



# Sustainable Healthy Diets through Food Systems Transformation (SHiFT)



Proposal

September 27, 2021

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

# Table of contents

1. General information .....	3
2. Context .....	3
2.1 Challenge statement.....	3
2.2 Measurable three-year (end-of-Initiative) outcomes.....	4
2.3 Learning from prior evaluations and impact assessments .....	5
2.4 Priority-setting .....	6
2.5 Comparative advantage .....	7
2.6 Participatory design process .....	7
2.7 Projection of benefits .....	9
3. Research plans and associated theories of change (TOC) .....	13
3.1 Full Initiative TOC .....	13
3.1.1 SHiFT full Initiative TOC diagram.....	13
3.1.2 Work Package research plans and TOCs.....	14
4. Innovation Packages and Scaling Readiness Plan .....	34
5. Impact statements.....	35
5.1 Nutrition, health, and food security .....	35
5.2 Poverty reduction, livelihoods, and jobs .....	36
5.3 Gender equality, youth, and social inclusion .....	37
5.4 Climate adaptation and mitigation.....	38
5.5 Environmental health and biodiversity .....	40
6. Monitoring, evaluation, learning, and impact assessment (MELIA) .....	41
6.1 Resulta framework.....	41
6.2 MELIA plan .....	48
6.3 Planned MELIA studies and activities .....	49
7. Management plan and risk assessment .....	50
7.1 Management plan .....	50
7.2 Summary management plan Gantt table .....	51
7.3 Risk assessment .....	53
8. Policy compliance and oversight .....	54
8.1 Research governance .....	54
8.2 Open and FAIR data assets .....	54
9. Human resources .....	55
9.1 Initiative team - table .....	55
9.2 Gender, diversity, and inclusion in the workplace .....	56
9.3 Capacity development.....	56
10. Financial resources .....	57
10.1 Budget .....	57
10.1.1 Activity breakdown.....	57
10.1.2 Geographic breakdown.....	57
References .....	58

# Summary table

<b>Initiative name</b>	<b>Sustainable Healthy Diets through Food Systems Transformation (SHiFT)</b>
<b>Primary Action Area</b>	SHiFT aims to stimulate: the demand for/consumption of sustainable healthy diets (IA1); the production/delivery of nutritious, safe, affordable, and sustainably produced foods; while improving livelihoods, gender equity, and social inclusiveness in all subsectors of food systems (IA2 and IA3)
<b>Geographic scope</b>	Ethiopia, Bangladesh, Vietnam (CGIAR Research Program for Agriculture, Nutrition and Health [A4NH] countries) followed by Benin, Guatemala, Honduras, India, Senegal (as funding allows)
<b>Budget</b>	<b>US\$ 35,000,000</b>

## 1. General information

- Sustainable Healthy Diets through Food Systems Transformation (SHiFT)
- Primary CGIAR Action Area
- Proposal Lead: Marie Ruel, CGIAR and Deputy: Mark Lundy, CGIAR

Initiative Design Team members and affiliations:

Silvia Alonso, CGIAR Benjamin Belton, CGIAR Chris Béné, CGIAR Inge Brouwer, Wageningen University & Research (WUR) Alan de Brauw, CGIAR Jody Harris, World Vegetable Center (WVC)	Nozomi Kawarazuka, CGIAR Jef Leroy, CGIAR Paule Moustier, French Agricultural Research and Cooperation Organization (CIRAD) Shelly Sundberg, Bill & Melinda Gates Foundation (BMGF)
--	--

## 2. Context

### 2.1 Challenge statement

**Research challenge:** Food systems are not providing *sustainable healthy diets* (defined as: “*A dietary pattern that promotes all dimensions of individuals’ health and wellbeing; has low environmental pressure and impact; is accessible, affordable, safe and equitable; and is culturally acceptable*”<sup>1</sup>) for everyone, everywhere: healthy diets are unaffordable for 3 billion people.<sup>2</sup> Poor quality diets are associated with all forms of malnutrition<sup>3</sup> and 11 million premature adult deaths each year.<sup>4</sup>

Food systems contribute significantly to environmental degradation and biodiversity loss, and are responsible for over 25% of greenhouse gas (GHG) emissions.<sup>5</sup> While food systems are an important source of employment in low- and middle-income countries (LMICs), many jobs are in the informal sector with low and uncertain income and poor labor conditions, especially for women and youth.<sup>6,7</sup>

Diets are rapidly evolving due to changes in income, women's employment, urbanization, and developments in technology, food marketing, and public policy.<sup>8–10</sup> These changes, which happen in urban and rural areas, contribute to shifts in food environments (FEs) (defined as: "The interface that mediates the acquisition of foods to people within the wider food system"<sup>11</sup>). FEs increasingly promote ready-to-eat, convenient, cheap, and often ultra-processed foods associated with poor health.<sup>12</sup>

**Relevance to Impact Areas (IAs):** SHiFT's main goal is to ensure *sustainable healthy diets* for everyone, everywhere through food system transformation, making it the only One CGIAR Initiative with this primary focus. We will start from the consumer perspective and identify innovations to move consumer demand toward *sustainable healthy diets*, thereby contributing to improved nutrition and health, especially for marginalized populations (**IA1**). Our work also aims to enhance employment and income for poor formal and informal actors and mitigate trade-offs between delivering sustainable nutritious foods (defined as foods that are key components of a *sustainable healthy diet*) and achieving job and income goals (**IA2**). SHiFT will address unequal access to *sustainable healthy diets* and to decent employment<sup>13</sup> and the policies that create/reproduce social exclusion among marginalized groups, including women and youth (**IA3**). As a secondary impact, our work on policy lock-ins (defined as: "Public or private policies or decisions which lead to self-reinforcing outcomes, causing the economy or the sector to 'lock' itself into a path (dependency) which is difficult to alter or revert"<sup>14,15</sup>) and on tackling trade-offs will support the transition toward nature-positive and climate-neutral food production, distribution, and consumption (**IA4, IA5**).

**High priority in target countries:** Governments recognize the importance of *sustainable healthy diets* and the need to transform food systems to deliver these outcomes.<sup>16</sup> The 2021 UN Food Systems Summit and recent high-profile reports reiterate the demand for food systems sustainability research and for an increased focus on *sustainable healthy diets* in food system transformation processes.<sup>5,17–19</sup> SHiFT researchers have collaborated with relevant stakeholders in most of the target countries and are well positioned to co-define key research priorities and anchor food systems transformation within existing national policy processes.

**Aligned to shared, multi-funder priorities:** Donors increasingly recognize that production-focused initiatives are necessary but not sufficient to ensure *sustainable healthy diets* and that food systems transformation must include actions to improve access to — and consumption of — nutritious food (e.g., GDPRD, BMGF, Rockefeller Foundation, EC, USAID).

**Why science/research is needed:** Food systems transformation for *sustainable healthy diets* is impeded by the absence of accessible science-based evidence and practical tools for decision-making.<sup>5</sup> Knowledge gaps range from an incomplete understanding of the demand for *sustainable healthy diets*; to the constraints in delivering affordable *sustainable nutritious foods*; to the limited evidence on food systems power and governance dynamics; to the poor understanding of trade-offs between goals and incentives of different actors; and to the lack of tested successful transformative pathways. SHiFT is uniquely positioned to fill these gaps.

## 2.2 Measurable three-year (end-of-Initiative) outcomes

The SHiFT Initiative will identify effective policy options through research; strengthen capacity; and develop robust metrics and tools that support stakeholders' decisions when developing pathways to transform food systems toward *sustainable healthy diets*, improved livelihoods, gender equity, and social inclusiveness. Assuming a US\$30 million budget, the measurable three-year end-of-Initiative (EoI) outcomes to be achieved by 2024 are:

**EoI outcome 1** (Consumers): Stakeholders initiate implementation of at least two innovations or policies to increase the demand for *sustainable healthy diets*, especially among women, children, youth, and other marginalized groups in Bangladesh, Ethiopia, India, and Vietnam.

**EoI outcome 2** (MSMEs and informal sector): Stakeholders initiate implementation of at least two solutions to improve the ability of micro, small, and medium enterprises (MSMEs) and informal businesses to deliver *sustainable nutritious foods* and create inclusive income opportunities for women, youth, and other marginalized groups in Bangladesh, Ethiopia, India, and Vietnam.

**EoI outcome 3** (Governance and political economy): Stakeholders show a significant increase in their understanding and ability to engage in governance and political economy issues around the transformation of their food systems in Bangladesh, Benin, Ethiopia, and Vietnam.

**EoI outcome 4** (Trade-offs): One decision-support tool per country is developed and applied to raise stakeholders' awareness and improve their capacity to navigate trade-offs among food systems outcomes related to inclusion, sustainability, climate change, food safety, and diet quality in Bangladesh, Ethiopia, Honduras, and Vietnam.

**EoI outcome 5** (National roadmaps): One stakeholder coalition per country commits to implementing a national roadmap (comprised of a coherent, multisectoral set of actions) toward food system transformation for *sustainable healthy diets* in Bangladesh, Ethiopia, and Vietnam.

**EoI outcome 6** (Gender, youth, and social inclusion): Stakeholders initiate the implementation of at least two innovations or policies to address issues related to gender equality, youth, and social inclusion in food systems in all target countries.

## 2.3 Learning from prior evaluations and impact assessments

Below are examples of key learnings from prior research and evaluations:

- Transforming food systems requires broad, inclusive, and innovative processes to help key actors navigate diverging perspectives, competing interests, and power dynamics to follow transformative pathways.<sup>20,21</sup>
- Strong relationships with key actors in national and subnational food systems<sup>22</sup> are essential to ensure research is tailored to actual needs in context, and to influence critical processes that allow for impact.<sup>23–26</sup>
- Food system contributions to nutrition and health should be assessed through changes in consumption of *sustainable healthy diets* rather than changes in child stunting.<sup>27</sup> Increased dietary quality can help reduce all forms of malnutrition and noncommunicable diseases (NCDs) and build human capital.<sup>28</sup>
- High-quality evidence is needed on context-specific, effective FE innovations that facilitate achievement of *sustainable healthy diets* for everyone, everywhere.<sup>29,30</sup>
- Midstream agents in food systems (especially in informal markets) are critical for providing *sustainable healthy diets* at an affordable price while offering employment and opportunities for female entrepreneurship across the rural–urban continuum.<sup>31,32</sup>
- Improving women's leadership and decision-making in food systems, promoting equal and positive gender norms, and improving access to resources are important means to advance women's empowerment and gender equality but (cross-contextual) evidence to support pathways is limited.<sup>33</sup>

- Capacity development and knowledge translation — such as country platforms with innovation partners to co-design and co-implement research and policy engagement, short courses, [ANH Academy Week](#), graduate training programs, and facilitation of cross-country and cross-disciplinary learning — ensure that countries fully benefit from the research and learning process.<sup>26,34</sup>

## 2.4 Priority-setting

SHiFT will prioritize marginalized consumers, their diets, and the FEs with which they engage. These priorities were chosen because meeting the SDGs related to diets, nutrition, and health requires a solid understanding of consumer demand — how FEs influence diets and how, in turn, consumer demand shapes FEs — in varied settings and at different stages of food systems transition. Recent high-profile reports,<sup>5,17</sup> donor-funded projects such as [Drivers of Food Choice](#) and [FS-TIP](#), and the [2021 UN Food Systems Summit](#) reflect increasing alignment with SHiFT's key priorities. Demand for solid, actionable evidence to guide food systems transformation is likely to heighten post-UNFSS summit, and this Initiative will be ideally positioned as a key global knowledge partner.

SHiFT selected its [target countries](#) (the 8 countries are: Bangladesh, Benin, Ethiopia, Guatemala, Honduras, India, Senegal, and Vietnam; for India we will work in Haryana, Bihar, Odisha, Assam states, matching [TAFSSA](#) focus states), based on several criteria: (1) demand from countries (see section 2.6); (2) countries with divergent stages of food systems transformation, dietary transition, and governance models; (3) countries with strong existing partnerships with SHiFT researchers; and (4) countries where SHiFT can either deliver results relatively quickly or cultivate new partnerships for longer-term research and engagement. The selection resulted in three groups: (1) countries from the Agriculture for Nutrition and Health's [Food Systems for Healthier Diets \(A4NH FSHD\) flagship](#) where existing partnerships will be deepened (Ethiopia, Vietnam, Bangladesh); (2) countries where SHiFT researchers have extensive ties with prospective partners (India, Honduras, and Guatemala); and (3) countries where we plan to expand our methodology and engagement, conditional on budget availability (Benin, Senegal).

To set research priorities, we will build on the work developed by the [A4NH FSHD](#) team, which focused on improving diets in LMICs through a food systems approach. The team undertook a process of building long-term partnerships leading to tailored approaches based on country-specific food systems research questions (in Ethiopia,<sup>35</sup> Vietnam,<sup>36</sup> and Bangladesh<sup>37</sup>). The identified research gaps related to how food systems work and how they are transforming; the key areas for potential innovations to improve diet quality; and the entry-points to anchor food systems interventions within existing national policy and programs. Partner engagements were anchored through key innovation partners ([Vietnam](#), [Ethiopia](#)) or a network approach (Bangladesh). While adapting to the local situation, the team also sought common lessons applicable to other countries.

The priority-setting approach in SHiFT will be adapted to better address inclusion and sustainability issues. The first two Work Packages (WP1–2) will assess FEs from the perspective of marginalized populations, study ways to shift consumer demand toward *sustainable healthy diets* and shape FEs to incentivize [MSMEs](#) (defined by the [International Finance Corporation](#)) as being below the targeted number for three definitional categories (employees, assets, and annual sales)) and informal sector actors to produce and deliver affordable, sustainable, healthy foods. WP3 will help identify policy lock-ins and barriers inherent to food systems and propose contextualized and evidence-informed governance and policy solutions to help transition food systems toward more sustainable and equitable outcomes. WP4 recognizes that trade-offs can exist between objectives related to nutrition, food safety, food affordability, and sustainability, and will explicitly help stakeholders manage

these trade-offs at multiple levels. WP5 will focus on combining insights from WP1–WP4 and work with relevant stakeholders to identify, implement, and monitor context-specific transformative pathways for food systems to deliver outcomes.

## 2.5 Comparative advantage

SHiFT uniquely examines food systems from the consumer perspective, in contrast to the supply-side focus of other CGIAR Initiatives. SHiFT blends high-quality nutritional and social science research capacity with development partnerships to generate innovative and robust solutions that contribute to healthier and more sustainable dietary choices. We build on lessons learned from A4NH in LMICs, specifically the need to emphasize the role that FEs play in establishing the architecture for dietary choices made by marginalized consumers. The interplay between highly gendered consumer decision-making, informal food provision, and governance models remains significantly under-researched. The diversity of FE actors requires novel approaches to tease apart the interplay between economic, social, policy, and environmental incentives that contribute to more — or less — healthy and sustainable diets. SHiFT brings together a [unique multidisciplinary team](#) drawn from CGIAR and key non-CGIAR research partners covering different aspects of the food system, including Wageningen University & Research, CIRAD-IRD-INRAE, and the World Vegetable Center as well as critical national [innovation partners](#). The team has the capacity needed to develop tailored, evidence-based insights to support healthier and sustainable dietary choices. We build on successful A4NH research-for-development country platforms in Ethiopia,<sup>35</sup> Vietnam,<sup>36</sup> and Bangladesh<sup>37</sup> [as well as partners' work in Benin and India](#) that integrate evidence into policy processes to deliver outcomes, and will replicate similar approaches in other SHiFT countries. We will scale up SHiFT [innovation packages](#) through [national and international networks](#) with public, private, and civil society actors to assist capacity development and uptake in additional geographies.

## 2.6 Participatory design process

SHiFT responds to the well-recognized need to include *sustainable healthy diets* as a critical component in food systems transformation. This need emerged from stakeholder discussions at global, regional, and national levels and through Advisory Group consultations. This focus is also in line with international reports<sup>5,17–19</sup> and was recently included in the ambitions of the UNFSS, where two Action Tracks identified systemic solutions to ensure access to safe and nutritious food for all ([AT 1](#)) and to promote a shift to sustainable consumption patterns ([AT 2](#)). SHiFT also responds to priorities identified through the series of global, national, and independent food system dialogues (in preparation for the UNFSS), as well as national agriculture, food, and nutrition policies and strategies in target countries. Across Africa, SHiFT responds to the [IGAD](#) Regional Nutrition Policy and Strategy (2016–2021), one of the regional economic communities and Pillars of the African Union, emphasizing the importance of communication to promote healthy diets. Likewise, SHiFT connects to the Africa Common Position on Food Systems of the African Union Development Agency (AUDA-[NEPAD](#)), which emphasizes the importance of governance in country-specific integrated solutions.

SHiFT will draw upon its members' own involvement in stakeholder consultations under various research programs to ensure alignment with national policies and strategies, and to co-develop and implement food systems actions aimed at achieving *sustainable healthy diets* for everyone, everywhere. The importance of healthy diets as a critical means to tackle all forms of malnutrition is highlighted in key policy and strategy documents in Bangladesh,<sup>38</sup> Ethiopia,<sup>39,40</sup> and Vietnam<sup>41</sup> to which team members contributed.

In Benin, the [SafeVeg](#) program and the [West African Food System Resilience project](#) have established multistakeholder platforms to generate and apply research findings for healthy diets. SHiFT aligns with the independent Food System [Dialogues](#) in Benin and incorporates recommendations resulting from two other national [dialogues](#). For Senegal, SHiFT responds to the three independent Food System [Dialogues](#), organized in collaboration with French partners. In both countries, SHiFT is drawing from the long-term experience of French partners on MSME-driven food processing and marketing. For India, drawing from [TAFSSA](#) consultations, SHiFT responds to the general demand for better understanding of consumer demand for healthy drivers and its drivers.

In Central America, SHiFT aligns with the Sistema de Integración Centroamericana (SICA) [regional program on food and nutrition security](#) goal of developing a [regional information system on food and nutrition security](#). In Honduras, SHiFT partners have engaged in data collection, document development, and facilitation to [support the UNFSS process](#) by convening national and subnational working groups in collaboration with the UN country-level coordination.

**Table 1. Summary of UNFSS-related activities in SHiFT's target countries**

Country	Type of consultation	Number of participants
Vietnam	UNFSS dialogues	>1000 (in 5 dialogues)
	Key informant interviews and focus group discussions	10
Ethiopia	UNFSS dialogues	>100 (in 3 dialogues)
	Key informant interviews	15
	In-depth interviews	7
Bangladesh	UNFSS dialogues	>50 (in 1 dialogue)
	Key informant interviews and focus group discussions	9
Benin	UNFSS dialogues	45 (in 1 dialogue)
	Launch of SafeVeg and discussion	20
Honduras	UNFSS dialogues	>600 (in 5 dialogues)
India	Through TAFSSA consultations	n/a
Senegal, Guatemala	Through IDT partners	n/a

With the partners in the investment design team, we incorporated priorities specifically focused on *sustainable nutritious foods* as important elements of healthy diets, e.g., animal-source foods (CGIAR), fish (CGIAR), and vegetables (WorldVeg). In addition, we ensure strong linkages and engagement with complementary programs such as the USAID Innovation Lab for Food Systems for Nutrition, the [EU-FAO-CIRAD Food System Assessment Project](#), and the Rockefeller FS-TIP, which has the ambitious goal of achieving “sustainable, healthy diets for all.” FS-TIP started as a proof of concept in three African countries (Ghana, Kenya, Malawi) and plans to expand to other African countries offering opportunities for collaboration.

## 2.7 Projection of benefits

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

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

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

Breadth	Depth	Weight	Probability
<b>Nutrition, health &amp; food security</b>			
# people meeting minimum dietary energy requirements 908,000 people across 8 countries	transformative (preventing severe disability)	10	high (70%)
# people meeting minimum micronutrient requirements 47.9 million people across 8 countries	transformative (preventing severe disability)	10	high (50%)
# people benefiting from relevant CGIAR innovations 74 million people across 8 countries	perceptible (permanent impact on income)	0.2	medium (30%)
<b>Poverty reduction, livelihoods &amp; jobs</b>			
# people benefiting from relevant CGIAR innovations 4.9 million people across 8 countries	substantial (50% permanent impact on income)	5	low (25%)
# people benefiting from relevant CGIAR innovations 9.8 million people across 8 countries	significant (10% permanent impact on income)	1	low (25%)
<b>Gender equality, youth &amp; social inclusion</b>			
# women benefiting from relevant CGIAR innovations 3.8 million women across 8 countries	transformative (gender equality)	50	low (15%)
# women benefiting from relevant CGIAR innovations 4.6 million men and women across 8 countries	gender responsive (differential needs of men and women differentially met)	10	low (15%)
<b>Climate adaptation &amp; mitigation</b>			
# people benefiting from the implementation of adaptation plans 68.7 million people across 8 countries	perceptible (2% permanent impact on income)	0.2	medium (30%)
<b>Environmental health &amp; biodiversity</b>			
# ha under improved management 11.8 million ha of arable land across 8 countries	significant (one of the 3 benefits)	1	low (25%)

## Nutrition, health & food security

The projection of benefit for **IA1** (Nutrition, health & food security) includes **three projected benefit pathways** in the eight countries where SHiFT will be operating (Bangladesh, Benin, Ethiopia, Guatemala, Honduras, India (Haryana, Bihar, Odisha, and Assam states), Senegal, and Vietnam), as follows:

1. Considering the **# People meeting minimum dietary energy requirements** and using the number of people that do not have sufficient calories as estimated in SOFI 2020<sup>42</sup>, we approximate that this number in the eight countries is 60.5 million people (>15 year old) (computation details [here](#)). We then assume that this number will be reduced by 1.5% by 2030 (that is 908,000 people benefitting [**breadth**] across the eight countries) and that SHiFT will contribute to those **transformative changes (prevent severe disability)** [**depth**] through its different WPs, in synergy with other [One CGIAR Initiatives](#) including Resilient Cities, TAFSSA, and FRESH as well as other national or international food security programs working in the eight countries. The choice of a conservative 1.5% reduction reflects the projections proposed by SOFI including an increase in undernourishment (+6.5%) from 2020-2030 for Africa, an increase in Latin America (+2.1%), and a small reduction in Asia (-1.7%). Overall, a reduction of 1.5% seems acceptable for Asia, and preventing 1.5% of the population from falling into undernourishment in Africa and Latin America also seems like a reasonable assumption. **[Probability]**: we considered that these changes have a relatively high chance of occurrence, estimated at 70%, given the current emphasis of the international community on combatting hunger.
2. Considering the **# People meeting minimum micronutrient requirements**, and using the number of people unable to afford a healthy diet as a “rough” proxy for micronutrient deficiency, we approximate from SOFI 2020<sup>42</sup> that this number across the eight countries where SHiFT will operate is 319.7 million people (>15 year old). We then assume that this number will be reduced by 15% by 2030 (that is 47.9 million people [**breadth**]), and that SHiFT will contribute to this **transformative change (prevent severe disability)** [**depth**] through its different WPs (mainly but not only WP1) in synergy with other [One CGIAR Initiatives](#) including TAFSSA, FRESH, Resilient Cities, and Resilient Aquatic Food Systems as well as other national or international programs focusing on improving diets in the eight countries (computation details [here](#)). Note, however, the limitations of this analysis, given that there are no global or national level estimates of the current number of people suffering from multiple micronutrient deficiencies and no information on trends over time or expected reductions in micronutrient deficiencies resulting from increases in national GDP, improvements in population-level dietary quality, or increased health system coverage of micronutrient supplementation programs. The 15% reduction is therefore based on our informed expert opinion. **[Probability]**: given the current attention paid in the international community on improving micronutrient nutrition globally, we considered that these changes have a moderate chance of occurrence: 50%.
3. Finally, considering the **# People benefiting from relevant CGIAR innovations**, we accounted for the total number of poor people living in the eight countries (living below the poverty line) excluding the number of MSMEs (informal and formal) actors (as those will be counted in **IA2** below)- and assumed that by 2030, 75% of those poor households will have seen a 2% permanent impact on their income [**depth**], and that this **perceptible** change will be the result of general improvements generated by development programs (including SHiFT and other [One CGIAR Initiatives](#) such as TAFSSA, and National Policies and Strategies). The number of poor people in the eight countries (minus the MSME actors) was estimated to be 99 million people. This figure results from the total number of poor living in the eight countries (estimated from WDR 2021<sup>43</sup>) minus the number of people (men, women, youth) engaged in food system activities estimated indirectly from Dolislager et al. (2020)<sup>31</sup> detailed computation

[here](#). Seventy-five per cent of those represent 74 million people [**breadth**]. The choice of these two numbers (75% of actors and 2% permanent impact on their income) is not based on any specific existing projection but reflects the assumption that a small change occurring in the future (2% permanent impact on income) among a large number of people is relatively realistic. [**Probability**]: we assumed a medium 30% chance of occurrence for this change to happen.

### Poverty reduction, livelihoods & jobs

The projection of benefit for **IA2** (Poverty reduction, livelihoods & jobs) includes two projected benefit pathways:

1. Starting from the **# People benefiting from relevant CGIAR innovations**, we considered the number of MSMEs (informal and formal) actors in the eight countries (including youth and women). Based on the work of Dolislager et al. (2020)<sup>31</sup> and the number of poor living in these eight countries (WDR 2021<sup>43</sup>) — detailed computation [here](#) — we estimated that this number of MSMEs (informal and formal) actors is around 49 million people. We then assumed that by 2030, 10% of these actors will have seen a 50% permanent impact on their income, which represents 4.9 million people [**breadth**]. Given the current volatility/uncertainty that affects the world, and in particular the possible long-term impacts of COVID-19 on the global economy, we considered that 10% of actors benefiting is a safe estimate. SHiFT will contribute to this **substantial** change [**depth**] through activities from WP2 and policy changes supported by WP3 and WP4. Other [One CGIAR Initiatives](#) expected to contribute to this include the Rethinking Markets, National Policies and Strategies, and Resilient Cities. [**Probability**]: we assumed that those change have a (reasonable but conservative) 25% chance of occurrence.

2. Still in relation to **# People benefiting from relevant CGIAR innovations**, we assume that by 2030, 20% of the total number of MSMEs (informal and formal) actors in the 8 countries (i.e., 9.8 million out of the 49 million) [**breadth**] will have benefited from a 10% permanent impact on their income, and that SHiFT will have contributed to this **significant** change [**depth**] through WP1 and WP2 activities and from policy changes from WP3 and WP4. The computation procedures of these numbers (details [here](#)) were similar to those for the projection just above: given the current/recent trend in income raising in LMICs, a 10% permanent impact on income for 20% of this population over a 9-year horizon seems achievable. [**Probability**]: being sufficiently conservative, we assumed that those changes have 25% chance of occurrence.

### Gender equality, youth & social inclusion

The projection of benefit for **IA3** (Gender equality, youth & social inclusion) results from two projected benefit pathways.

1. Considering the **# Women benefiting from relevant CGIAR innovations**, we made the assumption that by 2030 about 10% of women involved in food systems activities in the eight focus countries where SHiFT will be operating will have benefited from improved gender norms and dynamics, leading to greater gender equality, and that SHiFT will have contributed to this transformative change [**depth**] through WP1-WP5 along with other [One CGIAR Initiatives](#) such as FRESH or HER+ (especially in countries where these Initiatives overlap with SHiFT). The number of women engaged in food system activities in the eight countries is 38 million people, based on the work of Dolislager et al. (2020)<sup>31</sup> and the number of poor living in those countries (WDR 2021<sup>43</sup>). If we assume that 10% of those women will benefit from greater gender equality, this number is therefore 3.8 million [**breadth**] -detailed computation [here](#). We are not aware of specific data that provide relevant information on the percentage of women that could benefit from these changes — the 10% we propose is therefore a conservative estimate. Likewise, there is no proposed well-established figure for

the likelihood of occurrence of such transformative changes. [**Probability**]: acknowledging the difficulty of the design and full implementation of gender-focused policies, we assumed that these transformative changes have a relatively low (15%) chance of occurrence.

2. Still with respect to the # Women benefiting from relevant CGIAR innovations, we consider the number of MSMEs (informal and formal) actors (including men and women) in the eight countries where SHiFT will be operating (91 million actors), and we assume that by 2030, the different needs of men and women will be identified and differentially met for 5% of these 91 million people (i.e. 4.6 million men and women [**breadth**] across the eight target countries), and that SHiFT will contribute to this gender responsive change [**depth**] through WP1-WP5, in synergy with [One CGIAR Initiatives](#) such as FRESH, HER+, or National Policies and Strategies (details [here](#)). As for the previous projection, the number is derived from the work of Dolislager et al. (2020)<sup>31</sup> and the number of poor living in these countries (WDR 2021<sup>43</sup>). [**Probability**]: we assume that these changes have a low 15% chance of occurrence.

### Climate adaptation & mitigation

The projection of benefit for **IA4** (Climate adaptation & mitigation) involves the # People benefiting from the implementation of adaptation plans and is based on the number of formal and informal food system actors working in MSMEs who will benefit from climate adaption and/or mitigation activities. From an initial estimation of 91.6 million in the eight target countries we assume that 75% of these actors will see a 2% permanent impact on their income (perceptible change) [**depth**] due to the various climate adaptation/mitigation programs expected to be implemented in the eight focus countries over the next 9 years (until 2030). 75% of 91.6 is 68.7 million people [**breadth**] (details provided [here](#)). The choice of these two numbers (75% of actors and 2% permanent impact on their income) is not based on any specific existing projection but on the assumption that a small change occurring in the future (2% permanent impact on income) among a larger number of people can be considered achievable given the current observed increase in income in LMICs. As detailed in section 5.4 below, SHiFT expects to contribute indirectly to these changes through activities implemented in WP2-WP4. [**Probability**]: we assumed a medium 30% of occurrence for those changes.

### Environmental health & biodiversity

The projection of benefit for **IA5** (Environmental health & biodiversity) considers the # ha of arable land under improved management. The total area of arable land in the eight countries is estimated to be 59 million ha – figures computed from the [Word Bank database](#) -see detailed computation [here](#). We assume that about 20% of these 59 million ha (that is 11.8 million ha) [**breadth**] will be under improved management by 2030 (so that at least one of the three indicators: improvements in soil health and fertility, delivers biodiversity gains, or additional ecosystem service provided, is achieved). Those changes (depth = significant) will result from the various conservation programs that will be implemented in the coming 9 years (including [One CGIAR Initiatives](#) such as Nexus Gains, Transformational Agroecology, if they work in the same region/area than SHiFT). As detailed in section 5.5 below, SHiFT expects to contribute indirectly to these changes essentially through WP3 and WP4 activities. [**Probability**]: we proposed to adopt a relatively conservative probability of occurrence of 25% as there is no current consensus on the projection of arable land that will be under improved management in the future — see e.g. Newton et al. 2021<sup>44</sup>.

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

#### 3.1 Full Initiative TOC

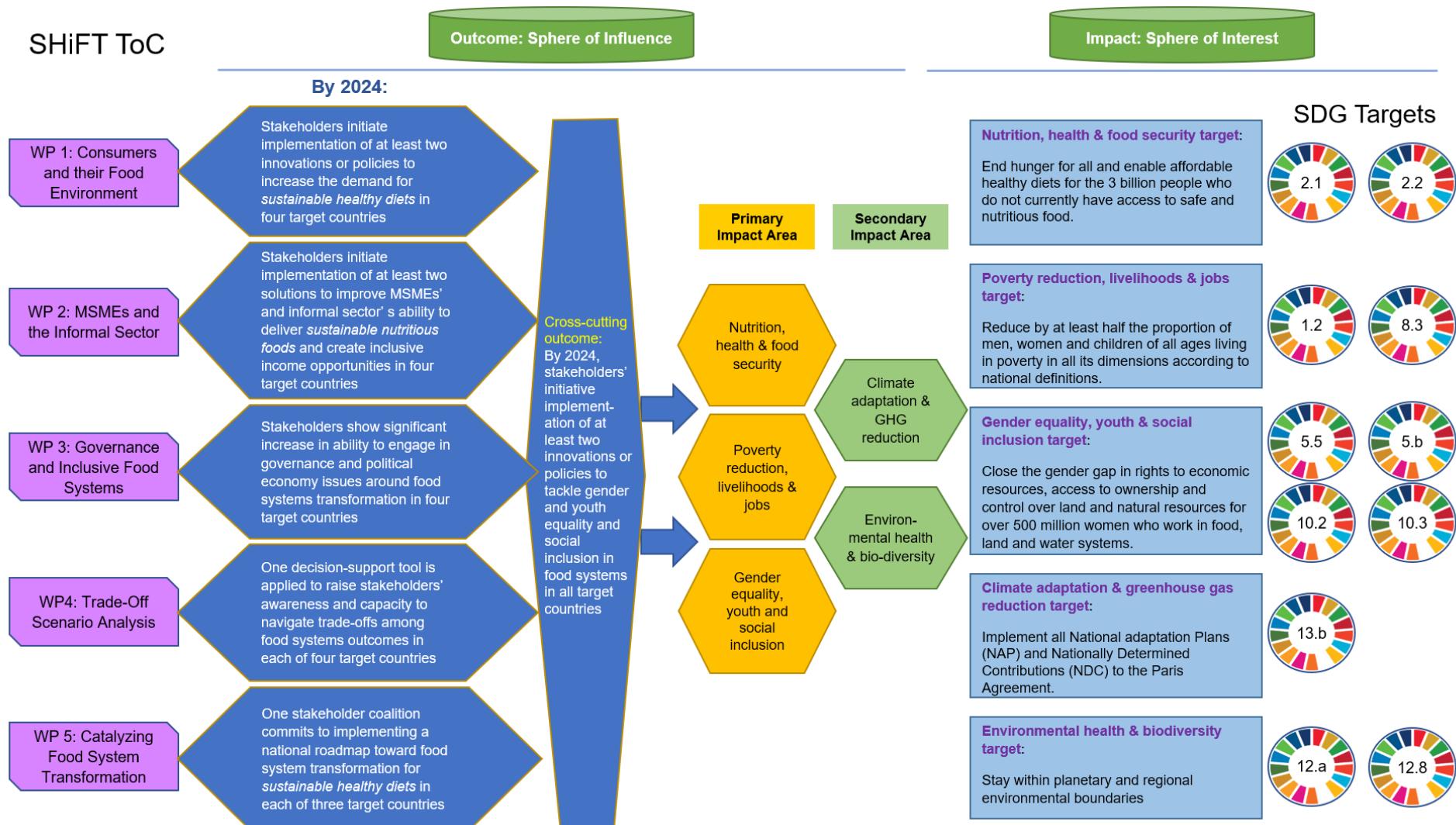
SHiFT will identify transformative policy options, field-test innovative interventions, strengthen national and subnational stakeholders' capacities, and develop robust metrics and transferable decision-support tools for the production and delivery (push) and the demand and consumption (pull) of *sustainable healthy diets* for everyone, everywhere, while improving livelihoods, gender equity, and social inclusion in all subsectors of food systems.

This ambitious program will implement five complementary Work Packages, each leading to a specific EoI outcome and a cross-cutting outcome on gender, youth, and social inclusion. WP1 will generate evidence, tools, and scalable innovations and policies that will be used to *support stakeholders in initiating implementation of at least two innovations or policies to increase the demand for sustainable healthy diets, especially among women, children, youth, and other marginalized groups (EoI outcome 1)*. Evidence and guidelines generated by WP2 will *support stakeholders in initiating implementation of at least two solutions to improve the ability of MSMEs and informal businesses to deliver [sustainable nutritious foods](#) and create inclusive income opportunities for women, youth, and other marginalized groups (EoI outcome 2)*. Both WPs will work in SHiFT's three key target countries (Bangladesh, Ethiopia, and Vietnam) and initiate work in India. WP3 will generate evidence and develop participatory tools and methods to *enhance stakeholders' understanding and ability to engage in governance and political economy issues around the transformation of their food systems* in the same three target countries and in Benin (*EoI outcome 3*). WP4 will incorporate evidence generated in WP1–3 to build scenario analyses and *develop and use a decision-support tool to raise stakeholders' awareness and improve their capacity to navigate trade-offs among food systems outcomes related to inclusion, sustainability, climate change, food safety, and diet quality* in each of the three target countries and in Honduras (*EoI outcome 4*). Finally, WP5 will serve as a context/country-specific anchor for all other WPs and will *facilitate the creation of country-level stakeholder coalitions that will commit to implementing national roadmaps (comprised of coherent, multisectoral sets of actions) toward food systems transformation for sustainable healthy diets* in the three key target countries (*EoI outcome 5*). Lessons learned will feed into targeted capacity development work, with [scaling partners](#) expanding our influence beyond our focus countries. Through its focus on gender equality, youth, and social inclusion across all five WPs, SHiFT will also deliver a cross-cutting outcome: *stakeholders will initiate the implementation of at least two innovations or policies to address issues related to gender equality, youth, and social inclusion in food systems in all target countries (EoI outcome 6)*.

The EoI outcomes will be achieved by working in target countries with [innovation partners](#) on research and developing their capacity for policy engagement to influence [demand partners](#). These country-specific processes will provide approaches, methods, and lessons for targeted capacity development with [scaling partners](#) to expand SHiFT's influence beyond the focus countries.

Together, SHiFT's EoI outcomes will contribute synergistically to the five One CGIAR Impact Areas (IAs), with more direct contributions to **IA1** (Nutrition, health & food security), **IA2** (Poverty reduction, livelihoods & jobs), and **IA3** (Gender equality, youth, and social inclusion) (see details in Section 5 on Impact Area statements).

### 3.1.1 SHiFT full Initiative TOC diagram



### 3.1.2 Work Package research plans and TOCs

#### Work Package 1: Consumers and their food environments

Work Package title	Consumers and their food environments
Work Package main focus and prioritization (max 100 words)	For food systems transformation to achieve <i>sustainable healthy diets</i> for everyone, everywhere, there is a need to better understand individual and FE factors that shape the diets of marginalized populations (including women and youth) and, in turn, how changing demand shapes FEs. This WP will characterize food consumption and dietary patterns among marginalized populations and identify key drivers and inequalities, including between genders, leading to poor diets. Context-specific understanding of the drivers of consumer demand will inform the co-design, testing, and evaluation of scalable innovations in the FE-consumer nexus to foster and achieve consumption of <i>sustainable healthy diets</i> .
Work Package geographic scope (global/region/country)	We plan to implement this WP in the eight <a href="#">countries</a> of the Initiative over the period of 2022-2030. For the first three years (2022–2024), we plan to fully implement the work in three countries (Bangladesh, Ethiopia, Vietnam) and to carry out preparatory work in India, if funding received is at the expected level (US\$10M/year for three years). After 2024, the plan is to expand the work to the remaining four target countries.

Work Package 1: The science		
Specific objective	Research questions <sup>(a)</sup>	Methods
<b>Objective 1:</b> Characterize food consumption, dietary patterns, intrahousehold distribution, and the nutritional and health status of marginalized populations in target countries.	<ul style="list-style-type: none"> <li>What are the food consumption and dietary patterns and the nutrition and health status of marginalized households and individuals (by gender and age)? How, where, and why do they procure this food?</li> <li>Which individual and household factors shape these outcomes (e.g., men/women's income, access, affordability, preferences, intrahousehold gender dynamics, women's time, convenience need, perceived food-safety risks, and/or sustainability, etc.)?</li> </ul>	<ul style="list-style-type: none"> <li>Analysis of existing household consumption and individual dietary intake survey data.</li> <li>Primary data collection (quantitative/qualitative) on gender- and age-disaggregated household food production, purchases, dietary intake at/away from home,<sup>45,46</sup> local nutrition knowledge, and norms; anthropometry; micronutrient biomarkers; and NCD risk factors.</li> <li>Use of new data collection tools<sup>47</sup>; testing/adaptation of new diet quality<sup>48,49</sup> and sustainability<sup>50</sup> indicators; and development of measures to monitor diet quality changes relative to food-based dietary guidelines.<sup>51</sup></li> </ul>
<b>Objective 2:</b> Characterize the FEs with which marginalized populations interact; how FEs shape dietary patterns; and how consumer characteristics and demand shape FEs.	<ul style="list-style-type: none"> <li>What are the key characteristics of FEs with which marginalized populations interact?</li> <li>How do FEs shape household dietary patterns? What is the relative importance of different FE</li> </ul>	<ul style="list-style-type: none"> <li>Assessments of nutritional quality, safety, and cost of foods, meals, and beverages available in FEs frequented by marginalized populations (e.g., in streets, markets, informal restaurants, and in and around schools)<sup>52</sup> (linking with WP2).</li> </ul>

Work Package 1: The science		
Specific objective	Research questions <sup>(a)</sup>	Methods
	<p>characteristics in shaping demand?</p> <ul style="list-style-type: none"> <li>How do consumer preferences and characteristics (e.g., gender, age, income, urban/rural residence, type and location of employment, and school) shape FEs?</li> </ul>	<ul style="list-style-type: none"> <li>Use of qualitative methods to assess consumers' lived experience of FEs.<sup>53</sup></li> <li>Use of geo-referenced food outlets and advertisements to map foods/meals sold and promoted combined with high-frequency GPS data to track consumers' interactions with FEs.<sup>54</sup></li> <li>Adaptation of existing FE assessment tools and analytical methods for use in LMICs.<sup>55</sup></li> </ul>
<b>Objective 3:</b> Identify, test, and evaluate potentially scalable consumer- and FE-focused policies, innovations, and guidelines to shift consumption patterns toward <i>sustainable healthy diets</i> .	<ul style="list-style-type: none"> <li>How can existing national FE- and consumer-focused policies, innovations, and dietary guidelines be strengthened to better support <i>sustainable healthy diets</i>?</li> <li>What is the impact of existing and new policies, innovations, and guidelines on <i>sustainable healthy diets</i>? And which of these are most scalable?</li> </ul>	<ul style="list-style-type: none"> <li>Landscape analysis of policies, programs, and guidelines; stakeholder interviews; and mapping of policy gaps compared to evidence-based ideals.<sup>56</sup></li> <li>Co-design (with consumer groups and FE actors) and evaluate policies, innovations, and guidelines to identify what works, how, and at what cost to achieve <i>sustainable healthy diets</i>.<sup>57</sup> Where possible, incorporate game-changing solutions evolving from the UNFSS.</li> </ul>

**Outputs:**

1. Evidence on the state and key drivers of — and inequalities in —consumption of *sustainable healthy diets* and nutrition and health outcomes in target countries.
2. Valid measurement tools and analytical methods.
3. A set of effective scalable policies, innovations, and guidelines to improve consumption of *sustainable healthy diets* by marginalized groups.

Note: <sup>(a)</sup> Each research objective will examine inequalities in relation to gender, age, socioeconomic and demographic status, ethnicity, location of residence, and other relevant characteristics

## Work Package 1: Theory of change

Compelling evidence is key to supporting our work with stakeholders to co-create, evaluate, and generate evidence on scalable co-created consumer and FE policies and innovations aimed at shifting consumer demand toward *sustainable healthy diets*. The proposed work will generate urgently needed evidence on the state and key drivers of, and inequalities in, consumption of *sustainable healthy diets* and nutrition and health outcomes (*output 1*) and develop standardized indicators, tools, and metrics (*output 2*). Evidence will be used to stimulate interest among demand and innovation stakeholders to co-create and test scalable consumer and FE policies and innovations (*output 3*) and to implement the most promising and scalable ones in their country. By 2024, we expect that *stakeholders initiate implementation of at least two innovations or policies to increase the demand for sustainable healthy diets in four target countries (EoI outcome 1)*, especially among women, youth, and other marginalized groups (*EoI outcome 6*).

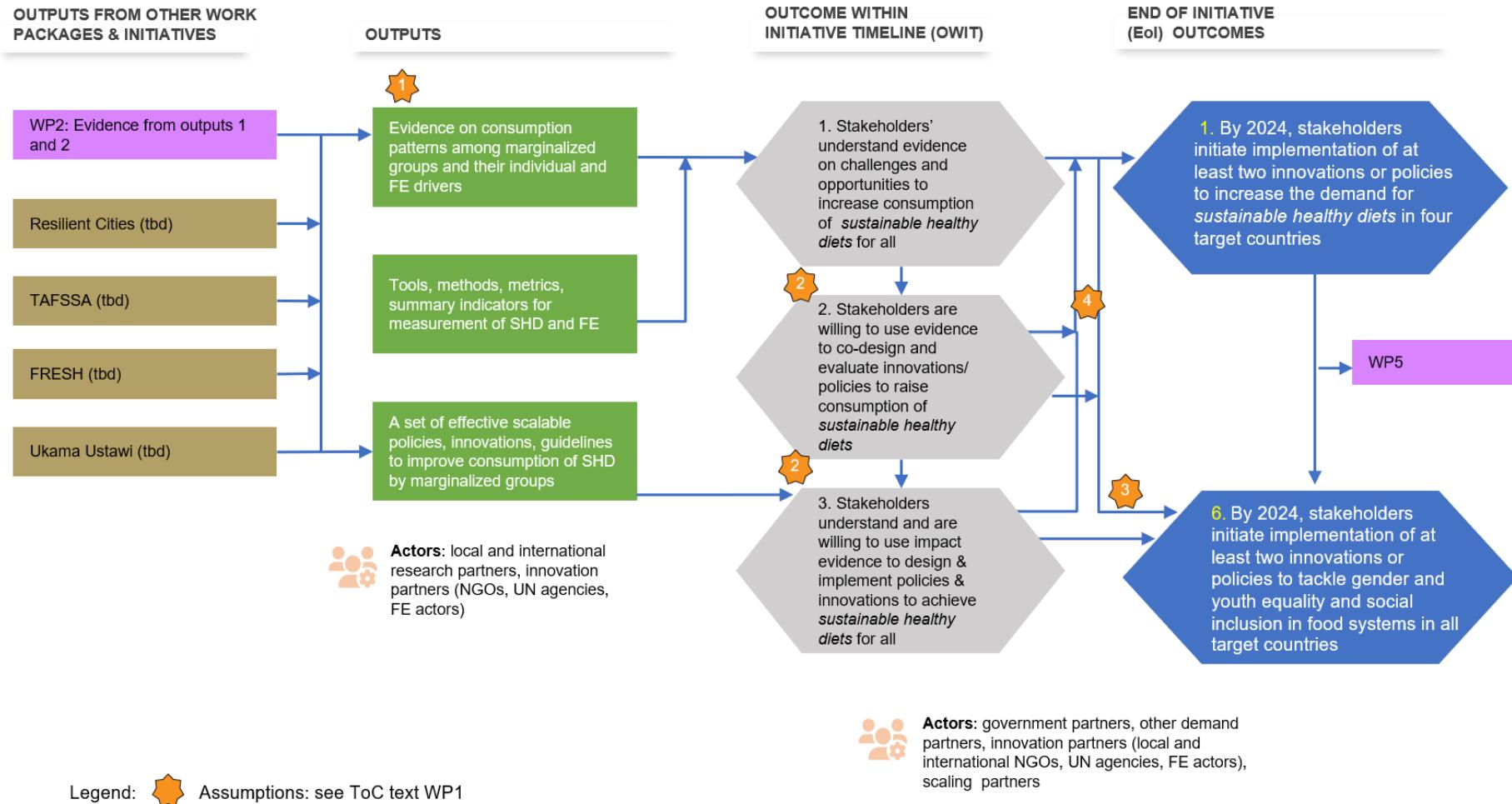
Achieving these outcome will depend on the following assumptions being met (or mitigation measures adopted): (1) that planned data collection is possible in all target countries (Section 7.3, risk 5); (2) that SHiFT will succeed in establishing trust and fruitful collaboration with relevant partners (Section 7.3, risk 1a); (3) that SHiFT effectively addresses gender, youth, and social inclusion (Section 7.3, risk 3); and (4) that SHiFT's early and continued engagement with relevant stakeholders and efforts to strengthen their capacity facilitates learning and willingness to co-create and implement promising innovations and policies supported by adequate resources in their respective countries.

We will first work with [demand partners](#) (e.g., agriculture and health ministries, nutrition units, gender and social development units, consumer groups, civil society, etc.) and [innovation partners](#) (local research institutions, universities, data collection firms, local and international NGOs, UN institutions, and FE actors) to inform a comprehensive view of the nutrition and diet landscape and develop a policy research agenda. Local research partners and data collection firms along with international research and academic partners will actively participate in the research implementation stage to develop, adapt, and validate methods, tools, and metrics (e.g., [IMMANA/LHSTM](#); [INSP](#); [INDDEX Project](#); [Intake](#), etc.). The evidence generated will be disseminated, discussed, and understood by stakeholders (outcome within Initiative timeline (OWIT 1). Key [demand](#) and [innovation](#) partners (including new partners such as [GAIN](#), Rockefeller Foundation [FS-TIP](#), USAID Food System Innovation Lab, etc.) will be willing to use the evidence generated by SHiFT to co-create scalable consumer and FE policies and innovations and to plan causal evaluations to assess impacts, pathways of impact, and cost effectiveness (OWIT 2) (Section 6.3 causal impact assessment). Impact evidence will be synthesized and disseminated among all our partners ([demand](#), [innovation](#), and [scaling](#)) who will understand this evidence and will be willing to use it to design and implement policies and innovations to achieve *sustainable healthy diets* for all (OWIT 3). If our assumptions are met and our OWITs achieved, we expect that by 2024, *stakeholders will initiate implementation of innovations and policies to increase the demand for sustainable healthy diets in four target countries (EoI outcome 1)* and that *these innovations or policies will tackle gender and youth equality and social inclusion in food systems (EoI outcome 6)*.

The data, evidence, tools, metrics, and methods generated (*outputs 1–3*) will feed into SHiFT's Food System Learning Center ([Innovation 1](#)); into WP2, helping FE actors deliver and promote *sustainable nutritious foods*; and into WP 3–5, using the evidence and learning when analyzing policies and trade-offs and developing context-specific transformative pathways. We will also collaborate on tools and metrics development and share research findings with other [One CGIAR Initiatives](#) that include a focus on consumers and *sustainable healthy diets* (e.g., FRESH; Resilient Cities; TAFSSA, Ukama Ustawi (U2)). We will promote the use of and encourage contributions to the Learning Center ([Innovation 1](#)) from these and other Initiatives that incorporate consumer demand considerations in their work.

## WP1 - Consumers and food environments: Theory of change (TOC)

### ►►► From research to evidence generation, synthesis, and use



## Work Package 2: MSMEs and the informal sector

<b>Work Package title</b>	<b>MSMEs and the informal sector</b>
<b>Work Package main focus and prioritization (max 100 words)</b>	To enable consumers to increase their consumption of <i>sustainable nutritious foods</i> , more of these foods must be supplied to the FE. Improving the quality of the foods, snacks, and beverages offered to consumers requires key decisions made by wholesalers, processors, caterers, and retailers about what to sell and how to sell it. This WP will generate knowledge about the MSMEs and informal actors in rural and urban areas making these decisions and will use that knowledge to identify and promote scalable, evidence-based innovations and policies to help those actors increase their delivery of <i>sustainable nutritious foods</i> while promoting increased decent employment among youth, men, and women.
<b>Work Package geographic scope (global/region/country)</b>	We plan to implement this WP in the eight <a href="#">countries</a> of the Initiative over the period of 2022-2030. For the first three years (2022–2024), we plan to fully implement the work in three countries (Bangladesh, Ethiopia, Vietnam) and to carry out preparatory work in India, if funding received is at the expected level (US\$10M/year for three years). After 2024, the plan is to expand the work to the remaining four target countries.

<b>Work Package 2: The science</b>		
<b>Specific objective</b>	<b>Research questions</b>	<b>Methods</b>
<b>Objective 1:</b> Identify MSMEs and informal actors who could contribute to the delivery of <i>sustainable nutritious foods</i> in the FE, highlighting opportunities and growth constraints.	<ul style="list-style-type: none"> <li>• What is the quality, safety, and affordability of foods, snacks, and beverages offered by MSMEs and informal sector actors to marginalized populations in diverse contexts?</li> <li>• Which MSMEs and informal sector actors have the potential to deliver more <i>sustainable nutritious foods</i> to those consumers?</li> <li>• What regulatory and operational barriers do these actors face in the sourcing, distribution, processing, and sale of these products that hamper their ability to grow?</li> <li>• What incentives must be provided, and constraints addressed for MSMEs and informal actors to profitably offer more sustainable nutritious food options?</li> </ul>	<ul style="list-style-type: none"> <li>• Map the wholesalers, processors, caterers, and food retailers supplying marginalized populations and assess the quality, safety, and nutritional value of the foods and beverages they sell in specific FEs<sup>58</sup> (<i>with WP1</i>).</li> <li>• Develop a typology of wholesalers, processors, caterers, and retailers with potential to deliver (more) <i>sustainable nutritious foods</i> into the FE.<sup>59</sup></li> <li>• Use a case study approach and mixed methods (using typology data collected above) to analyze characteristics of MSMEs and informal sector businesses that can potentially sell more <i>sustainable nutritious foods</i>.<sup>60</sup></li> <li>• Develop a comparative framework identifying constraints by actor type through data collection and work on regulatory barriers (MSMEs/informal actors<sup>61</sup>).</li> </ul>

Work Package 2: The science			
<b>Objective 2:</b> Identify potential innovations to overcome firm- and system-level constraints inhibiting the delivery and sale of <i>sustainable nutritious foods</i> to marginalized populations.	<ul style="list-style-type: none"> <li>How effective are different strategies in overcoming key constraints (sourcing, distribution, processing, sales, regulatory environment, etc.) faced by MSMEs in delivering <i>sustainable nutritious foods</i>?</li> <li>What complementary interventions among companies acting alongside the FE (i.e., media, advocacy, policy) can help increase sales of <i>sustainable nutritious foods</i>?</li> </ul>	<ul style="list-style-type: none"> <li>Mixed methods research (qualitative research along with RCTs) to evaluate the effectiveness of strategies to improve incentives or overcome constraints.<sup>62</sup></li> <li>Comparative analysis of innovations (or combinations/packages of innovations) to summarize lessons learned and identify scalable solutions.<sup>29,63</sup></li> </ul>	
<b>Objective 3:</b> Co-design, develop, and evaluate innovations targeted to marginalized populations with MSMEs and the informal sector working with <i>sustainable nutritious foods</i> to maintain or increase decent employment (ILO definition <sup>13</sup> ) and income opportunities.	<ul style="list-style-type: none"> <li>What types of gender and youth innovations among MSMEs and the informal sector related to improving delivery of <i>sustainable nutritious foods</i> will increase decent employment and incomes?</li> <li>Which informational, regulatory, or policy innovations in or related to the FE can maintain or increase decent employment?</li> </ul>	<ul style="list-style-type: none"> <li>Qualitative research to identify gender- and age-based opportunities and challenges in MSMEs and the informal sector, including management.</li> <li>Mixed-methods research (qualitative research with RCTs and/or A-B tests<sup>64</sup>) to test innovation effectiveness among heterogeneous groups to understand employment impacts.<sup>65</sup></li> <li>Comparative analysis of innovations to summarize lessons learned and identify scalable solutions.<sup>29,66,67</sup></li> </ul>	
<b>Outputs:</b> <b>In each country:</b> <ol style="list-style-type: none"> <li>Typology of wholesalers, processors, caterers, and retailers with potential to deliver more <i>sustainable nutritious foods</i>.</li> <li>Evidence base of scalable interventions that overcome barriers limiting <i>sustainable nutritious foods</i> and maintain/increase decent employment.</li> <li>Stakeholder guidelines for facilitating youth and female employment in MSMEs and informal sector in the wholesale, processing, catering, and retail sectors.</li> </ol>			

## Work Package 2: Theory of change

Food environments need to provide more *sustainable nutritious foods* if consumers are to increase their consumption. In LMICs, many FE actors are MSMEs that are active in traditional (or informal) markets and whose behavior and decision-making is poorly understood. WP2 will construct a typology of wholesalers, processors, caterers, and retailers, particularly MSMEs and informal actors, that have the potential to deliver more *sustainable nutritious foods* or to facilitate their delivery (*output 1*). The typology will be used to identify and test innovations that can potentially overcome constraints inhibiting the delivery of *sustainable nutritious foods* (*output 2*) and maintain or increase decent employment for marginalized populations (*output 3*). These outputs will contribute to *EoI outcome 2: By 2024, stakeholders initiate implementation of at least two solutions to improve the ability of MSMEs and informal businesses to deliver sustainable nutritious foods and create inclusive income opportunities for women, youth, and other marginalized groups in Bangladesh, Ethiopia, India, and Vietnam; and contribute to EoI outcome 6: By 2024, stakeholders initiate the implementation of at least*

*two innovations or policies to address issues related to gender equality, youth, and social inclusion in food systems in all target countries.*

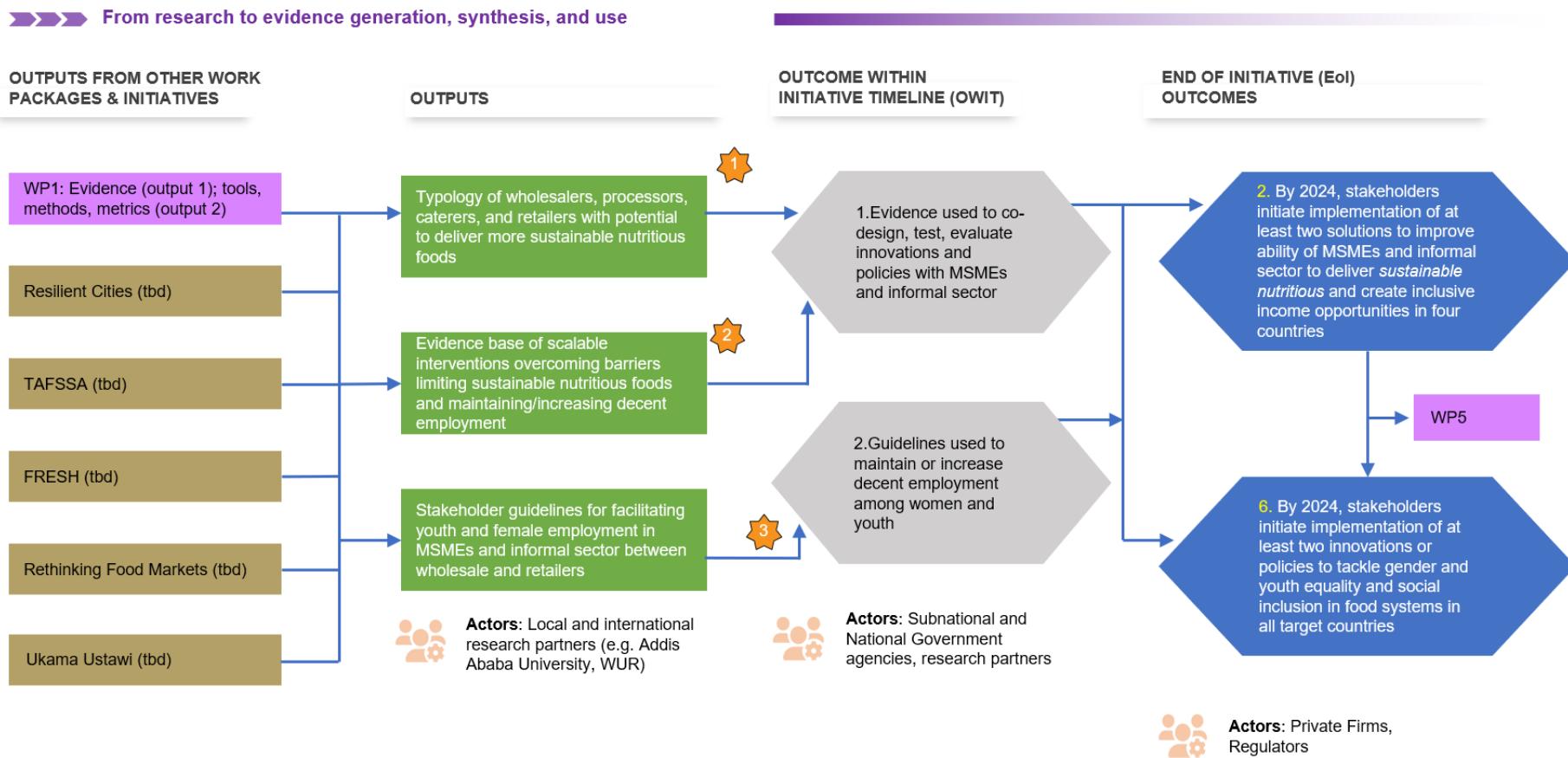
To deliver these outputs, we start by recognizing that MSMEs and informal actors are critical to food provision and employment for marginalized populations.<sup>68</sup> WP2 will test the following assumptions: (1) MSMEs can respond to changing incentives; (2) MSMEs can deliver healthy nutritious food profitably and affordably; (3) MSMEs can provide decent employment; and (4) complementary interventions can support changes in FEs.

In each target country, [demand partners](#) will help identify limitations to the delivery of *sustainable nutritious foods*. We will work with [innovation partners](#) to build case studies of MSMEs currently providing healthier or sustainable options and identify barriers limiting the broader provision of *sustainable nutritious foods*. SHiFT's team will work with local research partners and data collection firms to implement research to develop, adapt, and validate methods, tools, and metrics, and ensure data comparability across countries. These tools will be used to test the effectiveness of innovations in delivering *sustainable nutritious foods*. Through collaboration, national innovation partners will deepen their capacities to design, test, and document interventions (*OWIT 1*) to overcome firm- and system-level barriers, and to document methods of maintaining or increasing decent employment among women and youth (*OWIT 2*). WP2 will collaborate with [scaling partners](#) to synthesize evidence and help develop scaling strategies.

WP2 will work closely with WP1 to understand the most urgent diet quality gaps to fill and complement its consumer and FE focus with a delivery and supply focus. WP2 complements [Rethinking Food Markets](#) by focusing on businesses operating close to retail and supplying *sustainable nutritious foods* to fill dietary gaps. WP2 links to [Resilient Cities](#), although it does not have an exclusively urban focus, and will link to the FRESH, TAFSSA, and Ukama Ustawi (U2) [Initiatives](#). WP2 will work with WP3 on understanding policy barriers and engaging with policymakers and key stakeholders to catalyze change; its evidence will feed into the trade-off analysis in WP4 and into the multistakeholder platforms in WP5. WP2 faces Risks 2, 3 and 5 identified in Section 7.3.

## WP2 - MSMEs and the informal sector: Theory of change (TOC)

### From research to evidence generation, synthesis, and use



Legend: Assumptions: see ToC text WP2

### Work Package 3: Governance and political economy of food system transformation

<b>Work Package title</b>	<b>Governance and political economy of food system transformation</b>
<i>Work Package main focus and prioritization (max 100 words)</i>	The overall objective of WP3 is to identify the lock-ins and barriers that impede food system contributions to healthy diets, fair livelihoods, and sustainable environments; and to propose contextualized and evidence-informed governance and policy solutions. WP3 will work with innovation and demand partners to plan and undertake policy research to identify historically contingent governance structures and powerful incumbent actors whose interest is to maintain the system on its current trajectory; and will support national stakeholders to identify contextualized and evidence-informed governance and policy solutions to help transition food systems toward healthier, more sustainable, and more equitable outcomes for all.
<i>Work Package geographic scope (global/region/country)</i>	We plan to implement this WP in the eight <a href="#">countries</a> of the Initiative over the period of 2022–2030. For the first three years (2022–2024), we plan to fully implement the work in three countries (Bangladesh, Ethiopia, Vietnam) and to carry out preparatory work in Benin, if funding received is at the expected level (US\$10M/year for three years).

<b>Work Package 3: The science</b>		
<b>Specific objective</b>	<b>Research questions</b>	<b>Methods</b>
<b>Objective 1: Diagnosing.</b> Identify policy and governance lock-ins and barriers maintaining food systems on their current unsustainable trajectories.	<ul style="list-style-type: none"> <li>• What is the nature and extent of the main resistance and structural barriers to food systems transformation? Are those barriers country-specific or are there common features that exist across groups of countries?</li> <li>• How would a specific gender lens modify the diagnosis of those structural barriers and policy lock-ins? Are some of these barriers exacerbating inequalities related to gender, youth, or other sources?</li> </ul>	<ul style="list-style-type: none"> <li>• Traditional political economy focusing on structural issues such as the role of dominant actors and unequal distribution of power between different public and private actors (e.g., transnational corporations/agribusiness versus MSMEs).</li> <li>• This will be complemented by other frameworks offering a more sociological interpretation of politics/power in which particular governance issues are recognized to be embedded in a wider societal context (e.g., political consumerism).<sup>69</sup></li> </ul>
<b>Objective 2: Learning.</b> Identify and document policy and governance lessons derived from system transitions and transformations in other sectors.	<ul style="list-style-type: none"> <li>• How have other sectors (e.g., energy, transport, health) and other countries (un)successfully addressed sustainable and equitable transition at the societal level?</li> </ul>	<ul style="list-style-type: none"> <li>• Use of literature on regime shifts and systemic transitions<sup>70,71</sup> and roles of technological innovation in societal transition<sup>72</sup> and how this literature can be applied to the particular case of food systems transformation, supplemented by cross-country comparative and historical analysis.</li> </ul>

Work Package 3: The science		
	<ul style="list-style-type: none"> <li>How can those lessons be transferred to food systems in general and in LMICs in particular?</li> </ul>	<ul style="list-style-type: none"> <li>Literature on politics of knowledge<sup>73–75</sup> and frameworks looking at the role of science in the science-policy-society interface (e.g., the Knowledge Translation framework<sup>76</sup>).</li> <li>Theories of policy transfer<sup>77</sup> and related approaches applied to different socio-political contexts.</li> </ul>
<b>Objective 3: Applying.</b> Identify governance and policy solutions to address structural barriers, remove active resistance and enable transitioning food systems.	<ul style="list-style-type: none"> <li>How does the general context of the different countries affect the type of governance and policy options envisaged to ‘unlock’ food systems?</li> <li>To what extent is the choice and design of the governance/policy options exclusively dependent on the food system set-up versus how much depends on more general/country policy and governance context?</li> </ul>	<ul style="list-style-type: none"> <li>Case-study approach<sup>78,79</sup> reflecting the need to account for the high context-specificity of both policy agenda-setting and food systems.</li> <li>Step-wise approach: starting with countries where political and governance analyses have already been initiated as part of the A4NH/FSHD program and other related programs,<sup>80,81</sup> then expanding in the other targeted countries.</li> <li>We will also rely on: the recent literature on sustainability transitions,<sup>82,83</sup> and transformative policies<sup>84</sup> complemented by analyses on (socio-ecological) system governance,<sup>85</sup> and the literature combining food governance and food policies.<sup>86,87</sup></li> </ul>
<b>Outputs:</b> <ol style="list-style-type: none"> <li>A series of diagnoses accounts aimed at policymakers and other key actors, produced in each of the target countries and disseminated in the form of reports and associated communication products (e.g., blogs, policy briefs, meetings), presenting the main findings of the WP and associated policy lessons</li> <li>A series of academic products (working papers and peer-reviewed articles) presenting/synthesizing the key findings of the analyses as well as the frameworks, methods, and tools that developed and applied to conduct these diagnoses.</li> </ol>		

### Work Package 3: Theory of change

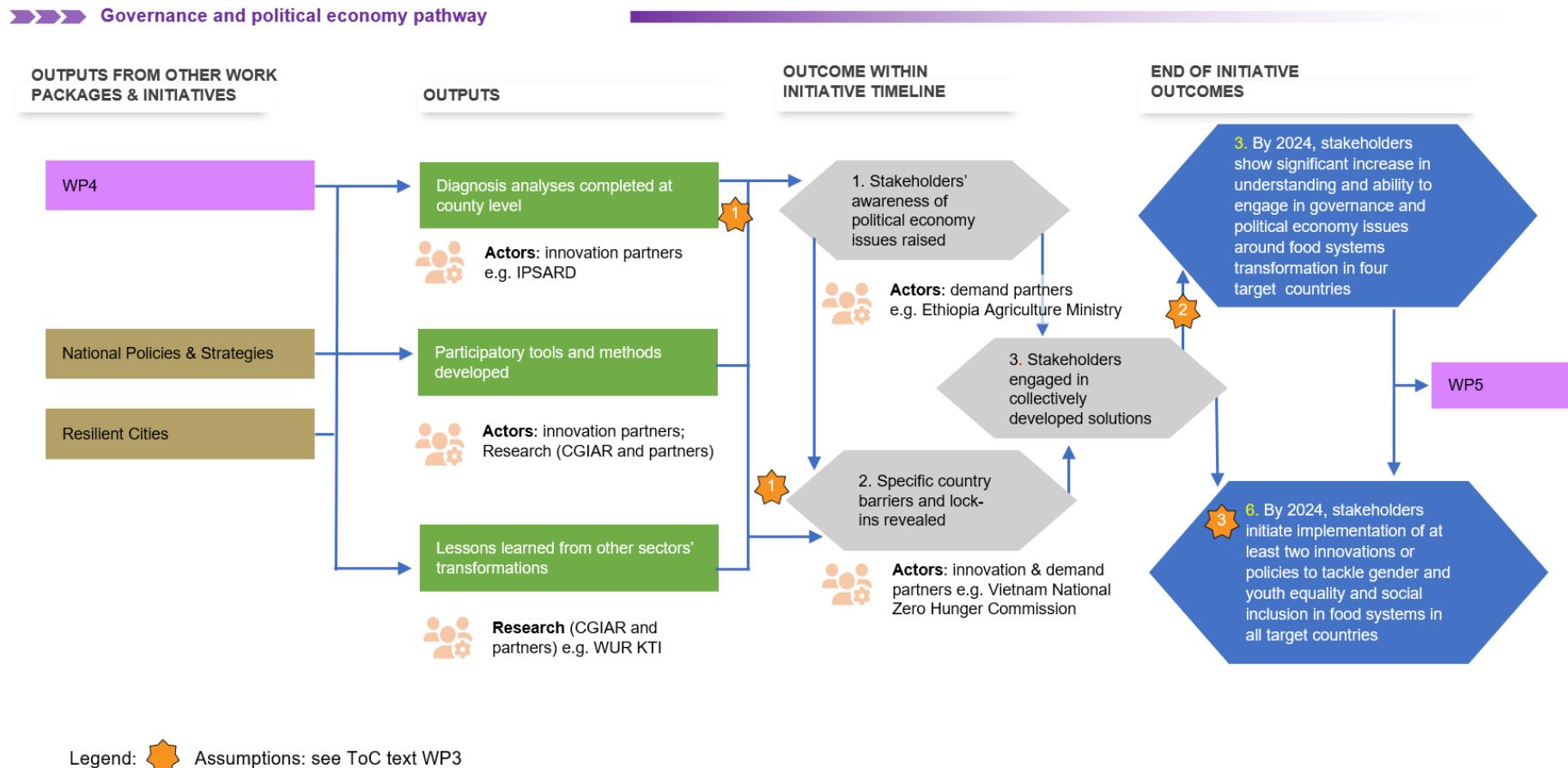
The urgent need for transformation of food systems is now widely acknowledged.<sup>18,88,89</sup> Yet, beyond the general consensus that something needs to be done, evidence suggests that food systems in both low- and higher-income countries are currently locked in unsustainable trajectories by historically contingent governance structures and powerful incumbent actors whose interest is often in maintaining the system on its current trajectory.<sup>90,91</sup>

To address this issue, WP3 will conduct a series of diagnosis analyses in the SHiFT target countries (*output 1*), assuming no major issues prevent field work and interaction with stakeholders (Assumption 1 related to Risk 5). These outputs will complement the information and analyses conducted on trade-offs in WP4 and feed into WP5 (on catalyzing food system transformation). They will be generated through an interactive applied research process established with key [innovation partners](#) and implemented in close collaboration with national and subnational level key actors ([demand partners](#)), thus contributing to raising stakeholders' awareness and understanding around the political economy of food systems transformation (OWIT 1). These key actors will include representatives of the private sector (both SMEs and larger, national, international, or transnational corporations operating in the countries), government (policymakers and lawmakers from the relevant ministries), and civil society and expert communities (researchers, think-tanks, activists, and NGOs).

Once the main barriers, contested narratives (e.g., on protein transition), and policy lock-ins affecting or influencing debates on food systems transformation are identified at the national and subnational/municipality levels (OWIT 2), and assuming that stakeholders are willing to engage in consultative debates (Assumption 2 related to Risk 1a), SHiFT, with its [innovation partners](#) will be able to support the key national stakeholders in identifying contextualized and evidence-informed governance and policy solutions that will help transition food systems toward healthier, more sustainable and equitable outcomes. Through continual interaction during the research process and identification of consensus-based solutions, SHiFT will facilitate the engagement of different national and subnational stakeholders and key actors around the governance issues of food system transformation in their countries (OWIT 3), as well as gender and inclusion issues (*EoI outcome 6*), assuming that SHiFT will have the ability to strategically incorporate gender, youth, and social inclusion in its activities (Assumption 3 related to Risk 2).

Through this interactive process, WP3 will also develop and test important qualitative and participatory methods and tools, analyses, and lessons (*output 2*) that will feed into the Food System Learning Center ([Innovation 1](#)) and the Food System Transformation Strategy Development ([Innovation 4](#)). Along with other [Initiatives](#) such as the National Policies and Strategies or the Resilient Cities, SHiFT will contribute to generating context-specific lessons for [scaling partners](#) about what works where and why with reference to food system transformative governance and policies. This WP overall outcome is: *By 2024, stakeholders show significant increase in their understanding and ability to engage in governance and political economy issues around the transformation of their food systems in Bangladesh, Benin, Ethiopia, and Vietnam (EoI outcome 3)*. Finally, through specific research questions, the WP is also expected to contribute to *EoI outcome 6* on gender, youth, and social inclusion.

## WP3 - Governance and political economy of food systems transformation: Theory of change (TOC)



## Work Package 4: Trade-off scenario analysis

**Table: not included in 1000-word limit**

Work Package title	Trade-off scenario analysis
<i>Work Package main focus and prioritization (max 100 words)</i>	WP4 seeks to develop, test, and apply decision-support tools for trade-off scenario analyses and to use those tools to raise the awareness and improve the capacity of stakeholders to understand and navigate the potential trade-offs/tensions that are expected to emerge from food system innovations and policies. For this, we will work with innovation and demand partners, first to develop, and then apply those different tools, with the objective of improving the capacity of national and subnational food system stakeholders to understand and navigate prioritization processes and eventually support the transformation toward healthier diets, fairer livelihoods, and more sustainable food systems.
<i>Work Package geographic scope (global/region/country)</i>	We plan to implement this WP in the eight <a href="#">countries</a> of the Initiative over the period of 2022–2030. For the first three years (2022–2024), we plan to fully implement the work in three countries (Bangladesh, Ethiopia, Vietnam) and carry out preparatory work in Honduras, if funding received is at the expected level (US\$10M/year for 3 years). After 2024, the plan is to expand the work to the remaining four target countries.

Work Package 4: The science		
Specific objective	Research questions	Methods
<b>Objective 1: Analysis.</b> Identify and, if possible, quantify trade-offs among food systems outcomes (healthy diets, income distribution, gender and social equality, decent employment, food safety, environmental impact, etc.).	<ul style="list-style-type: none"> <li>• How can relationships among drivers, components, and outcomes of food systems be analyzed across time and space to capture dynamic interactions, feedback loops, and trade-offs?</li> <li>• What is the nature of those trade-offs? Are they country-specific or do they share common features across countries or across time and space?</li> <li>• How do those trade-offs evolve and change as countries move up the economic development ladder?</li> </ul>	<ul style="list-style-type: none"> <li>• Combinations of exploratory foresight techniques, econometric modeling analyses, and scenario testing,<sup>92</sup> complemented by other more traditional approaches such as life-cycle analyses.</li> <li>• Multi-topic, cross-sectional datasets collected over time and combined with external databases will be used, applying an inductive grounded-theory research framework.</li> <li>• Existing modeling platforms (such as IMPACT, MAGNET, or GLOBIOM) and modeling techniques (such as diet optimization<sup>93,94</sup>) adapted to the context of LMICs.</li> </ul>

Work Package 4: The science		
Specific objective	Research questions	Methods
<b>Objective 2: Advance methodology.</b> Develop and implement decision-support tools based on food system trade-off and scenario analysis.	<ul style="list-style-type: none"> <li>How can we assess food systems' performance and prioritize decisions among the various sectors involved in the major activities of food systems?</li> <li>How can we measure, quantify, and prioritize the performance and outcomes of food systems in countries where statistical systems are still limited?</li> </ul>	<ul style="list-style-type: none"> <li>Trade-off analysis and multi-criteria scenarios<sup>95–97</sup> used in conjunction with multistakeholder scenario exercises and/or case study analysis and existing food system decision-support tools (e.g., ReDiReL<sup>98</sup>) at the national and global level.<sup>99</sup></li> </ul>
<b>Objective 3: Capacity building and engagement.</b> Raise awareness and improve capacity of national and subnational stakeholders to navigate food system trade-offs and policy prioritization.	<ul style="list-style-type: none"> <li>What are the best ways to engage and facilitate discussions between groups of (sub)national actors from public and private sectors and civil society around food systems?</li> <li>What are the best governance arrangements to ensure the participation and representation of informal sector actors, youth, women, and marginalized groups in national debates and prioritization processes?</li> <li>What is/should be the role of science and scientists in contributing to these multistakeholder discussions?</li> </ul>	<ul style="list-style-type: none"> <li>Analysis and assessment of the engagement process, looking at divergence in values and interests,<sup>20,100</sup> building on existing theories around collaborative or pluralist/fragmented governance,<sup>101,102</sup> and reflexive governance,<sup>103</sup> trustworthy responsiveness,<sup>104</sup> and exploring how those can be applied to food system governance.<sup>105–108</sup></li> <li>Other governance models such as problem-solving and deliberation<sup>109</sup> will also be explored.</li> <li>The literature on politics of knowledge and related approaches looking at the role of science in the science-policy-society interface (e.g., the Knowledge Translation framework<sup>76</sup>).</li> </ul>

**Outputs:**

1. A series of trade-off analyses and scenarios produced aimed at key food system actors (policymakers and nongovernment stakeholders) in each of the target countries and disseminated in the form of reports and communication products (e.g., blogs, policy briefs, fact sheets) summarizing the main findings and their policy implications.
2. A series of academic products (working papers and peer-reviewed articles) presenting/synthesizing key findings of the analyses, as well as the frameworks, methods and tools that have been developed, tested, and applied to conduct those analyses.

## Work Package 4: Theory of change

An important step in the transition toward more sustainable food systems is acknowledgement of the multidimensional nature of food systems<sup>18,110</sup> and recognition that multidimensional objectives, including desired food system outcomes in the areas of healthy diets, fair livelihoods, and sustainable environments, are likely to be achieved only through managing trade-offs among these different goals.<sup>20</sup>

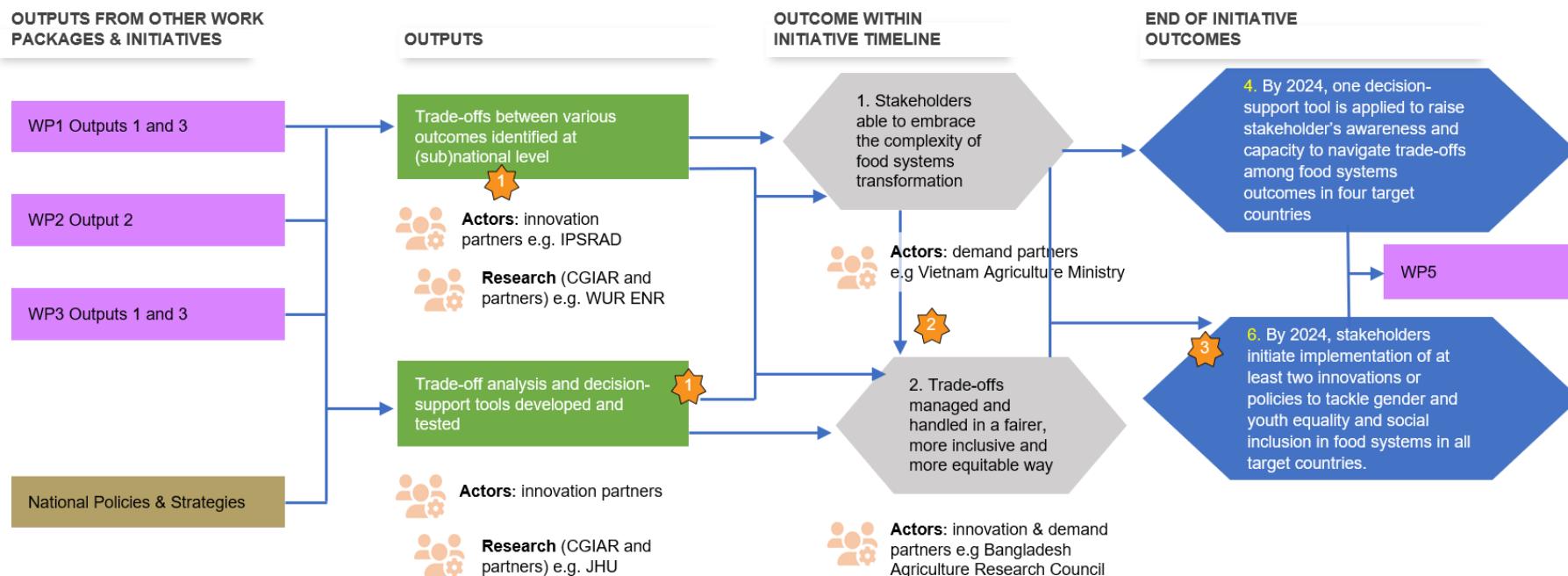
To address this challenge and respond to the [demand partners](#), WP4 will start by building a body of evidence and data in the SHiFT focus countries (building on WP1–3) (assuming that no major issues prevent field work and interaction with stakeholders, Assumption 1 related to Risk 5), as well as at the global scale, in order to identify, document, and where possible, quantify some of the main trade-offs that emerge at various scales — subnational, national, and supra-national (*output 1*). The databases along with the results of these trade-off analyses and scenarios will be made available through the Food System Learning Center ([Innovation 1](#)) to assist [demand partners](#) and also global and national stakeholders in analysis of food systems for *sustainable healthy diets*. An important outcome of this part of WP4 (OWIT 1) will be that stakeholders are able to understand and embrace the complexity of food systems transformation and improve their understanding of these trade-offs and how to manage/navigate them. To facilitate this, WP4 will include the development and implementation, in close collaboration with our [innovation partners](#), of decision-support tools and protocols (*output 2*) aimed at measuring, quantifying, and prioritizing food system processes and outcomes. These will be designed to work under various conditions and in diverse countries, including those where statistical systems are still limited and data availability is generally poor. The work will contribute directly to [Innovation 2](#) in the form of a portfolio of Decision-Support Tools for Food System Trade-Off Analysis.

Building on this, the second major outcome of WP4 will be offering more guidance on how trade-offs can be navigated by societies so that the hard choices that ensue from those trade-offs are managed and handled in a fairer, more inclusive, and more equitable way (OWIT 2), assuming that stakeholders are willing to engage in participatory debates (Assumption 2 related to Risk 1a) and with gender and inclusion issues (Assumption 3 related to Risk 2).

These outputs will complement the information and analyses completed in WP3 (Governance and political economy of food system transformation) as well as the National Policies and Strategies [Initiative](#), and feed into WP5 (Catalyzing food system transformation). WP4 will actively contribute to *EoI outcome 6* through the exploration of specific trade-offs on gender, youth, and inclusion. The overall outcome of WP4 is that *by 2024, one decision-support tool will be developed and applied to raise stakeholders' awareness and improve their capacity to navigate trade-offs among food systems outcomes related to inclusion, sustainability, climate change, food safety, and diet quality in Bangladesh, Ethiopia, Honduras, and Vietnam (EoI outcome 4)*.

## WP4 - Tradeoffs and scenario analysis: Theory of change (TOC)

### ➡➡➡ Trade-Off Scenario Analysis



Legend: ⚡ Assumptions: see ToC text WP4

## Work Package 5: Catalyzing food system transformation at country level

Work Package title	Catalyzing food system transformation at country level
Work Package main focus and prioritization (max 100 words)	The <b>overall objective</b> of this cross-cutting Work Package is to identify, co-design, and support context-specific pathways for food system transformation toward <i>sustainable healthy diets</i> . WP5 forms the core of SHiFT, ensuring stakeholder engagement and capacity building throughout the Initiative through the co-generation and use of insights on potential innovations (from WP1, WP2, and other relevant projects and programs); understanding the barriers to change and power relationships among relevant stakeholders (WP3); and the identification and negotiation of potential trade-offs and synergies in food systems transformation (WP4). WP5 will engage with key stakeholders to ensure alignment with national priorities in order to achieve endorsement, co-design, and consensus creation and to contribute to scaling.
Work Package geographic scope (global/region/country)	We plan to include this WP in the eight <a href="#">countries</a> of the Initiative over the period of 2022–2030. In the first three years (2022–2024), WP5 will be fully implemented in Bangladesh, Ethiopia, and Vietnam, continuing and strengthening existing stakeholder engagement developed under A4NH. In other countries, Initiative partners will explore and establish engagement processes with relevant stakeholders, if funding received is at the expected level (US\$10M/year for 3 years).

Work Package 5: Building on science and supporting stakeholders		
Specific objective	Research questions	Methods
<b>Objective 1: Engagement.</b> Develop, support, and engage in in-country multistakeholder consultative processes to develop and implement roadmaps for transformative pathways.	<ul style="list-style-type: none"> <li>How can inclusive actor coalitions for food systems transformation be built and strengthened?</li> <li>How can they translate learnings generated on innovations, power relations, and trade-offs (through WP1–WP4) to support food system transformation?</li> <li>Which governance models and institutional arrangements are most appropriate for effective coalitions?</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of multistakeholder coalitions (platforms, networks).</li> <li>Series of multistakeholder consultations to co-design transformative pathways and develop roadmaps.</li> <li>Use of deliberative and problem-solving approaches (such as the <a href="#">MSP</a> guide, <a href="#">Food System Decision-Support Tool</a>, the <a href="#">SUN</a> multistakeholder toolkit) to respond to (sub)national and territorial demands, incorporate learnings, and agree on stakeholders' roles.</li> </ul>
<b>Objective 2: Readiness.</b> Monitor countries' progress on roadmap toward transformative pathways.	<ul style="list-style-type: none"> <li>How do the technical, organizational, economic, institutional, behavioral, discursive, and political dimensions of change co-evolve over time?</li> </ul>	<ul style="list-style-type: none"> <li>Methodologies to monitor the roadmap implementation include: quantitative and qualitative forms of network and discourse analysis,<sup>111</sup> innovation history approaches; reflexive monitoring; and theory-based evaluation methods.<sup>112,113</sup></li> </ul>
	<ul style="list-style-type: none"> <li>What pathways are most effective for advancing women's empowerment, gender equality, and youth inclusion in food systems?</li> </ul>	<ul style="list-style-type: none"> <li>Evaluation of recent food system changes and other governance models beyond voluntary agreements (including government</li> </ul>

Work Package 5: Building on science and supporting stakeholders		
Specific objective	Research questions	Methods
	<p>Can they be driven by the private sector, civil society, or mainly through public policy?</p> <ul style="list-style-type: none"> <li>How does scaling readiness of innovations evolve over time and what are major bottlenecks or enhancers?</li> </ul>	<p>regulation, single actor pressure agencies, lobby, and interest movements).</p> <ul style="list-style-type: none"> <li>Scaling readiness assessments<sup>114</sup> to evaluate the maturity and competitiveness of key Innovation Packages.</li> </ul>
<b>Objective 3: Capacity.</b> Develop capacity of multiple stakeholders to support food system transformation toward <i>sustainable healthy diets</i> .	<ul style="list-style-type: none"> <li>What key stakeholder capacities are needed to undertake food system research and identify key learnings to support transformative pathways?</li> <li>How can stakeholders incorporate these key learnings into policies and programs to support food system transformation?</li> <li>How can stakeholders engage equitably with other partners in coalitions to ensure an effective scaling process?</li> </ul>	<ul style="list-style-type: none"> <li>Capacity needs assessment and building to undertake food system analysis through “learning by doing” and more formal capacity building (e.g., short courses/e-modules) embedded in WP1–4 (innovation partners).</li> <li>A learning framework and trajectory through e-learning and face-to-face stakeholder-facilitated learning sessions throughout the Initiative to extract learnings and identify follow-up steps (demand partners).</li> <li>Facilitated learning and negotiation to reach agreement on actions and strategies to support effective scaling of transformative pathways (scaling partners).</li> </ul>
<p><b>Outputs:</b></p> <ol style="list-style-type: none"> <li>Functional multistakeholder coalition (platform/network) established.</li> <li>Procedures, tools, and metrics to monitor progress toward transformative pathways, contributing to Food Systems Country Profile Process Guide.</li> <li>Reports reflecting the engagement process of in-country multistakeholder consultative processes.</li> <li>Learning framework and trajectory to extract lessons learned and identify next steps in food system transformation, feeding into the Food System Learning Center.</li> </ol>		

## Work Package 5: Theory of change

Work Package 5 is the core capacity development, outcome delivery, and scaling vehicle for SHiFT. Technology and planned interventions may have limited effect or even reproduce the existing dominant food systems if they ignore key political, competitive, and institutional dynamics and processes where interactions among people are central. WP5 will establish a country core team (CCT) that will be central to the transformation of such a complex system.

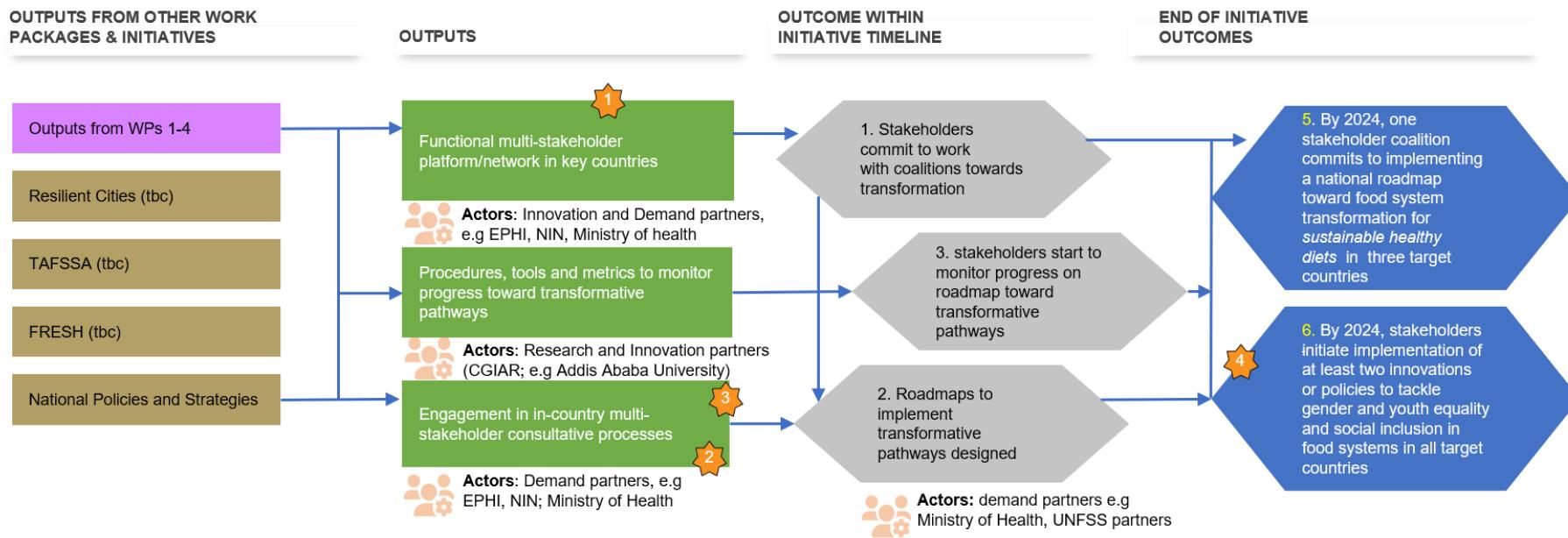
The CCT provides a country supporting environment (a coalition, a platform or combination of platforms, or a network of actors, etc.) led by an anchor institute and key innovation, demand, and scaling partners and stakeholders (*output 1*). This assumes that the Initiative is able to align to the relevant stakeholders who are willing to engage (Assumption 1 related to Risk 1a). Continuation of existing engagement with the anchor institute and stakeholders in former A4NH countries, engaging with UNFSS teams and stakeholders involved in the UNFSS dialogues and roadmap development, and implementing the systematic, consultative multisectoral process used by A4NH in new countries will address this assumption.

Through a systematic and interactive process involving a series of consultative meetings (reflected in *output 3*), WP5 will support the CCT to: (1) disseminate and anchor the research and evidence generated by the other WPs; (2) facilitate discussion and navigation of potential tensions and conflicts; (3) allow for the formation of agreements and coalitions for change; and (4) encourage debates on how insights from other WPs support the design and adoption of country-specific transformative pathways. The CCT will collaborate with WP5 in sharing results with demand partners and serve as an anchor point for scaling partners. This assumes that no major issues prevent the interaction with stakeholders (Assumption 2 related to Risk 5) and that conflicts and disagreements are identified and addressed (Assumption 3 related to Risk 1b), resulting in commitment of the CCT to work in collations toward food system transformation (*OWIT 1*). This inclusive process will lead to development of a roadmap (comprised of a coherent, multisectoral set of actions) and stakeholders' commitment to implement this toward food system transformation (*OWIT 2*).

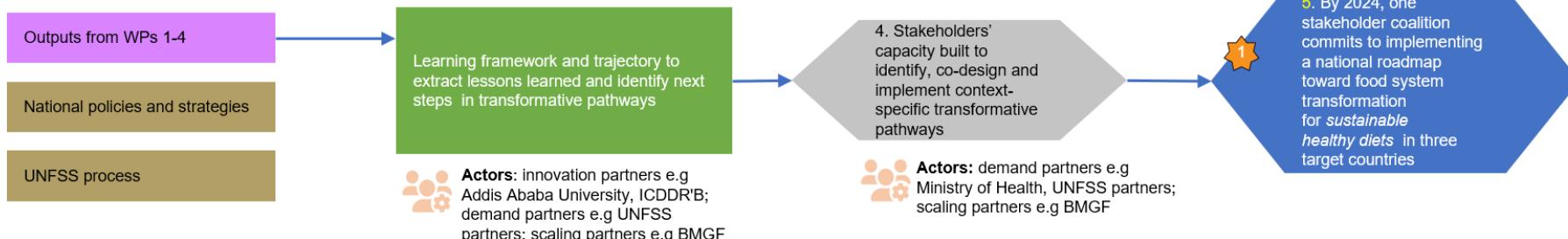
The WP will also develop and test monitoring procedures, tools, and metrics (*output 2*) to enable the CCT and stakeholders to monitor the implementation toward a mutually acceptable future (*OWIT 3*). This will be coordinated with the TAFSSA, FRESH, National Policies and Strategies, and Resilient Cities Initiatives and will contribute to the Food Systems Country Profile Process Guide (Innovation 3). The capacity building focus of WP5 through a learning framework and trajectory (*output 4*) will ensure that different stakeholders (innovation, demand, scaling partners and others) augment their capacity (*OWIT 4*) to translate key lessons into appropriate decisions (practice changes), so that roadmaps toward *sustainable healthy diets* (outcomes) become a reality. Learnings will feed directly into the Food System Learning Center (Innovation 1). The monitoring tools and the capacity development will facilitate engagement with stakeholders for food system transformation for sustainable and healthy diets as well as addressing gender and inclusion issues (*EoI outcome 6*). This assumes that SHiFT is able to strategically incorporate gender, youth, and social inclusion in its activities (Assumption 4 related to Risk 3). Through this engagement and capacity building, we expect that by 2024, one *stakeholder coalition ill commit to implementing a national roadmap toward food system transformation for sustainable healthy diets in Bangladesh, Ethiopia, and Vietnam (EoI outcome 5)*.

## WP5 - Catalyzing food system transformation at country level: Theory of change (TOC)

### ➡➡➡ Catalyzing food system transformation | PATHWAY 1



### ➡➡➡ Catalyzing food system transformation | PATHWAY 2



Legend: Assumptions: see ToC text WP5

#### **4. Innovation Packages and Scaling Readiness Plan**

SHiFT will implement a standard track of Innovation Packages and scaling readiness building on core [innovations](#), including a food system learning center, a decision-support tool for food system trade-off analysis, food system country profile guides, and process guides for food system country transformation strategy development. The final Innovation Package will combine the core Innovations into country-specific strategies anchored by [innovation](#), [demand](#), and [scaling partners](#) able to access results from diverse Work Packages to make more informed decisions. Country-level co-design processes will include key innovation partners in developing country-specific Innovation Packages to ensure uptake and use of core innovations and to leverage synergies with [other One CGIAR Initiatives](#) including Rethinking Food Markets, Resilient Cities, TAFSSA, Ukama Ustawi (U2), and Digital Transformation, among others. For each Innovation Package, we will conduct scaling readiness assessments to identify country-specific bottlenecks as well as flexible, demand-responsive innovation and scaling strategies that allow SHiFT to respond to emerging opportunities and challenges. Monitoring, evaluation, and learning from performance will be strengthened through the systematic, multistakeholder consultation processes implemented in each country.

Our ambition is to apply the Innovation Packages and scaling readiness approach to 26–50% of the total Initiative innovation portfolio by end 2024, depending on resource availability. We anticipate participating in the second wave of the standard track from Q3 2023 onward.

The Initiative allocates US\$130,000 to implement the Innovation Packages and scaling readiness plan (2023: US\$60,000; 2024: US\$70,000). Dedicated activities, deliverables, indicators, and line-items are included in the Management Plan, MELIA, and Budget Sections.

## 5. Impact statements

### 5.1 Nutrition, health, and food security

#### ***Challenges and prioritization***

Inadequate diets are the root cause of all forms of malnutrition, including childhood wasting and stunting, maternal underweight, micronutrient deficiencies, and overweight, obesity, and diet-related noncommunicable diseases (NCDs).<sup>3</sup> Childhood malnutrition has severe lifelong consequences for cognitive development, schooling outcomes, NCD risks, and economic productivity and ultimately contributes to the intergenerational transmission of poverty.<sup>115,116</sup> Among adults, poor-quality diets cause 11 million premature deaths each year.<sup>4</sup> Notwithstanding the critical importance of high-quality diets for nutrition and health, today's foods systems are failing consumers: healthy diets are unaffordable for 3 billion people,<sup>5</sup> disproportionately affecting women and children and marginalized populations.

#### ***Research questions***

- What are poor households' and individuals' food consumption, dietary patterns, and nutrition and health status? How and where do they procure food (informal/formal markets, own production)?
- Which individual and household factors shape these outcomes (e.g., income, access, preferences, time, convenience, food safety, etc.)?
- To what extent do FEs shape household food consumption and individual diets? What is the relative importance of different FE characteristics in shaping demand?
- What is the impact of existing and new policies, innovations, and guidelines on *sustainable healthy diets*? And which of these could be scaled?

#### ***Components of Work Packages***

WP1 (Consumers and their Food Environments) and WP2 (MSMEs and the Informal Sector) will directly contribute to this Impact Area. The work of WP3 (Governance and Political Economy) will identify the governance and policy solutions that could facilitate transitioning to food systems that contribute to this Impact Area. The decision tools developed under WP4 (Trade-Off Scenario Analysis) will allow stakeholders to quantify and manage the trade-offs inherent to delivering on this (and all other) Impact Areas. Through engagement, tracking of progress, and capacity building, WP5 (Catalyzing Food Systems Transformation at National Level) will ensure translation of the evidence from WP1–4 into actions.

#### ***Measuring performance and results (3 years)***

Nutrition, health, and food Security is the central Impact Area of SHiFT and all six *EoI outcomes* will contribute significantly to this Impact Area in a complementary and synergistic way: WP1 leading to *EoI outcome 1* (Consumers), along with WP2 and *EoI outcome 2* (MSMEs and informal sector), and cross-cutting *EoI outcome 6* (Gender, youth and inclusion) at the ground level (in Bangladesh, Ethiopia, India, and Vietnam) will be complemented at the policy and system levels by WP3 (*EoI outcome 3* on Governance and political economy), WP4 (*EoI outcome 4*:Trade-offs) and WP5 (*EoI outcome 5*: National roadmaps).

The metrics used to measure food security will be: number of people meeting minimum dietary energy requirements; and to measure healthy diet: the [Global Diet Quality Score](#).

#### ***Partners***

[Innovation](#), [demand](#), and [scaling partners](#) (see hyperlinks).

#### ***Human resources and capacity development of Initiative team***

Team members working on this Impact Area include nutritionists, gender experts, economists (including micro- and macro-modelers), social scientists, and research support.

## 5.2 Poverty reduction, livelihoods, and jobs

### **Challenges and prioritization**

Beyond the farm, the food system is a major source of youth and adult employment in both rural and urban areas.<sup>31</sup> In small and larger cities, the informal food sector plays an important role in providing income for poor and unskilled labor,<sup>117</sup> of which women make up a large proportion in many countries. To ensure that the provision of more *sustainable nutritious foods* also contributes to poverty reduction, SHiFT will target ways to enhance employment among MSMEs and informal actors in the food system, including wholesalers, processors, caterers, and retailers. The goal will be to identify and support solutions that can increase employment among marginalized populations while mitigating trade-offs between delivering more *sustainable nutritious foods* to consumers and achieving decent job and income goals.

### **Research questions**

- What are the key characteristics of the FEs with which marginalized populations interact (e.g., quality, cost, safety of foods, beverages, meals)?
- Which MSMEs and informal sector actors have the potential to deliver more *sustainable nutritious foods* to those consumers (low-income consumers in diverse contexts)?
- What types of gender and youth innovations among MSMEs and the informal sector in relation to improving access to *sustainable healthy diets* will increase decent employment and incomes?
- Which informational, regulatory, or policy innovations in or related to the FE can maintain or increase decent employment?
- How can we document and better analyze relationships across drivers, components, and outcomes of food systems to illustrate interactions, feedback loops, and trade-offs across time and space? What are the most critical trade-offs and tensions that emerge at national or subnational levels in food systems?

### **Components of Work Packages**

WP1 and WP2 will directly contribute to this Impact Area. WP3 will also identify any governance or policy solutions (e.g., relevant to the informal sector) needed to contribute to this Impact Area. The decision tools developed under WP4 will allow stakeholders to quantify and manage the trade-offs discussed above in delivering for this Impact Area, and WP5 will help ensure that the evidence from all the other WPs can translate to action.

### **Measuring performance and results**

The three *EoI* outcomes most directly related to this Impact Area are: *EoI outcome 1* (Consumers) and *EoI outcome 2* (MSMEs and informal sector), and *EoI outcome 6* (Gender, youth, and inclusion) in Bangladesh, Ethiopia, India, and Vietnam. Work Packages 3–5 will ensure sustainability of impacts as governance issues (*EoI outcome 3*) and trade-offs (*EoI outcome 4*) are addressed and efficient system transformation pathways allow national roadmaps (*EoI outcome 5*) to be developed.

To measure progress in this Impact Area, we will track changes in employment among MSMEs and informal sector actors as well as incomes in a representative sample of those tracked.

### **Partners**

[Innovation](#), [demand](#), and [scaling partners](#) (see hyperlinks).

### **Human resources and capacity development of Initiative team**

Team members working on this Impact Area include nutritionists, gender experts, economists (including micro- and macro-modelers), social scientists, and research support.

### **5.3 Gender equality, youth, and social inclusion**

#### ***Challenges and prioritization***

Poor diets, malnutrition, and poverty originate from processes of social exclusion of population groups and individuals based on socio-demographic characteristics such as gender, age, geographic location, ethnicity, education, and wealth.<sup>118</sup> Inequalities are reinforced by existing food systems that shape availability, access, and affordability of nutritious foods and demand for *sustainable healthy diets*.<sup>33</sup> A focus on empowerment of women as key actors in food systems is consistently reported as critical to enhancing the potential impacts on diets, nutrition, and health.<sup>119</sup> Youth who are increasingly exposed to food system influences (through food marketing, school meals, food sold in and outside of schools, street foods) need to be educated and supported in navigating these influences. In addition, mobilizing youth — as food producers and consumers, potential innovators and entrepreneurs, policy agents, and informed consumers — is key to food systems transformation.<sup>120</sup> Through specific research questions focusing on gender equity, youth, or social inclusion integrated in each of the WPs, we will generate evidence to address unequal access to *sustainable healthy diets*, employment, and income and the inequitable processes and policies, norms, and discursive practices that create or reinforce them, while focusing on how aspects of marginalization interact in different contexts.

#### ***Research questions***

All research questions addressed in the Initiative will use an equity lens, ensuring that activities contribute to understanding equity issues and processes in food systems and to improving reach, benefit, and empowerment of marginalized groups with a special focus on the aspects of marginalization most relevant in different contexts. In addition, specific research questions focusing on gender equity, youth, and social inclusion have been integrated in the WPs. Those are:

- What are the food consumption and dietary patterns and nutrition and health status of marginalized households and individuals (by gender and age)? (WP1)
- What are the key characteristics of FEs with which marginalized populations interact? (WP1)
- How do consumer characteristics (e.g., gender and age of consumers, income, residence (urban/rural), type and location of employment, and school) shape FEs? (WP2)
- What types of gender and youth innovations among MSMEs and the informal sector related to improving access to *sustainable healthy diets* will increase decent employment and incomes? (WP2)
- How would a specific gender lens modify the diagnosis of structural barriers and policy lock-ins; in other terms, are some of these issues around governance of food system transformation better understood — and subsequently addressed — if a gender lens were adopted? (WP3)
- What are the best governance arrangements to ensure the participation and representation of informal sector actors, youth, women, and marginalized groups in national debates and prioritization processes? (WP4)
- What transformation pathways are more effective for advancing women's empowerment, gender equality, and youth inclusion in food systems? Can they be driven by the private sector, civil society, or mainly through public policy? (WP5)

#### ***Components of Work Packages***

WP1 and WP2 will provide data disaggregated by socioeconomic status and other sources of inequality and ensure reach and benefit of marginalized groups in design of innovations to address their needs, preferences, and constraints. WP3 will contribute to understanding food

system barriers and lock-ins specific to marginalized groups from a discursive practice and political economy perspective, while WP4 will take trade-offs related to systemic exclusion of specific marginalized groups into account to contribute to empowerment of these groups. WP5 will ensure participation of marginalized groups as stakeholders in transformation processes, in monitoring (specifically tracking whether and how marginalized groups' interests are considered), and in capacity development.

#### ***Measuring performance and results***

The outcome most directly relevant to this Impact Area is *EoI outcome 6* (Gender, equity, and inclusion). All Work Packages will contribute to gender, equity, and inclusion and therefore, all other outcomes (*EoI 1–5*) are relevant to this Impact Area.

The Initiative will use the Nutrition Equity framework to understand equity issues in food systems, and the Reach-Benefit-Empower framework<sup>121</sup> to understand the impact of food system interventions. Metrics used will include the proportion of disadvantaged population covered by innovations (reach); gender-disaggregated data by marginalized groups (benefit); and [WEIA](#) indicators stratified by marginalized groups (empowerment). Equity, as it relates to the processes that lead to (un)equal outcomes, will be assessed by Accountability Scorecards ANCI policy metrics.

#### ***Partners***

[Innovation](#), [demand](#), and [scaling partners](#) (see hyperlinks).

#### ***Human resources and capacity development of Initiative team***

Team members working on this Impact Area include nutritionists, gender experts, economists (including micro- and macro-modelers), social scientists, and research support.

### **5.4 Climate adaptation and mitigation**

#### ***Challenges and prioritization***

Food systems are major contributors to climate change. Although estimates vary, the many different economic activities that are part of food systems contribute are believed to contribute between 19% and 38% of global GHG emissions.<sup>122</sup> SHiFT could potentially contribute to GHG emission reductions by shaping food demand through policy frameworks (WP3) that incorporate climate considerations into trade-off analysis (WP4), and through reduced food loss and waste (WP2). However, *climate change adaptation and mitigation* are a secondary Impact Area for SHiFT, given that our main focus is *sustainable healthy diets*. Nonetheless, we highlight below how climate change is embedded in the SHiFT research agenda.

#### ***Research questions***

SHiFT research questions do not *directly* address this Impact Area. Implicitly, however, issues of climate change (direct impact of weather-related extreme events on MSMEs and informal sector actors and the interactions with climate-change-related policies and issues of prioritization, policy coherence, and trade-offs) are expected to be included in the research co-implemented with key stakeholders in WP3 (Governance and political economy) and in WP4 (Trade-offs). A concrete example of relevant research on trade-offs is the use of cold storage facilities, often proposed to address food safety issues and food waste and loss in LMICs.<sup>123</sup> The increased use of storage facilities, however, will need to be considered in light of their contribution to GHG emissions.<sup>124</sup> Other examples of climate change questions implicitly included in the SHiFT research agenda will be those that explore how the MSME and FE interventions co-designed and tested under WP2 can include adaptation and mitigation considerations.

#### ***Components of Work Packages***

Three of the five SHiFT WPs will contribute to this specific IA. First, barriers and policy lock-ins that prevent countries from engaging in food system transformation include some related to climate change (adaptation and/or mitigation). Those will therefore be part of the analyses and engagement with stakeholders under WP3. Second, issues related to trade-offs such as those mentioned above (on food waste and loss and climate mitigation) and to encouraging policymakers to design policies that support adaptation to climate change while maintaining countries' focus on other important food system priorities (such as nutritious food) will be at the center of the research on trade-offs in WP4. Third, in WP2 where attention will be on co-developing and testing MSME and FE interventions aimed at delivering *sustainable nutritious foods*, considerations about adaption to and mitigation of climate change will be included in the discussions; examples of such climate-change-sensitive MSME innovations have already been developed by SHiFT team members under the A4NH program.<sup>125</sup> The resulting data will support improved decision-making in WP4 (Trade-off analysis) and feed into transformation pathways (WP5) that deliver *sustainable healthy diets for everyone, everywhere*.

### ***Measuring performance and results***

The outcomes most relevant to this Impact Area are *EoI outcome 2* (MSMEs and informal sector); *EoI outcome 3* (Governance and political economy); *EoI outcome 4* (Trade-offs); *EoI outcome 5* (National roadmaps); and the cross-cutting *EoI outcome 6* (Gender, equity, and inclusion).

Metric: number people benefiting from the implementation of adaptation plans.

### ***Partners***

[Innovation](#), [demand](#), and [scaling partners](#) (see hyperlinks).

### ***Human resources and capacity development of Initiative team***

Team members working on this Impact Area include social scientists, economists (micro- and macro-modelers), gender experts, and research support.

## 5.5 Environmental health and biodiversity

### **Challenges and prioritization**

Food systems are major contributors to land use change and biodiversity loss. Although estimates vary by country, dietary and food systems transitions contribute to an increasingly uniform diet globally<sup>126</sup> as well as detrimental land use change in the form of deforestation.<sup>125</sup> The relationship between dietary shifts, environmental health, and biodiversity remains poorly understood. SHiFT could potentially contribute to this area through policy frameworks (WP3), the incorporation of environmental considerations into trade-off analysis (WP4), and increased demand for sustainably produced, biodiverse foods (WP1 and WP2). Environmental health and biodiversity constitute a secondary Impact Area for SHiFT, given its main focus on *sustainable healthy diets*. Nonetheless, we highlight below how environmental health and biodiversity are embedded in the SHiFT research agenda.

### **Research questions**

SHiFT research questions do not *directly* address this Impact Area. Implicitly however, issues of environmental health and biodiversity are expected to be included in the research co-implemented with key stakeholders in WP3 (Governance and political economy) and in WP4 (Trade-offs). A concrete example of research on trade-offs is understanding the relationship between food system transformation, dietary transitions, and shifting land use in LMICs. How are environmental health concerns and biodiversity shaped by dietary transitions and how do these changes affect the environment? What kinds of sustainable outcomes can deliver both healthy environments and healthy consumers? Other examples of environmental health and biodiversity questions implicitly included in SHiFT's research agenda are those that explore how the MSME and FE interventions can augment consumer demand for diverse and *sustainable healthy diets* and best transmit that signal to farmers to promote more sustainable land use practices (WP2).

### **Components of Work Packages**

WP1 (Consumers and their food environments) and WP2 (MSMEs and the informal sector) will contribute to this Impact Area through their assessments of informal FEs. These efforts will approach environmental health and biodiversity from the consumer (WP1) and supplier (WP2) perspective to gain greater understanding. The resulting data will support improved decision-making in WP4 (Trade-off analysis) and feed into transformation pathways (WP5) that deliver *sustainable healthy diets*.

### **Measuring performance and results**

The outcomes most relevant to this Impact Area are *EoI outcome 1* (Consumers); *EoI outcome 2* (MSMEs and informal sector); *EoI outcome 4* (Trade-offs); *EoI outcome 5* (National roadmaps); and the cross-cutting *EoI outcome 6* (Gender, equity, and inclusion).

Metric: number of hectares under improved management.

### **Partners**

[Innovation](#), [demand](#), and [scaling partners](#) (see hyperlinks).

### **Human resources and capacity development of Initiative team**

Team members working on this Impact Area include nutritionists, social scientists, economists (micro- and macro-modelers), gender experts, and research support.

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

### 6.1 Results framework

CGIAR Impact Areas				
Nutrition, health and food security	Poverty reduction, livelihoods and jobs	Gender equality, youth and social inclusion	Climate adaptation and mitigation	Environmental health and biodiversity
<b>Collective global 2030 targets</b>				
The collective global 2030 targets are available centrally <a href="#">here</a> to save space.				
<b>Common impact indicators that your Initiative will contribute to and will be able to provide data towards</b>				
# people meeting minimum dietary energy requirements	# people benefiting from relevant CGIAR innovations	# women benefiting from relevant CGIAR innovations		
# people meeting minimum micronutrient requirements	# people assisted to exit poverty	# youth benefiting from relevant CGIAR innovations		
		# women assisted to exit poverty		
<b>SDG targets</b>				
2.1, 2.2	1.2, 8.3	5.5, 5.b, 10.2, 10.3	13.b	12.a, 12.8
Systems Transformation				
Action Area outcomes			Action Area outcome indicators	
ST 2 - Consumers have the information, incentives and wherewithal to choose healthy diets.			STi 2.1 Diet quality score	
ST 4 - Food system markets and value chains function more efficiently, equitably, and sustainably and lead towards healthier diets			STi 4.1 Number of commodity value chain x country combinations that use tested innovations to improve efficiency, inclusion, sustainability and nutrition objectives.	
			STi 4.2 Gaps between farm/processor gate and consumer prices (with some measures focused on smallholder farmers if possible)	
			STi 4.3 Domestic market price integration, both spatial and temporal	
			STi 4.4 Improved international price and exchange rate transmission	
			STi 4.5 Trends in relative prices of healthy vs unhealthy foods	
ST & RAFS 2 - National and local governments utilize enhanced capacity (skills, systems and culture) to assess and apply research evidence and data in policy making process			STRAFSi 2.1 Number of policies/ strategies/ laws/ regulations/ budgets/ investments/ curricula (and similar) at different scales that were modified in design or implementation, with evidence that the change was informed by CGIAR research	
ST & RAFS 1 - Smallholder farmers implement new practices that mitigate risks associated with extreme climate change and environmental conditions and achieve more resilient livelihoods			STRAFSi 1.1 Number of smallholder farmers who have implemented new practices that mitigate climate change risks, disaggregated by gender and type of practice.	
ST & RAFS & GI 1 Women and youth are empowered to be more active in decision making in food, land and water systems			STi 1.1 - Number of farmers using climate smart practices disaggregated by gender	
			STi 1.2 - Number of farmers using agroecological practices disaggregated by gender	
			STRAFSGli 1.1 Positive trends in the Women's Empowerment in Agriculture Index (WEIA) at various scales including nationally	

Initiative and Work Package outcomes, outputs and indicators											
Result type (outcome or output)	Result	Indicator	Unit of measurement	Geographic scope	Data source	Data collection method	Frequency of data collection	Baseline value (outcome only)	Baseline year (outcome only)	Target value	Target year
<b>Work Package 1: Consumers and their food environment</b>											
Output	Evidence on consumption patterns among marginalized groups and their individual and FE drivers	Number of reports/other information products	Number	Ethiopia, Vietnam, Bangladesh, India	Project reports	Annual Reporting Process	Annual			12	2024
Output	Tools, methods, metrics, summary indicators for measurement of SHD and FE	Number of tools/indicators developed or validated	Number	Ethiopia, Vietnam, Bangladesh, India	Project reports	Annual Reporting Process	Annual			4	2024
Output	A set of effective scalable policies, innovations, guidelines to improve consumption of SHD by marginalized groups	Number of policies/ innovations/ guidelines for which evidence was generated	Number	Ethiopia, Vietnam, Bangladesh, India	Project reports	Annual Reporting Process	Annual			3	2024
Outcome	Evidence synthesized, disseminated, discussed with demand and innovation partners	Number of reports/ other information products	Number	Ethiopia, Vietnam, Bangladesh, India	Project reports	Annual reporting process	Annual	N/A	N/A	3	2024
Outcome	Evidence used to co-design, test, evaluate innovations/ policies (targeted to consumers and FEs)	Number of innovations/ policies	Number	Ethiopia, Vietnam, Bangladesh, India	Project reports	Annual reporting process	Annual	N/A	N/A	3	2024
Outcome	Impact evidence of innovations/policies synthesized, discussed, disseminated among partners/ internationally	Uptake of information products	Altimetric score (aggregate)	Ethiopia, Vietnam, Bangladesh, India	Project reports	Annual reporting process	Annual	N/A	N/A	180	2024
Outcome	Stakeholders in each target country initiate implementation of at least two innovations or policies to increase the demand for <i>sustainable healthy diets</i> .	Number of policies/ innovations/ guidelines for which evidence was generated	Number	Ethiopia, Vietnam, Bangladesh, India	Project reports	Annual reporting process	End of Initiative	N/A	N/A	6	2024

Initiative and Work Package outcomes, outputs and indicators											
Result type (outcome or output)	Result	Indicator	Unit of measurement	Geographic scope	Data source	Data collection method	Frequency of data collection	Baseline value (outcome only)	Baseline year (outcome only)	Target value	Target year
<b>Work Package 2: MSMEs and the informal sector</b>											
Output	Typology of wholesalers, processors, caterers, and retailers with potential to deliver more <i>sustainable nutritious foods</i>	Number of reports	Number	Ethiopia, Vietnam, Bangladesh, India	Project reports	Annual reporting process	Annual			4	2023
Output	Evidence base of scalable interventions overcoming barriers limiting sustainable nutritious foods and maintaining/increasing decent employment	Number of reports/other information products	Number	Ethiopia, Vietnam, Bangladesh, India	Project reports	Annual reporting process	Annual			12	2024
Output	Stakeholder guidelines for facilitating youth and female employment in MSMEs and informal sector in the wholesale, processing, catering, and retailer sectors	Number of reports (guidelines)	Number	Ethiopia, Vietnam, Bangladesh, India	Project reports	TBC	Midpoint/Endpoint			4	2024
Outcome	Evidence used to co-design, test, evaluate innovations/policies with MSMEs/ informal sector	Number of innovations/policies	Number	Ethiopia, Vietnam, Bangladesh, India	Primary data collection	TBC	End of Initiative	N/A	N/A	4	2024
Outcome	Stakeholder guidelines used to maintain or increase decent employment among women and youth	Number of people employed	Number	Ethiopia, Vietnam, Bangladesh, India	Primary data collection	Adoption and Diffusion Study	Midpoint/End of Initiative	N/A	N/A	200	2024
Outcome	Stakeholders in each target country initiate implementation of at least two solutions to improve the ability of MSMEs and informal businesses to deliver <i>sustainable nutritious foods</i> and create inclusive income opportunities.	Number of strategies in <b>implementation</b> informed by CGIAR research	Number	Ethiopia, Vietnam, Bangladesh, India	Project Reports	Case Studies	End of Initiative	N/A	N/A	6	2024

Initiative and Work Package outcomes, outputs and indicators											
Result type (outcome or output)	Result	Indicator	Unit of measurement	Geographic scope	Data source	Data collection method	Frequency of data collection	Baseline value (outcome only)	Baseline year (outcome only)	Target value	Target year
<b>Work Package 3: Governance and inclusive food systems</b>											
Output	Diagnosis analyses completed at country level	Number of information products (blogs, policy briefs)	NA	Ethiopia, Vietnam, Bangladesh, Benin	Project reports	Annual reporting process	End of initiative			8	2024
Output	Participatory tools and methods developed	NA	NA	Ethiopia, Vietnam, Bangladesh, Benin	Project reports	Multistakeholder scenario exercises	End of Initiative			4	2024
Outcome	Stakeholders' awareness of political economy issues raised	Change in capacity of stakeholders	Mid-point alignment and contribution to shared objectives	Ethiopia, Vietnam, Bangladesh, Benin	Primary data collection (face-to-face and/or online surveys)	Process tracing evaluation	Baseline/ End of Initiative	N/A	N/A	50%	2024
Outcome	Specific country barriers and lock-ins revealed	NA	NA	Ethiopia, Vietnam, Bangladesh, Benin	Project reports	Secondary data + stakeholder/ network mapping	End of Initiative	N/A	This is a process	N/A	2024
Outcome	Engagement of stakeholders in collectively developed solutions	NA	NA	Ethiopia, Vietnam, Bangladesh, Benin	Project Meeting Reports	Process tracing evaluation	End of Initiative	N/A	This is a process	N/A	2024
Outcome	In four target countries, stakeholders show a significant increase (between 2021 and 2024) in their understanding and ability to engage in governance and political economy issues around the transformation of their food systems.	Change in capacity of stakeholders	Mid-point alignment and contribution to shared objectives	Ethiopia, Vietnam, Bangladesh, Benin	Primary data collection	Process tracing evaluation	Baseline/ End of Initiative	N/A	N/A	50%	2024

Initiative and Work Package outcomes, outputs and indicators											
Result type (outcome or output)	Result	Indicator	Unit of measurement	Geographic scope	Data source	Data collection method	Frequency of data collection	Baseline value (outcome only)	Baseline year (outcome only)	Target value	Target year
<b>Work Package 4: Trade-off scenario analysis</b>											
Output	Trade-offs between various outcomes quantified at (sub)national level	Number of papers/information products	Number	Ethiopia, Vietnam, Bangladesh, Honduras	Secondary data analysis - research report	Annual reporting process	End of Initiative			12	2024
Output	Trade-off analysis and decision-support tools developed and tested	Number of Information Products	Number	Ethiopia, Vietnam, Bangladesh, Honduras	Project reports	Annual	End of Initiative			3	2024
Outcome	Stakeholders able to embrace the complexity of food systems transformation	Change in capacity of stakeholders	Mid-point alignment and contribution to shared objectives	Ethiopia, Vietnam, Bangladesh, Honduras	Primary data collection	Process tracing evaluation	Baseline/End of Initiative	N/A	N/A	50%	2024
Outcome	Trade-offs managed and handled in a fairer, more inclusive and more equitable way	Change in capacity of stakeholders	Mid-point alignment and contribution to shared objectives	Ethiopia, Vietnam, Bangladesh, Honduras	Primary data collection	Process tracing evaluation	Baseline/End of Initiative	N/A	N/A	40%	2024
Outcome	In each of the four target countries, at least one decision support tool is developed and applied by 2024 to raise the awareness of stakeholders and improve their capacity to navigate trade-offs between food systems outcomes.	Uptake of information products	Number (of stakeholders)	Ethiopia, Vietnam, Bangladesh, Honduras	Primary data collection	Process tracing evaluation	End of Initiative	N/A	N/A	50%	2024
<b>Work Package 5: Catalyzing food system transformation</b>											
Output	Functional multi-stakeholder platform/network established in at least three countries	Number of networks established	Number	Ethiopia, Vietnam Bangladesh	Project reports	Annual reporting progress	End of Initiative			3	2024
Output	Procedures, tools and metrics to monitor progress toward transformative pathways	Number of innovations	Number	Ethiopia, Vietnam Bangladesh	Project reports	Annual reporting progress	End of Initiative			1 (per country)	2024

Initiative and Work Package outcomes, outputs and indicators											
Result type (outcome or output)	Result	Indicator	Unit of measurement	Geographic scope	Data source	Data collection method	Frequency of data collection	Baseline value (outcome only)	Baseline year (outcome only)	Target value	Target year
Output	Engagement in in-country multi-stakeholder consultative processes	Change in capacity of stakeholders	Mid-point alignment and contribution to shared objectives	Ethiopia, Vietnam Bangladesh	Primary data collection	Process tracing evaluation	End of Initiative			N/A	2024
Output	Learning framework and trajectory to extract lessons learned and next steps in transformative pathways identified	Number of information products	Number	Ethiopia, Vietnam Bangladesh	Project reports	Annual reporting progress	End of Initiative			3	2024
Outcome	Synthesis of transformative pathways for sustainable and healthy diets	Uptake of information product	Number of coalitions	Ethiopia, Vietnam Bangladesh	Project reports	Annual reporting progress	End of Initiative	N/A	N/A	3	2024
Outcome	Roadmaps to implement transformative pathways	Number of beneficiary coalitions using roadmaps	Number of coalitions	Ethiopia, Vietnam Bangladesh	Project reports	Annual reporting progress	End of Initiative	N/A	N/A	3	2024
Outcome	Progress toward transformative pathways monitored	Uptake of information product	Number of coalitions	Ethiopia, Vietnam Bangladesh	Project reports	Annual reporting progress	End of Initiative	N/A	N/A	3	2024
Outcome	Stakeholders' capacity built to co-design, implement and scale of transformative pathways	Change in capacity of network	Mid-point alignment and contribution to shared objectives	Ethiopia, Vietnam, Bangladesh	Primary data collection	Process tracing evaluation	End of Initiative	N/A	N/A		2024
Outcome	In each of the three primary target countries, one stakeholder coalition commits to implementing a co-designed national roadmap towards food system transformation for <i>sustainable healthy diets</i> by 2024.	Number of policies	Number	Ethiopia, Vietnam, Bangladesh	Project reports	Direct count	End of Initiative	0	0	3	2024

Initiative and Work Package outcomes, outputs and indicators											
Result type (outcome or output)	Result	Indicator	Unit of measurement	Geographic scope	Data source	Data collection method	Frequency of data collection	Baseline value (outcome only)	Baseline year (outcome only)	Target value	Target year
<b>Cross-Cutting Outputs and Outcomes</b>											
Outcome	Stakeholders in each country initiate implementation of at least two innovations or policies to increase gender and youth equality and social inclusion.	Number of policies	Mid-point alignment and contribution to shared objectives	Ethiopia, Vietnam, Bangladesh, Benin, Honduras, India	Project Reports	Direct count from data	End of Initiative	N/A	N/A	6	2024
Output	Innovation Package and Scaling Readiness Plan	Number of selected Core Innovations	Number	Ethiopia, Vietnam Bangladesh	Scaling Roadmaps	Project reports	Once	N/A	N/A	4	2023 (2) and 2024 (2)

## **6.2 MELIA plan**

The monitoring, evaluation, and learning component (MEL) for SHiFT will work as follows. Data and information needed for MEL purposes will be collected regularly and reported yearly. Regular meetings of SHiFT leadership and annual meetings with research activity leaders will be used to ensure the project is on track and to provide any course corrections necessary. Annual meetings, including stakeholders (through WP5), will assess progress toward output goals, ensure that Action Area targets are met, and assess whether the project and WP-level theories of change need to be adapted.

For internal M&E, SHiFT will use CGIAR's management information system (MIS) for reporting and evaluation; the SHiFT MELIA focal point will ensure it is updated regularly based on bimonthly leadership meetings. WP leaders will develop annual work plans for specific activities to ensure delivery of Initiative outputs and will monitor whether those activities are on schedule.

Toward the end of the Initiative, SHiFT will commission an independent review to assess its progress, credibility, relevance, and the scaling potential of studied policies and innovations.

### **Impact assessment research plans**

We are planning two types of impact assessment activities in SHiFT. First, we will conduct causal impact assessment research in WP1 and WP2. WP1, informed by the research done on objectives 1 and 2, will identify, test, and evaluate potentially scalable consumer- and FE-focused policies, innovations, and guidelines to shift consumption patterns toward *sustainable healthy diets*. These activities will directly test strategies to raise consumer demand, informing EoI outcome 1 while also addressing inclusion and political economy issues related to gender and youth (*EoI outcome 6*).

Similarly, in WP2, innovations that deliver food to the FE among MSMEs and informal sector actors will be tested. Causal impact assessment studies will assess the effectiveness of solutions to overcome constraints to delivering and maintaining or increasing decent employment among marginalized populations, including women and youth. The WP2 impact studies will inform EoI outcome 2, as well as addressing constraints related to gender and youth (*EoI outcome 6*). WP1 and WP2 activities will be led by experts in causal impact assessment and will use primary data.

The second impact assessment activity is a policy tracing study we plan to conduct in each focus country for WP3 and WP5. The purpose is to understand how WP3 and WP5 research informs the policy process in each of the targeted countries; hence, these studies will be designed to understand the role of SHiFT research in resolving policy lock-ins and in shifting consensus around policies related to *sustainable healthy diets*. The approach will largely be qualitative.

### **Scaling**

SHiFT plans to use CGIAR's MIS to begin to trace scaling activities from Q4 2022 and at that time will start to design, implement, and monitor an Initiative scaling strategy to measure scaling readiness in collaboration with partners.

### 6.3 Planned MELIA studies and activities

Type of MELIA study or activity	Result or indicator title that the MELIA study or activity will contribute to	Anticipated year of completion	Co-delivery of planned MELIA study with other Initiatives	How the MELIA study will inform management decisions and contribute to internal learning
Causal impact assessment learning studies (WP1 countries)	Impact evidence of scalable, context-specific innovations/policies to shift demand toward <i>sustainable healthy diets</i>	2024	If appropriate with regional Initiatives	Used to help develop policies and scalable innovations to meet EoI outcome 1
Causal impact assessment learning studies (WP2 countries)	Evidence base of scalable interventions to overcome barriers limiting the supply of <i>sustainable nutritious foods</i> and maintaining or increasing decent employment	2024	If appropriate with regional Initiatives	Used to help develop policies and scalable innovations to meet EoI outcome 2
Ex-ante, baseline, and/or foresight study	Assessment of trade-offs between various outcomes quantified at (sub)national level	2023	N/A	Used to help develop food systems outcome trade-off decision-support tools (i.e., EoI outcome 4)
Adoption and diffusion study	Indicators relevant to number of beneficiaries from relevant CGIAR innovations under poverty and gender equality Impact Areas	2024	If appropriate with regional Initiatives	Used to understand how and whether SHiFT innovations are helping begin to meet Action Area targets
Theory-based evaluation (e.g., process tracing of policy advice)	Outcomes related to stakeholders and multistakeholder platforms throughout the Initiative (WP1–WP5)	2024	Potential link to National Strategies Initiative	Used to trace impacts of evidence on policy processes in target countries, to help measure SHiFT contribution to policy change (e.g., EoI outcomes 3, 5, and 6)
Scaling readiness assessment study	Number of Initiative Innovation Packages that have undergone evidence-based and validated scaling readiness assessments informing innovation and scaling strategies	2024	TBC	Used to help design, implement, and monitor an Initiative scaling strategy, and scaling readiness metrics can feed an optional Initiative innovation portfolio management system

## 7. Management plan and risk assessment

### 7.1 Management plan

SHiFT is a collaborative effort between CGIAR and non-CGIAR researchers. The management plan focuses on shared responsibilities, partner engagement, and adaptive management practices to deliver end-of-Initiative outcomes by 2024 and contribute to CGIAR impacts by 2030.

1. **Shared responsibilities.** We will manage SHiFT in a collegial fashion with Work Package leadership shared across partners with the common goal of providing high-quality science for impact from the entire team. Hallmarks of this approach include joint planning, implementation, and accountability plus timely internal communications to ensure coordination.
2. **Partner engagement and capacity development.** To achieve our proposed outcomes, SHiFT recognizes the need to engage consistently with demand, innovation, and scaling partners globally and in target countries. Initiative implementation will build partner capacity through learning by doing in all Work Packages, joint review of results and their significance, and support of coalitions for healthy sustainable diets, including other aligned [One CGIAR Initiatives](#).
3. **Adaptive management and learning.** SHiFT will learn iteratively by revisiting our TOC within each country context, testing the assumptions in all Work Packages, deploying MELIA tools and studies to see what works where and why, and adapting planned activities as needed. We will use the risk management approach (section 7.3) to mitigate risks within project control and react in a timely fashion to those outside our control. Robust evidence, insights, and validated innovations from WP1–4 will support national and sub-national coalitions that promote healthy sustainable diets under WP5. We will track the advance towards outcomes using the Innovation Package/scaling tool. Finally, SHiFT will invest in documenting change processes using quantitative and qualitative tools and report lessons learned via the CGIAR MIS.

## 7.2 Summary management plan Gantt table

Initiative start date	Lead organization	Timelines												Description of key deliverables (maximum 3 per row, maximum 20 words per deliverable)
		2022				2023				2024				
Work Packages	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
Work Package 1:	CGIAR								1	2		3		1. Data sets, reports, journal articles on characterization and analysis of drivers of dietary intake, nutrition, and health outcomes in 3 countries 2. Valid tools and analytical methods for measurement and analysis of <i>sustainable healthy diets</i> 3. A set of effective scalable policies, innovations, and guidelines to improve consumption of <i>sustainable healthy diets</i>
Work Package 2:	CGIAR					1				2				1. Typology of wholesalers, processors, caterers, and retailers with potential to deliver more <i>sustainable nutritious foods</i> 2. Data sets, reports, and discussion papers or journal articles that describe ways to improve access to <i>sustainable nutritious foods</i> in four countries while maintaining or increasing decent employment 3. Stakeholder engagement on addressing barriers to scaling ways to improve access to <i>sustainable nutritious foods</i>
Work Package 3:	CGIAR							2		1		3		1. A series of diagnosis accounts aimed at policymakers and other key actors, produced in 3 of the target countries 2. Participatory tools developed and tested in 3 of the target countries 3. A series of academic products (working papers and peer-reviewed articles) synthesizing key findings submitted
Work Package 4:	CGIAR					1				2		3		1. Compiled datasets from secondary sources, and econometric and foresight analysis of key potential trade-offs in food systems at country and global levels 2. Develop tested decision-support tools and scenario analysis for target countries 3. A series of academic products (working papers and peer-reviewed articles) synthesizing key findings submitted
Work Package 5:	WUR / CGIAR		3	1 2	3	1	3	1	3	1	3	1 2		1. Food system Transformation Strategy documents, roadmaps and coalitions discussed through multilevel

Initiative start date	Lead organization	Timelines												Description of key deliverables (maximum 3 per row, maximum 20 words per deliverable)
		2022				2023				2024				
Work Packages		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
														stakeholder consultative process (quarterly progress reports, end report Q3 2024) 2. Food Systems Country Profile Process Guide (draft and final) 3. Food System Learning Center (establishment in Q3 2022, bi-monthly updates thereafter)
Innovation Packages & Scaling Readiness														1. Apply the Innovation Packages and Scaling Readiness approach to 26–50% of the total Initiative innovation portfolio by end of 2024
MELIA	CGIAR				3				2 3					1. Theory-based evaluation process tracing of policy advice 2. Study quantifying trade-offs in target countries 3. Annual reporting on progress toward output goals
Project management	CGIAR	3	3	2 3	1 3	3	3	2 3	1 3	3	3	2 3	1 3	1. Financial and progress reports 2. Annual country stakeholder network meetings 3. Program management meetings

### 7.3 Risk assessment

Top 5 risks to achieving impact (note relevant Work Package numbers in parentheses)	Description of risk (50 words max each)	Likelihood	Impact	Risk score	Proposed mitigation measurements
		Rate from 1–5	Rate from 1–5		
1a) Failure to position and align the Initiative to the relevant stakeholder platforms and networks at key country level. 1b) Inability to address conflicts and disagreements about priorities between key stakeholders. High staff turnover among key partners (WP3, WP4, and WP5).	Failure caused by unclear stakeholder platform/network identification and/or poor processes. This could result in loss of national sense of ownership, failure to engage with critical stakeholders and to address local and regional policy priorities and demands, and inappropriate food system transformation efforts that are not embedded in the context of the key countries.  Disagreements between key stakeholders and policymakers will slow down the process of identifying food system transformation priorities and of effectively managing trade-offs.  High staff turnover among key partners will limit the build-up of institutional knowledge and reduce the efficiency of implementing food system transformation innovations.	2	5	10	<ul style="list-style-type: none"> <li>Continue collaboration with A4NH platforms/networks</li> <li>Take opportunity offered by UNFSS processes and critical stakeholders in key country</li> <li>Align with a critical anchor institute in target countries</li> <li>Ensure presence of in-country coordinator/liaison officer (CG or local) who can work effectively with national partners</li> <li>Monitor relevant stakeholder platform/network</li> <li>Maintain a transparent process to ensure conflicting priorities are identified in a timely manner</li> <li>Establish clear procedures for conflict mitigation and resolution with critical stakeholders before starting the SHiFT activities</li> <li>Engage regularly with key stakeholders to reduce turnover of stakeholder representatives and to maximize continuity</li> </ul>
2. Inability to formulate appropriate business propositions for food system retailers to deliver <i>sustainable nutritious foods</i> to consumers (WP2).	This problem, which could result from insufficient incorporation of private sector interests, barriers and 'lock-ins', could lead to suboptimal identification, implementation, and evaluation of promising opportunities and innovations to stimulate delivery of <i>sustainable nutritious foods</i> . This would lead to a weak evidence base of promising game-changing solutions that could inform policy decision-making.	3	3	9	<ul style="list-style-type: none"> <li>Ensure co-design of potential innovations with critical MSMEs</li> <li>Align with SUN Business Network in country</li> </ul>
3. Inability to strategically incorporate gender, youth, and social inclusion in SHiFT activities (all WPs).	Oversight of gender, youth, and/or social inclusion (essential for impact on diets and nutrition) due to the complexity of food systems could lead to insufficient attention to marginalized population groups and their unique situation. This could reduce the ability to address their challenges, which in turn, would limit impact on the number of people having access to <i>sustainable healthy diets</i> and reduce SHiFT's contribution to reducing inequality.	2	4	8	<ul style="list-style-type: none"> <li>Work very closely with equity experts in partner institutions</li> <li>Align with the Gender Platform</li> <li>Commission specific equity-oriented studies/evaluations during project</li> <li>Make use of developed equity knowledge/tools/expertise built in A4NH</li> </ul>
4. Poor strategic alignment with other One CGIAR Initiatives in key countries (WP5) and with <a href="#">One CGIAR initiatives</a> relevant for <i>sustainable healthy diets</i> (WP1).	Poor alignment caused by insufficient country coordination among multiple Initiatives operating in a given country and insufficient cohesion among Initiatives that have a diet/consumer focus could impact the Initiative's efficiency, methods/tools/metrics development and streamlining, consumer and food environment characterization, and result in missed opportunities for scaling.	2	3	6	<ul style="list-style-type: none"> <li>Actively engage and align with regional Initiatives and other relevant Initiatives operating in SHiFT's target countries</li> <li>Stimulate multi-Initiative stakeholder consultations in key countries</li> </ul>
5. Natural disasters; political and civil unrest; disease outbreaks (WP1-5)	Disasters, unrest, and health crises will divert attention of stakeholders away from food systems transformation for <i>sustainable healthy diets</i> . They will reduce the ability to have in-country and in-person meetings and to conduct primary data collection.	1	4	4	<ul style="list-style-type: none"> <li>Use adaptive designs that allow switching to virtual meetings and trainings or phone surveys when needed</li> </ul>

## **8. Policy compliance and oversight**

### **8.1 Research governance**

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

### **8.2 Open and FAIR data assets**

Researchers involved in the implementation of this Initiative will adhere to the terms of the [Open and FAIR Data Assets Policy](#).

SHiFT will align with the OFDA Policy's Open and FAIR requirements, ensuring:

- Rich metadata conforming to the [CGIAR Core Schema](#) to maximize findability, including geolocation information where relevant.
- Accessibility by utilizing unrestrictive, standard licenses (e.g., [Creative Commons](#) for non-software assets; General Public License ([GPL](#))/Massachusetts Institute of Technology ([MIT](#)) for software), and depositing assets in open repositories.
- Wider access through deposition in open repositories of translations and requiring minimal data download to assist with limited internet connectivity.
- Inter-operability by annotating dataset variables with ontologies where possible (controlled vocabularies where not possible).
- Adherence to [Research Ethics Code](#) (Section 4) relating to responsible data (through human subject consent, avoiding personally identifiable information in data assets and other data-related risks to communities).

## 9. Human resources

### 9.1 Initiative team - table

Category	Area of expertise	Short description of key accountabilities
Research	Nutrition, diets, economics, gender	<p><b>Design and management of qualitative research and large surveys and evaluations (WP1–2):</b> selection and recruitment of data collection firms; development of study protocols, survey/qualitative instruments and training manuals; training and supervision of field staff.</p> <p><b>Co-design and evaluation of innovations targeted to consumers and FEs (WP1–2):</b> design, implementation, and analysis of data from rigorous evaluations using experimental designs.</p> <p><b>Data management and analysis; publication</b> of peer-reviewed papers, briefs, slide decks; <b>communication/dissemination</b>.</p>
Research	Social sciences and political economy	<p><b>Implementation of national political economy analysis and critical discourse analysis (WP3)</b> on food system transition/transformation.</p> <p><b>Design, field-testing, and implementation of consensus building techniques with (sub)national stakeholders (WP3–5).</b></p> <p><b>Data management and analysis; publication</b> of peer-reviewed papers, briefs, slide decks; <b>communication/dissemination</b>.</p>
Research	Trade-off analysis, modeling/foresight/ scenario analysis	<p><b>Design and Implementation of modeling and scenario analyses (WP4); data management and analysis; publication</b> of peer-reviewed papers, policy briefs, slide decks. <b>communication/dissemination</b>.</p>
Research	Gender, youth, inclusion	<p><b>Contribution to WP1–5</b> to incorporate gender, youth, and inclusion in all research programs.</p> <p><b>Design and implement a SHiFT-specific research agenda and program</b> on gender, youth, and inclusion.</p>
Research support	Program management	<p><b>Management and coordination of SHiFT program</b> across WPs and countries; support to SHiFT leadership team and partners; planning and tracking outputs and outcomes and support to MELIA; support to team and partner meetings, etc.</p>
Research support	Nutrition, diets, economics	<p><b>Research support for</b> field-work planning and implementation; design of evaluations; enumerator training; data management, and analysis; publications and dissemination of results</p>
Research support	Nutrition, diets, economics	<p><b>In-country engagement</b> (local staff) (WP1–5) (possibly supported by in-country international staff from One CGIAR): facilitate engagement with stakeholders in country; help identify research firms; support in-country communication and dissemination of results; support partnerships, etc.</p>
Research support	Trade-off analysis, modeling/foresight/ scenario analysis	<p><b>Research support for</b> (sub)national and global data gathering, compiling, management, and (modeling/econometric) analysis; publications and dissemination of results.</p>
Research support	Political economy, social sciences	<p><b>Research support for</b> engagement with and capacity building of subnational and national food system stakeholders and key actors; analysis publications and dissemination of results.</p>
Research support	Communication	<p><b>Support all communication and dissemination activities for SHiFT</b> internationally and a country and regional level (linking with local staff).</p>
Research support	Monitoring, evaluation, learning, and impact assessment (MELIA)	<p><b>Support all MEL activities</b> across WPs and countries</p>
Research support	Administration, finance, budgets, contracts	<p><b>Support all SHiFT's administrative and financial work and reporting</b></p>

## **9.2 Gender, diversity, and inclusion in the workplace**

The Initiative team will exceed CGIAR's gender target of a minimum of 40% women in professional roles but is not currently comprised of individuals from diverse backgrounds. Minorities and other underrepresented groups are unlikely to hold leadership roles in the Initiative team at the outset. To address this, we will consciously consider diversity if funding allows for new recruitment, as per the guidance outlined in CGIAR's GDI Inclusive Recruitment Toolkit. In addition, we will mindfully include diverse voices in all our project activities and actively engage with diverse members of the food system with a specific focus on excluded populations, such as female informal market actors and youth. All Work Packages will highlight the differentiated needs of excluded populations with the goal of developing processes through which they can gain agency and voice to influence food systems and ensure the delivery of healthy sustainable diets going forward. We also commit to supporting the diversity of the next generation of scientists and change agents through leadership development, mentoring, and training programs for women, minorities, and other underrepresented groups.

## **9.3 Capacity development**

The Initiative team leaders and managers will complete training on inclusive leadership within three months of the launch of the Initiative. In addition, within six months, the Initiative team members, including the country coordinators and the anchor institute representatives, will complete training on gender, diversity, and inclusion, including whistleblowing and how to report concerns. The kick-off meeting of the Initiative will include an awareness session on CGIAR's values and code of conduct and an introduction to the range of learning opportunities available within CGIAR.

Capacity development is an integral part of WP5 and will offer development opportunities to junior-level Initiative team members, partners, and stakeholders to carry out food system analysis and contribute to food system transformation toward *sustainable healthy diets*. This will be done through "learning by doing" where junior partners and stakeholders will be part of data collection teams and by more formal capacity building (involvement in short courses/e-modules) embedded in WP1–4. Collaboration with local universities and research institutes will be strengthened by MSc or young researcher grant schemes offering small grants and mentorship from Initiative members to young researchers. Opportunities for internships/MSc thesis will be provided for international and local researchers, especially those from underrepresented groups. PhD opportunities will be offered in WP1–4 linked to local and international universities. Effort will be made to include junior stakeholders in the learning trajectory through e-learning courses, and face-to-face stakeholder-facilitated learning sessions. Scholarships will be made available for junior team members to attend (inter)national conferences such as the ANH Academy weeks.

## 10. Financial resources

### 10.1 Budget

#### 10.1.1 Activity breakdown

USD	2022	2023	2024	Total
Crosscutting across Work Packages (management)	655,504	447,255	456,498	1,559,257
Work Package 1	4,887,009	6,051,053	6,539,273	17,477,335
Work Package 2	1,153,186	2,112,321	2,579,874	5,845,381
Work Package 3	425,182	324,670	331,696	1,081,548
Work Package 4	1,393,740	1,248,924	1,262,018	3,904,682
Work Package 5	1,704,491	1,622,567	1,648,739	4,975,797
				0
Innovation packages & Scaling Readiness		72,000	84,000	156,000
<b>Total</b>	<b>10,219,112</b>	<b>11,878,791</b>	<b>12,902,097</b>	<b>35,000,000</b>

#### 10.1.2 Geographic breakdown

USD	2022	2023	2024	Total
Global (management)	655,504	447,255	456,498	1,559,257
Bangladesh	2,527,261	3,443,022	3,932,297	9,902,580
Benin	106,296	81,168	82,924	270,388
Ethiopia	2,527,261	3,452,619	3,922,700	9,902,580
Honduras	348,435	312,231	315,504	976,170
India	1,510,049	1,598,712	1,616,588	4,725,349
Vietnam	2,544,306	2,543,783	2,575,587	7,663,676
<b>Total</b>	<b>10,219,112</b>	<b>11,878,791</b>	<b>12,902,097</b>	<b>35,000,000</b>

## References

- 1 FAO, WHO. Sustainable healthy diets – Guiding principles. Rome: Food and Agricultural Organization of the United Nations; World Health Organization, 2019.
- 2 FAO, IFAD, UNICEF, WHO, WFP. The State of Food Security and Nutrition in the World 2020.Transforming food systems for affordable healthy diets. Rome: FAO, 2020 DOI:10.4060/ca9692en.
- 3 Hawkes C, Ruel MT, Salm L, Sinclair B, Branca F. Double-duty actions: seizing programme and policy opportunities to address malnutrition in all its forms. *Lancet (London, England)* 2020; **395**: 142–55.
- 4 GBD 2017 Diet Collaborators. Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet (London, England)* 2019; **393**: 1958–72.
- 5 Global Panel on Agriculture and Food Systems for Nutrition. Future Food Systems: For people, our planet, and prosperity. London, UK, 2020.
- 6 Riisgaard L, Hammer N. Prospects for Labour in Global Value Chains: Labour Standards in the Cut Flower and Banana Industries. *Br J Ind Relations* 2011; **49**: 168–90.
- 7 Marschke M, Vandergeest P. Slavery scandals: Unpacking labour challenges and policy responses within the off-shore fisheries sector. *Mar Policy* 2016; **68**: 39–46.
- 8 Popkin BM, Corvalan C, Grummer-Strawn LM. Dynamics of the double burden of malnutrition and the changing nutrition reality. *Lancet (London, England)* 2020; **395**: 65–74.
- 9 Vermeulen SJ, Park T, Khoury CK, Béné C. Changing diets and the transformation of the global food system. *Ann N Y Acad Sci* 2020; **1478**: 3–17.
- 10 Global Panel on Agriculture and Food Systems for Nutrition. Urban diets and nutrition: Trends, challenges and opportunities for policy action. London, UK, 2017.
- 11 Turner C, Aggarwal A, Walls H, et al. Concepts and critical perspectives for food environment research: A global framework with implications for action in low- and middle-income countries. *Glob Food Sec* 2018; **18**: 93–101.
- 12 Imamura F, Micha R, Khatibzadeh S, et al. Dietary quality among men and women in 187 countries in 1990 and 2010: a systematic assessment. *Lancet Glob Heal* 2015; **3**: e132-42.
- 13 ILO. Decent work. 2021.
- 14 Cecere G, Corrocher N, Gossart C, Ozman M. Lock-in and path dependence: an evolutionary approach to eco-innovations. *J Evol Econ* 2014; **24**: 1037–65.
- 15 Magrini M-B, Anton M, Cholez C, et al. Why are grain-legumes rarely present in cropping systems despite their environmental and nutritional benefits? Analyzing lock-in in the French agrifood system. *Ecol Econ* 2016; **126**: 152–62.
- 16 Covic N, Dobermann A, Fanzo J, et al. All hat and no cattle: Accountability following the UN food systems summit. *Glob Food Sec* 2021; **30**: 100569.
- 17 FAO, IFAD, UNICEF, WHO, WFP. The State of Food Security and Nutrition in the World 2020. Rome: FAO, IFAD, UNICEF, WFP and WHO, 2020 DOI:10.4060/ca9692en.
- 18 HLPE. Nutrition and food systems. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security. Rome, 2017.
- 19 Global Panel on Agriculture and Food Systems for Nutrition. Improving nutrition through enhanced food environments. London, UK, 2017.
- 20 Béné C, Oosterveer P, Lamotte L, et al. When food systems meet sustainability – Current narratives and implications for actions. *World Dev* 2019; **113**: 116–30.
- 21 Leeuwis C, Boogaard BK, Atta-Krah K. How food systems change (or not): governance implications for system transformation processes. *Food Secur* 2021; **13**: 761–80.
- 22 Covic N. ENGAGING COUNTRIES TO LINK RESEARCH TO POLICY AND PROGRAM PROCESSES FOR FOOD SYSTEM TRANSFORMATION. 2020.
- 23 McDermott J, de Brauw A. National Food Systems: Inclusive Transformation for Healthier Diets. In: 2020 Global Food Policy Report. Washington, DC: International Food Policy Research Institute, 2020. DOI:10.2499/9780896293670\_06.
- 24 CGIAR Research Program on Agriculture for Nutrition and Health (A4NH). Inclusive food system transformations for healthy diets: National experiences with a global challenge. Washington, DC, 2020 DOI:10.2499/p15738coll2.133680.
- 25 Béné C, Lundy M, de Brauw A, Brouwer ID. Food systems research to support sustainable impact. Washington, DC, 2020 DOI:10.2499/p15738coll2.133960.
- 26 CAS Secretariat (CGIAR Advisory Services Shared Secretariat). CGIAR Research Program 2020 reviews: Agriculture for Nutrition and Health. Rome, 2020.
- 27 Leroy JL, Frongillo EA. Perspective: What Does Stunting Really Mean? A Critical Review of the Evidence. *Adv Nutr* 2019; published online Feb. DOI:10.1093/advances/nmy101.
- 28 Leroy JL, Ruel MT, Olney DK. Measuring the impact of agriculture programs on diets and nutrition. Washington, DC, 2020 DOI:10.2499/p15738coll2.133954.
- 29 Lecoutere E, Van den Berg M, de Brauw A. Effective food systems innovations: An inventory of evidence from Bangladesh, Ethiopia, Nigeria, Viet Nam, and other low-and middle-income countries. Washington, DC, 2021 DOI:10.2499/p15738coll2.134401.
- 30 Ruben R, Grace D, Lundy M. Supporting consumer choices toward healthy, safe, and sustainable diets in low- and middle-income countries. Wahington, DC, 2020 DOI:10.2499/p15738coll2.133955.

- 31 Dolislager M, Reardon T, Arslan A, et al. Youth and Adult Agrifood System Employment in Developing Regions: Rural (Peri-urban to Hinterland) vs. Urban. *J Dev Stud* 2021; **57**: 571–93.
- 32 Ruben R, Brouwer ID. Five leverage mechanisms to support food system transformation. 2021.
- 33 Njuki J, Eissler S, Malapit H, Meinzen-Dick R, Bryan E, Quisumbing A. A review of evidence on gender equality, women's empowerment, and food systems: Food Systems Summit Brief Prepared by Research Partners of the Scientific Group for the Food Systems Summit. Bonn, 2021.
- 34 Behrman JR, Ghosh S. Evaluation study of the IFPRI/A4NH research program on diet quality and health of the poor. Wahington, DC, 2019 DOI:10.2499/p15738coll2.133317.
- 35 Gebru M, Remans R, Brouwer I, et al. Food systems for healthier diets in Ethiopia: Toward a research agenda. Washington, DC, 2018 DOI:10.2499/1032568455.
- 36 Raneri JE, Kennedy G, Nguyen T, Wertheim-Heck S, Do H, Nguyen PH. Determining key research areas for healthier diets and sustainable food systems in Viet Nam. Wahington, DC, 2019 DOI:10.2499/p15738coll2.133433.
- 37 de Brauw A, Waid J, Meisner CA, Akter F, Alam N. Food systems for healthier diets in Bangladesh: Towards a research agenda. 2019 DOI:10.2499/p15738coll2.133549.
- 38 Food Planning and Monitoring Unit (FPMU) - Ministry of Food Government of the People's Republic of Bangladesh. Bangladesh second country investment plan - nutrition-sensitive food systems (2016-2020). Dhaka.
- 39 Ministry of Health Ethiopia. Seqota Declaration. 2015.
- 40 Federal Democratic Republic Of Ethiopia. National Food and Nutrition Strategy - Draft 7. Addis Ababa, 2019.
- 41 FAO. Viet Nam Launches National Zero Hunger Challenge. 2015.
- 42 FAO, IFAD, UNICEF, WHO, WFP. The State of Food Security and Nutrition in the World 2020. Rome: FAO, IFAD, UNICEF, WFP and WHO, 2020 DOI:10.4060/ca9692en.
- 43 World Bank. World Development Report 2021: Data for Better Lives. Washington, DC: The World Bank, 2021 DOI:10.1596/978-1-4648-1600-0.
- 44 Newton AC, Evans PM, Watson SCL, et al. Ecological restoration of agricultural land can improve its contribution to economic development. *PLoS One* 2021; **16**: e0247850.
- 45 Brauw A, Herskowitz S. Income Variability, Evolving Diets, and Elasticity Estimation of Demand for Processed Foods in Nigeria. *Am J Agric Econ* 2021; **103**: 1294–313.
- 46 Maitre d'Hôtel E, Béné C. Measuring Food Consumed Away From Home in a rapidly transitioning world. .
- 47 The International Dietary Data Expansion (INDDEX) Project. 2020.
- 48 Bromage S, Zhang Y, Holmes M, et al. A Novel Food-Based Diet Quality Score Is Associated with Nutrient Adequacy and Reduced Anemia Among Rural Adults in Ten African Countries. *Curr Dev Nutr* 2020; **4**: 1381–1381.
- 49 Herforth AW, Wiesmann D, Martínez-Steele E, Andrade G, Monteiro CA. Introducing a Suite of Low-Burden Diet Quality Indicators That Reflect Healthy Diet Patterns at Population Level. *Curr Dev Nutr* 2020; **4**. DOI:10.1093/cdn/nzaa168.
- 50 Trijsburg L, Talsma EF, Crispim SP, et al. Method for the Development of WISH, a Globally Applicable Index for Healthy Diets from Sustainable Food Systems. *Nutrients* 2020; **13**: 93.
- 51 Bekele TH, de Vries JJ, Trijsburg L, et al. Methodology for developing and evaluating food-based dietary guidelines and a Healthy Eating Index for Ethiopia: a study protocol. *BMJ Open* 2019; **9**: e027846.
- 52 L'Abbé M, Schermel A, Minaker L, et al. Monitoring foods and beverages provided and sold in public sector settings. *Obes Rev* 2013; **14 Suppl 1**: 96–107.
- 53 Neve K, Hawkes C, Brock J, et al. Understanding lived experience of food environments to inform policy: an overview of research methods. 2021; published online Feb.
- 54 Cetateanu A, Jones A. How can GPS technology help us better understand exposure to the food environment? A systematic review. *SSM - Popul Heal* 2016; **2**: 196–205.
- 55 Herforth A, Ahmed S. The food environment, its effects on dietary consumption, and potential for measurement within agriculture-nutrition interventions. *Food Secur* 2015; **7**: 505–20.
- 56 Lecoutere E, van den Berg M, de Brauw A. Effective Food System Innovations - An evidence map. 2021.
- 57 Leroy JL, Olney DK, Ruel MT. Evaluating nutrition-sensitive programs: Challenges, methods, and opportunities. In: International Food Policy Research Institute, ed. Achieving a nutrition revolution for Africa: The road to healthier diets and optimal nutrition. Washington DC, 2016: 130–46.
- 58 Gelormini M, Damasceno A, Lopes SA, et al. Street Food Environment in Maputo (STOOD Map): a Cross-Sectional Study in Mozambique. *JMIR Res Protoc* 2015; **4**: e98.
- 59 Downs SM, Ahmed S, Fanzo J, Herforth A. Food Environment Typology: Advancing an Expanded Definition, Framework, and Methodological Approach for Improved Characterization of Wild, Cultivated, and Built Food Environments toward Sustainable Diets. *Foods (Basel, Switzerland)* 2020; **9**. DOI:10.3390/foods9040532.
- 60 Turner G, Green R, Alae-Carew C, Dangour AD. The association of dimensions of fruit and vegetable access in the retail food environment with consumption; a systematic review. *Glob Food Sec* 2021; **29**: 100528.
- 61 Lacko A, Ng SW, Popkin B. Urban vs. Rural Socioeconomic Differences in the Nutritional Quality of Household Packaged Food Purchases by Store Type. *Int J Environ Res Public Health* 2020; **17**: 7637.
- 62 Nguyen T, de Brauw A, van den Berg M, Phuong Ha DT. Testing methods to increase consumption of healthy foods: Evidence from a school-based field experiment in Viet Nam. 2020

- 63 DOI:10.2499/p15738coll2.133777.
- 64 Johnson N, Wyatt A, Nguyen T. Where are the opportunities for accelerating food systems innovations  
for healthier diets? Findings and lessons from Viet Nam. 2021 DOI:10.2499/p15738coll2.134442.
- 65 Gallo A. A Refresher on A/B Testing. 2017.
- 66 Iacovone L, McKenzie D. Shortening Supply Chains: Experimental Evidence from Fruit and Vegetable  
Vendors in Bogota. *Econ Dev Cult Change* 2021;: 714050.
- 67 Christiaensen L, Rutledge Z, Taylor JE. Viewpoint: The future of work in agri-food. *Food Policy* 2021; **99**:  
101963.
- 68 Twyman J, Talsma EF, Togka K, Ferraboschi C, Brouwer ID. Gender equity considerations in food  
environments of low- and middle-income countries: A scoping review. Washington, DC, 2020  
DOI:10.2499/p15738coll2.134225.
- 69 Moustier P, Holdsworth M, Anh DT, et al. Priorities for inclusive urban food system transformations in the  
global south - Food Systems Summit Brief. 2021.
- 70 Boström M, Micheletti M, Oosterveer P. Studying Political Consumerism. In: Boström M, Micheletti M,  
Oosterveer P, eds. The Oxford Handbook of Political Consumerism. Oxford: Oxford University Press,  
2019: xvi–24.
- 71 Mylan J, Morris C, Beech E, Geels FW. Rage against the regime: Niche-regime interactions in the  
societal embedding of plant-based milk. *Environ Innov Soc Transitions* 2019; **31**: 233–47.
- 72 El Bilali H. Research on agro-food sustainability transitions: A systematic review of research themes and  
an analysis of research gaps. *J Clean Prod* 2019; **221**: 353–64.
- 73 Geels FW, Schot J. Typology of sociotechnical transition pathways. *Res Policy* 2007; **36**: 399–417.
- 74 Béné C. The Good, the Bad and the Ugly: Discourse, Policy Controversies and the Role of Science in the  
Politics of Shrimp Farming Development. *Dev Policy Rev* 2005; **23**: 585–614.
- 75 du Toit A. Making sense of 'evidence': Notes on the discursive politics of research and pro-poor policy  
making. Bellville, 2012.
- 76 Powell M. Which knowledge? Whose reality? An overview of knowledge used in the development sector.  
*Dev Pract* 2006; **16**: 518–32.
- 77 Bosch-Capblanch X, Lavis JN, Lewin S, et al. Guidance for Evidence-Informed Policies about Health  
Systems: Rationale for and Challenges of Guidance Development. *PLoS Med* 2012; **9**: e1001185.
- 78 Evans M, Davies J. Understanding Policy Transfer: A Multi-Level, Multi-Disciplinary Perspective. *Public  
Adm* 1999; **77**: 361–85.
- 79 Gillham B. Case Study Research Methods. London, UK: Bloomsbury Publishing PLC, 2000.
- 80 Bennett A, Elman C. QUALITATIVE RESEARCH: Recent Developments in Case Study Methods. *Annu  
Rev Polit Sci* 2006; **9**: 455–76.
- 81 Béné C, Kawarazuka N, Pham H, et al. Policy framing and crisis narratives around food safety in  
Vietnam. *Environ Plan E Nat Sp* 2020;: 251484862094151.
- 82 Covic N, Brouwer ID. Background paper on Transforming Ethiopia Food Systems.
- 83 Geels FW. The multi-level perspective on sustainability transitions: Responses to seven criticisms.  
*Environ Innov Soc Transitions* 2011; **1**: 24–40.
- 84 Spaargaren G, Oosterveer P, Loeber A. Food Practices in Transition - Changing Food Consumption,  
Retail and Production in the Age of Reflexive Modernity. New York and London: Routledge, 2012.
- 85 Diercks G, Larsen H, Steward F. Transformative innovation policy: Addressing variety in an emerging  
policy paradigm. *Res Policy* 2019; **48**: 880–94.
- 86 KOOIMAN J, JENTOFT S. META-GOVERNANCE: VALUES, NORMS AND PRINCIPLES, AND THE  
MAKING OF HARD CHOICES. *Public Adm* 2009; **87**: 818–36.
- 87 Candel JJL. Food security governance: a systematic literature review. *Food Secur* 2014; **6**: 585–601.
- 88 World Health Organization - Regional Office for Europe - European Observatory on Health Systems and  
Policies, Parsons K, Hawkes C. Connecting food systems for co-benefits: how can food systems  
combine diet-related health with environmental and economic policy goals? World Health Organization.  
Regional Office for Europe, 2018.
- 89 International Panel of experts on Sustainable Food Systems. The new science of sustainable food  
systems – overcoming barriers to food system reforms. 2015.
- 90 Haddad L, Hawkes C, Webb P, et al. A new global research agenda for food. *Nature* 2016; **540**: 30–2.
- 91 Kennedy A, Liljeblad J, editors. Food Systems Governance - Challenges for justice, equality and human  
rights. Oxon: Routledge.
- 92 Dubois C, Tharrey M, Darmon N. Identifying foods with good nutritional quality and price for the  
Opticourses intervention research project. *Public Health Nutr* 2017; **20**: 3051–9.
- 93 Verger EO, Perignon M, El Ati J, et al. A 'Fork-to-Farm' Multi-Scale Approach to Promote Sustainable  
Food Systems for Nutrition and Health: A Perspective for the Mediterranean Region. *Front Nutr* 2018; **5**:  
30.
- 94 Keeney RL, Raiffa H. Decisions with Multiple Objectives. Cambridge University Press, 1993  
DOI:10.1017/CBO9781139174084.
- 95 Janssen R. Multiobjective Decision Support for Environmental Management. Dordrecht: Springer

- Netherlands, 1992 DOI:10.1007/978-94-011-2807-0.
- 97 Olson DL. Decision Aids for Selection Problems. Springer Series in Operations Research. New York: Springer-Verlag, 1996.
- 98 Tälle M, Wiréhn L, Ellström D, et al. Synergies and Trade-Offs for Sustainable Food Production in Sweden: An Integrated Approach. *Sustainability* 2019; **11**: 601.
- 99 Béné C, Prager SD, Achicanoy HAE, et al. Global map and indicators of food system sustainability. *Sci Data* 2019; **6**: 279.
- 100 OECD. Making Better Policies for Food Systems. Paris: OECD Publishing, 2021 DOI:10.1787/ddfba4de-en.
- 101 Ansell C, Gash A. Collaborative Governance in Theory and Practice. *J Public Adm Res Theory* 2007; **18**: 543–71.
- 102 Heidingsfelder J, Beckmann M. A governance puzzle to be solved? A systematic literature review of fragmented sustainability governance. *Manag Rev Q* 2020; **70**: 355–90.
- 103 Grin J. Reflexive modernization as a governance issue - Or: Designing and shaping re-structuration. *Reflexive Gov Sustain Dev* 2006;: 54–81.
- 104 Føllesdal A. The Legitimacy Challenges for New Modes of Governance: Trustworthy Responsiveness. *Gov Oppos* 2011; **46**: 81–100.
- 105 Eakin H, Rueda X, Mahanti A. Transforming governance in telecoupled food systems. *Eco/ Soc* 2017; **22**: art32.
- 106 Delaney A, Evans T, McGreevy J, et al. Governance of food systems across scales in times of social-ecological change: a review of indicators. *Food Secur* 2018; **10**: 287–310.
- 107 Gillespie S, van den Bold M, Hodge J. Nutrition and the governance of agri-food systems in South Asia: A systematic review. *Food Policy* 2019; **82**: 13–27.
- 108 Díaz-Méndez C, Lozano-Cabedo C. Food governance and healthy diet an analysis of the conflicting relationships among the actors of the agri-food system. *Trends Food Sci Technol* 2020; **105**: 449–53.
- 109 Meijer A, De Jong J. Managing Value Conflicts in Public Innovation: Ostrich, Chameleon, and Dolphin Strategies. *Int J Public Adm* 2020; **43**: 977–88.
- 110 Brouwer ID, McDermott J, Ruben R. Food systems everywhere: Improving relevance in practice. *Glob Food Sec* 2020; **26**: 100398.
- 111 Downes S. Semantic networks and social networks. *Learn Organ* 2005; **12**: 411–7.
- 112 White H, Phillips D. Addressing attribution of cause and effect in small impact evaluations: towards an integrated framework. Working Paper 15. London: International Initiative for Impact Evaluation, 2012.
- 113 Mayne J. Addressing attribution through contribution analysis: using performance measures sensibly. *Can J Progr Eval* 2001; **16**: 1–24.
- 114 Sartas M, Schut M, Proietti C, Thiele G, Leeuwis C. Scaling Readiness: Science and practice of an approach to enhance impact of research for development. *Agric Syst* 2020; **183**: 102874.
- 115 Black RE, Victora CG, Walker SP, et al. Maternal and child undernutrition and overweight in low-income and middle-income countries. *Lancet* 2013; **382**: 427–51.
- 116 Hoddinott J, Rosegrant M, Torero M. Investments to reduce hunger and undernutrition - Paper prepared for 2012 Global Copenhagen Consensus. Washington D.C., 2012.
- 117 Giroux S, Blekking J, Waldman K, Resnick D, Fobi D. Informal vendors and food systems planning in an emerging African city. *Food Policy* 2020;: 101997.
- 118 Development Initiatives. 2020 Global Nutrition Report: Action on equity to end malnutrition. Bristol, UK: Development Initiatives, 2020.
- 119 Ruel MT, Quisumbing AR, Balagamwala M. Nutrition-sensitive agriculture: What have we learned so far? *Glob Food Sec* 2018; **17**: 128–53.
- 120 Glover D, Sumberg J. Youth and Food Systems Transformation. *Front Sustain Food Syst* 2020; **4**. DOI:10.3389/fsufs.2020.00101.
- 121 Johnson N, Balagamwala M, Pinkstaff C, Theis S, Meinzen-Dick R, Quisumbing A. How do agricultural development projects empower women? Linking strategies with expected outcomes. *J Gender, Agric Food Secur* 2018; **3**: 1–19.
- 122 Crippa M, Solazzo E, Guizzardi D, Monforti-Ferrario F, Tubiello FN, Leip A. Food systems are responsible for a third of global anthropogenic GHG emissions. *Nat Food* 2021; **2**: 198–209.
- 123 Chaboud G, Daviron B. Food losses and waste: Navigating the inconsistencies. *Glob Food Sec* 2017; **12**: 1–7.
- 124 Lade SJ, Steffen W, de Vries W, et al. Human impacts on planetary boundaries amplified by Earth system interactions. *Nat Sustain* 2020; **3**: 119–28.
- 125 Pendrill F, Persson UM, Godar J, Kastner T. Deforestation displaced: trade in forest-risk commodities and the prospects for a global forest transition. *Environ Res Lett* 2019; **14**: 055003.
- 126 Khoury CK, Bjorkman AD, Dempewolf H, et al. Increasing homogeneity in global food supplies and the implications for food security. *Proc Natl Acad Sci* 2014; **111**: 4001–6.