 - Public and private financial resources are invested to fund climate-smart business models.	RAFSi 3.1 Total amount (USD) invested in climate smart business models

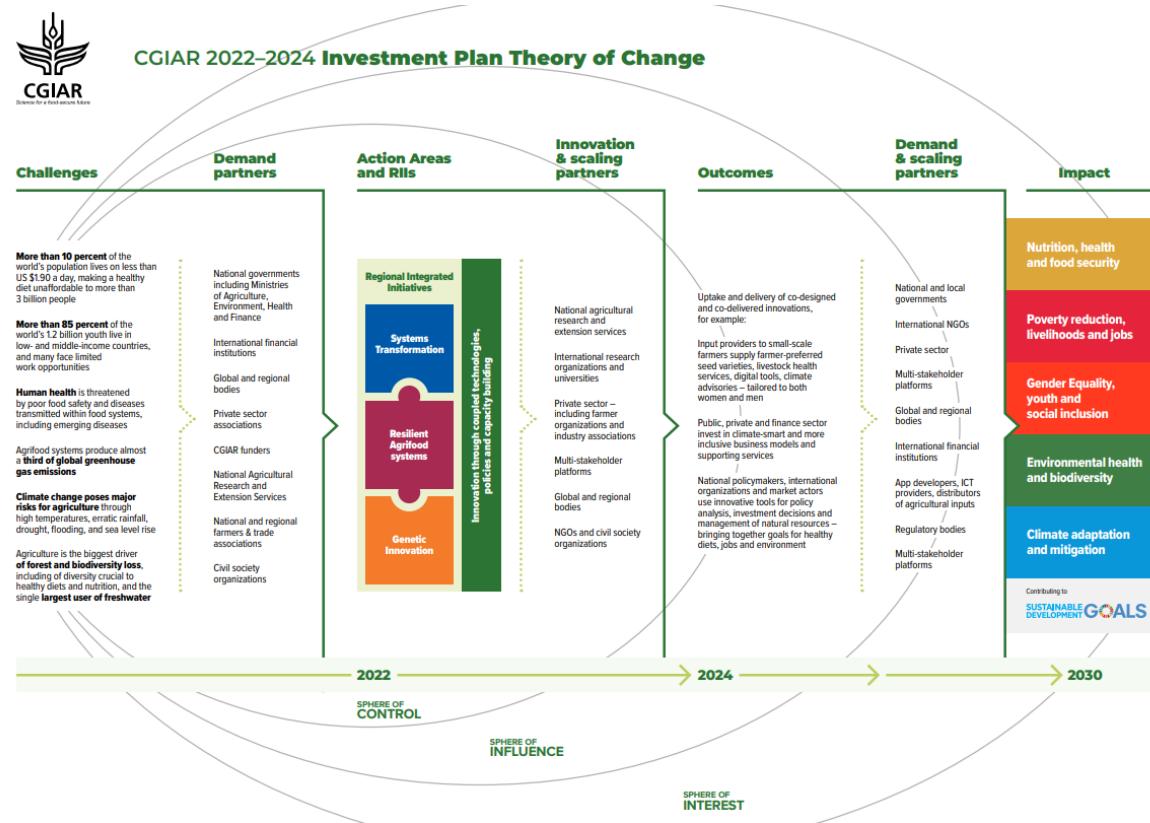
Genetic Innovation Action Area outcomes	Indicators
GI 1 - Researchers and breeders use high-quality accessions data to efficiently access genetic resources from genebank collections operating to international performance standards	Gli 1.1 Number of accessions data used at various levels of the breeding pipeline (level of use: used in crosses, backcrosses, incorporated in elite germplasm)
GI 2 - CGIAR & partners use high-quality market intelligence to guide the development of new varieties to meet the needs and expectations of a wide-range of users, with special attention to marginalized groups.	Gli 2.1 Proportion of new released varieties developed in alignment with market intelligence-informed product profiles
GI 3 - CGIAR & partner breeding programs use state-of-the art technologies to accelerate variety development and quality.	Gli 3.1 Realized and predicted rates of genetic gain in farmer's fields and farmer relevant-conditions in the form of farmer-preferred varieties Gli 3.2 Increase in the capacity of CGIAR-NARES-SME breeding networks
GI 4 - CGIAR & partner breeding programs use best practices and shared services to rapidly and efficiently produce new varieties with in-demand traits.	Gli 3.1 Realized and predicted rates of genetic gain in farmer's fields and farmer relevant-conditions in the form of farmer-preferred varieties Gli 3.2 Increase in the capacity of CGIAR-NARES-SME breeding networks
GI 5 - Cooperation and co-investment by CGIAR, public- and private-sector seed-system actors supports coordinated and effective research and investment in the sector	Gli 5.1 Number of genetic innovations commercialized through public/private sector cooperation agreements Gli 5.2 Number of public/private sector cooperation agreements
GI 6 - Seed-sector actors' investments pipelines are profitable and effective in scaling-up new varieties from CGIAR breeding.	Gli 6.1 number of CGIAR-NARES-SME new varieties being scaled-up by seed-sector actors Gli 6.2 Production volumes of seed or clones by Seed system actors
GI 7 - Farmers have access to and use climate-resilient, nutritious, market-demanded crop varieties.	Gli 7.1 Number of farmers who grow climate-smart crop varieties, disaggregated by gender Gli 7.2 Number of farmers who grow crop varieties with increased nutritional content, disaggregated by gender Gli 7.3 Area weighted average age of varieties in Farmers' fields
Shared Systems Transformation, Resilient Agrifood Systems, and Genetic Innovation Action Area outcomes	Indicators
ST & RAES & GI 1 Women and youth are empowered to be more active in decision making in food, land and water systems	STi 1.1 - Number of farmers using climate smart practices disaggregated by gender
	STi 1.2 - Number of farmers using agroecological practices disaggregated by gender
	STRAFSGli 1.1 Positive trends in the Women's Empowerment in Agriculture Index (WEIA) at various scales including nationally
	STRAFSGli 1.2 Number of women, youth and people from marginalized groups who report input into productive decisions, ownership of assets, access to and decisions on credit, control over use of income, work balance, and visiting important locations
	STRAFSGli 1.3 Number of farmers who grow market intelligence-informed new crop varieties, disaggregated by gender and age
	STRAFSGli 1.4 Percentage of female headed farm households that use an improved crop variety

Within-Initiative/Project Result types and Indicator categories (please see individual Initiative proposals for intended results (outputs and outcomes) and associated indicators)	
Outcomes	<p>Policy:</p> <ul style="list-style-type: none"> Number of policies/ strategies/ laws/ regulations/ budgets/ investments/ curricula modified in design or implementation, informed by CGIAR research. <p>Three levels of maturity:</p> <ul style="list-style-type: none"> (i) research taken up by next user, (ii) policy enacted, (iii) evidence of impact on people and/or environment of the policy.
	<p>Innovation:</p> <ul style="list-style-type: none"> Number of beneficiaries using the CGIAR innovation, disaggregated by gender. Other quantitative measure of CGIAR innovation use (e.g. area)
	<p>Capacity:</p> <ul style="list-style-type: none"> Change in the capacity of key (a) Individuals, (b) Organizations (government, civil society and private sector), and (c) Networks (e.g. multi-stakeholder platforms). <p>Three levels of maturity:</p> <ul style="list-style-type: none"> (i) unrealized alignment and contribution to shared objectives (ii) mid-point alignment and contribution to shared objectives (iii) full alignment and contribution to shared objectives
	<p>Uptake of information product:</p> <ul style="list-style-type: none"> Altmetric score
Outputs	<p>Innovation:</p> <ul style="list-style-type: none"> Number of innovations <p>Four levels of maturity*:</p> <ul style="list-style-type: none"> i) end of research phase (discovery/proof of concept); ii) end of piloting phase (if relevant); iii) available for uptake; iv) uptake by next user <p>*Stage 4 innovations are by definition outcomes and will be reported as such. The 4 point maturity scale will be reviewed over time to align with scaling readiness and use criteria.</p>
	<p>Capacity:</p> <ul style="list-style-type: none"> Number of people trained, long-term (including Masters and PhDs) and short-term, disaggregated by gender
	<p>Information product:</p> <ul style="list-style-type: none"> Number of peer reviewed journal papers Number of other information products/data assets (including: reports, briefs, extension, training and e-learning content and other materials, books and book chapters, data and databases, data collection and analysis tools (e.g. models and survey tools), video, audio and images, graphics, maps, and other GIS outputs, computer software, models and code, digital and mobile applications, and web-based services (e.g. websites, data portals, online platforms)

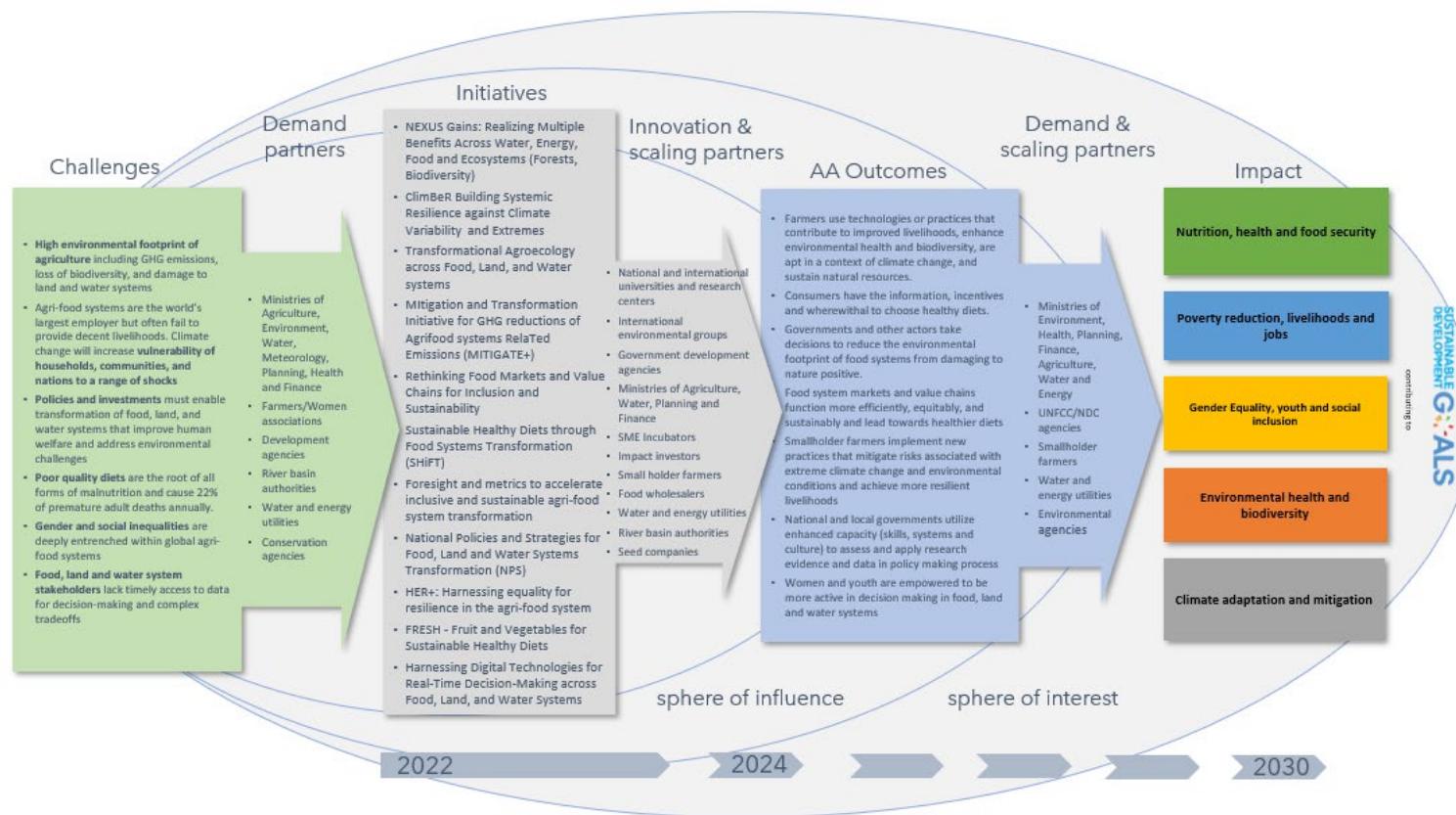
Annex 2. Nested CGIAR theories of change

Note: The nested CGIAR theories of change are work in progress and will be revised before the CGIAR System Council meeting scheduled for December 2021. This will include horizontal rationalization across Initiatives and Action Areas, as well as vertical rationalization between the End of Initiative outcome, Action Area outcome, and CGIAR impact result levels

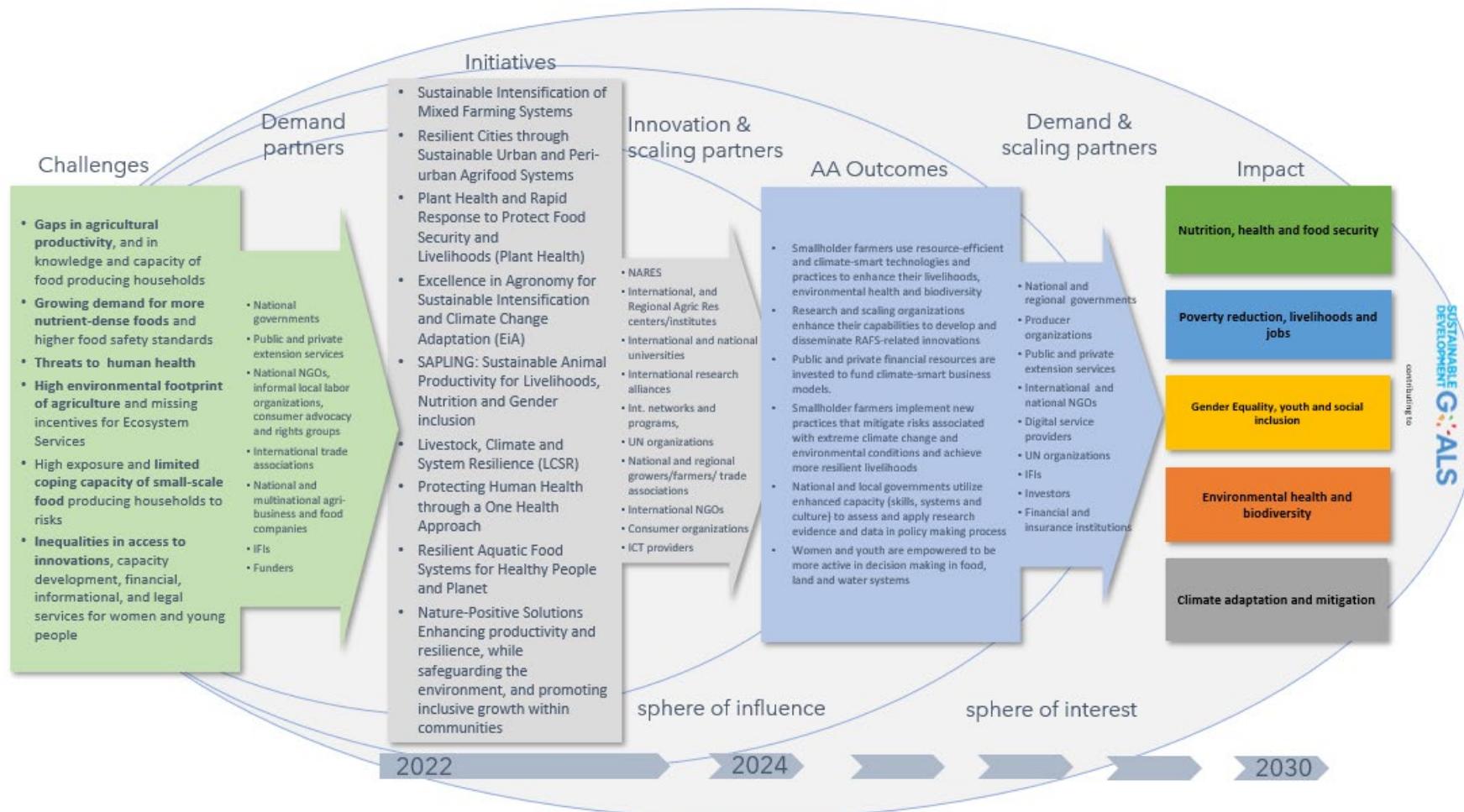
CGIAR theory of change



Systems Transformation Action Area theory of change



Resilient Agrifood Systems Action Area theory of change



Genetic Innovation Action Area theory of change

