Better Diets and Nutrition: Appendix

Full design document
September 2024

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Appendix 1. Supplementary tables for Section 3 on prioritization

Table A1.1. High-level outputs for Better Diets and Nutrition

High-level output	Impact pathway	High-level output description
1. Consumer-oriented food systems solutions for SHD	Innovation	Tested food system solutions tackling consumer-oriented constraints to SHD.
2. Market-oriented food systems solutions for SHD	Innovation	Tested food system solutions leveraging market-oriented opportunities to deliver healthy, nutrient-rich and safe foods, and improve income and employment of women and youth, in particular.
3. End-to-end food system solutions for PNR foods to support SHD	Innovation	Tested and adapted end-to-end food system solutions addressing the desirability, affordability, accessibility, availability and policy constraints for PNR.
4. Solutions for integrating biofortified and health-enhanced staples into food systems	Innovation	Tested new and existing biofortified and health-enhancing staples and derived processed products using biofortified ingredients through inclusive value chains that ensure reliable supply of affordable micronutrients, improve livelihoods and resilience for farmers, and diet quality for consumers.
5. Multisectoral solutions for SHD and nutrition	Innovation	Tested and adapted multisectoral solutions to deliver equitable impacts on diet and nutrition outcomes by addressing the accessibility, affordability, and desirability of SHD.
6. Gender transformative solutions for SHD, nutrition, income and employment	Innovation	Tested and adapted gender-transformative solutions to support equitable diet, nutrition and income impacts across the food system, and linked with other sectors, with significant equity improvement for women.
7. Climate-sensitive solutions for SHD and nutrition	Innovation	Tested and adapted climate-resilient and environmentally sustainable demand-side innovations (e.g. nutrition-sensitive adaptive social safety nets) to support equitable diet, nutrition and climate impacts across the food system.
8. Capacity sharing for FST solutions supporting SHD	Capacity	Capacity sharing activities for designing and implementing solutions in support of FST that delivers SHD and nutrition and health impacts at national and subnational levels.
9. Transformative capacity sharing for diets and nutrition leadership	Capacity	Capacity sharing activities that support leaders and leadership development to deliver transformative changes including on gender perspective at country, regional and global levels for SHD and nutrition impacts.
10. SHD and nutrition policy and financing options	Policy	Program guidance and policy and financing options that address multiple constraints (desirability, affordability, accessibility and availability) to SHD for women and youth, in particular, and private sector participation in building healthier food systems.
11. SHD and nutrition policy engagement and support	Policy	Convening and evidence support to national-level policy communities developing responsible food systems transformation toward SHD, and nutrition strategies and actions.

Note: FST = food systems transformation. PNR = perishable nutrient-rich. SHD = sustainable healthy diets.

Table A1.2. Definitions, sources and rationale of indicators used

Indicator type	Indicator name	Link	Description	Rationale
Food Systems Type	Food Systems Type	Food Systems Dashboard	The Food Systems Dashboard created a typology that characterizes countries into one of five food system types: rural and traditional; informal and expanding; emerging and diversifying; modernizing and formalizing; and industrial and consolidated.	The complexity of food systems creates a challenge in identifying policy actions that are needed to improve human and planetary health outcomes. The food systems typology is a useful classification tool to identify similarities and differences among food systems, while reducing this analytical complexity.
Nutrition Targets in the SDGs	Stunting	WDI	Prevalence of stunting (height for age <-2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) % children under 5 years of age	Stunting, or chronic malnutrition, is the outcome of growth faltering that takes place in utero and early childhood as a result of inadequate nutrient intake and repeated bouts of infection. Stunting is largely irreversible, and in addition to suboptimal growth outcomes, it is associated with poor cognitive development, reduced productive capacity, and poor health. Stunting may also increase risk of overweight, obesity, and noncommunicable diseases later in life.
Nutrition Targets in the SDGs	Wasting	WDI	Prevalence of wasting (weight for height >+2 or <-2 standard deviation from the median of the WHO Child Growth Standards) % children under 5 years of age	Wasting, or acute malnutrition, is the loss of body weight relative to height that results from inadequate nutrition and infection. Wasting increases the risk of death and disease and is a relatively short-term condition as compared to stunting. Countries with pronounced lean seasons, in which households experience heightened food insecurity and infections, often experience seasonal fluctuations in prevalence of wasting.
Nutrition Targets in the SDGs	Overweight	WDI	Prevalence of overweight, weight for height (% of children under 5)	Overweight and obese children are at higher risk of obesity, high blood pressure, noncommunicable diseases, disability, and death later in life. Childhood overweight stems from an energy imbalance related to excess caloric intake and inadequate physical activity. Excess weight during adolescence may cause early puberty and longer-term health consequences.
Food Security and Diet Outcomes	Food Insecurity Experience Scale (FIES)	Food Insecurity Experience Scale from FAO's Voices of the Hungry project	Prevalence of moderate or severe food insecurity in the population, based on the FIES (% of population)	The FIES is an experience-based food security scale used to produce a measure of access to food at different levels of severity that can be compared across contexts. It relies on data obtained by asking people, directly in surveys, about the occurrence of conditions and behaviors that are known to reflect constrained access to food.
Food Security and Diet Outcomes	MDD-W: Percent adult women meeting minimum dietary diversity	Food Systems Dashboard	Share of women who consumed at least the minimum recommended food groups the previous day, which makes it more likely they consume adequate micronutrients.	Indicator of diet diversity for adult women

Indicator type	Indicator name	Link	Description	Rationale
Food Security and Diet Outcomes	MDD (IYCF): Percent children 6-23 months meeting minimum dietary diversity	Food Systems Dashboard	Share of young children who consumed at least the minimum recommended food groups the previous day, which makes it more likely they consume adequate micronutrients.	Indicator of diet diversity for vulnerable child population
Food Security and Diet Outcomes	Zero fruit or vegetable consumption (adults)	Food Systems Dashboard	Share of the adult population who did not consume any fruits or vegetables the previous day.	Tracer indicator for fruit and vegetable intake (major component of Better Diets and Nutrition Program)
Food Security and Diet Outcomes	Non-Communicable Disease-Risk	Food Systems Dashboard	The NCD-Risk score is an indicator of dietary risk factors for NCDs, based on consumption during the previous day or night of eight food groups that are negatively associated with meeting WHO recommendations on free sugar, salt, total and saturated fat, and red and processed meat. The score ranges from zero to nine expressed as an average score for the population age 15 years and older.	Composite indicator for dietary risk towards non-communicable diseases
Food Security and Diet Outcomes	Sugar-sweetened soft drink consumption	Food Systems Dashboard	Share of adults who consumed sugar-sweetened soft drinks, which are generally known to be unhealthy, during the previous day.	Tracer indicator to capture unhealthy food
System Drivers	Food price volatility	Food Systems Dashboard	Domestic food price volatility index measures the variation (volatility) in domestic food prices over time, measured as the relative variation in the domestic food price index, a standardized measure of the cost of a basket of goods. High values indicate a higher volatility (more variation) in food prices.	Linking between better diets and various shocks affecting prices. Strong links between food price volatility and diet diversity and nutrition risks in the literature
System Drivers	Number of people who can't afford a healthy diet	Food Systems Dashboard	The share of the population whose food budget is below the cost of a healthy diet.	A healthy diet is considered unaffordable in a country when its cost exceeds 52 percent of income per capita per day. This percentage accounts for a portion of income that can be credibly reserved for food, based on observations that the population in low-income countries spend, on average, 52 percent of their income on food, as derived from the 2017 national accounts household expenditure data of the World Bank's International Comparison Program (ICP). Income data are provided by the World Bank's Poverty and Inequality Platform. A value of zero indicates a null or a small number rounded down at the current precision level.
System Drivers	Coverage of social protection	Food Systems Dashboard	The share of individuals in the total population from households where at least one member participates in a social protection and labor market program, including non-contributory social safety nets (e.g. cash transfers, school feeding), contributory social insurance (e.g. old-age	Given the huge challenge of affordability of healthy diets (3 billion people affected), the inclusion of safety net coverage as a strategy to address affordability is a critical indicator

Indicator type	Indicator name	Link	Description	Rationale
			pension, health insurance), and labor market programs (e.g. job training, unemployment insurance).	
System Drivers	Social protection adequacy	Food Systems Dashboard	The total social protection benefit amount received by beneficiary households (direct and indirect beneficiaries) as a percentage of beneficiaries' post-transfer, household wealth. This includes non-contributory social safety nets and contributory social insurance with monetary transfers but excludes safety nets without a monetary transfer and labor market programs.	An indicator showing the extent to which social protection is sufficient to meet household needs. Also linked to the depth of affordability of healthy diets
System Drivers	Agri-Food systems greenhouse gas emissions	Food Systems Dashboard	Production based greenhouse gas emissions (carbon dioxide, methane, nitrous oxide and F-gases) for food systems, expressed in kT CO2eq (AR5).	Food systems account for about 30% of total anthropogenic emissions. Reducing food systems emissions is crucial to reduce the impact of climate change and reach the targets of the Paris Agreement. And it is a sub-indicator of the FAO monitoring progress towards sustainable agriculture (SDG 2.4.1).
System Drivers	Total pesticides per unit of cropland	Food Systems Dashboard	The use of pesticides per area of cropland (which is the sum of arable land and land under permanent crops) at national level expressed as kg active ingredient per hectare.	Linked to food safety considerations
System Drivers	Gender Inequality Index	Food Systems Dashboard	The gender inequality index reflects gender-based disadvantage in three dimensions—reproductive health, empowerment, and the labor market—for as many countries as data of reasonable quality allow. It shows the loss in potential human development due to inequality between female and male achievements in these dimensions. It ranges from 0, where women and men fare equally, to 1, where one gender fares as poorly as possible in all measured dimensions.	Gender inequality can be related to inequitable food allocation within the household. It can also impact the societal roles of men and women as it relates to agricultural production, food processing, and engagement with the food environment.

Table A1.3. Nutrition targets in the Sustainable Development Goals

Country	Food system type	Prevalence of stunting (% children <5 years old)	Prevalence of wasting (% children <5 years old)	Prevalence of adult overweight (%)
Bangladesh	Rural and Traditional	23.6	11	17.1
Benin	Rural and Traditional	34.1	8.3	20.4
Colombia	Modernizing and Formalizing	12.7	1.6	37.7
Egypt	Informal and Expanding	22.3	9.5	32.2
Ethiopia	Rural and Traditional	36.8	6.8	16.9
Fiji	Emerging and Diversifying	7.2	4.6	34.3
Ghana	Rural and Traditional	17.4	5.8	21.7
Guatemala	Informal and Expanding	46	0.8	35.7
Honduras	Informal and Expanding	18.7	1.9	35.3
India	Informal and Expanding	35.5	18.7	16.4
Kenya	Rural and Traditional	17.6	4.5	18.8
Madagascar	Rural and Traditional	39.8	7.2	19.1
Malawi	Rural and Traditional	35.5	2.6	18.1
Nepal	Rural and Traditional	24.8	7	17.6
Nigeria	Rural and Traditional	31.5	6.5	20.8
Philippines	Informal and Expanding	26.7	5.4	21.8
Senegal	Informal and Expanding	17.9	8.1	19.9
Solomon Islands	#N/A	31.7	8.5	33.3
Sri Lanka	Informal and Expanding	17.3	15.1	18.6
Tanzania	Rural and Traditional	30	3.1	19.8
Timor Leste	#N/A	46.7	8.3	18.4
Uganda	Informal and Expanding	25.4	3.6	17.7
Vietnam	Informal and Expanding	19.5	4.7	16.7
Zambia	Rural and Traditional	34.6	4.2	20.4

Table A1.4. Food security and dietary outcome indicators

Country	Food system type	FIES (moderate or severe)	MDD-W (%)	MDD-IYCF (%)	Zero fruit or vegetable consumption (% adults)	NCD-Risk (average)	SSB consumption (%)	No. of biofortified crop(s) already released (and in testing)
Bangladesh	Rural and Traditional	31.1	58.8	33.8	14.1	1.5	10.9	4 (0)
Benin	Rural and Traditional	73.6	41.8	25.9	15.4	1.2	10.8	0 (1)
Colombia	Modernizing and Formalizing	30.7	71.7	68.6	8.9	2.6	28.4	4 (2)
Egypt	Informal and Expanding	28.5	77.5	34.7	5.9	1.6	24.4	0 (0)
Ethiopia	Rural and Traditional	58.1	24.1	13.5	37.6	0.7	11.3	2 (5)
Fiji	Emerging and Diversifying	24.2	#N/A	#N/A	#N/A	#N/A	#N/A	0 (0)
Ghana	Rural and Traditional	39.4	44.1	26.1	9.5	1.5	17.7	3 (1)
Guatemala	Informal and Expanding	59.8	77.8	59.3	10.8	3.3	49.5	3 (2)
Honduras	Informal and Expanding	56.1	72.8	60.7	16.4	3.4	57.5	2 (1)
India	Informal and Expanding	n/a	40.6	16.4	22.3	1.5	13.3	7 (2)
Kenya	Rural and Traditional	72.3	69.3	36.3	7.1	1.6	22.4	2 (4)
Madagascar	Rural and Traditional	64.9	40.3	24.7	17.3	1.7	9.1	1 (2)
Malawi	Rural and Traditional	82.4	53.1	22.8	7.9	1.2	10.5	2 (4)
Nepal	Rural and Traditional	37.4	63.9	39.7	11.1	1.6	12.7	2 (2)
Nigeria	Rural and Traditional	69.7	48.0	22.6	17.3	2.0	31.9	3 (0)
Philippines	Informal and Expanding	44.7	79.9	53.5	6.1	3.2	45.1	1 (1)
Senegal	Informal and Expanding	49.8	74.8	19.3	9.7	1.7	16.7	0 (1)
Solomon Islands	#N/A	n/a	#N/A	#N/A	#N/A	#N/A	#N/A	0 (0)
Sri Lanka	Informal and Expanding	10.9	82.1	78.4	5.8	1.6	6.7	0 (0)
Tanzania	Rural and Traditional	58.7	35.9	21.5	18.4	1.0	19.4	3 (3)
Timor Leste	#N/A	n/a	#N/A	39.8	#N/A	#N/A	#N/A	1 (0)
Uganda	Informal and Expanding	74.2	58.8	25.7	8.5	1.3	19.7	2 (6)
Vietnam	Informal and Expanding	9	88.7	58.9	3.0	2.6	24.6	0 (0)
Zambia	Rural and Traditional	73.1	59.6	23.2	3.5	1.7	18.1	2 (0)

Note: FIES = Food Insecurity Experience Scale. MDD-W = Minimum Dietary Diversity-Women. IYCF = infant and young child feeding. NCD = noncommunicable disease. SSB=sugar-sweetened beverage. Definition of indicators used in the table: MDD-W = Percent adult women meeting minimum dietary diversity; MDD-IYCF percentage of children 6-23 months of age who consumed foods and beverages from at least five out of eight defined food groups during the previous day. F&V consumption = Zero fruit or vegetable consumption the day before. NCD-Risk Average for 15+ yrs old; and SSB consumption = Share of adults who consumed a sugar-sweetened soft drink during the previous day.

Table A1.5. System drivers

Country	Food system type	Food price volatility	Percentage (number, millions) of people who cannot afford a healthy diet	Coverage of social protection	Social protection adequacy (% of HH wealth)	Agrifood system greenhouse gas emissions per capita	Total pesticides per unit of cropland (kg/ha)	Gender Inequality Index
Bangladesh	Rural and Traditional	0.69	48.2 (82.4)	41.4	4.3	840.7	1.6	20.2
Benin	Rural and Traditional	1.14	56.8 (7.6)	18.9	22.5	1538.6	1.0	16
Colombia	Modernizing and Formalizing	0.46	36.6 (19.0)	31.8	36.9	3775.7	8.7	29.4
Egypt	Informal and Expanding	0.70	44.4 (49.3)	92.3	21.0	841.6	1.4	24.2
Ethiopia	Rural and Traditional	0.63	54.1 (66.7)	22.2	8.2	1481.4	0.2	14.3
Fiji	Emerging and Diversifying	0.93	59 (.5)	37.1	11.3	979.7	6.6	#N/A
Ghana	Rural and Traditional	0.56	63 (21.1)	17.4	87.8	592.1	1.3	21.3
Guatemala	Informal and Expanding	0.90	43.9 (7.8)	63.3	22.3	1311.4	4.8	15.8
Honduras	Informal and Expanding	0.52	39 (4.1)	14.2	17.4	1749.1	6.5	16.7
India	Informal and Expanding	0.67	55.6 (788.2)	94.0	5.2	939.8	0.4	38.1
Kenya	Rural and Traditional	0.67	79.2 (42.8)	27.4	5.9	1148.9	0.9	21.2
Madagascar	Rural and Traditional	0.57	93.6 (27.7)	5.7	#N/A	1308.1	0.2	19.1
Malawi	Rural and Traditional	0.58	89.6 (18.3)	38.3	9.7	981.6	0.6	#N/A
Nepal	Rural and Traditional	0.35	41.1 (12.6)	43.5	6.0	1277.2	0.3	18.8
Nigeria	Rural and Traditional	0.16	78.7 (172.0)	20.7	9.7	1031.2	1.4	18.4
Philippines	Informal and Expanding	0.51	48.1 (55.6)	43.0	16.9	965.4	3.4	32.2
Senegal	Informal and Expanding	0.74	49.5 (8.6)	39.0	10.1	1304.5	0.2	22.5
Solomon Islands	#N/A	0.89	#N/A	#N/A	#N/A	685.0	0.4	#N/A
Sri Lanka	Informal and Expanding	1.13	41.1 (9.0)	37.5	17.1	672.0	1.2	23.3
Tanzania	Rural and Traditional	0.64	75.5 (49.4)	12.9	13.3	2439.9	0.0	17.4
Timor Leste	#N/A	0.82	#N/A	35.3	20.6	1460.0	0.3	#N/A
Uganda	Informal and Expanding	0.75	72.5 (34.2)	1.2	20.0	1238.0	0.9	16
Vietnam	Informal and Expanding	1.12	9.4 (9.2)	34.9	22.5	1523.9	4.3	36
Zambia	Rural and Traditional	0.83	75.5 (16.4)	2.3	3.0	4029.9	1.1	16.4

Appendix 2. Details comparative advantage exercise (Section 4)

Table A2.1. Comparative advantage analysis for Better Diets and Nutrition

HLO	Needed SCA required to deliver the HLO	CGIAR's SCA in delivering the HLO	Potential partner types	Partners' SCA in delivering the high-level output	Analysis of trade-offs between CGIAR and potential partners' SCA and indication of where the CA lies
1 Consumer-oriented food system solutions for SHD - tested food system solutions tackling consumer-oriented constraints to sustainable healthy diets	Subject matter experts and experienced evaluators (human capital) and long-term collaborations with in-country stakeholders and partners, local presence, and a strong reputation (social capital)	**Incentives**: Generating IPGs, reputation, relations with policy makers; maintain relations with donors; research tied to outcomes **Human capital**: Expertise in nutrition, political economy, economics, gender analysis, evaluations of complex programs, quantitative and qualitative approaches, local admin support **Biophysical capital**: Multi-country datasets, survey equipment; local office **Social capital**: Long-term collaboration w/in-country stakeholders and partners; local presence; strong (inter) national reputation	**International universities** (i.e. WUR, Univ. of South Carolina) and **research institutes** (i.e. IRD, CIRAD); **data collection firms** (i.e. Laterite, MDRI); **national universities** (i.e. Hanoi Medical School), and **national research institutes** (i.e. VASS, VAAS, EPHI, NIN); (inter)national Civil Society (i.e. GAIN, HKI, A&T; local CBOs); (sub)national governments	***International universities and research institutes*** **Incentives**: Generating IPGs, reputation, publications, increased impact of research, long-term collaborations w/in country stakeholders and partners; benefit from local presence **Human capital**: Expertise in design, (dietary) data collection, complementary qualitative research, analysis; expertise in capacity building (training, material development, etc.); pool for support through young scientists; contextual knowledge on gender and social norms **Biophysical capital**: Multi-country datasets; survey equipment **Social capital**: Strong international reputation; large academic network; rapport with respective gov't (funding opportunities) ***Evaluation firms*** **Incentives**: Profit, reputation **Human capital**: Expertise in coordination of and data collection **Social capital**: In-country network to get access to equipment/transport	For this HLO, the CA lies with CGIAR. Partnerships (1) lower burden on CGIAR staff time; (2) enhance capacity sharing; (3) ensure mixed method application; (4) ensure responsiveness to demands in FST-NAP; (5) augment the relevance of results for local settings; (5) increase local ownership; and (6) improve the timeliness of analysis and reporting.

HLO	Needed SCA required to deliver the HLO	CGIAR's SCA in delivering the HLO	Potential partner types	Partners' SCA in delivering the high-level output	Analysis of trade-offs between CGIAR and potential partners' SCA and indication of where the CA lies
2 Market-oriented food system solutions for SHD - Tested food system solutions leveraging market-oriented opportunities to deliver healthy foods, and improve income and employment of women and youth, in particular	Expertise in research methodologies for testing market system solutions for SHD, impact assessment and generating IPGs. Strong working relationship with stakeholders including national (sub) governments, international and national research organizations, and private sector	**Incentives**: Generating IPGs, produce publication and knowledge sharing, research impact, long term impact on diets and incomes in countries of program implementation, maintain relations with policy makers, donors, local and international partners **Human capital**: Expertise in value chains (including attention to gender and youth), food environment, nutrition, private sector engagement, management and implementation of large and complex food system program, managing partner relations, experiments and surveys design and implementation, quantitative and qualitative data management and analysis, **Biophysical capital**: Local offices, survey tools and equipment, baseline and impact data sets from several countries **Social capital**: Existing strong working relationship with stakeholders- national (sub) governments, international and national research organizations, private sector	**International universities** (MSU, WUR, MIT); n**ational Universities** (University of Makerere, Uganda; University of Jos, Nigeria); **national organizations** (Uganda Dairy development Authority); (sub) national governments and regulatory authorities; **national research organizations** (Nigerian Stored Products Research Institute (NSPRI); **private sector** (ColdHubs, WeGrow, EzyAgric, transporters, wholesalers); **media outlets** (The Daily Nation, Kenya; Shamba Shape-up; Farm Radio International); **data collection and evaluation firms** (Bunkasa Agritech, ECONS and Pathways Consulting)	***International universities and research institutes*** **Incentives**: Generating IPGs, produce publication and knowledge sharing, research impact, capacity development of students, development of tools, long term collaboration with local stakeholders **Human capital**: Expertise in value chains, nutrition, capacity building (training, material and tools development, etc.) **Social capital**: Existing working relationship with local stakeholders ***Private sector*** **Incentives**: Profit, reputation **Human capital**: Expertise in implementing value chain and financing innovations, **Biophysical capital**: Local offices, equipment, **Social capital**: Collaboration with local and international research organizations, local farmers and other value chain actors	CGIAR has a strong CA in this area, but it would need to work with partners in co-designing and testing / evaluating the solutions. Important partners include local and international universities who would play a role in co-designing the solutions, conducting research and building capacity of young scientists and students on this topic; private sector and national organizations would be key in the actual testing of the solutions, and (sub) national government bodies who would collaborate in both co-design and testing of the solutions. Working with partners in delivering this HLO would help in: capacity building, knowledge sharing, ensuring uptake and sustainability of the tested solutions through private sector and local partners, and increasing local ownership of the tested solutions.
3 End-to-end food system solutions for nutrient-rich perishable foods -	Subject matter experts and experienced evaluators (human capital) and long-term collaborations with in-	**Incentives:** Contributing to positive program and policy change, Generating IPGs, support from donors and other stakeholders to iterate on	**International universities** (i.e. WUR, UC Davis, Cornell) and **research Institutes** (i.e. World Veg); data collection firms (i.e. EDI, Kandy	**Incentives:** Collaborations w/in country stakeholders and partners; benefit from local presence; generating IPGs, reputation, publications	The CGIAR has a strong CA in this area given the wide range of expertise of its scientists in the fields necessary for co-designing

HLO	Needed SCA required to deliver the HLO	CGIAR's SCA in delivering the HLO	Potential partner types	Partners' SCA in delivering the high-level output	Analysis of trade-offs between CGIAR and potential partners' SCA and indication of where the CA lies
Tested end-to-end food system solutions addressing the desirability, affordability, accessibility, availability, and policy environment for fruits and vegetables, aquatic and animal-source foods	country stakeholders and partners, local presence, and a strong reputation (social capital)	solutions and evolve evidence-based solutions, reputation, relationships with program/innovation implementers, policy makers and donors, increased knowledge from working across sectors and with different stakeholders. **Human capital:** Expertise in diets, nutrition, food environments, economics, agronomy, food systems, gender, policy, evaluations of complex programs, quantitative and qualitative approaches, in-country scientists and administrative support. **Biophysical capital:** Multi-country datasets, survey equipment, offices in key geographies, in partnership with World Veg gene banks and agriculture land and labs for testing innovations in Benin and Tanzania **Social capital:** Deep collaboration with scientists and other stakeholders with expertise across all relevant sectors for co-designing and testing end-to-end solutions. Country coordinators who are able to regularly interact with a range of stakeholders and help bring the solutions together in country. Local presence; strong (inter) national reputation.	Consulting); **national universities** (i.e. Sokoine University of Agriculture), and **national research institute**s (i.e. NMRI); **NGOs** (i.e. GAIN, HKI); **IOs** (FAO, WFP); **(sub)national governments**	**Human capital:** Expertise in program/innovation design, data collection, expertise in capacity building, pool for support through young scientists; contextual knowledge, deep relationship with in-country stakeholders. **Biophysical capital:** Offices, survey equipment, datasets **Social capital:** Strong (inter) national reputation; networks in country; rapport with respective government agencies and donors which can provide different types of funding and other opportunities.	and implementing end-to-end solutions. Additionally, CGIAR scientists have experience working collaboratively across sectors and with a range of stakeholders in key geographies. Through the Initiatives we developed well-functioning partnerships, with key partners such as World Veg. While the CGIAR needs to partner to deliver on this HLO, the groundwork and partnerships are in place in key geographies. This gives a clear CA over other teams.

HLO	Needed SCA required to deliver the HLO	CGIAR's SCA in delivering the HLO	Potential partner types	Partners' SCA in delivering the high-level output	Analysis of trade-offs between CGIAR and potential partners' SCA and indication of where the CA lies
4 Solutions for integrating biofortified and health-enhanced staples into food systems	**Incentives:** Expertise committed to the creation of global public goods and knowledge dissemination, with research institutions publishing **Social Capital:** Strong relations with government entities and other potential collaborators	**Human Capital:** Expertise in nutrition with strong commitment to working in multi-disciplinary teams (economists, breeders, agronomists, food technologists and scientists available within and outside of the CGIAR. Local administrative support and strong capacity on impact assessment **Social capital**: Presence in target countries, with local partnerships established; Strong history of collaborating with Universities engaged in nutrition research. **Physical Capital:** Regional labs for nutrition composition analysis; within country offices; survey tools	**Advanced research universities** with capacity to conduct efficacy and effectiveness trials including: American (Cornell, University of Wisconsin Madison, Hopkins U, U of Oklahoma, UC Davis) and European universities (e.g. ETH Zurich, Max Planck Institute, Hohenheim U, East Anglia U, Central Lancashire University, Institute of Agricultural Biology and Biotechnology/Milan, Greenwich U) and **local universities** (e.g. Aga Kahn U/Pakistan; A*Star) with nutrition expertise in SSA, South Asia, and Latin America **Government health and agricultural services** **International and local NGOs** for value chain implementation HarvestPlus Solutions **Private Sector** Agro-processors Private Sector Seed Companies Universities, evaluation firms, civil society organizations	***International universities and research institutes*** **Human capital**: Expertise, field equipment and laboratory facilities for undertaking complex nutrition and health research. Source of supervised graduate students to implement research protocols and write-up findings. **Social capital**: Local universities have existing working relationship with local stakeholders ***Private sector*** **Incentives**: Profit, reputation **Human capital**: Expertise in implementing value chain and financing innovations, **Biophysical capital**: Local offices, equipment, **Social capital**: Collaboration with local and international research organizations, local farmers and other value chain actors	CGIAR has a strong CA in the field and product development components, but it would need to work with partners in co-designing and evaluating the biochemical indicators of nutrition and health Interventions. Important partners include local and international universities who would play a role in co-designing the solutions, conducting research and building capacity of young scientists and students on this topic; private sector and national organizations would be key in the actual testing of processed product solutions, and (sub) national government bodies who would be playing a lead role in providing the enabling environment
5 Multisectoral solutions for SHD and nutrition - Tested and adapted multisectoral solutions to deliver equitable impacts	Innovation in program design that integrates multisectoral efforts to address equity, affordability and impact on nutrition (capabilities in diverse sectors, ability to	**Incentives:** Contributing to positive program and policy change around impacts on nutrition outcomes and equity, Generating IPGs, support from donors and other stakeholders to iterate on solutions and evolve	**National governments** (for example, different ministries in governments of Ethiopia, India, Nigeria; Sri Lanka; Philippines, Bangladesh, etc.); **National or international non-government organizations**:	**Incentives:** Partner incentives include policy and political intent to tackle underlying challenges to deliver nutrition outcomes **Human capital:** Expertise in program/innovation design, pool for support through	The CGIAR has a strong CA in this area given the wide range of expertise of its scientists in the fields necessary for co-designing, implementing and testing multisectoral solutions to tackle nutrition equity,

HLO	Needed SCA required to deliver the HLO	CGIAR's SCA in delivering the HLO	Potential partner types	Partners' SCA in delivering the high-level output	Analysis of trade-offs between CGIAR and potential partners' SCA and indication of where the CA lies
on diets and nutrition outcomes by addressing the accessibility, affordability, and desirability of sustainable healthy diets	design and deliver interventions); Full range of impact evaluation and mixed methods implementation research skills and topical sectoral knowledge. Finally, adequate knowledge of policies, programs and financing of multisectoral programs.	evidence-based solutions, reputation, relationships with program/innovation implementers, policy makers and donors, increased knowledge from working across sectors and with different stakeholders. **Human capital:** Expertise in diets, nutrition, economics, school meal programs; safety net programs; water/energy issues; food systems, gender, policy, evaluations of complex programs, quantitative and qualitative approaches, in-country scientists and administrative support. **Biophysical capital:** Multi-country datasets, survey equipment, offices in key geographies **Social capital**: Relationships with national governments; international agencies; non-governmental organizations designing multisectoral programs for nutrition	(for example: BRAC, PRADAN, HKI, FHI360, Nutrition International); **International agencies** (for example, WFP, UNICEF, World Bank, FAO); **National research institutes/universities** (for example: NIN, icddrb, AKU, EPHI; ACIPH and more); **International research institutes/universities (**Cornell University; LSHTM; Univ. of South Carolina; etc.)	young scientists; contextual knowledge, **Biophysical capital:** Offices, survey equipment, **Social capital:** National or international program delivery or policy reputation; networks in country; rapport with respective government agencies	affordability of healthy diets and nutrition outcomes.at scale. CGIAR scientists bring experience in research on all the sectoral programs needed to deliver these HLO and nutrition. CGIAR scientists also have experience working collaboratively across sectors and with a range of stakeholders in key geographies. Through decades of research under the CRPs and funded bilaterally, the CGIAR has developed well-functioning partnerships with key partners, including national governments and international agencies. Many solutions to be co-designed and tested are delivered by implementation partners and evaluated by CGIAR and national researchers. Thus, while the CGAIR needs to partner to deliver on this HLO, the groundwork and partnerships are in place in key geographies and key sectors, and many have been in place for over a decade. This provides strong grounding to accelerate efforts given the mix of skills and the strength of partnerships.
6 Gender transformative solutions for	Subject matter experts and experienced evaluators (human	**Incentives**: Generating IPGs, produce publication and knowledge sharing, research	**Local and international NGOs, international universities and research**	***For local and international NGOs = social capital***	CGIAR has strong CA in this area given the wide range of expertise of its scientists in

HLO	Needed SCA required to deliver the HLO	CGIAR's SCA in delivering the HLO	Potential partner types	Partners' SCA in delivering the high-level output	Analysis of trade-offs between CGIAR and potential partners' SCA and indication of where the CA lies
SHD, nutrition, income and employment - Tested and adapted gender-transformative solutions to support equitable diet, nutrition and income impacts across the food system	capital) and long-term collaborations with in-country stakeholders and partners, local presence, and a strong reputation (social capital)	impact, tested suite of approaches to empower women and improve gender equality across the food system in countries of implementation, maintain relations with policy makers, donors, local and international partners **Human capital**: Expertise in designing and evaluating interventions to improve women's empowerment and gender equality (WEGE) in food systems, including metrics to measure WEGE in AFS, engagement with civil society organizations Biophysical capital: Local offices, survey tools and equipment, sex-disaggregated baseline and impact data sets from several countries **Social capital**: Existing strong working relationship with stakeholders- (sub) national governments, international and national research organizations, private sector	**institutes, national universities and research institutes, NARES**	***International universities and research organizations*** **Incentives**: Generating IPGs, reputation, publications, increased impact of research, long-term collaborations w/in country stakeholders and partners; benefit from local presence **Human capital**: Expertise ***NGOs or NARES*** **Human capital**: experience, in-country expertise **Social capital**: Trusted relationships	the fields necessary for co-designing, implementing and testing gender-transformative solutions. CGIAR also has experience working collaboratively across sectors and with a range of stakeholders in key geographies. Through decades of research under the CRPs and bilaterally funded projects, CGIAR has well-functioning partnerships with key partners, including national governments and NGOs. Many solutions to be co-designed and tested are delivered by implementation partners. In some cases, NGOs or NARES may have a SCA that enables them to bring actors together around the evidence base and justify investments in gender transformative solutions.
7 Climate-sensitive solutions for SHD and nutrition- Tested and adapted climate-resilient and environmentally sustainable demand-side	Subject matter experts and experienced evaluators (human capital) and long-term collaborations with in-country stakeholders and partners, local presence, and a strong reputation (social capital)	**Incentives**: Generating IPGs, reputation, relations with policy makers; maintain relations with donors; research tied to outcomes **Human capital**: Expertise in nutrition, political economy, economics, evaluations of complex programs, quantitative and qualitative	International Universities (i.e. Cornell, Columbia, MSU, MIT) and research Institutes (i.e. Potsdam Institute for Climate); National Universities (University of Jos, Nigeria); Global organizations (i.e. COP28 TCC, ACF), (inter)national Civil Society (i.e. WWF)	***International universities and research organizations*** **Incentives**: Generating IPGs, reputation, publications, increased impact of research, long-term collaborations w/in country stakeholders and partners; benefit from local presence	The CGIAR CA for climate-sensitive solutions is in other Programs (i.e. Climate Action), and international Global Organizations, so partnership with these is essential. The BDN Science Program's CGIAR CA is to ensure climate adaptation and mitigation does not harm

HLO	Needed SCA required to deliver the HLO	CGIAR's SCA in delivering the HLO	Potential partner types	Partners' SCA in delivering the high-level output	Analysis of trade-offs between CGIAR and potential partners' SCA and indication of where the CA lies
innovations to support equitable diet, nutrition and climate impacts across the food system		approaches, Local admin support **Biophysical capital**: Multi-country datasets, survey equipment; local office; laboratories for determining micronutrient content **Social capital**: Long-term collaborations w/in-country stakeholders and partners; local presence; strong (inter) national reputation	national research institutes (i.e. VASS, VAAS, EPHI, NIN,), private sector (buyers, distributors, retailers, (ColdHubs, EzyAgric), (sub)national governments	**Human capital**: Expertise in climate change modelling applied to food systems at a global scale, pool of young scientists **Biophysical capital**: Multi-country datasets, survey equipment **Social capital**: Strong international reputation ***Global and regional organizations*** **Incentives**: Implement the COP28 UAE Declaration on Agriculture, Food and Climate; align country agendas on NDCs, NAPs, NBSAPs **Human capital**: Country constellations in 16 countries **Social capital**: Endorsed by 160 countries	SHD and Nutrition. Specialized research to be done in partnership with (inter)national universities/research institutes with expertise on this. The BDN Science Program CA assesses the environmental sustainability of diets, and optimizes diets for health, environmental sustainability and costs. This is the CGIAR CA in partnership with international universities/research institutes.
8 Capacity sharing for FST solutions supporting SHD - Capacity sharing activities for designing and implementing solutions in support of food systems transformation that delivers sustainable healthy diets and nutrition impacts at national and subnational levels	**Human capital:** Expertise to develop capacity sharing events for different contexts and stakeholders; strong familiarity with challenges faced in the contexts of interest. **Social capital:** strong relations and trust with national/regional stakeholder beneficiaries for joint honorship. **Biophysical capital:** centers where the capacity sharing can	**Incentives**: Generating IPGs, reputation, relations with policy makers; maintain relations with donors; research tied to outcomes; capacity sharing mandate **Human capital**: Expertise in applied food system approaches, methods & tools; translation of concepts to action; consolidation of applied learning networks; local admin support **Biophysical capital**: Multi-country experiences bridging between conceptual and applied approaches to food systems; local office **Social capital**: Long-term collaborations w/in-country	International Universities and research Institutes (i.e. WUR, MSU), local research institutes (i.e. VAAS, EPHI, NIN) and universities, extension systems (ag, health/nutrition), (sub)national governments	***International universities and research institutes*** **Incentives**: Generating IPGs, reputation, publications, training, teaching and curriculum development mandate **Human capital**: Expertise in conceptualizing food system approaches and multistakeholder networks; design and application of research approaches and tools; academic curriculum and course design, implementation, and evaluation **Biophysical capital**: Multi-country experience and data sets; existing F2F and	This is joint CA of CGIAR, (inter)national universities/research institutes, and (sub) national governments. CGIAR and international universities/research Institutes provide technical and process expertise, partnership with national universities/research institutes and (sub) national governments ensure adaptation to the local context, prevent overlap with other organizations, and provide south-south support) and (sub)national cascading. Other (Inter) national organizations may provide

HLO	Needed SCA required to deliver the HLO	CGIAR's SCA in delivering the HLO	Potential partner types	Partners' SCA in delivering the high-level output	Analysis of trade-offs between CGIAR and potential partners' SCA and indication of where the CA lies
	be done conducive to effective capacity sharing;	stakeholders and partners; local presence; strong (inter) national reputation		hybrid/online food system transformation capacity sharing programs; existing formal programs for internationally accredited academic formation **Social capital**: Strong international reputation ***National universities and research institutes*** **Incentives**: Established research expertise, country ownership of results; funding for research; respond to policy makers; teaching mandate **Human capital**: Local knowledge and insights; expertise in contextualizing global concepts and approaches to meet needs; academic curriculum development and course design **Biophysical capital**: existing formal programs for nationally accredited academic formation **Social capital**: Strong national reputation; in-country network; rapport with (sub)national gov't	capacity sharing; close communication will provide overlap and might provide opportunities for partnership.
9 Transformative capacity sharing for diets and nutrition leadership - Capacity sharing activities that support regional and global	**Human capital:** A functional understanding of the need for leadership development and leadership practices and the importance of this to catalyze change.	**Incentives**: Generating IPGs, reputation, relations with policy makers; maintain relations with donors; research tied to outcomes; capacity sharing mandate that can be extended to leadership development.	(Inter)national Civil Society (SUN, ANH), universities (ANLP); Nutrition leadership Networks at country level such as those in Nigeria, and Ethiopia.	**African Nutrition Leadership Programme (ANLP); UNFSS Hub; North west University** **Incentives**: Build and strengthen the capacity of its network members; address low organizational capacity; connect people and	ANLP is very strong on development of nutrition leadership development content that can be applied to food systems transformation leveraging CGIAR comparative advantage on food and agriculture. A

HLO	Needed SCA required to deliver the HLO	CGIAR's SCA in delivering the HLO	Potential partner types	Partners' SCA in delivering the high-level output	Analysis of trade-offs between CGIAR and potential partners' SCA and indication of where the CA lies
transformative leadership that delivers sustainable healthy diets and nutrition impacts	**Social capital:** Trust relations that promote openness to the need for transformative leadership attributes across stakeholder groups	**Human capital**: Expertise in applied food system approaches, methods & tools; translation of concepts to action; consolidation of applied learning networks; established thought leadership in key topics to which to apply leadership principles **Biophysical capital**: Multi-country experiences bridging between conceptual and applied approaches to food systems that can form the basis to apply leadership development principles **Social capital**: association with nutrition leadership programes and processes in some countries and regions. Long-term collaborations w/in-country stakeholders and partners; local presence; strong (inter) national reputation		organizations working on agriculture, Diets and nutrition related topics. Ability to build on earlier efforts to provide leadership development for CAADP and SUN Teams in Africa. ANLP has run nutrition leadership development programs and country and regional levels since 2003 with a strong alumni network across the globe. **Human capital**: Strong global and regional alumni that can serve as resource persons, including three members of the program's writing teams. Global coordination; training and learning exchange organization; communications; global and national network facilitation **Biophysical capital**: Multi-country networks **Social capital**: Established global learning and exchange spaces; strong international reputation	complementary partnership is therefore possible as previously experienced for the Transform Nutrition West Africa project.
10 SHD and nutrition policy and financing options - Program guidance and policy and financing options that address multiple constraints (availability, accessibility,	**Human capital:** strong expertise in linking gaps in diet quality and nutrition outcomes to financial implications for national/regional governments to incentivize the need for financing; expertise to explore options of	**Human capital:** existing expertise on assessing financing options under diverse settings. Existing diets and nutrition expertise to link the finance elements to sustainable healthy diets and nutrition. **Social capital:** existing trust relations with national/regional	(Inter)national Civil Society (GAIN), international orgs (UNFSS Coord. Hub); funders/development banks, global and regional organizations (AU, UN); private sector (WeGrow, EzyAgric,); partner national governments implementing food systems transformation pathways.	Human capital: some partners like GAIN have a strong presence at country level. The UNFSS Coordination hub does not have a presence at country levels, but CGIAR strong presence at country level would be an asset and complementary,	CGIAR has a strong presence in many countries with strong influence relations. Other partners like GAIN have stronger relations with some relevant private sector entities that may require careful attention to manage trade-offs.

HLO	Needed SCA required to deliver the HLO	CGIAR's SCA in delivering the HLO	Potential partner types	Partners' SCA in delivering the high-level output	Analysis of trade-offs between CGIAR and potential partners' SCA and indication of where the CA lies
affordability, and desirability) to sustainable healthy diets for women and youth, in particular	financing options for different settings. **Social capital:** trust relations to work effectively with government and other relevant partners to openly explore options of financing mechanism	government and other stakeholders positioning CGIAR for influence. Geophysical capital: existing policy instruments at country and regional level that CGIAR has contributed to developing or has positively influenced.			
11 SHD and nutrition policy engagement and support - Convening and evidence support to national-level policy communities developing food systems transformation toward SHD, and nutrition strategies and actions	Strong nutrition capability and knowledge; experience and knowledge with evidence translation and facilitation; experience and research-based experience in development of transformative nutrition leadership and capacity sharing partnerships	**Incentives**: Generating IPGs, reputation, relations with policy makers; maintain relations with donors; research tied to outcomes; capacity sharing mandate **Human capital**: Expertise in applied food system approaches, methods & tools; translation of concepts to action; consolidation of applied learning networks; established thought leadership in key topics; **Biophysical capital**: Multi-country experiences bridging between conceptual and applied approaches to food systems **Social capital**: Long-term collaborations w/in-country stakeholders and partners; local presence; strong (inter) national reputation	International Universities (i.e. WUR); (Sub)national government, national research institutes (i.e. VASS, VAAS, EPHI, NIN; icddrb; IIDS), national universities, (inter)national Civil Society (i.e. GAIN), **global and regional organizations (UN Food Systems Coordination Hub)**	**Global and regional organizations (UN Food Systems Coordination Hub)** **Incentives**: Serve countries through systemic, country-driven, customized support for SDGs-based food systems transformations towards the acceleration of the 2030 Agenda; catalyse and connect the UN syste **Human capital**: Team comprised of secondments from UN system entities **Biophysical capital**: Access to UN infrastructure and offices **Social capital**: Connected with the broader ecosystem of actors for sustainable food systems, including Coalitions and other initiatives as well as the science ecosystem	This is joint CA of CGIAR and (sub)national gov'ts to ensure relevance and embedding of provided evidence to ensure FST toward SHD. Through (sub)national gov't, engagement with (inter)national universities to provide learning framework and documentation of the engagement process and outcomes. Through (sub)gov't partnership, collaboration will be coordinated with international organization working in-country. CGIAR has strong comparative advantage to support the achievement of this HLO in key countries where strong CGIAR in-country presence has now existed over the long term on diets, nutrition, food systems and related sectors. This exists in specific contexts nationally – India,

HLO	Needed SCA required to deliver the HLO	CGIAR's SCA in delivering the HLO	Potential partner types	Partners' SCA in delivering the high-level output	Analysis of trade-offs between CGIAR and potential partners' SCA and indication of where the CA lies
					Bangladesh, Ethiopia, Nigeria, Senegal and in other contexts regionally (South Asia, East Asia, West Africa and East Africa)

Note: AASF=animal and aquatic sustainable foods; BF=biofortification; CA = comparative advantage FST=food systems transformation; HLO=high-level outputs; SCA=sources of comparative advantage; SHD=sustainable healthy diets.

Appendix 3. Program-level TOC table (Section 5)

Table A3.1. Theory of change for the Better Diets and Nutrition Program

Theory of change element	Statement	Contributing Area(s) of Work	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
HLO 1	**Consumer-oriented food system solutions for SHD** - tested food system solutions tackling consumer-oriented constraints to sustainable healthy diets	1	Governments, universities, NGOs, MSMEs, WUR, Policy Innovations program, Sustainable Animal and Aquatic Foods program **Roles**: Co-design, implementation and joint testing of solutions, data collection and analysis, reporting and dissemination; policy incidence & uptake, scaling of solutions, foresight modelling, food safety interventions, food waste reductions	Not required	Not required
HLO 2	**Market-oriented food system solutions for SHD** - Tested food system solutions leveraging market-oriented opportunities to deliver healthy foods, and improve income and employment of women and youth, in particular	2	Governments, NGOs, private sector, private sector associations, Policy Innovation program, Sustainable Animal and Aquatic food program **Roles**: Co-design, implementation and joint testing of solutions, conducting research and building capacity of young scientists and students; data analysis, policy incidence & uptake scaling of solutions; sustainable production practices, global trade modelling exercises, food safety interventions, food loss and waste reduction	Not required	Not required
HLO 3	**End-to-end food system solutions for PNR foods to support SHD -** Tested and adapted end-to-end food system solutions addressing the desirability, affordability, accessibility, availability and policy constraints for PNR.	3	NARES, multistakeholder platforms, universities, community-based organizations, governments, World Vegetable Center, Breeding for Tomorrow, Sustainable Animal and Aquatic Foods program, Sustainable Farming program **Roles**: Co-design, implementation and joint testing of solutions, data analysis, policy incidence & uptake, scaling of solutions, vegetable seed systems support and breeding, sustainable vegetable (and diversified farming systems) production practices, post-harvest research, food safety, demand-oriented breeding for animal and aquatic foods, sustainable animal and aquatic foods production practices, food safety, food loss and waste reduction	Not required	Not required

Theory of change element	Statement	Contributing Area(s) of Work	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
HLO 4	**Solutions for integrating biofortified and health-enhanced staples into food systems -** Tested new and existing biofortified and health-enhancing staples and derived processed products using biofortified ingredients through inclusive value chains that ensure reliable supply of affordable micronutrients, improve livelihoods and resilience for farmers, and diet quality for consumers	4	NARES, multistakeholder platforms, universities, community-based organizations, governments, private-sector associations, Breeding for Tomorrow program, Sustainable Farming program **Roles**: Co-design and joint testing of solutions, co-design and evaluation of the biochemical indicators of nutrition and health interventions, conducting research and building capacity of young scientists and students; testing of processed product solutions; providing enabling environment; data analysis, policy incidence & uptake, scaling of solutions, demand oriented breeding for biofortified staples, sustainable staple production practices	Not required	Not required
HLO 5	**Multisectoral solutions for SHD and nutrition** - Tested and adapted multisectoral solutions to deliver equitable impacts on diets and nutrition outcomes by addressing the accessibility, affordability, and desirability of sustainable healthy diets	5	NGOs, community-based organizations, governments, universities, Future Frontiers and Security Program **Roles**: Co-design and joint testing of solutions, data analysis, policy incidence & uptake, scaling of solutions, social safety nets in fragile stales	Not required	Not required
HLO 6	**Gender transformative solutions for SHD, nutrition, income and employment** - Tested and adapted gender-transformative solutions to support equitable diet, nutrition and income impacts across the food system	1, 2, 3, 4, 5	NGOs, community-based organizations, NARES, multistakeholder platforms, universities, governments, Gender Equality and Inclusion Accelerator **Roles**: Co-design, implementation and joint testing of solutions, data analysis, policy incidence & uptake scaling of solutions;	Not required	Not required
HLO 7	**Climate-sensitive solutions for SHD and nutrition**- Tested and adapted climate-resilient and environmentally sustainable demand-side innovations to support equitable diet,	1, 2, 3, 4, 5	NGOs, community-based organizations, NARES, multistakeholder platforms, universities, governments, Climate Action Program **Roles**: Co-design, implementation and joint testing of solutions, policy incidence & uptake, scaling of solutions, specialized research to be done in	Not required	Not required

Theory of change element	Statement	Contributing Area(s) of Work	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
	nutrition and climate impacts across the food system		partnership with (inter)national universities/research institutes with expertise on this		
HLO 8	**Capacity sharing for FST solutions supporting SHD** - Capacity sharing activities for designing and implementing solutions in support of food systems transformation that delivers sustainable healthy diets and nutrition impacts at national and subnational levels	1, 3, 4, 5, 6	Universities, governments, NGOs, community-based organizations, multistakeholder platforms, regional organizations **Roles**: technical and process expertise; Development of training materials. co-design, implementation and joint testing of solutions, policy incidence & uptake scaling of solutions. Co-convening of events	Not required	Not required
HLO 9	**Transformative capacity sharing for diets and nutrition leadership** - Capacity sharing activities that support regional and global transformative leadership that delivers sustainable healthy diets and nutrition impacts	1, 3, 4, 5, 6	Country, regional and Global organizations, universities, NGOs, multistakeholder platforms, governments, Shared Capacity Accelerator **Roles**: Development of training materials. co-design, co-convening, implementation and joint testing of solutions, policy incidence & uptake scaling of solutions	Not required	Not required
HLO 10	**SHD and nutrition policy and financing options** - Program guidance and policy and financing options that address multiple constraints (availability, accessibility, affordability, and desirability) to sustainable healthy diets for women and youth, in particular	1, 2, 3, 4, 5, 6,	Governments, funders, global and regional organizations **Roles**: Co-design, implementation and joint testing of solutions, policy incidence & uptake scaling of solutions;	Not required	Not required
HLO 11	**SHD and nutrition policy engagement and support** - Convening and evidence support to national-level policy communities	1, 2, 3, 4, 5, 6	Governments, funders, global and regional organizations	Not required	Not required

Theory of change element	Statement	Contributing Area(s) of Work	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
	developing food systems transformation toward SHD, and nutrition strategies and actions		**Roles**: Co-design, co-convene, implementation and joint testing of solutions, policy incidence & uptake scaling of solutions;		
I-OC 1.1, 2.1, 3.1	Government actors incorporate policy and programming innovations to improve the availability, accessibility, affordability and desirability of SHDs	1, 2, 3, 4, 5, 6	NGOs, community-based organizations, NARES, multistakeholder platforms, universities, governments **Roles**: Policy incidence & uptake scaling of solutions;	*(i) that the three types of actors can identify key policies, business practices and multisectoral approaches relevant to their specific context to test and evaluate; (ii) that effective incentives for the adoption of effective policies, business practices and multisectoral approaches can be identified and leveraged to drive uptake; and (iii) that trade-offs and conflicts among actors can be managed to generate broad-based coalitions for positive FST*	Not required
I-OC 1.2	Market system actors incorporate practices that increase the efficiency and quality of SHD available while enhancing employment for women	1, 2, 3, 4, 5, 6	Private sector, private sector associations, NGOs, community-based organizations, NARES, multistakeholder platforms, universities, governments **Roles**: Policy incidence & uptake scaling of solutions;		Not required
I-OC 1.3, 2.3, 3.2, 4.1	Policy communities articulate complementary multisector approaches in synergy with SHDs that support improved nutrition and health status	1, 2, 3, 4, 5, 6	NGOs, community-based organizations, NARES, multistakeholder platforms, universities, governments **Roles**: Community facilitation, co-convening, shared learning, policy incidence & uptake scaling of solutions;		Not required
I-OC 1.4 & 2.4	Academic and research organizations learn, adapt, and synergize different approaches to work towards common food system objectives	1, 3, 4, 5, 6	Universities, governments, NGOs, community-based organizations, multistakeholder platforms **Roles**: Community facilitation, shared learning & consolidation of coalitions for FST	*(i) that capacity sharing supports the emergence of a common language and understanding of food systems, diets and nutrition across diverse actors; (ii) that this understanding facilitates meaningful dialog to identify synergies, manage trade-offs and promote shared learning; and (iii) that this contributes to coalitions in support of positive FST at the national and global scale*	Not required
I-OC 1.5, 2.5, 3.3, & 4.2	A South-South network of food system thinkers and leaders from across sectors facilitate knowledge exchange and technical expertise on expertise on SHD in FST	1, 3, 4, 5, 6	Governments, NGOs, community-based organizations, multistakeholder platforms, universities, global and regional organizations **Roles**: Community facilitation, shared learning & incidence in global debates;		Not required
I-OC 3.4	National and subnational food systems actors build	1, 3, 6	Universities, governments, NGOs, community-based organizations, multistakeholder platforms		Not required

Theory of change element	Statement	Contributing Area(s) of Work	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
	understanding of and collaboration on governance issues in the food system that pose risks to nutrition impacts		**Roles**: Community facilitation, shared learning & incidence in global debates		
I-OC 3.5	National and subnational policy actors use tools that assess the food systems transformation process to inform decision-making	1, 2, 3, 4, 5, 6	Governments, universities, private sector associations, NGOs, community-based organizations **Roles**: Community facilitation, co-convening, shared learning, policy incidence & uptake scaling of solutions	*(i) that the actors can identify synergies, manage trade-offs and develop articulated approaches; (ii) that political economy barriers and power dynamics can be positively influenced to support a change agenda; and (iii) that rich national processes can serve as inspiration for international agendas that include diets and nutrition in global discussions.*	Not required
I-OC 4.3	International and regional organizations agree to build a shared food systems agenda that maximize shared benefits and minimize risks to nutrition impacts	1, 2, 3, 4, 5, 6	Governments, NGOs, multistakeholder platforms, global and regional organizations **Roles**: Community facilitation, shared learning & incidence in global debates;		Not required
I-OC 1.6, 2.6, 3.6	Food systems actors learn, adapt, and synergize different approaches that support the implementation of effective public and market system solutions for SHD	1, 2, 3, 4, 5, 6	NGOs, community-based organizations, NARES, multistakeholder platforms, universities, governments **Roles**: Community facilitation, co-convening, shared learning, policy incidence & uptake scaling of solutions		Not required
I-OC 3.7	National and subnational policy actors align their nutrition and food systems policies towards meeting nutrition impacts	1, 2, 3, 5, 6	NGOs, community-based organizations, NARES, multistakeholder platforms, universities, governments **Roles**: Community facilitation, shared learning, policy incidence & uptake scaling of solutions		Not required
I-OC 4.4	International and regional organizations actively position diets and nutrition in global discussions about alignment between climate, agriculture and biodiversity agendas.	1, 2, 3, 4, 5, 6	Governments, NGOs, multistakeholder platforms, global and regional organizations **Roles**: Community facilitation, shared learning & incidence in global debates, co-convening		Not required

Theory of change element	Statement	Contributing Area(s) of Work	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
2030-OC 1	Market systems actors provide safe, affordable and attractive SHDs while ensuring high quality employment for women across 5 countries	1, 2, 3, 4	Governments, NGOs, private sector associations, community-based organizations, NARES, multistakeholder platforms, universities **Roles**: Policy incidence & uptake scaling of solutions;	*This indicator and target discussion aligns with FST-NAPs and is set with national stakeholders during the inception phase to adequately reflect country context and identify how can Better Diets and Nutrition help move faster on achieving these targets*	Availability of fruits Availability of vegetables Cost of diets (nutrient adequate, healthy) in USD
2030-OC 2	Consumers increase demand for and consumption of SHDs based on BCC, improved access and affordability across 5 countries	1, 2, 3, 4, 5	NGOs, community-based organizations, NARES, multistakeholder platforms, universities, governments **Roles**: Policy incidence & uptake scaling of solutions	*This indicator and target discussion aligns with FST-NAPs and is set with national stakeholders during the inception phase to adequately reflect country context and identify how can Better Diets and Nutrition help move faster on achieving these targets* *If we see increases this means both demand for SHD and increased capacity for consumers to access SHD.* *Care needs to be taken with meeting minimum amounts of foods consumed, not just consumption yes or no*	Increase % population that can afford nutrient/healthy diets MDD-W
2030-OC 3	Coalitions of food system actors across 10 countries lead the effective implementation of solutions and policy frameworks that deliver accessible, available, affordable and desirable SHD while balancing environmental and social needs.	1, 3, 4, 5, 6	NGOs, community-based organizations, NARES, multistakeholder platforms, universities, governments, private sector associations **Roles**: Community facilitation, shared learning, co-convening, policy incidence & uptake scaling of solutions	*The quality of the FST-NAP and the national capacity and willingness to implement what is planned is critical to measure, not the existence of the FST-NAP per se.* *Convergence indicators that include NDCs, NBSAPs and FST-NAPs are critical at a country scale to ensure policy coherence and alignment.*	No indicator is available to track progress to date on FST-NAPs. Development of this would be a focus of the Program Quality scoring of FST-NAP for Better Diets and Nutrition (scoring scale TBD)

Theory of change element	Statement	Contributing Area(s) of Work	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
					Implementation stages (scoring scale TBD)
2030-OC 4	Global multilateral networks incorporate diets and nutrition in a balanced way with climate, biodiversity and agriculture in a global convergence agenda	1, 5, 6	Universities, governments, NGOs, community-based organizations, multistakeholder platforms, global and regional organizations **Roles**: Community facilitation, shared learning & incidence in global debates	*The inclusion of diet and nutrition concerns in global conversations requires on-going leadership from country partners and Better Diets and Nutrition.* *Common convergence methods that include NDCs, NBSAPs and FST-NAPs are critical at a global scale to ensure policy coherence and alignment.*	No indicator exists. Development of this would be a focus of the Program. Common convergence indicators including SHD

Note: Abbreviations used only in the table and not defined elsewhere. 2030-OC=2030 outcome; I-OC = intermediate outcome; NBSAPs=National Biodiversity Strategies and Action Plans. WUR = Wageningen University and Research.

Appendix 4. AoW-level TOC tables (Section 6)

Table A4.1. Partnerships, assumptions, and 2030 outcome targets for AoW1

ToC Element #	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
OP 1.1	Suite of tested consumer-focused solutions that promote sustainable healthy diets	National and int'l academic institutions, national governments, Sustainable Animal and Aquatic Foods program **Roles**: Co-design, implementation and joint testing of solutions, conducting research and building capacity of young scientists and students; data collection and analysis, reporting and dissemination; policy incidence & uptake, scaling of solutions	Not required	Not required
OP 1.2	Suite of vendor-focused solutions that promote the sale of nutritious foods while maintaining or increasing income and employment opportunities	National and int'l academic institutions, national governments, Sustainable Animal and Aquatic Foods **Roles**: Co-design, implementation and joint testing of solutions, conducting research and building capacity of young scientists and students; data analysis, policy incidence & uptake scaling of solutions; food safety interventions, food loss and waste reduction	Not required	Not required
OP 2.1	Political economy analyses that identify and overcome systemic lock-ins	National and int'l academic institutions, national governments **Roles**: Co-design, implementation and joint testing of solutions, data analysis, policy incidence & uptake scaling of solutions	Not required	Not required
OP 2.2	Ex ante trade-offs compared to define policy options	National and int'l academic institutions, national governments, Policy Innovations Program **Roles**: Co-design, implementation and joint testing of solutions, Foresight modelling	Not required	Not required
OP 3.1	Strategic partners capable of building effective coalitions to implement FST-NAPs with a focus on SHDs	National and int'l academic institutions, national governments **Roles**: Co-design, implementation and joint testing of solutions, conducting	Not required	Not required

ToC Element #	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
		research and building capacity of young scientists and students; data analysis, policy incidence & uptake scaling of solutions		
I-OC 1.1 & 2.1	Government actors use evidence to inform their decisions about which consumer-oriented solutions to implement that improve the consumption of sustainable healthy diets and/or limit the consumption of unhealthy foods.	National governments **Roles**: Policy incidence, uptake, monitoring and scaling of solutions	Evidence is relevant and timely for government actors to use Gov't actors perceive their institutions to have the capacity to implement the solutions.	Not required
I-OC 1.2	Government actors use evidence to inform their decisions about which MSMEs and informal actor-oriented solutions to implement that overcome constraints inhibiting the affordability and accessibility of relatively healthy foods.	National governments **Roles**: Policy incidence, uptake, monitoring and scaling of solutions	Evidence is relevant and timely for government actors to use Gov't actors perceive their institutions to have the capacity to implement the solutions.	Not required
I-OC 1.3	Government actors use evidence to inform their decisions about which MSMEs and informal actor-oriented solutions to implement that maintain or increase decent employment and income opportunities, particularly among women.	National governments **Roles**: Policy incidence, uptake, monitoring and scaling of solutions	Evidence is relevant and timely for government actors to use Gov't actors perceive their institutions to have the capacity to implement the solutions.	Not required
I-OC 2.2, 3.1, & 4.1	Food system actors identify pathways and build momentum for new governance mechanisms (such as the FST-NAP) that seek to align different priorities, sectors, and levels of government to credibly address the consumption of SHD alongside other challenges.	National governments, Policy Innovations Program **Roles**: Policy incidence, uptake, monitoring and scaling of solutions	The political environment is conducive for actors to make the desired changes. Gov't actors are empowered to influence the desired changes. Gov't actors have the skills and capacity to influence the desired changes.	Not required
I-OC 2.3 & 4.2	Government actors promote lessons learned from promoting SHD through the lens of food systems transformation in global and national fora.	National governments **Roles**: Policy incidence, uptake, monitoring and scaling of solutions	Gov't actors are empowered to document, understand, and share lessons broadly.	Not required
2030-OC 1	Stakeholders scale tested solutions in target countries.	National governments, Scaling for Impact Program	Stakeholders have the desire, capacity, and resources to scale tested	N/A

ToC Element #	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
		Roles: Policy incidence, uptake, monitoring and scaling of solutions	solutions, and there are no barriers to scaling that go far beyond the control of these stakeholders.	
2030-OC 2	Target countries' momentum on food systems transformation remains steadfast with a focus on the SHD agenda, in particular.	National governments **Roles**: Policy incidence, uptake, monitoring and scaling of solutions	Governments understand the need to implement agendas that balance sustainable healthy diets with other FST priorities.	N/A
2030-OC 3	Coalitions in (and across) target countries understand how to steer the implementation of FST-NAPs toward SHD	Food system actors (national governments, civil society, private sector, international organizations) **Roles**: Community facilitation, shared learning, policy incidence, monitoring and uptake scaling of solutions	Coalitions consolidate around a FST agenda that centers sustainable healthy diets against other priorities.	N/A
2030-OC 4	National and subnational food system actors are aware of and understand how to apply food systems approaches, including tools, methods, and metrics, in research and practice.	Shared Capacity Accelerator, food system actors (national governments, civil society, private sector, international organizations) **Roles**: Community facilitation, shared learning, policy incidence & uptake scaling of solutions	Food system actors develop the knowledge, skills, and interest necessary to widely use food system tools, methods, and metrics at national and subnational levels.	N/A

Note: Abbreviations used in the table and not defined elsewhere. 2030-OC = 2030 outcome; I-OC=intermediate outcome; and OP=output.

Table A4.2. Partnerships, assumptions, and 2030 outcome targets for AoW2

ToC Element #	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
OP 1.1	Tested sets of solutions addressing food quality concerns in food supply chains and food environments	National partners (including third-party certification agencies); Government agencies; International research partners; Policy Innovations Programs, Digital Transformation Accelerator **Roles:** Collaboration in designing, implementation and testing of solutions, conducting food quality, safety, and policy research, co-designing & conducting research related to digital innovations This Program's AoW1, AoW5, AoW6, **Roles:** collaborating in conducting research on food environment, UPF policies and co-designing and testing solutions, Sustainable Farming, Climate Action, Gender Equality and Inclusion Accelerator **Roles:** sharing evidence that inform and helps in testing food quality and safety solutions under AoW2; collaboration in conducting gender and youth studies and testing solutions within the market system	Not required	Not required
OP 1.2	Contextually appropriate and locally supported innovations for food safety improvement and assurance in settings characterized by high levels of informality	Government agencies and local private sector partners, National and international research partners: **Roles**: co-developing and implementing innovations, and collaboration in food quality research Sustainable Animal and Aquatic Foods Program **Roles**: co-designing & conducting research on food safety in animal & aquatic foods	Not required	Not required
OP 2.1	Tested sets of solutions for improved efficiency, reduced food loss, and intermediation in market systems for healthy foods	National implementation partners, Government agencies, international research partners, and Private sector **Roles**: co-design and collaboration in testing and validation solutions on value chain efficiencies and food loss and waste, scaling of generated evidence, and data analysis This Program's AoW1, AoW3 **Roles:** collaborating in conducting research on solutions for reducing food loss and waste at the food environment	Not required	Not required

ToC Element #	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
		Policy Innovations Program and Digital Transformation Accelerator **Roles**: Co-design and research on policies and digital solutions for improving efficiencies in the market system		
OP 2.2	Tested sets of innovations that deliver inclusive finance in market systems for healthy foods	National implementation partners (including financial services institutions, digital finance service providers and producer organizations), government agencies, and international research partners; **Roles:** collaborate in designing and implementing solutions on finance Digital Transformation Accelerator. **Roles**: collaborate in finance research	Not required	Not required
OP 2.3	Tested solutions to increase incomes and quality employment opportunities for women and youth in market systems for healthy foods	National implementation partners; government agencies; international research partners; Policy Innovations Program and Digital Transformation Accelerator. **Roles:** Co-design, implementation and joint testing of solutions, data analysis, policy incidence & uptake, scaling of solutions, food safety research. This Program's AoW1, AoW3, AoW4, **Roles:** Joint testing of solutions	Not required	Not required
OP 3.1	Policy options to address role of market concentration in the growing supply and consumption of UPF	National and International research partners; government agencies **Roles**: Policy incidence, uptake, testing, monitoring and scaling of solutions This Program's AoW5, AoW6 **Roles**: collaboration on policy related evidence generation	Not required	Not required
OP 3.2	Policy scenario analyses identifying options for effective domestic and food trade policy support for sustainable healthy diets	National policymakers and relevant international organizations (including FAO, World Bank); Policy Innovations Program. **Roles**: Policy incidence, uptake, monitoring and scaling of solutions	Not required	Not required

ToC Element #	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
OP 3.3	Tested solutions to mitigate the impacts of climate change in market systems for healthy foods	National implementation partners; government agencies; international research partners; Policy Innovations Program and Digital Transformation Accelerator. **Roles**: Policy incidence, uptake, monitoring and scaling of solutions	Not required	Not required
I-OC 1.1	Food system suppliers and consumers use tested food quality and/or food safety standards	National implementation partners (including certification agencies); government agencies; international research partners **Roles**: co-design and implementation of solutions; collaboration in generating research evidence; uptake This Program's AoW1, AoW3, AoW4, **Roles:** Joint testing of solutions;	New food quality and/or safety standards perceived by consumers to signal higher quality or safer foods; producers and value chain actors perceive new standards are profitable to implement	Not required
I-OC 1.2	Effective systems for food safety improvement and assurance are deployed in settings characterized by high levels of informality	National implementation partners (including certification agencies); government agencies; international research partners **Roles**: implementation of solutions; collaboration in generating research evidence; uptake This Program's AoW1, AoW3, AoW4, **Roles:** Joint testing of solutions;	Food safety innovations are proven to be cost-effective	Not required
I-OC 2.1	Market system actors use effective components of bundled innovations for increased efficiency and reduced food loss and waste	National implementation partners; government agencies; international research partners **Roles**: implementation of solutions; collaboration in generating research evidence; uptake This Program's AoW1, AoW3, AoW4, **Roles:** Joint testing of solutions;	Some bundled innovations shown to increase affordability and accessibility of healthy foods; they are profitable for value chain actors to implement; innovations obtain appropriate policy support	Not required
I-OC 2.2	Market system actors adopt solutions that offer inclusive access to finance to agrifood businesses	National implementation partners; government agencies; international research partners **Roles:** collaborate in designing and implementing solutions on finance; uptake	Financial institutions offer attractive products for agrifood businesses; investing in value chains for healthy foods is perceived as profitable; women and youth are attractive employees as	Not required

ToC Element #	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
		Digital Transformation Accelerator. **Roles**: collaborate in finance research	businesses expand or they start their own agri-food businesses	
I-OC 3.2	Governments and relevant international fora (including UN, G20, G7) are aware of benefits of repurposed policy support for promoting sustainable healthy diets.	National governments; international organizations **Roles**: Policy incidence, uptake, monitoring and scaling of solutions	Political obstacles to reform have been overcome	Not required
2030-OC 1	Market system actors adopt models to improve food quality and food safety in target markets	Farmer organizations; agrifood businesses; national and sub-national governments; Scaling for Impact Program **Roles**: co-design and implementation of solutions; collaboration in generating research evidence; uptake This Program's AoW1, AoW3, AoW4, AoW5 **Roles:** Joint testing of solutions;	As food safety and quality solutions scale, they remain profitable for agri-food businesses to implement; signals to consumers grow trusted	N/A
2030-OC 2	Market system actors increase the availability and affordability of healthy foods, and offer improved employment opportunities for women and youth	National implementation partners including financial institutions and digital finance providers; farmer organizations; agrifood businesses; producer organizations; national governments; Scaling for Impact Program **Roles**: Community facilitation co-design and implementation of solutions; shared learning, policy incidence, monitoring and uptake scaling of solutions	Successful bundles maintain profitability in new markets as they expand in scope; women and youth are attractive employees as businesses expand or they start their own agri-food businesses; Demand exists for new financial innovations among agri-food businesses; supply of new financial products directly or indirectly reach women and youth; profitable investments can be made in healthy foods; governments provide adequate policy support.	N/A
2030-OC 3	Governments and relevant international fora (including UN, G20, G7) reorient trade and domestic support policies to provide incentives for greater supply of sustainable healthy foods	National governments and international organizations **Roles**: Policy incidence, uptake,and scaling of solutions This Program's AoW5, AoW6	Political obstacles to reform have been overcome	N/A

ToC Element #	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
	and enhance affordability of healthy diets	**Roles**: collaboration on policy related evidence generation		

Note: Abbreviations used in the table and not defined elsewhere. 2030-OC = 2030 outcome; I-OC=intermediate outcome; and OP=output.

Table A4.3. Partnerships, assumptions, and 2030 outcome targets for AoW3

ToC Element #	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
OP 1.1	Tested end-to-end solutions for fruit and vegetables	NARES, private sector, governments, academia, NGOs, IOs, **Roles**: Co-design, implementation and joint testing of solutions, data analysis, policy incidence & uptake, scaling of solutions, vegetable seed systems support and breeding, sustainable vegetable (and diversified farming systems) production practices, post-harvest research and food safety research. This Program's AoW2, AoW3, AoW5, AoW6, **Roles:** Evidence to inform different aspects of the end-to-end approach that can be adapted for use and testing in end-to-end solutions. Breeding for Tomorrow, Sustainable Farming, Climate Action, Future Frontiers and Security, Scaling for Impact, Gender Equality and Inclusion Accelerator **Roles**: Evidence to inform different aspects of the end-to-end approach that can be adapted for use and testing in end-to-end solutions. In some countries, production and/or breeding activities may be linked up with other activities to complete/complement the end-to-end approach, if feasible.	Not required	Not required
OP 1.2	Tested end-to-end solutions for aquatic foods	NARES, private sector, governments, academia **Roles**: Co-design, implementation and joint testing of solutions, data analysis, policy incidence & uptake, scaling of solutions, food safety research. This Program's AoW2, AoW3, AoW4, AoW5, AoW6 **Roles**: Evidence to inform different aspects of the end-to-end approach that can be adapted for use and testing in end-to-end solutions. Sustainable Animal and Aquatic Foods, Climate Action, Scaling for Impact, Gender Equality and Inclusion Accelerator **Roles**: Evidence to inform different aspects of the end-to-end approach that can be adapted for use and testing in end-to-end solutions. In some countries, production activities may be linked up with other	Not required	Not required

ToC Element #	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
		activities to complete/complement the end-to-end approach, if feasible.		
OP 1.3	Tested end-to-end solutions for terrestrial animal-source foods	NARES, private sector, governments, academia **Roles**: Co-design, implementation and joint testing of solutions, data analysis, policy incidence & uptake, scaling of solutions, food safety research. This Program's AoW2, AoW3, AoW4, AoW5, AoW6 **Roles:** Evidence to inform different aspects of the end-to-end approach that can be adapted for use and testing in end-to-end solutions. Sustainable Animal and Aquatic Foods, Climate Action, Scaling for Impact, Gender Equality and Inclusion Accelerator **Roles**: Evidence to inform different aspects of the end-to-end approach that can be adapted for use and testing in end-to-end solutions. In some countries, production activities may be linked up with other activities to complete/complement the end-to-end approach, if feasible.	Not required	Not required
OP 2.1	Capacity sharing for food systems transformation solutions supporting sustainable healthy diets	Government stakeholders, development partner groups, local food system platforms, academia, **Roles**: Co-design of capacity-related research and joint identification of capacity sharing priorities, uptake and scaling of successful approaches. This Program's AoW6 Shared Capacity Accelerator **Roles:** Evidence to inform capacity and leadership needs that may be applicable in target countries. Sharing lessons learned from this AoW to inform the broader capacity challenges.	Not required	Not required
OP 3.1	Policy options that address multiple constraints (availability, accessibility, affordability and desirability) to sustainable healthy diets	Government stakeholders, local food system platforms, academia, **Roles**: Co-design of policy-related research and joint identification of policy priorities, testing of policy solutions and use of evidence to inform policy adaptations.	Not required	Not required

ToC Element #	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
		This Program's AoW6 **Roles:** Evidence to inform policy frameworks and/or priorities that may be applicable in target countries. Sharing lessons learned from this AoW to inform the broader policy challenges.		
I-OC 1.1	Producers increase production of nutrient-dense foods	NARES, private sector, governments **Roles**: Co-design and piloting of solutions, scaling of solutions, vegetable seed systems support and breeding, sustainable vegetable (and diversified farming systems) production practices, food safety research. Breeding for Tomorrow, Sustainable Farming, Climate Action, Future Frontiers and Security, Gender Equality and Inclusion Accelerator **Roles**: Evidence to inform different aspects of the end-to-end approach that can be adapted for use and testing in end-to-end solutions. In some countries, production and/or breeding activities may be linked up with other activities to complete/complement the end-to-end approach, if feasible.	Tested end-to-end solutions (and bundled innovations within tested solutions) address gaps in nutrient-rich food production and increase demand for nutrient-rich foods supporting increased production.	Not required
I-OC 1.2	Producers, traders, vendors and consumers reduce food loss and waste	NARES, producer and trader organizations, consumer advocacy groups, private sector, government MDAs, CSOs **Roles**: Co-design and piloting of solutions, scaling of solutions, post-harvest research, food safety research. This Program's AoW2, Gender Equality and Inclusion Accelerator **Roles**: Evidence to inform innovations to reduce food loss and waste to test as part of end-to-end solutions.	Tested end-to-end solutions (and bundled innovations within tested solutions) solve post-harvest loss and waste challenges. Producers, traders and vendors invest in adopting and scaling solutions	Not required
I-OC 1.3	Producers, traders, vendors and consumers improve food safety	NARES, producer and trader organizations, consumer advocacy groups, private sector, government MDAs, CSOs, **Roles**: Co-design and piloting of solutions, scaling of solutions, production system research, post-harvest research, food safety research. This Program's AoW2, Gender Equality and Inclusion Accelerator	Tested end-to-end solutions (and bundled innovations within tested solutions) address food safety challenges. Producers, traders and vendors invest in adopting and scaling solutions	Not required

ToC Element #	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
		Roles: Evidence to inform innovations to improved food safety to test as part of end-to-end solutions.		
I-OC 1.4	Producers, traders and vendors contribute to improving food quality	NARES, producer and trader organizations, consumer advocacy groups, private sector, government MDAs, CSOs, This Program's AoW2, Gender Equality and Inclusion Accelerator **Roles**: Evidence to inform innovations to improve food quality to test as part of end-to-end solutions.	Tested end-to-end solutions (and bundled innovations within tested solutions) address food quality challenges. Producers, traders and vendors invest in adopting and scaling solutions	Not required
I-OC 1.5	Consumers experience increased access to perishable nutrient-rich foods	NARES, producer and trader organizations, consumer advocacy groups, private sector, government MDAs, CSOs **Roles**: Co-design, implementation and joint testing of solutions, data analysis, policy incidence & uptake, scaling of solutions, vegetable seed systems support and breeding, sustainable vegetable (and diversified farming systems) production practices, post-harvest research and food safety research.	Tested end-to-end solutions (and bundled innovations within tested solutions) address access constraints. Consumers are aware of increased access to nutrient-dense foods	Not required
I-OC 1.6	Consumers experience increased affordability of perishable nutrient-rich foods	Producers and traders and related organizations, consumer advocacy groups, private sector, MDAs, CSOs, NGOs, IOs, **Roles**: Co-design, implementation and joint testing of solutions, implementation of complementary programming, data analysis, policy incidence & uptake, scaling of solutions, vegetable seed systems support and breeding, sustainable vegetable (and diversified farming systems) production practices, post-harvest research and food safety research.	Increasing availability (through increased production and decreased loss and waste) and accessibility of nutrient-rich foods decrease the price of nutrient-rich foods Increased knowledge of the range of nutrient-dense foods and how to adapt to seasonal or other fluctuations increases consumers' experience with affordability of nutrient-dense foods If available, consumers access and use social assistance products for nutrient-dense foods	Not required
I-OC 1.7	Consumers increase intake of perishable nutrient-rich foods	Consumer advocacy groups, private sector, MDAs, CSOs, NGOs, IOs, **Roles**: Co-design, implementation and joint testing of solutions, implementation of complementary programming, data analysis, policy incidence & uptake, scaling of solutions.	Tested end-to-end solutions (and bundled innovations within tested solutions) address availability, accessibility and affordability constraints preventing adequate intake of nutrient-rich food.	Not required

ToC Element #	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
			Improved knowledge, attitudes and practices related to nutrient-rich foods increases the desirability of nutrient-rich foods which positively shifts consumers' dietary practices.	
2030-OC 1	Effective end-to-end solutions implemented in at least five focal countries	National governments, major donors, NGOs, IOs, academia **Roles**: Co-design, implementation and scaling of solutions, implementation of complementary programming, policy incidence & uptake.	End-to-end solutions developed enable improvements across the food system to increase intake of nutrient-rich foods and in turn, contribute to improvements in overall diet quality.	50,000 producers and consumers benefit from increased production and/or better diets
2030-OC 2	Increased national level capacity and buy-in to implement end-to-end solutions	National governments, major donors, private sector, CSOs, consumer advocacy groups, production and trader groups, NGOs, IOs, academia **Roles**: Joint prioritization of capacity sharing actions, uptake and scaling of successful approaches.	Policy support and engagement and capacity sharing activities increase capacity of various stakeholders to implement evidence-based end-to-end solutions and	End-to-end solutions scaled in at least two countries
2030-OC 3	Policies prioritize F&V, aquatic foods and other nutrient-dense foods	National and sub-national government actors **Roles**: Co-design of policy-related research and joint identification of policy priorities, testing of policy solutions and use of evidence to inform policy adaptations.	Policy support and engagement and evidence produced facilitate increased prioritization of nutrient-dense foods in health, nutrition and agriculture policies	10 policy changes

Note: Abbreviations used in the table and not defined elsewhere. 2030-OC = 2030 outcome; I-OC=intermediate outcome; IO=international organization. MDAs = ministries, departments, and agencies and OP=output.

Table A4.4. Partnerships, assumptions, and 2030 outcome targets for AoW4

ToC Element	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
OP 1.1	Culturally acceptable solutions for more affordable, accessible, available, and desirable healthy diet options for distinct agro-ecological settings	NARES, private sector, governments, academia, NGOs, IOs, Breeding for Tomorrow, this Program's AoW2, AoW3, AoW5, AoW6 **Roles:** Co-design, implementation and joint testing of solutions, data analysis, capacity building of students & early scientists, policy dialogue, uptake of upgrading & scaling of solutions, shared learning	Not required	Not required
OP 1.2	Affordable, healthier, biofortified-based processed products accessible and desired by consumers	NARES, private sector, governments, academia (food technology expertise), NGOs, IOs, This Program's AoW1, AoW2, AoW3, AoW5, AoW6, Gender Equality and Inclusion Accelerator **Roles**: Co-design, implementation and joint testing of solutions, data analysis, capacity building of students & early scientists, policy dialogue, uptake of upgrading & scaling of solutions, shared learning	Not required	Not required
OP 1.3	Complementary foods for young children using multiple biofortified staples	NARES, private sector, governments, academia, NGOs, IOs, This Program's AoW2, AoW3, AoW5, AoW6 **Roles**: Co-design, implementation and joint testing of solutions, data analysis, capacity building of students & early scientists, policy dialogue, uptake of upgrading & scaling of solutions, shared learning	Not required	Not required
OP 1.4	Cost-effective solutions for addressing seasonality in availability	NARES, private sector, governments, academia, NGOs, IOs, Sustainable Farming Program, this Program's AoW2, AoW3, AoW5, AoW6 **Roles**: Co-design, implementation and joint testing of solutions, data analysis, capacity building of students & early scientists, policy dialogue, uptake of upgrading & scaling of solutions, shared learning	Not required	Not required

ToC Element	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
OP 2.1	Strong, evidence-based models for further scaling of biofortified staples	Government stakeholders, development partner groups, local food system platforms, academia, Scaling for Impact, this Program's AoW5, AoW6 **Roles**: Co-design, implementation and joint testing of solutions, data analysis, capacity building of students & early scientists, policy dialogue, uptake of upgrading & scaling of solutions, shared learning	Not required	Not required
OP 2.2	Guidelines for private sector engagement in biofortified processed product development	NARES, private sector, governments, academia, NGOs, IOs, Breeding for Tomorrow, Sustainable Farming, this Program's AoW2, AoW3, AoW5, AoW6 **Roles**: Co-design, implementation of solutions, capacity sharing & building of agro-processors, policy dialogue, uptake of upgrading & scaling of solutions, shared learning	Not required	Not required
OP 2.3	Comprehensive review of pathways for uptake of biofortified crops	Academia, NARES, NGOs, Scaling for Impact, this Program's AoW6 **Roles**: Co-design, implementation and joint review of pathways for uptake, capacity building of students & early scientists, uptake of upgrading & scaling of solutions, shared learning	Not required	Not required
OP 2.4 & 3.1	Value chain development and upgrading strategies and policy recommendations	NARES, private sector, governments, academia, NGOs, IOs, Breeding for Tomorrow, Policy Innovations, this Program's AoW2, AoW3, AoW5, AoW6 **Roles**: Co-design, implementation and joint review of value chains, capacity building of students & early scientists, uptake of upgrading & scaling of solutions, shared learning	Not required	Not required
I-OC 1.1	Traders and markets include more nutritionally enhanced staples at	NARES, private sector, governments,	Tested solutions (and bundled innovations within tested solutions) address gaps in the production of	Not required

ToC Element	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
	scale for consumers to access	This Program's AoW2, AoW5, AoW6, Policy Innovations, Gender Equality and Inclusion Accelerator, Digital Transformation Accelerator **Roles**: Co-design, implementation of solutions, capacity sharing & building of market actors, policy dialogue, uptake of upgrading & scaling of solutions, shared learning	biofortified crops and nutritionally enhanced staples and increase demand for nutrient-rich foods supporting increased production.	
I-OC 1.2	Consumers increase demand for nutritionally enhanced staples, thus accessing key micronutrients at lower cost	NARES, producer and trader organizations, consumer advocacy groups, private sector, government MDAs, CSOs, This Program's AoW2, Gender Equality and Inclusion Accelerator, Digital Transformation Accelerator **Roles**: Co-design, implementation of solutions, community mobilization & nutrition education of consumers, policy dialogue, uptake of upgrading & scaling of solutions, shared learning	Tested solutions (and bundled innovations within tested solutions) to solve post-harvest loss and waste challenges. Producers, traders, and vendors invest in adopting and scaling solutions, including digital tools to improve linkages to suppliers.	
I-OC 1.3	Researchers have evaluated and prioritized new micronutrients and bioactive compounds for potential incorporation into breeding programs	NARES, academia, producer and trader organizations, consumer advocacy groups, private sector, MDAs, IOs, HarvestPlus Solutions Breeding for Tomorrow, this Program's AoW3 **Roles**: Co-design of TPPs, data analysis and evidence review, capacity sharing & building of breeders and agronomists, mobilization and capacity building of value chain actors (groups & organizations), policy dialogue, shared learning	Sufficient primary and secondary information exists to be able to conduct ex ante assessments to inform prioritization exercises. Consumer nutrient needs and health risks can be assessed.	
I-OC 1.4	Agro-processors use nutritionally enhanced food staples as ingredients	Producers and traders and related organizations, consumer advocacy groups, policy makers, private sector, MDAs, CSOs, NGOs, IOs, **Roles**: Co-design, implementation of solutions, community mobilization & nutrition education of consumers, policy dialogue, uptake of upgrading & scaling of solutions, shared learning	Increasing availability (through increased production and decreased loss and waste) and accessibility of nutritionally enhanced food staples decrease the price of these staples. Increased knowledge of how to use nutritionally enhanced food staples as ingredients and how to adapt to seasonal or other fluctuations increases agro-processors experience and innovation with these foods.	

ToC Element	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
I-OC 3.1	Policymakers ensure systems exist to monitor nutritional content and product quality and incentivize the use of nutritionally enhanced, safe food staples in food systems	Government departments, Consumer advocacy groups, private sector, MDAs, CSOs, NGOs, IOs **Roles**: Joint review of data and evidence analysis, Co-design, implementation of monitoring platforms, community mobilization & nutrition education of consumers, policy dialogue, uptake of upgrading & scaling of solutions for transparency, traceability and quality assurance, shared learning	Tested solutions (and bundled innovations within tested solutions) and laboratory capacity to address nutrition adequacy (toxicity), food safety, value chain transparency, and traceability constraints to safe, nutrient-rich food exist. Improved knowledge, attitudes, and practices related to nutrient-rich foods increase their desirability, which positively shifts consumers' dietary preferences.	
2030-OC 1	Increased intake and reliable supply of selected micronutrients from affordable biofortified and health-enhanced staples and processed products derived from them	National governments, major donors, NGOs, IOs, academia **Roles**: Co-design, implementation and joint review of solutions for uptake, capacity building of students & early scientists, uptake of upgrading & scaling of solutions, shared learning	End-to-end solutions developed enable improvements across the food system to increase intake of biofortified and health-enhancing staples (in raw and processed form) and, in turn, contribute to improvements in overall diet quality and livelihoods	At least 150,000 direct producer and consumer beneficiaries
2030-OC 2	Effective solutions for sustained uptake and scaling of biofortified and health-enhancing staples implemented in at least five focal countries	National governments, major donors, NGOs, IOs **Roles**: Policy dialogue, uptake, monitoring and scaling of solutions	Upgrade value chains through institutional markets and across the inform food system have been documented in accessible guidelines for different types of end users	At least 50 organizations are using a solution for sustained uptake at scale+
2030-OC 3	Policies prioritize biofortified and health-enhancing staples	National governments, local and regional policy platforms, consumer advocacy groups, private sector, MDAs, Policy Innovations **Roles**: Policy dialogue, uptake, monitoring and scaling of solutions	Policy support and engagement and evidence produced facilitate increased prioritization of biofortified and health-enhancing staples in health, food system, and agriculture policies.	At least 10 policy changes+

Note: Abbreviations used in the table and not defined elsewhere. 2030-OC = 2030 outcome; I-OC=intermediate outcome; IO=international organization. MDAs = ministries, departments, and agencies and OP=output.

Table A4.5 Partnerships, assumptions, and 2030 outcome targets for AoW5

ToC Element #	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
OP 1.1 and 2.1	Tested and adapted multisectoral solutions to deliver equitable impacts on diets and nutrition outcomes by addressing the accessibility, affordability, and desirability of sustainable healthy diets	National universities/research institutes, governments, nongovernmental implementation partners	Not required	Not required
OP 2.2	Tested and adapted gender-transformative solutions to support equitable diet, nutrition and income impacts across the food system	National universities/research institutes, governments, nongovernmental implementation partners	Not required	Not required
OP 1.2 and 2.3	Program guidance and policy and financing options that address multiple constraints (availability, accessibility, affordability, and desirability) to sustainable healthy diets for women and youth, in particular	National universities/research institutes, governments, funders	Not required	Not required
OP 1.3 and 2.4	Convening and decision support to national-level policy communities developing food systems transformation toward SHD, and nutrition strategies and actions	National advocacy partners, national governments,	Not required	Not required
IO-OC 1.1	Government and non-government organization programs in diverse sectors integrate evidence from CGIAR innovations into programs and policies that reach and benefit populations at risk of poor diets and nutrition outcomes	National governments, national and international implementation partners, major donors	Policy windows for program updates and nutrition strategies are available for integration of evidence; policy community open to evidence integration	Not required
IO-OC 1.2 & 2.1	Policy communities are more aware of approaches to tackle diverse determinants of sustainable healthy diets	National governments, implementation partners, funders	Policy community amenable to and engaged in dialogue on SHD and nutrition	Not required
2030-OC 1	20 million people reached by programs that integrate evidence and innovations from CGIAR research	National governments, national and international implementation partners, major donors	Across target countries, policymakers are open to policy changes and financing (if needed) to integrate evidence and recommendations	Number of people reached by key programs (social protection, nutrition behavior change, school-based programs; women's livelihood programs)
2030-OC 2	Affordability of healthy diets are improved for target vulnerable populations	National governments, national and international implementation partners, major donors	Financing is available, accessible and allocated to tackle affordability challenges	Percent of population who can afford a healthy diet

Table A4.6 Partnerships, assumptions, and 2030 outcome targets for AoW6

ToC Element #	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
OP 1.1	Tested contextual knowledge and knowledge translation strategies; related advocacy	**Partners:** Governments, regional and global organizations /platforms, international and national universities, NARES, NGOS, relevant CGIAR Science Programs/Accelerators **Role:** co-design, co-convene, providing evidence, testing of outputs, dissemination	Not required	Not required
OP 1.2	Targeted capacity-sharing events on evidence-to-policy action and strategic engagement for change	**Partners:** Governments, regional and global organizations /platforms, international and national universities, NARES, NGOS, relevant CGIAR Science Programs/accelerators **Role:** co-design, co-convene, evidence provision, joint research, testing of outputs, dissemination	Not required	Not required
OP 2.1	Multi-sectoral contextualized food systems and nutrition coordination mechanisms recommendations.	**Partners:** Governments, regional and global organizations /platforms, international and national universities, NARES, NGOS, relevant CGIAR Science Programs/Accelerators **Role:** co-design, co-convene, evidence provision, joint research, testing of outputs, dissemination	Not required	Not required
OP 3.1	A leadership development context-adaptable curriculum; regional and global ToT and leadership training	**Partners:** Leadership development organizations, governments, regional and global organizations /platforms, international and national universities, NARES, NGOs, All CGIAR Science Programs/Accelerators **Role:** co-design, co-convene, evidence provision, joint research, testing of outputs, dissemination	Not required	Not required
OP 3.2	Targeted capacity-sharing/ training events, workshops; tested capacity sharing modalities.	**Partners:** Leadership development organizations, governments, regional and global organizations /platforms, international and national universities, NARES, NGOs, All CGIAR Science Programs/Accelerators	Not required	Not required

ToC Element #	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
		Role: co-design, co-convene, testing of outputs, dissemination		
OP 3.3	Well-functioning CoP across the CGIAR and partners.	**Partners:** Regional and global organizations /platforms, NARES, NGOs, All CGIAR Science Programs/Accelerators **Role:** co-design, co-convene joint testing of outputs, dissemination	Not required	Not required
OP 3.4	Regional or continental food systems, diets and nutrition leadership platforms established as CoPs	**Partners:** Regional and global organizations /platforms, NARES, NGOs, Relevant CGIAR Science Programs/Accelerators **Role:** co-design, co-convene joint testing of outputs, dissemination	Not required	Not required
I-OC 1.1	Enhanced knowledge translation and evidence uptake mechanisms in place that influence FST agendas in target countries, and regions and global platforms.	**Partners:** Governments, regional and global organizations /platforms, international and national universities, NARES, NGOs, All CGIAR Science Programs/Accelerators **Role:** co-design, co-convene, evidence provision, joint research testing of outputs, dissemination	National government and NGO implementing stakeholders, and CGIAR science program/bilateral staff participate effectively in knowledge translation capacity sharing events and make efforts to apply lessons learned in their diverse professional/community settings.	Not required
I-OC 3.1	Strengthened internal leadership capacity for diets and nutrition transformation among CGIAR, programs, and partners on food systems for better diets and nutrition.	**Partners:** Leadership development organizations, governments, regional and global organizations /platforms, international and national universities, NARES, NGOs, All CGIAR Science Programs/Accelerators **Role:** co-design, co-convene, evidence provision, joint research, testing of outputs, dissemination	CGIAR program and bilateral staff and partners have strengthened understanding of principles of leading change in their diverse contexts; they are willing to apply the principles effectively in relevant work, leading to stronger systems thinking for transformative change.	Not required
2030-OC 1	Adoption of evidence-based solutions and application of transformative food systems actions/behaviors in at least 5 countries with strong stakeholder engagement.	**Partners:** Leadership development organizations, transformation pathway implementing governments, regional and global organizations /platforms, international and national universities, NARES, NGOs, All CGIAR Science Programs/Accelerators	Government and partner implementers of transformation pathways have a strong understanding of systems thinking and are able to apply this to decisions on what evidence-based solutions can make a difference in their settings. They are able to	Number of countries (at lease 5) reflecting stronger coherence of actions associated with transformation pathway actions and using tools developed by the program.

ToC Element #	Statement	Partners (including internal) and roles	Assumption (for outcomes only)	Indicator and target (for 2030 outcomes only)
		Role: co-design, co-convene, evidence provision, joint research, testing of outputs, dissemination	leverage the potential synergies to promote impact.	
2030-OC 2	Strengthened coordination and governance mechanisms and networks for at least 5 countries and at least 1 regional body.	**Partners:** Governments, regional and global organizations /platforms, international and national universities, NARES, NGOs, All CGIAR Science Programs/Accelerators **Role:** co-design, co-convene, evidence provision, joint research, testing of outputs, dissemination	Government and partner implementers of transformation pathways at county/regional levels experience change is coordination and governance behaviors that propels positive changes	Number of countries and regions reflecting strong and well-functioning coordination and governance mechanisms
2030-OC 3	Enhanced individual and institutional capacities and leadership for FST for better diets and nutrition in 10 countries	**Partners:** Leadership development organizations, governments, regional and global organizations /platforms, international and national universities, NARES, NGOs, All CGIAR Science Programs/Accelerators **Role:** co-design, co-convene, evidence provision, joint research, testing of outputs, dissemination	Enough partners institution staff members participate in training and change their leadership behaviors to form a critical mass of individual and institutional capacities to propel meaningful change in coherence of FST actions.	Number of countries with a critical mass of individual and institutional capacities for FST reflected by meaningful transformative change.

Appendix 5. Description of the open research idea submission process

The Better Diets and Nutrition Writing Team solicited submissions of research ideas for this Program from across CGIAR in June and July 2024 as an inclusive and open single-window input mechanism for research ideas for the overall proposal. An online form (https://forms.gle/rEnA21BtTuAAvLHV7) was used to collect ideas and their supporting details from all CGIAR scientists interested in diets and nutrition research to assess how they might fit in the Program.

- Submitters provided 300-word research idea abstracts that also included information on submitting Centers, geographies, potential partners, and several other details, including how ideas linked to the first framing of the Program's Areas of Work.
- Area of Work writing sub-groups reviewed and consolidated the specific ideas from the research submissions into broader thematic research questions for each Area of Work.
- Analyses of the submissions also helped to generate the first list of potential priority countries for CGIAR's research portfolio on Better Diets and Nutrition.

The list of more than 150 submitted research ideas are available is available in this Excel file.

Appendix 6. Key results stories from SHiFT, FRESH, and Rethinking Food Markets, by country (2022-23)

Ethiopia

1. Food-Based Dietary Guidelines as a “game changer” to transform Ethiopia’s food systems
   https://www.cgiar.org/initiative-result/food-based-dietary-guidelines-as-a-game-changer-to-transform-ethiopias-food-systems/

2. The pathway to genetic gains in Ethiopian dairy cattle project
   https://www.cgiar.org/initiative-result/the-pathway-to-genetic-gains-in-ethiopian-dairy-cattle-project/

Nepal

3. Transforming Nepal’s dairy buffalo through partnerships
   https://www.cgiar.org/initiative-result/transforming-nepals-dairy-buffalo-through-partnerships/

Nigeria

4. Genetically improved tilapia supports Nigeria’s aquaculture goals
   https://www.cgiar.org/initiative-result/genetically-improved-tilapia-supports-nigerias-aquaculture-goals/

Tanzania

5. Engaging stakeholders to shape nutrition policy
   https://www.cgiar.org/initiative-result/engaging-stakeholders-to-shape-nutrition-policy/

Timor-Leste

6. Fisheries monitoring system puts catch information, nutrition data, and more in the hands of decision-makers
   https://www.cgiar.org/initiative-result/fisheries-monitoring-system-puts-catch-information-nutrition-data-and-more-in-the-hands-of-decision-makers/

Vietnam

7. Research and collaboration lay the foundation for food systems transformation in Vietnam
   https://www.cgiar.org/initiative-result/research-and-collaboration-lay-the-foundation-for-food-systems-transformation-in-vietnam/

8. Advancing food systems transformation in Vietnam
   https://www.cgiar.org/initiative-result/advancing-food-systems-transformation-in-viet-nam/

Multi-country

9. Capacity sharing to support food systems transformation [in Ethiopia and Vietnam]
   https://www.cgiar.org/initiative-result/capacity-sharing-to-support-food-systems-transformation/