



United Nations Food Systems Summit
Action Track 1: Ensure Access to Safe and Nutritious
Food for All
Potential Game Changing and Systemic Solutions:
An Initial Compilation

Submitted to the UN Food Systems Summit Secretariat, 19 February 2021

DISCLAIMER: *This paper presents merely an initial set of ideas submitted to the UNFSS Secretariat by AT 1 (i.e., the first ‘wave’ of ideas): additional solutions will continue to be developed over the coming months, in close collaboration with relevant stakeholders. Moreover, the ideas presented here are far from final: they will continue to be developed further and contextualised, again through active stakeholder engagement through a second wave of consultations. Finally, while these ideas are emerging from an interactive and collaborative process, Action Track 1 is a diverse and broad group, containing varied perspectives and opinions: inclusion of a solution here should not be interpreted as an endorsement of that idea on behalf of all Action Track 1 members or their institutions.*



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Acronyms Used

Excludes those used only within the context of a specific game changer, which are described in the text

AT(1) – Action Track (1)

CEO – Chief Executive Officer

FAO – Food and Agriculture Organization

FSS – Food Systems Summit

GAIN – Global Alliance for Improved Nutrition

IGO - International Global Organisation

ILO – International Labour Organisation

LMICs – Low- and middle-income countries

NCD – Non-communicable disease

N4G – Nutrition for Growth Summit

SDG – Sustainable Development Goal

SMEs – Small- and medium sized enterprises

TA – Technical assistance

UN – United Nations

UNICEF – United Nations International Children’s Emergency Fund

WFP – World Food Programme

WHO – World Health Organization

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Introduction

Action Track 1 Goals

This paper presents an initial set of ideas for game-changing and systemic solutions to achieve the goals of Action Track 1 (AT1) of the UN Food Systems Summit. With these ideas, AT1 aims to end hunger and all forms of malnutrition and reduce the incidence of diet-related non-communicable disease (NCD). Achieving this goal requires delivering on the right to food to ensure that all people at all times have access to sufficient quantities of affordable and safe food. This in turn entails a need to increase the availability of safe and nutritious food, making food more affordable and reducing inequities in food access.

AT1 has thus been working to identify, collect, co-create, and iteratively tailor a set of systemic and game-changing solutions to achieve these aims. AT1 organised our search for sustainable, actionable solutions with potential for impact at scale along three main themes:

1. **Zero Hunger:** Approximately 700 million people are undernourished, and one quarter of the world's population is food insecure. This merits urgent action. Addressing it will likely involve significantly increasing agricultural productivity in sustainable ways, enhancing social protection that builds productive assets, and reducing inequalities in food access, among other things. Because future increases in hunger are projected to come mostly from Africa, a particular focus on Africa will be needed. Moreover, the countries that are experiencing conflict and fragility are where hunger is rising the fastest, motivating paying special attention to humanitarian contexts and fragile, conflict-affected settings.
2. **Access to Nutritious Food:** Simultaneously, a large share of the global population is not eating a healthy, balanced diet – and about 3 billion people cannot currently even afford to purchase one. Improving access to nutritious foods and making them the preferred option will require addressing three main barriers to access: price (i.e., how to make nutritious food cheaper and nutrient-poor foods relatively more expensive), purchasing power (i.e., increasing purchasing power via social protection, wages, etc.), and perceived affordability (i.e., changing how people value nutritious foods relative to their price).
3. **Food Safety:** The WHO estimated that foodborne diseases caused 600 million illnesses and 420,000 premature deaths in 2010; other estimates have produced even higher figures. Addressing this, particularly in the low- and middle-income countries that suffer the highest burdens, will require focusing on the markets where vulnerable people buy food by implementing relevant, appropriate interventions that can reach lower-income consumers while not excluding lower-income producers and vendors; shifting from hazard thinking to risk thinking, which focuses on understanding relative risk to cause harm; creating an enabling regulatory ecosystem that provides the right incentives and support for actors to adopt improved practices; and fostering consumer demand for food safety.

Across all these areas, we prioritised solutions in line with the Summit's key criteria for 'game changing and systemic solutions,'¹ as well as supporting gender equity, empowering youth, and creating synergies with other ATs.

Action Track 1 Structure

To identify, co-create, and iteratively tailor systemic and game-changing solutions to achieve these aims, AT1 has set up a leadership team. The leadership team is well-balanced in terms of gender, age, region,

¹ These include: impact potential at scale, actionability (taking into account politics, capacity, costs), and sustainability.



and sector and includes a growing number of member state representatives. Full membership of the leadership team is listed [here](#); this list does not include affiliated member states. Within the leadership team, work is divided into three working groups aligning to the themes noted above, each led by AT1 leadership team members:

- (1) Reducing hunger, led by Samuel Benin and Natalia Strigin
- (2) Increasing access to affordable, nutritious foods, led by Corrina Hawkes
- (3) Increasing food safety, led by Delia Grace and Pawan Agrawal

The other members of the working groups are also drawn from the larger leadership team, including the cross-cutting thematic members focused on gender, finance, and innovation as well as member states affiliated to the Action Track. The full leadership team meets approximately once a month. The working groups set their own schedules according to leaders' and members' preferences. Also, the FAO as UN anchor, and the Science Group lead have all been actively involved in the AT1 internal idea-identification and -vetting process.

Process for Identifying and Developing the Ideas in this Paper

Action Track 1 used the following process to select game-changing ideas:

- We created an online Google Form through which stakeholders and members of the public could submit their ideas, which then fed into an idea database; this form has been promoted through our first Public Forum (17 Nov 2020) as well as via social media and email list-serves and the online Summit community.
- Members of the AT1 support team reviewed a number of recent high-profile international reports (e.g., SOFI 2020, Ceres2030, PARI 2020, OECD 2021) to extract relevant ideas with broad and/or high-level support, which were added to the abovementioned database.
- The ideas added to the database were shared with the leads of the three AT1 working groups, approximately every two weeks until mid-January; they then vetted those ideas with their working group and decided how and whether to pursue and refine them further. Most working groups met weekly to discuss and debate the developing ideas.
- In parallel, each working group identified its own potential solutions through their own internal processes, which relied on the diverse expertise and experience of the working group members, their broader networks, and research and case studies of which they were aware; the AT1 leadership also contributed ideas.
- AT1 also engaged directly with relevant outside stakeholders, such as the Cool Coalition and the B Corps movement, to solicit novel perspectives and ideas, interviewed key scholars and practitioners to hone the ideas, and referred certain ideas to other bodies within the Summit process (e.g., the Science Group, the Gender Cross-Cut Group) to consider taking forward
- The initial thinking on various ideas was presented to other AT1 core group members and working groups for feedback and debate across several online sessions in December-January.
- In January, we conducted an online survey among all members of the leadership team, allowing them to rate the 'long list' of ideas at that time; that feedback was then passed to the relevant working group for further consideration.

The following sections present Action Track 1's initial set of 21 game-changing solutions, for consideration. For each solution we briefly explain what it is, the problems it is addressing, and how it would affect change, then explain why it aligns to the Summit's 'game changing and systemic solution' criteria, and finally discuss potential political support and contexts for its implementation. As noted above, this is



merely an initial set of potential solutions: our search for impactful solutions will continue in the coming months, and the solutions presented here will continue to be refined, developed further, and contextualised through active engagement with diverse stakeholders, including member states. In particular, we look forward to the process of aligning and cross-fertilising ideas across the different Action Tracks and to new ideas for solutions emerging from the different types of Food System Summit Dialogues.²

Potential Solutions for Reducing Hunger

1. Establish a Zero Hunger Fund

The Solution: The establishment of a cross-AT “2030 End Hunger Fund” that focuses on channelling private sector resources to investments to end hunger by 2030. The aim is to generate USD 4-5 billion (0.2030% of all corporate profits is about USD 10 billion) a year. The Fund would catalyse government and donor investments through a matching mechanism, at a ratio to be determined, and allocate them to fund actions that could achieve the goal of ending hunger.

Source(s) of the Solution: The solution was inspired first by the [Ceres2030 Report](#), which calls for an extra USD 33 billion a year for 10 years to be invested in efforts to end hunger and identifies high-impact sustainable actions that such money could fund, as well as the PARI (2020) report, which also provides useful investment suggestions.³ Second, it draws on existing examples of channelling private investments for good: Amazon Smile, for example, provides an example of what one corporation can achieve ([USD 215m raised](#) for charities to date). India’s [2% of profit corporate social responsibility \(CSR\) legislation](#) has channelled CSR into more meaningful investments. Finally, it responds to global calls to redirect financial resources, where possible, to achieve common good. The Pope [called for](#) such a fund on World Food Day in October 2020 (based on reducing defence spending). The South Korean President Moon Jae-in has called for COVID-19 companies that are [‘winners’ to help struggling companies](#). The Chair of AT1 suggests building on these efforts with the proposed Fund.

Problem addressed within food systems: This solution addresses the funding gap needing to be closed to achieve zero hunger. Even prior to the COVID-19 pandemic, hunger was on the rise. With COVID-19, the estimates are that hunger number could rise by an [extra 135 million](#). And yet recent reports tell us that ending hunger is within our grasp. Government and donor budgets will be depleted by the COVID-19 response. Many [businesses](#) and [HNW individuals](#) have done very well financially during the COVID-19 pandemic. Even the [IMF has felt compelled](#) to speak out on this. COVID-19 has emphasized the essential nature of food systems, and the vulnerability of all societies to hunger, even wealthier nations such as the UK.

How this solution will address that problem: The Fund will provide the additional investment required to accelerate efforts to achieve zero hunger. It will also bring together different stakeholders, fostering

² Indeed, Action Track 1 is already working on additional game changers to be proposed in the future. These include a collaboration with the Science Group on full-cost pricing of food, which would allow for internalising environmental and social externalities in the food system and thus support more equitable access to safe and nutritious food that does not harm the environment and enables farmers and workers in the food value chain to earn decent incomes. It also includes working to reduce child wasting through community management of acute malnutrition, such as through local production of therapeutic foods, improved diagnostics, and improved data and logistics solutions. And it includes efforts to support youth engagement in African agriculture by engaging with diverse stakeholders. These and other ideas will continue to be developed and vetted through the Action Track’s process.

³ https://ceres2030.org/wp-content/uploads/2020/11/ceres2030_launch-summary-report.pdf
https://www.zef.de/fileadmin/downloads/ZEF_Akademija2063.pdf



public-private partnerships to work towards a common global goal and overcoming the financial barriers that led to unequal progress in ending hunger.

Solution’s alignment to the ‘game changing and systemic solution’ criteria: The Fund would focus company giving and make it more *impactful at scale*. It would invest USD 1 per USD 500 of company profits towards hunger reduction in a clear, accountable way. The fund would be *actionable* in that it would repurpose company CSR efforts. With continuous support and commitment from companies, we can ensure the *sustainability* of the fund until 2030. Food companies do particularly poorly on rankings of responsible companies. Only four of the top 100 of America’s [most responsible companies](#) are food companies (General Mills 6th, Tyson, 29th, Keurig 45th, Campbell Soup 58th)—yet they can do much more. If they supported the Fund, they could be a more significant part of the solution. They would also benefit from increased employee identity. For example, in 1962, John F Kennedy asked a NASA janitor what he was doing, the janitor responded, “I’m helping put a man on the moon.” Employees of companies supporting the 2030 End Hunger Fund would be similarly inspired: “I’m ending hunger by working for (say) Ikea.” That would be a gamechanger.

The Fund would focus on efforts to end hunger but would also support other Summit goals. At least half of the investment areas would directly benefit the other Summit AT goals, and the others would do so indirectly.⁴ A strong independent M&E mechanism would also have to be put in place.

Existing evidence: A strong set of high-impact investments have already been identified and costed by the Ceres2030 and PARI (2020) reports (see Annex). If the funds can be raised, and the governance and institutional arrangements worked out, and appropriate investments in line with these recommendations identified, then the solution will work.

Current/likely political support: To date (Feb 5, 2021), big food companies have, with one exception, poured cold water on this idea. They say companies would view it as a tax, think CSR is ‘in the past,’ would rather move their business models to a more sustainable and healthier outcome space, or worry about what control they would have over what the Fund is spent on. In response, (1) the Fund would be voluntary, not a tax, (2) CSR is not the past: the Fortune 500 companies spend USD 15 billion a year on it⁵, (3) the Fund investments can help companies to move into a more sustainable and healthy space by growing markets and de-risking key elements of their transition, and (4) governance arrangements to be developed could give companies some control over the investments made—in line with the evidence-based recommendations noted above.

Support for a fund idea has been expressed, directly and indirectly, by: the Pope (for a public fund); David Beasley (focusing on high-net-worth individuals); the President of South Korea (advocating for a company fund to support struggling companies); the Chair of the Summit Science Group; Paul Polman, CEO of Imagine; and Save the Children.

Were a single ‘keystone’ big business (e.g., Sodexo) to express interest in helping to develop this solution, it will take off because it would be very good for businesses. Evidence suggests that companies that are brave enough to back this Fund would derive immense benefit from doing so. Companies with a strong social purpose attract [more motivated, productive, and loyal](#) employees, which also has an economic return. In addition, economic growth in low-income settings will be catalysed, because the USD 33 billion is an investment in productive capacity (capital, labour, land), which can help grow markets that can be entered. There is no easy immediate return on this: it is not an initiative that can be marketized in the

⁴ AT1 analysis of PARI/ZEF/Akademiya2063 recommendations. Available on request.

⁵ <https://www.ft.com/content/95239a6e-4fe0-11e4-a0a4-00144feab7de>



short run. However, while companies that run CSR programmes do suffer in terms of return on assets in the first 3-4 years, they [enter into net positive territory](#) after 4 years.

Contexts where this is well/not well suited: It is probably less well suited to contexts where hunger is generated by conflict, but even in such settings there may be ways to invest in humanitarian responses that build assets necessary for sustainable development.

2. Democratise precision agriculture technologies

The Solution: Build new public/private partnerships (PPPs) - possibly through a ‘deal room’ adjacent to the Summit - that will fulfil the right of poor smallholder farmers (men and women) to access [precision agriculture](#) information, enabling them to grow enough food for their families.

Source of the Solution: This emerged initially through ideas submitted by the public and was built out by Working Group members with input from a number of external experts, including the Dutch government, IFPRI, and several possible PPP participants.

Problem addressed within food systems: High-income farmers benefit from [increasingly precise access to information](#) that enables them to tailor their planting practices and input decisions to the unique conditions of their fields. However, these precision agriculture tools do not reach poor smallholders, and without this critical information they struggle to produce enough food to meet the nutritional needs of their families and are unable to evaluate market opportunities and demand.⁶ These farmers often lack accurate weather analysis on *when* to plant and information on *what* to plant based on the unique soil characteristics of their fields. For smallholder farmers with often an acre or less of land to cultivate, small variations in the production conditions – increasingly hard to predict due to climate change – can have large impacts on their farm output and food security. Without public partnerships, the growing number of companies developing precision agriculture tools do not have the financial incentive to ensure truly low-income populations can access production, input, and market information via their technology.

How this solution will address that problem: If targeted, data-driven precision agriculture information can be provided to the poorest farmers on the planet, via cost-effective and accessible technology, then hunger and malnutrition rates for these populations can be sustainably lowered through their own ability to grow more of the food they need to meet their daily nutritional needs and to sell to earn income.

The key inputs can be drawn from existing ag-tech companies that already generate precision agriculture recommendations through collecting, analysing and distributing information to farmers. For example, by using targeted SMS (for feature phones) or smart-phone apps to push out messages on seed variety choice, fertiliser choice and advice on when to plant, harvest, etc.⁷

The necessary action is to *de-risk and incentivise* the decision for these companies to provide low-income farmers with access to information via their technology. Adoption is lagging in low-income settings due to a range of significant market-failings limiting the delivery of these services to poor farmers. These include issues like the affordability of mobile data, access to hardware and charging capacity, and low digital literacy rates. A new PPP forum should be established, possibly initiated through a “deal room” adjacent to the Summit, that would incentivise select ag-tech companies to serve lower-income farmers. Through

⁶ In Ethiopia for example, nearly a quarter of households that are engaged in crop and/or livestock production (about 68% of all households) are food insecure.

⁷ While we focus here on production-related agricultural information, other valuable information goals – like nutrition behaviour-change – can efficiently be layered onto the same platforms.



this, governments/donors could provide political heft to help companies deliver targeted cost reductions to poorer clients: for example, negotiating with telecoms to provide reduced data rates and broaden network coverage in areas with high food insecurity. They could provide guaranteed financing to distribute affordable bundles of hardware, such as feature phones paired with solar charging stations. Or they could provide direct public subsidy to pay for services that target the particularly vulnerable, such as women who face the largest digital literacy gap. Finally, they could develop and coordinate multi-stakeholder partnerships that bring on board organisations with an embedded field presence to drive tech adoption; for example, working with school-based agricultural extension programmes to empower youth to improve the digital literacy of their parents.

In putting forward this solution, we assume a smallholder target group that can access new inputs, like fertiliser and seed varieties, recommended by the precision ag tools. We assume any risk of politicisation or abuse of personal data that is collected from farmers by private companies can be mitigated via more public involvement in their scaling.

Solution’s alignment to the ‘game changing and systemic solution’ criteria: The majority of the world’s nearly 600 million farms are small farms, and small farms (≤ 20 ha) produce more than 75% of most food commodities in several LMIC regions⁸; most of these farmers have not yet adopted precision agriculture techniques, indicating major potential for scale. We live at the cusp of a more technology-centred agriculture era that should advance us on the path to “zero hunger” under SDG 2, with governments eager for their rural constituents to achieve their right to information by accessing this technology. However, without more public involvement in the growing ag-tech marketplace, instead of leveraging market forces to drive down hunger rates for poor smallholders, we risk excluding them from this new digital revolution.

In terms of sustainability, there is already an increasingly robust precision agriculture information ecosystem, which the market is largely developing on its own. This includes companies like GRO Intelligence, which [just raised \\$85M in Series B funding](#) to scale its collection and analysis of agricultural data, or Kenya-based [Arifu](#), which provides its paying institutional customers access to mobile-based tools and content to engage their audiences, including rural smallholders (who receive the content for free). With roughly 40% of their revenue from commercial partners (e.g., Safaricom, Kenya Commercial Bank or EthioChicken) and 60% non-commercial (e.g., the World Bank, CGAIR or Technoserve), Arifu has built a clear path to profitability. And while we know it is difficult to get poor farmers to pay for knowledge, AgriCoach is piloting a [subscription service](#) in Burundi where farmer community groups receive crop selection advice. However, these companies lack the resources to significantly close the gaps preventing the poorest farmers from accessing their services, even though they might become future customers; public investment could help bridge this gap.

Current/likely political support: Donors and governments clearly recognise the value of precision agriculture as a key anti-hunger tool. The 2021 Climate Adaptation Summit recently [highlighted](#) the need “to rapidly scale up digital tools to increase...agricultural yields (for) excluded communities,” which builds on a [concrete commitment](#) to scale these to 300 million farmers. The Dutch government, a clear leader in this space, has already invested directly in addressing this problem through its Geodata for Agriculture & Water [programme](#) (G4AW), which supports [25 partnerships](#) that provide digital advisory services to smallholders, and which could become a model for coordinating a much wider and larger pool of public investment.

⁸ Herrero et al. 2017 Farming and the geography of nutrient production for human use. *Lancet Planet Health* 1: e33–42; Lowder et al 2016. The Number, Size, and Distribution of Farms, Smallholder Farms, and Family Farms Worldwide. *World Development* 87: 16–29.



Contexts where this is well/not well suited: As smallholders must be able to access new inputs to fully benefit, certain populations – e.g., in fragile states or remote areas – might benefit more from other interventions, like cash transfers.

3. Expand coverage of social protection systems

The Solution: The solution includes scaling-up social protection programmes to help address hunger, food insecurity, and malnutrition. In doing so, it places particular emphasis on the expansion of social assistance programmes, especially cash transfers, and on leveraging untapped potential for enhancing financing, investments in delivery capabilities, and making systems more ‘adaptive’ to crises. **This would represent leveraging and expanding an existing solution.**

Source of the Solution: This was seen as timely because there is a precious window of opportunity to support countries toward establishing universal social protection systems. While countries would follow contextual trajectories in pursuing this goal, broad political will, capacity to scale up, and evidence of cost-effectiveness converge for expanding coverage. The moment for the solution is opportune due to

- **An existing large-scale platform.** There is potential to impact all poor/vulnerable/shock-affected people, building on coverage of almost 1.3 billion people in the context of the COVID-19 pandemic. This represents a scale up of coverage by 240% compared to pre-COVID levels, but much remains to be done. In fact, before the pandemic social protection in low-income countries only reached 20% of the poorest 20% and largely focused on rural areas; even in middle-income countries, informal sector workers – who constituted 80% of the workforce and are common in the food system – were largely uncovered.
- **Expanded delivery capabilities.** Technical and operational capabilities to implement social protection programmes have improved exponentially. Integrated databases and management information systems underpin major social protection programmes; new technologies like biometric identification systems have been adopted by cash transfer programmes; and mobile apps, blockchain, and an array of payment solutions are routinely used for programmes in different contexts. In LMICs, cash transfers are reaching people in remote rural areas as well as sprawling urban settings.
- **Strong evidence base for cost-effectiveness.** Social protection is one of the most rigorously evaluated fields in development and social sciences. An estimated 4,000 papers have been published on the matter over 2017-2020. Evaluations of programmes like cash transfers have been overwhelmingly positive, showing that they can significantly improve household welfare. Comparisons with other interventions also suggest that well-designed, carefully implemented social protection programmes are among the most cost-effective development programmes.
- **Favourable political climate.** The COVID crisis has moved cash transfers centre stage as part of both fiscal responses (to protect lives and livelihoods of uncovered populations) and monetary policies (to increase consumer demand and spur the economy). This has helped realise the political, economic, and social value of social protection. Such growing demand for cash transfers comes against convincing evidence that dispelling negative “myths” around cash (e.g., creation of dependency or disincentives to work) and a wide consensus for better shocks preparedness – the delivery platform for which is provided by social protection.

Problem addressed within food systems: *In addition to ensuring food availability, ensuring all households can reliably access food is central to eliminating hunger.* Food insecurity is a key element of the broader improved nutrition agenda. Food insecurity itself involves dimensions of both availability of food and access to food. By providing reliable access to resources, cash transfers allow (where markets work) households to increase their food security and, through it, improve their food consumption and nutritional status. The fact that some households do not have the minimum resources to access food is



relevant in multiple contexts – e.g., urban centres, conflict areas, and to people on the move – and across countries.

How this solution will address that problem: *The solution builds on existing platforms of social assistance programs.* Cash transfers exist in all countries and can offer an initial building block to expand coverage to poor, vulnerable, and other populations. Core actors involved in the solution are governments committing to scale up social protection in ways that will facilitate hunger reduction. Other actors may help support financing, implementation, and evidence generation of government-led programmes as needed, including donors, development and humanitarian institutions, civil society, and the private sector.

To amplify its coverage potential, four strategic areas may need further attention:

- **More investments in delivery systems.** Independent of the type of social protection programme implemented, governments need strong delivery systems involving identification, management information systems, payment mechanisms, and operational teams and infrastructure to roll it out. A judicious use of technology can spur performance significantly (e.g., Ghana, Chile, and India).
- **Increase financing.** While the COVID-19 response has been of historical proportion, “standard” spending on social assistance is low: on average, only 1.5% of GDP is allocated for the purpose in LMICs (and this includes spending on in-kind and large food subsidies).
- **Making systems more adaptive.** Cash transfers could help anticipate crises: for example, early responses could be better connected to early warning systems of food security. Evidence from the Horn of Africa shows that benefits from such early action are substantial (including a return of about \$3.50 for every \$1 spent). Furthermore, there is a need to adapt programmes to urban areas because of their increasing exposure to crises and lack of coverage (especially among informal sector workers).
- **Wider use of government social protection systems as a default platform.** Humanitarian assistance is increasingly using cash transfers (18% of total volume); however, only 1% of humanitarian aid is channelled via government structures (commitments by the World Humanitarian Summit set the target rate at 25%). While in some cases “going parallel” is justifiable (e.g., settings with internally displaced people), this should be the exception, not the rule. Countries like the Philippines, Lebanon, and Mauritania demonstrate how to connect humanitarian cash and social protection.

Solution’s alignment to the ‘game changing and systemic solution’ criteria:

Impact potential at scale: The solution applies across all contexts, with modular approaches applied to particular settings. Expansion of coverage is strongly relevant in fragile states and lower-income contexts, where coverage of the poor and vulnerable remains limited. It is also highly relevant in shock-affected areas, where cash transfer programmes can quickly provide support to the displaced and those affected by shocks. Moreover, it is compelling in upper-middle and high-income contexts, where (growing) pockets of exclusion persist. The solution is relevant both for urban and rural contexts and for all types of needy households.

Actionability: Most countries have developed or are building strong delivery platforms; a large body of evidence exists to inform design (including gender-sensitive programming); and programmes have demonstrated their ability to function at scale. In some low-income contexts, including many countries in Africa, countries have leapfrogged implementation.

Sustainability: The sustainability of these programmes is favourable if a virtuous cycle of outcomes and impacts is activated. Evidence suggests that voters reward governments who implement programmes



with quality and efficiency. The cost-effectiveness of these programmes in reaching those in need is also very high, which promotes their sustainability over more costly interventions. Economic gains can create a tax base for sustainable financing. However, many programmes in low-income countries are externally financed. The pandemic may provide an opportunity to put social protection at the centre of the social contract in terms of both tax *and* benefits.

On expectations: Cash transfers also present a number of limitations. Cash transfers are only one input into the broader development equation. Beyond “technical” matters, societal attitudes toward redistribution, mindsets influenced by historical legacies, and similar also shape demand for social protection. Moreover, debate exists on a range of design parameters (e.g., targeting, conditionality, and the appropriate transfer modality in different contexts (cash or in kind)).

Existing evidence: The effects of cash transfers span at least six dimensions: (1) *saving lives* [this includes reduction in child mortality by 3-20%; in suicide rates by 18%; and in violence/homicide risk by 50-67%]; (2) *food security* [on average, they increase food consumption by 13% and caloric acquisition by 8%. 23 empirical studies show programmes increase food expenditures, nutrient availability, kilocalories, food consumption scores, and dietary diversity]; (3) *nutrition* [even simple transfers can have a nutritional effect, although this might be limited in size, e.g., evidence from 74 evaluations of cash transfers show stunting reductions by 2.1%]; (4) *gender:* cash transfers help reduce intimate partner violence (particularly physical violence) and increase women’s psychological well-being; (5) *resilience* [for example, in Ethiopia COVID-19 increased food insecurity by 11.7 percentage points, but for those covered by safety nets, the increase was only 2.4]; and (6) *economic multipliers* [in Africa, \$1 of cash transfers generates between \$1.27-\$2.60 in local economies]. In addition, countries have demonstrated their ability to scale up quickly and efficiently: Senegal has gone from an almost non-existent coverage to covering more than 20% of its population in just four years. Where social protection is “adaptive”, it takes two weeks to scale-up in response to natural disasters (e.g., Kenya) as opposed to up to 14 months (e.g., Nepal).

Current/likely political support: In addition to the growing political recognition *by governments* on the role of cash transfers indicated in the earlier section, *global political demand* for social protection is conducive to significant scaling up. Indeed, the expansion of social protection builds on global platforms geared to support universal social protection, including goals such as SGD 1.3, initiatives like the USP2030, commitments under the WHS of 2016, and multiagency forums like SPIAC-B, instituted under the G20. In the humanitarian world, there is also growing recognition of the critical role of cash transfer programmes to address hunger and food security. Moreover, **there are strong mutual benefits with other interventions.** There are strong mutually reinforcing effects on several other Action Tracks’ solutions and goals, and there appear to be no major trade-offs.



4. Establish a catalytic SME financing facility to transform food systems

The Solution: A multi-donor funded Facility (see Annex 1) that will provide catalytic capital to a range of actors and institutions investing in agri-food SMEs or supporting their capacity to develop viable business models that contribute to positive impact in food systems. The Facility's capital will be used to scale and mobilise SME financing in accordance with impact criteria developed and tracked by the Facility to transform food systems along the impact areas of nutrition, sustainability, resilience, and equity.

Components of the Facility. The Facility will consist of three main components:

- 1) Catalytic capital mechanism to channel finance to agri-food SMEs and cover financing costs
- 2) Funding for alignment of impact criteria developed and tracked by the Facility.
- 3) Funding of a digital learning platform to share best practice and deliver technical assistance (TA) to agri-food SMEs.

Providers of funds. The Facility will mobilise capital from governments, grantors, and others willing to take on a high risk and cover certain costs to increase available funding to high-impact SMEs. Funders will prioritise scale and impact maximisation rather than returns and be willing to cover costs and take certain high-impact potential investment risks that other existing organisations and actors (including impact investors, DFIs and multilateral organisations) are not currently willing to take on the scale needed. National governments are likely to be the main funders, as they have the necessary scale of resources the Facility calls for and will be able to focus on achieving transformative impact rather than prioritising monetary returns or capital preservation.

Type of capital. The Facility's capital will take the form of first loss, guarantees, and financial incentives. It will not seek to generate commercial returns but rather maximise financial leverage and achieve impact at scale. The catalytic capital will be provided primarily in domestic currency and used to: de-risk investments through first-loss capital to impact funds using blended-capital structures, or subordinated loans and/or guarantees to financial service providers (FSPs, including national banks); lower the high operating cost of servicing SMEs; and make businesses more investible and socially beneficial through both core business and impact-oriented TA and financial incentives such as time-bound pay-for-impact financing.

Regional operation. The Facility should operate at regional levels (e.g., Africa, Latin America), and its impact criteria should reflect regional priorities and countries' food systems goals, such as national adaptation plans or nutrition strategies. Financing should occur primarily in domestic currency.

Direct recipients. The direct recipients of the Facility's capital will be FSPs and private impact investment funds, as well as enterprise support organisations or networks, business development services (BDS), and/or TA providers.

Final recipients of capital. The capital will be channelled to SMEs that operate at different stages of the food value chain (from farm to fork) provided that their business models meet a series of impact criteria. To assure and measure the positive impact, standardised impact metrics will be a key component of the Facility.

Source of the Solution: The idea emerged as a co-creation from an ad-hoc group of institutions with shared objectives in scaling up finance for agri-food SMEs. Initial members include: AfDB, GAIN, SAFIN Secretariat, GAFSP, and ResponsAbility. It was also informed by an independent Food Systems Dialogue held by SAPIN. It builds on a set of related pre-existing initiatives that include:

- Investment initiatives: GAIN's [N3F](#), [2X Challenge](#), [ABC Fund](#), [Aceli Africa](#)
- Global/regional networks, partnerships or forums: [SAFIN](#), [Gavi](#), [AGRA](#), [WEF](#)



- Research: [World Bank: finance gap](#); [The Lancet: impact of unhealthy diet](#); [Nature: agri-food transformation](#)

Problem addressed within food systems: Agri-food SMEs in emerging economies usually mention finance as their top challenge. Therefore, making the financial ecosystem more supportive of SMEs is critical to allow them to play their role in food system transformation effectively. This is particularly important given the role of agri-food SMEs in food systems. SMEs represent 90% of businesses and >50% of jobs. In low-income countries, 70-90% of all food consumed is produced, processed, transported, and sold by SMEs. Even in Africa, where subsistence farming is still common, SMEs supply most food consumed by low-income consumers ([GAIN](#)), and 80% of all processed food consumed in the region comes from SMEs ([Reardon, et al.](#)).

This solution will address three barriers SMEs currently face with regards to financing. First, high risk and cost of financing has led to a shortage of finance for agri-food SMEs, particularly for small-ticket SMEs operating in local food markets (vs. export commodity chains) and for early-stage investments in developing new business models and product offerings that can address demand for nutritious foods or contribute to nature-positive solutions in food systems. In Africa alone, there is an annual financing gap of about USD 100 billion for agri-food enterprises with needs between USD 25,000 and 5 million ([Aceli Africa](#)). In many contexts, agri-food SMEs find it particularly difficult to access finance in local currency. Second, financial institutions and investors with interest or capacity to reach agri-food SMEs often face high transaction costs and risks when serving this market and/or do not face sufficient incentives to expand their product and service offerings to be able to serve this market more efficiently. Third, FSPs, investors, donors, and government are not aligned around clear and practically measurable impact standards for agri-food SME finance, which limits learning across the ecosystem and hinders a transparent and competitive process of allocation of concessional funds to maximise impact.

How this solution will address that problem: The Facility will provide three main *inputs*: catalytic high-risk tolerance capital in various forms (i.e., first-loss and patient capital, subordinated debt, guarantees, Opex coverage, and the cost of providing TA); a set of standardised metrics that assesses different actors and organisations across impact areas including nutrition, sustainability, resilience, and equity; and provision of TA best practices and network of regional TA providers. As *outputs* of this, we expect that USD 10 billion of catalytic capital will help mobilise an additional USD 100 billion of investment capital. In addition, it will support enterprise support organisations and intermediaries that have a proven track record of supporting agri-food SMEs and regional knowledge of specialised TA providers. It will support the provision of finance and technical support for BDS and TA provided to agri-food SMEs and create a common set of impact metrics and KPIs to report against. This will lead to three main *outcomes*: greater financial flows towards agri-food SMEs; greater and more robust BDS and TA offerings to agri-food SMEs; and growth of a global pipeline of SMEs across the value chain and at various stages of development. In terms of impact, an increased supply of nutritious foods will help improve diets, leading to a healthier society; reduced food loss and greenhouse gas emissions (through the adoption of improved practices) will increase environmental sustainability and resilience; and improved financial and social performance of inclusive SMEs will lead to a more prosperous equitable society.

Solution's alignment to the 'game changing and systemic solution' criteria:

Impact potential at scale - The Facility's main innovation lies in the things it combines and the scale that it can achieve – it is really a 'systems approach' to tackling the SME financing gap. The Facility will catalyse impact and scale by de-risking and mobilising capital that previously did not flow towards agri-business SMEs. The solution will incentivise both investors and investees alike to align their operations along the Facility's impact criteria. Scale of impact is expected to take place at the three following levels:



1. Scale of financial mobilisation via leverage of de-risking capital and guarantees. No existing facility mobilises purely this type of high-risk and cost-covering capital. The ones currently in existence either provide grant capital in significantly smaller amounts that cannot achieve this scale or provide catalytic capital that seeks to generate some returns or capital preservation. In fact, this proposal has been developed partly due to the restricted amount of catalytic capital available to private funds and FSPs, as experienced by working group members.
2. Scale of capacity development and metrics alignment impact across the FSP, investor, and TA space, well beyond specific financial flows associated with the Facility. These set of metrics do not currently exist, and this facility would not just create the metrics but also incentivise investors and investees to follow them to access its capital. The Facility will use existing metrics and consolidate them to a set of metrics that cut across the main impact areas.
3. Scale of development of new business models in agri-food SMEs that address food system transformation challenges.

Actionability: The Facility is actionable because it is based on a recognition of the gaps and barriers that have been well-documented in the past, such as the high risk and high cost of financing SMEs, the need to lower transaction costs and provide impact- and business-related TA, and a need for metric standardisation. While it will accelerate scale by supporting and working with existing facilities and stakeholders across the existing landscape, such as multinational investment facilities (e.g., IFC's GAFSP, GCF) or private funds, it will be different from any organisation or facility currently in existence. It will invest in domestic and regional markets, be entirely focused on enabling business models that are food system-transforming at the SME level, combine catalytic capital and TA, and work on alignment through standardised metrics.

Sustainability. The Facility will catalyse and mobilise commercial capital that can be re-deployed to finance SMEs in the long-term. Beyond 2030 the need for catalytic capital should decline but a centralized mechanism for knowledge production and sharing, metrics setting, monitoring standards, rating impact investments etc. will continue to be a valued role the Facility might offer.

Current/likely political support: Although the initiative is still nascent, there are indications of likely support. The growing coalition of institutions co-creating this gamechanger is just a subset of the many agencies with commitments and programmes committed to advancing agri-food SME financing. A complementary mapping undertaken by the group suggests a wide range of support to leverage catalytic capital to transform food systems through agri-food SMEs. Government acceptance of the Facility as a solution to transform food systems will be vital given government funding is the key to mobilise the high-risk and high-cost capital that is needed. For this, it is important to emphasise that this proposal represents an opportunity for governments and others to mobilise a significant number of other resources (from multilaterals, commercial banks, investors, etc.), multiple times greater than their initial commitment.



5. Launch clean energy information and coordination platforms

The Solution: The proposed solution is national **Clean Energy Information and Coordination Platforms** complemented by international information sources to expand clean, affordable, and reliable energy access along food supply chains. Data platforms combining available secondary data with new national-level analyses will identify and match synergies between the business case of energy companies interested in expanding clean electricity grids and food chain actors that could pay for energy costs, if given access to it, by growing their businesses. This currently missing intelligence can de-risk and optimise investments in clean energy for food system transformation based on agreed-upon payment terms and conditions contracts between clean energy suppliers and food supply chain actors. Simultaneously, it will provide a living example of how such a platform could be used (i.e., a ‘use case’) that brings together all relevant stakeholders.

Mapping: Building on existing pilots, the platforms will map areas where energy expansion would be most effective in stimulating economic growth and food supply chain efficiency. The information and collaborative planning will lower risk for investors, especially private-sector ones, while contributing to improved functioning and growth of food supply chains. Additional information on potential use of food chain residue for bioenergy production will further contribute to scaling clean energy.

Comprehensive Cost-Benefit Analysis: The platform will provide robust, comprehensive (social, environmental, economic, and financial) costs-benefit analysis of clean energy investments for food supply chains; this could be done using existing methodologies (e.g., FAO INVESTA) in as little as three months. Gender analysis/markers will provide information on: ensuring gender equality in energy access; where efforts can facilitate women’s economic integration into a lucrative energy sector (e.g., training in hardware installation, maintenance or sales; female engineers); and how to focus expansion on women’s businesses in food supply chains. Similarly, information on climate change and conflict risks will identify risks and invite alignment with preparedness and response efforts (e.g., types of clean energy solutions used, proximity to displacement locations to avoid wood-cutting).

Source of the Solution: There is a need to pool investment across public and private entities to decrease energy poverty.⁹ The platform solution is based on FAO’s ‘Energy-Smart Food’ Programme (ESF), which aims primarily to ensure adequate access to sustainable, reliable and affordable energy in food chains through (i) better energy efficiency, (ii) gradual use of renewable energy, (iii) sustainable bioenergy, and (iv) a water-energy-food nexus approach, and the obstacles investors face due to lack of information and coordination.

Problem addressed within food systems: Lack of reliable, affordable, and sustainable energy access increases food loss and limits the efficient use and growth of food supply chains and, in turn, food availability and access, especially in low-income countries. Energy access has also been shown to have positive impacts on household income and business growth—and thus on addressing poverty, a driver of hunger.¹⁰ This lack of reliable sustainable energy stems from various other problems:

Missed investment opportunities: Global commitment to energy expansion falls far short of needs and focuses largely on high-income countries instead of those with highest energy poverty and hunger levels.¹¹ The energy sector’s interest in market expansion exists, and their investments are needed to finance clean energy access in underserved areas. Yet, insufficient or lacking data and stakeholder coordination means investments in economically profitable expansion opportunities are missed.

⁹ <https://sustainabledevelopment.un.org/content/documents/17480PB8.pdf>

* [FAO 2015 on opportunities for food chains to become energy smart, Power for All Fact sheets](#)

¹⁰ <https://www.adb.org/documents/systematic-review-impact-access-electricity-household-welfare>

¹¹ For every \$1 of Multilateral Development Banks or Direct Foreign Investment resources invested in high income countries only \$0.37 private finance in low-income countries (ODI, 2019)). [Source](#)



Lack of reliable, affordable energy access limits food supply chains' efficiency and growth: Developed countries use about 35 gigajoules/person/year for food and agriculture while developing countries use only 8 gigajoules/person/year (largely for cooking). Adequate access to sustainable clean energy in food chains is key to ensure availability, access, and proper use of food.^{12,13,14}

Underutilised food supply chain residue potential for biomass energy: There are growing opportunities and demand for the use of biomass to provide additional renewable energy sources. Biomass from cellulosic bioenergy crops is expected to play a substantial role in future energy systems.^{15,16}

Energy poverty perpetuating poverty: Countries with high levels of poverty tend to have lower access to sustainable clean energy services, especially in Sub-Saharan Africa and South Asia. Lower-income people cannot afford modern energy services, meaning fewer income-generation opportunities.¹⁷

How this solution will address that problem: If stakeholders (governments, food supply, energy sector, international organisations, data science leads) commit to establishing improved data platforms to inform comprehensive cost-benefit analyses, sound businesses cases will be identified that will de-risk energy expansion investments. Investments need to be aligned with productive energy use in food supply chains, which hold the potential for economic growth in rural areas of LMICs (i.e., the productive use case). This business case is that more livelihood opportunities and higher profit can arise from value chain development, but this is constrained by energy availability. Food supply chain actors will increase profits due to improved production and transformation, distribute value addition across the value chain, reduce food losses, and improve quality of products due to better sustainable clean energy access. Their increased demand equals increased payment capacity, paying for lower-risk clean energy expansion while sustainably and innovatively transforming these chains. Major energy companies, e.g., ENGIE and ENEL, have significant investment interest in food supply chains along a water-energy-food nexus approach, due to the potential market opportunity for them,¹⁸ yet developing and sustaining this information goes beyond the capacity of single actors, as the nature of energy expansion in food chains cuts across many sectors, policies, and areas of expertise; investing as a single actor in expansion may be inviable. Therefore, a coordinated public-private effort is needed to inform, plan, and implement clean energy access expansion.

Solution's alignment to the 'game changing and systemic solution' criteria:

Impact potential at scale: Such cross-sectoral platforms do not exist at national levels yet could be the key driver for energy expansion and thus lasting transformation and improved efficiency of food supply chains. The methodology is applicable across contexts and can thus be scaled to any country.

Actionability: Pilot projects have shown the approach's feasibility and can function as demonstrations for stakeholders. Political will and clear investment interest from the private sector are needed, as are financial commitments to information gathering and platform development on the part of a national government. Especially for governments with a clear vision/policy for energy access expansion, this solution provides an innovative tool to act on their plans. Per food chain, the analysis takes about 3-5 months and costs USD 50,000-75,000.

Sustainability: The information platform can be incorporated into national energy access expansion plans and timelines, funded through related resources. In addition, stakeholder interest in investing in sustainable clean energy for food chains exists and will contribute multiple funding streams. The benefit

¹² <http://www.fao.org/3/an913e/an913e01.pdf>

¹³ https://read.oecd-ilibrary.org/agriculture-and-food/improving-energy-efficiency-in-the-agro-food-chain_9789264278530-en#page7

¹⁴ <https://sustainabledevelopment.un.org/content/documents/17480PB8.pdf>

¹⁵ <https://www.sciencedirect.com/science/article/pii/S1364032114000677>

¹⁶ <http://www.fao.org/3/a-i5125e.pdf>

¹⁷ <http://documents1.worldbank.org/curated/en/364571494517675149/pdf/114841-REVISED-JUNE12-FINAL-SEAR-web-REV-optimized.pdf>

¹⁸ <https://www.powerforall.org/insights/dre-technologies/global-local-building-energy-smart-local-food-systems-post-covid-era>



of de-risking investments based on evidence and comprehensive data analyses will increase investment confidence. Once an information base is established, continuous information gathering will be less complex, costly, and thus more sustainable.

The solution will also have positive environmental and cross-cutting effects. The energy used in food supply chains currently represent 20-25% of GHG emissions. Any food supply chain scaling based on fossil fuels will contribute to higher levels and further natural resources degradation, whereas decarbonisation can contribute to goals of AT 3 and 5, and SDG 13. Moreover, a lack of energy access negatively impacts other services (health, education, vet services)¹⁹ and affects women and men differently, a reality often disregarded, and as a highly male dominated sector energy access decisions tend to lack women's perspectives²⁰. Promoting equitable energy access can support livelihoods development (AT 4/5, SDG 8) and improve service delivery (SDGs 4 & 6).

Existing evidence: Since such platforms do not exist, rigorous meta-analysis evidence is not available. Yet individual projects have proven the approach. For example, [Power for All](#) has recently illustrated this regarding several crops in Uganda. FAO has developed a methodology through the [INVESTA project](#), which has so far applied environmental, social, economic and financial cost-benefit analysis in three food chains in five countries; economic analyses of individual projects underpin the sustainability of so-derived business models.²¹

Current/likely political support: Expansion of renewable energy is part of a multitude of political and private-sector agendas; this specific idea is being supported by FAO by scaling piloted efforts. Potential partners include: ENEL/Italy, ENGIE/France, FMO, Rabobank, PROPARCO, AfDB, WB, UAE, WBCSD, IRENA, German government, Rockefeller Foundation, OPEC Fund for Development, USAID, REEEP, Power for All, Alliance for Rural Electrification, Google, WRI, and KTH. Funds for pilots have come from donor governments but should be expanded by having private sector and other investors contribute.

Contexts for which this is well suited: Locations with high gaps in rural energy access yet significant economic growth of specific food chains; protracted crises settings where energy for food is required by refugees/host communities; contexts where food chain residues are not currently used for other food chain-related purposes (e.g., animal feed) but can contribute to scaling biomass energy access; and locations where land-based food production is limited by natural factors and high-tech production is needed (e.g., hydroponics, vertical farming in the Gulf States), requiring increased energy needs.

¹⁹ *ibid*

²⁰ <http://documents1.worldbank.org/curated/en/463071494925985630/pdf/115066-BRI-P148200-PUBLIC-FINALSEARSGenderweb.pdf>

²¹ <https://www.powerforall.org/resources/fact-sheets/research-powering-agriculture-ebooklet>



6. Scale up sustainable cold chain technology

The Solution: The solution proposed is an ambitious, multi-stakeholder effort to deliver the widespread implementation of highly integrated, sustainable cold chain with an emphasis on the ‘Community Cool Hub’ (CCH) model. This will be implemented through a comprehensive package of measures: expanding high-level political commitment to sustainable cold chains; conducting needs-driven cooling and cold-chain assessment and preparing comprehensive national cooling action plans that include sustainable cold chain; ensuring policies are aligned; establishing in-market Living Labs to develop and demonstrate step-change pathways and provide technical and business assistance and training to small-holder farmers and rural communities; and mobilising finance assistance for implementation. The solution sits at the critical intersect between the goals of Food Systems and Climate Action, identifying net-zero pathways to create local and global “field to fork” connectivity to nutritiously feed 10 billion people sustainably from small-scale farmers while ensuring they are ready and resilient to adapt to climate change.

A CCH is a community-led and integrated flexible system approach to affordably meet a portfolio of rural community cooling needs including food (domestic and value chain), health (including human and animal vaccines and pandemic response), and human comfort and safe working environments. The purpose of this project is to upscale CCHs as a leading strategy for financially accessible, low-carbon cold-chain and cooling development pathways that generate economic wealth, better health and nutrition, and a sustainable future for rural communities. Demonstrator CCH projects in India and Africa (e.g., through the new Africa Centre for Sustainable Cooling and Cold-chain) are showing what is possible and defining the technical, financial, and policy interventions to provide access to cooling for all who need it. The task now is to scale this programme through co-ordinated actions drawing on the government, industry, academia, society, and finance to expand cold chain, meet wider rural cooling needs, and shift the sector into clean technologies.

Source of the Solution: This idea stems from discussions between AT1 and the Cool Coalition, one of the “Transformation Initiatives” put forward by the Executive Office of the Secretary-General for the UN Climate Action Summit, which works with over 100 partners from private sector, government, international organisations, and civil society. CCHs stem from different sources, including in-market research and study tours. It was developed by Professor Toby Peters of University of Birmingham, in collaboration with Prof Pawanexh Kohli, previously CEO, National Centre for Cold-chain Development, India and is being advanced by a multi-national collaboration of academic and expert partners.

Problem addressed within food systems: Lack of effective refrigeration directly results in losses of [13% of total food production](#). In many LMICs, food is lost between farm and market due to lack of cold chains. Five key obstacles need to be addressed to accelerate the transition towards sustainable cold chain: (1) lack of appropriate **financing and business models** for aggregation and processing hubs and integrated cold chains; (2) lack of **robust data** to assess cooling needs **and a lack of knowledge and capacity** to act on this need; (3) lack of access to **energy and technology**; (4) the **fragmented nature of agricultural land-holdings** in LMICs; and (5) no **“one-size-fits-all” model**: models used in more industrialised countries may not always be successful in LMICs.

How this solution will address that problem: Most farming communities need temperature-controlled pack-houses / aggregation hubs, which will typically include energy-intensive cooling systems to pre-cool and store the aggregated perishable produce as the first stage of the cold-chain. By designing the cooling system based on a broader set of community needs, aggregating cooling demand to reduce overall demand, create system efficiencies, and bundle multiple revenues streams, CCHs can meet a portfolio of a rural community’s societal needs with economic accessibility and resilience. Specifically, they can



support farmers and fishers with reducing post-harvest food losses, increasing productivity through animal shelter and access to veterinary vaccines, protecting quality and value, and providing new distant market connectivity, whilst ensuring that the wider community has continuing access to life-saving vaccines, domestic refrigeration, and properly cooled health facilities and community services as well as heating for water, drying, and cooking. Service management, modularity, local participation and efficiency through circularity and systems-thinking can ensure uptake and resilience where other stand-alone models have failed or been too expensive. (See further details on the theory of change in Annex 2).

Solution's alignment to the 'game changing and systemic solution' criteria:

Impact at scale - Increasing access to rural cooling and cold chain can improve and protect the livelihoods of hundreds of millions of smallholder farmers (men and women) by increasing their revenue. It enables farmers to enhance income through diversification into high-value and high-return, but often temperature-sensitive, crops.

Sustainability & Actionability - Innovative business models, such as Cooling as a Service, have shown that expanding rural cooling and cold chain can quickly create returns on investments and a sustainable source of income for service providers. Pilots for the solutions, including data collection and needs assessment frameworks, CCH and CECC, are now underway in initial markets with government support. Comprehensive, integrated, and sustainable system approaches to rural cooling and cold chain provide a long-term sustainable vision for enhancing access to cooling that is in line with sustainable development and climate imperatives beyond 2030.

The mobilisation strategy for mass deployment of CCH in rural areas contribute to the five Summit ATs as follows: **AT1:** Help preserve food and its safety, maintain nutritional value, reduce loss, improve access; **AT2:** Additional income fosters more sustainable practices and local circular economy efforts; **AT3:** Efficient use of farming inputs; reduced food loss and related emissions, land-use change, water-use and pollution; **AT4:** Increased farmers' incomes, reduced inequality in food access and income; and **AT5:** Stabilise the food supply, increase supply chain resilience, and contain changes in food prices.

Existing evidence: Researchers from University of Birmingham, Heriot-Watt University, and the Centre for Environment Education in India undertook in-depth research into the design and development of CCHs; the report is currently under review for publication. Further needs assessment and market studies to support CCH development were undertaken in Rwanda in 2020. Demonstrations of the model are underway in India and Rwanda, supported by a collaboration of academic, industry, government, and community partners; its component parts have been successfully demonstrated for years in numerous countries.

Current/likely political support: This effort will build on the political momentum gained by the Cool Coalition at the Climate Action Summit, where over 20 countries recognised the need to accelerate transition to sustainable cooling, as well as on the 2019 Rome Declaration in which ministers and heads of delegation of parties to the Montreal Protocol reaffirmed the need to develop sustainable and efficient solutions in the cooling sector to meet future cooling demand, including cold-chain initiatives for food preservation, and highlighted the key role of cold chain in SDGs implementation. In addition, Cool Coalition Steering Committees members (including UK, Denmark, Ghana, Costa Rica, Cambodia and France) agreed to create a focused working group on cold chain, while significant financial support has been committed by the UK and Rwanda Governments to the Africa Centre of Excellence for Sustainable Cooling and Cold-chain as a pan-Africa applied research, teaching, and learning development centre for CCHs.

Contexts for which this is well suited: The solution is designed to be flexible, but given the majority of farmers in LMICs are small-scale and marginal without access to finance or electricity, it is specifically



designed to provide access to cooling and cold-chain services to the poorest and most marginalised by aggregation of demand and service management business models. It is also being developed in India through private-sector partnerships with mid-sized farmers as the anchor customers around which community farming groups can be coalesced.

Potential Solutions for Increasing Access to Nutritious Foods

7. Create a partnership for investment in infrastructure for public procurement of nutritious foods

The Solution: Back to Basics: A Partnership for Investment in Infrastructure for Public Procurement of Nutritious Foods is an idea building on the recommendation of State of Food Security and Nutrition in the World (SOFI) 2020 to rebalance “incentives towards more nutrition-sensitive investment; and policy actions all along food supply chains” to make nutritious foods more affordable. The proposed solution is a mechanism to provide the investment and operational capacity needed to reduce costs and risks faced by small-scale producers and value chain entrepreneurs involved in growing, distributing, and selling perishable nutritious foods and further reducing risks by linking to public procurement for institutional markets.

Source of the Solution: This idea emerged from a discussion about repurposing agricultural subsidies, an idea that AT1 leadership reported came up regularly in conversations and has been proposed in recent reports. Group member Jessica Fanzo explored the idea, finding that a feasible mechanism for repurposing subsidies for dietary impact was unclear but the evidence for investing in infrastructure is far stronger. This led to a shift in focus to investment in infrastructure (with a potential link to using repurposed subsidies as an option for funding it); the idea was then discussed with various experts.

Problem addressed within food systems: While there has been much focus on reducing staple food costs, the cost of perishable, nutritious foods (e.g., fruit, vegetables, fish, seafood, dairy) reduces access and consumption. According to SOFI 2020, “low levels of productivity, high production risks and insufficient diversification towards the production of more nutritious foods are key drivers of the cost of healthy diets, especially in low-income countries.” Moreover, “inadequate food storage, poor road infrastructure and limited food preservation capacity, especially for highly perishable foods, lead to food losses and inefficiencies along the food supply chain that drive up the cost of nutritious foods.” Agriculture policies to support producers, including direct and indirect production subsidies, have also focused on starchy staples, making calories from these foods relatively cheap. At the same time, amid inadequate infrastructure and price information and power asymmetries, small-scale producers face significant challenges in getting perishable foods to market while maintaining food safety and quality and reasonable prices; this reduces incomes and threatens livelihoods, particularly for women.

These problems contribute to diets delivering minimum needed nutrients costing three times more than diets meeting only dietary energy needs through starchy staples.²² Moreover, if consumption of these foods were to increase to recommended levels, prices would likely rise (since production is currently inadequate), making them even less affordable to low-income households. While more efficient, rules-based international trade will continue to play an important role, domestic production will be the main source of *perishable* foods in most countries. There is a need to invest in infrastructure and capacity to enable small-scale value chain actors to produce and profit from nutritious foods and reduce loss in transit to markets. This includes institutional markets, such as schools. For these markets, smallholders often

²² Healthy diets (with a greater diversity of food groups) are five times more expensive (SOFI, 2020)



have difficulty meeting the public procurement requirements (e.g., food safety, volume, regularity of delivery, quality). Evidence shows investments in credit, extension, price information, and infrastructure are necessary for producers to effectively link to these institutional markets. From a gender perspective, the UN World Food Programme P4P initiative found that women did not meet the smallholder criteria in most P4P countries because they did not have assets at their disposal, indicating the need to invest in infrastructure so they can benefit from market access.

Yet in most rural areas, food system infrastructure development is currently the responsibility of governments. Stretched budgets have led to chronic under-investment in supporting small-scale producers and value chain entrepreneurs. The private sector has deep experience investing in on-farm technologies to produce higher-quality food. Establishing a consortium of partners with different resources and skillsets will increase the likelihood of sustained and adequate investment.

How this solution will address that problem: This solution addresses this problem by reducing the direct costs, transaction costs, and risks and creating incentives for investment in infrastructure to improve the connectivity of smallholders/entrepreneurs to markets and procurement systems. Through an investment partnership and guaranteed markets (explained below), infrastructure would be improved, and the capacity of small-scale food producers and value chain entrepreneurs to sell perishable nutritious foods and institutional markets' ability to procure them would increase. This would improve access to nutritious foods among populations dependent on public institutions and programmes, and there could potentially be spill-over effects that would lead to greater affordability of nutritious foods for which there is market demand. The ultimate impact would be that low-income households eat more nutritious foods, leading to improved nutritional status, and that small-scale food producers and value chain entrepreneurs increase their incomes.

These outcomes and impact would be achieved through two interlinked inputs:

- *Back-to-Basics Investment Partnership.* Learning from existing prototypes (see below), a public-private investment partnership would incentivise investment in and direct support (e.g., provision and operation) to infrastructure, training, capacity, access to financing, and technology for small-scale farmers and SMEs involved in value chains for nutritious foods. The public-private partnership would link international finance and development assistance institutions (e.g., World Bank, UNDP, IFAD), companies (e.g., agri-food and non-food companies like telephone and power companies), and governments working together to pool investments to achieve the common objective of increasing the consumption of nutritious foods, with accountability mechanisms. The immediate shared goal would be to ensure that the diverse nutritious food found in small-scale production systems (including livestock and fish) reach markets at lower prices while ensuring decent incomes for producers. Investments could include roads, irrigation and water technologies, technical assistance (e.g., agricultural extension), cold storage systems and other post-harvest storage facilities, credit and finance, market and logistics information systems (e.g., price information), and R&D on climate-resilient, nutritious foods. With significant upfront investment in these public good “basics” by international finance organisations and complementary investments by the private sector, small-scale farms, ranchers, and fishers would supply more nutritious foods, driving down prices and, in turn, meeting demand for these foods. Finance organisations would be incentivised by the ability to spur development and help governments fulfil their goals by financing “last mile” public infrastructure. The incentive for the private sector would be an ability to provide other goods to farmers, like mobile phones, cold storage tools, and rural services, gaining new customers. The incentive for governments would be securing their constituencies’ support in future elections and spurring rural development.



- **Guaranteed Institutional Markets.** Many low-income people are increasingly reliant on public institutions and programmes to procure their food. They come to these programmes as nutritionally vulnerable (e.g., for social protection programmes, Solutions 3 and 11) or with high nutritional needs (e.g., school food programmes, Solution 12). The quality of foods available through such programmes, however, is often poor. At the same time, these institutional markets reduce investment risk by providing a guaranteed market. Thus, participating governments could create a strong market incentive to grow nutritious foods by set asides/contracts between farmers and public institutions and programmes or outright purchasing of foods to supply public institutions. These purchases could be funded by repurposing a small percentage (e.g., 5%) of public subsidy funds currently supporting staple crops. The incentive for governments to create public procurement markets is driven by both supply and demand. On the supply side, more food system actors will participate in growing these foods if they know there is market waiting for them. On the demand side, incentives include nourishing the next generation (via schools), ensuring national security (via military meals), and lowering healthcare costs (via hospitals).

Solution's alignment to the 'game changing and systemic solution' criteria: This solution is game changing in that it is intended to change mindsets about the core purpose of investing in food systems: placing nutritious foods and co-benefits at the core rather than focusing on generating returns from starchy staples, oil crops, or sugar. It proposes food systems investment that purposefully focuses on positive nutrition-related outcomes by lowering the cost of nutritious foods for low-income households. It thus proposes to change the 'rules' for investment in infrastructure in the food system, aiming to prioritise infrastructure that supports small-scale producers and value chain entrepreneurs, with an explicit linkage to guaranteed markets to reduce risk.

Impact potential at scale: This aims to reach large numbers of small-scale producers: Small farms globally produce about 35% of food commodities on 24% of arable land (not counting fisherfolk and pastoralists). These small farms account for significant crop biodiversity and produce 53-81% of micronutrients in the global food supply. The solution will also reach large numbers of people through public institutions/programmes, leveraging significant government spending on public procurement (and thus market power). And it will generate spill-over impacts: as production increases, prices will fall, and better infrastructure will support open markets as well as other sectors (e.g., health).

Actionability: initiatives already exist in this area, indicating actionability. However, there are outstanding questions about different possible models and how they would ensure the private sector's willingness to invest; they would need to be confident of the potential to acquire new customers who would continue to utilise their products and services. While government can provide incentives, this should not lead to undue "subsidies" (making it cost-inefficient). Stakeholders would need to think creatively, engage with diverse partners in and out of the food system, involve brokers to ensure accountability, and learn from successful approaches from other sectors (including in infrastructure more widely). Governments would need to create incentives for the private sector and producers to positively engage, along with disincentives for contributing to negative outcomes.

Purposeful nutritious investment could be designed to have co-benefits across the system for: (1) livelihoods, as providing markets for small-scale producers can support poverty reduction; (2) the environment, as small-scale producers tend to have more diverse landscapes and farm in a way that promotes ecosystem services and sustainable practices; (3) resilience to vulnerabilities, shocks and stresses by building infrastructure including for water, storage, and processing; and (4) gender equity, as public procurement initiatives can give women competitive advantages by establishing quotas, award criteria, and bid price preferences for women or women-owned businesses.



Existing evidence: Gains in small-scale producers' productivity and poverty reduction are far greater when complementary interventions are made in infrastructure, education, and market access. Evidence indicates investment in infrastructure can lower food prices. For example, public investment in road networks in 14 African countries could help increase food affordability. Evidence also shows that strengthening markets and improving market access are key to optimising the benefits of the diverse production systems common on small-scale farms. There are several examples of government-led public procurement initiatives favouring small-scale producers (e.g., Brazil, Thailand, Uruguay); 'home-grown school feeding' programmes of WFP and FAO are also strong examples. There are several examples of private-public investment in supply chains (e.g., seed and market linkages in Pakistan, fruit and vegetables for the workforce in Angola); while none have demonstratable impacts on nutrition, this may be simply because nutrition has not been a focus of such investment.

Current/likely political support: The idea has support from numerous constituencies consulted, including Germany (GIZ). More work is needed to establish what would make it more actionable.

Contexts for which this is well suited: This gamechanger is most relevant in low-income countries where infrastructure is weakest and regions that produce or have the potential to produce nutritious foods, including coastal areas. Emphasis should be on small-scale producers, particularly women.



8. Incentivise food systems change towards equitable food marketing

The Solution: *Enablers to Incentivise Food Systems Change Towards Equitable Food Marketing* (or “Engaging the Gatekeepers for Equitable Food Marketing”) is a proposal to lever some of the most powerful forces in the food system to transform the food marketing landscape. By placing unhealthy foods centre stage, food marketing crowds out nutritious foods. This solution seeks to address this imbalance. Given the challenge of re-incentivising the food marketing system, it does so by learning from existing mechanisms, bringing them together to propose a ‘systems toolkit’ of enablers: a sustainable funding mechanism, transparency of marketing spending, engaging gatekeepers, and compelling communications to increase the desirability of nutritious foods. The elements build on ongoing experience with such mechanisms, including transparency mechanisms (e.g., Access to Nutrition Index, ATNI), investor metrics (e.g., World Business Council for Sustainable Development), digital platforms (e.g., Google), healthy food marketing, and government levies on advertising and to provide sustained financing. Insights from these experiences suggest these enablers could jointly work to re-incentivise the system. While it is unclear exactly how this would work at the country level, the *actionable* solution now is to change mindsets about the problem by engaging gatekeepers (i.e., large communications companies and digital platforms, investors, business transparency mechanisms, supermarkets, innovative public health financing models) in a conversation about how this *could* work to leverage actionable changes, leading to incentives for fundamental systems change.

Source of the Solution: During working group discussions, members noted that even when nutritious foods are available and affordable, people do not necessarily eat them; in contrast, foods with little nutritional benefit are perceived as affordable and appealing. The issue was also raised in AT1 meetings. Finding ways to make nutritious foods more appealing emerged as a priority. Paul Newnham led further discussions with several group members and consulted with others supporting the Summit on other ATs and Summit groups; he then crafted the solution with Alyson Greenhalgh Ball and Rosie Cowper. It was noted that the challenge across contexts was a lack of a sustainable funding to scale campaigns. Discussions also showed that any campaign must be localised. Thus, the real game-changer was not a single campaign but a sustainable funding mechanism to support such campaigns while creating space for them by reducing unhealthy food marketing.

Problem addressed within food systems: Unhealthy food marketing crowds out nutritious foods while creating aspiration for foods that do little to support nutrition and health, even when they cost more. It is vital to learn from the power of unhealthy food marketing to build sustained communications on healthy foods (and those with a smaller environmental footprint), so that they are perceived as affordable and aspirational, especially for young people. This arises because promotional marketing is a key driver of food systems behaviour and a major means through which large businesses compete but is not equitable: less healthy foods get much less focus than those that are more nutritious, sustainable, and affordable. This incentivises production and consumption of foods that do little to support nutrition. In contrast, there is relatively little marketing and no sustained financing for creative, well-targeted promotion of healthier food.

Furthermore, current efforts to change this are not working. Social marketing campaigns for healthy foods tend to be patchy and short-term and fail to use top creative techniques to appeal to young people; advertising restrictions play a key role. In contrast, there are strong business incentives related to promotion of “unhealthy” products, given their impressive financial margins. Placing the system on a transition pathway will require significant disruption of public messaging to rebalance the marketing landscape and create a more competitive playing field for nutritious food businesses.



How this solution will address that problem: Given the innovation needed to fundamentally address the problem, this solution aims to communicate, via a toolkit, the range of options available to incentivise the system to rebalance promotional marketing (especially for young people) towards nutritious foods. These ‘enablers’ would work together in a systems approach to change incentives and drive equity in food marketing. This would lead to hundreds of locally adapted campaigns for nutritious foods that engage young people in multiple markets and less marketing for unhealthy foods (**output**). Young people would then experience compelling, creative messaging about healthy, delicious food throughout the many touchpoints in their days and through digital media (and fewer messages about unhealthy foods) (**outcome**).²³ Over the longer term, this will make return on investment more balanced and drive investors to support marketing of healthy options for people and planet. The intended **impact** is that young people perceive healthy foods (with a small environmental footprint) as affordable and aspirational relative to “unhealthy” ones and request, buy, and eat them.

The four main elements that would need to be included are:

(1) A *transparency mechanism* (e.g., through investors, auditors) could require large food and beverage businesses to disclose their marketing spend on all foods by brand/type, which could be used by investors to drive investment decisions. This transparency would enable actors to hold companies accountable for what they claim versus do.

(2) *Engaging gatekeepers*. This could happen through *investor pressure*. Investors are key gatekeepers for food companies large and small, providing investment and input on business models and investment returns. Historically, regular reviews of quarterly results have focused solely on growth, but this community is pivoting towards increased interest in human and planetary health, with detailed discussions on innovation and nutritional composition of foods and how these are marketed using established tools such as ATNI to help guide progress. A consortium of progressive investors could lead with an aligned approach to help food companies improve portfolio mix, ensure equity in marketing, and understand impacts on profits and shareholder expectations. (This would be further supported by Solution 21). It could also happen through *media channels*. For example, Google has introduced its own nutrition profile that must be met in order to place content on social media. Such firms could also apply an advertising discount for healthier foods or add a levy on unhealthy foods (taking into account the frequency and adequacy of the messaging). *Food stores* could also play a role. Supermarkets and stores could set rules on healthier food promotion and shelf space for healthier foods, acting as a gatekeeper for what young people and adults see when shopping. Many examples exist, including investors pressuring supermarkets to align offerings with dietary guidelines.

(3) *Funding mechanism*. One possible sustained financing mechanisms would be a *government levy for equitable food promotion*. A regulation could require large food businesses to allocate the equivalent of X% (e.g., 20%) of their ‘unhealthy food’²⁴ marketing spend (across traditional media, social, content, influencers, placement, instore position, and promotions) to a publicly managed fund for health promotion. For example, ThaiHealth is funded by a levy on tobacco and alcohol. France has a levy on advertising that fails to include a positive health message. Another option would be a *publicly managed fund*. Levies on ‘unhealthy food’ sales (e.g., sugary drinks taxes) could be redirected to a public fund to support communications campaigns.

²³ Ideally this outcome would be measured (e.g., “a meaningful % of the target audience is receiving communications)

²⁴ Reaching an agreed-upon definition of ‘healthy’ and ‘unhealthy’ products would be a necessary first step to making this work.



(4) *Sustained, compelling communications using commercial knowhow.* Major national-level sustained campaigns for nutritious, delicious, and sustainable foods would be created using the best creative agencies to understand barriers to change for the target audience, reflecting local public health priorities. Whilst tailored locally, best practice should be quickly shared worldwide, perhaps via a global insight database on success; the fund could also support promotion of nutritious foods from SMEs involved in the Global Virtual Nutrition Innovation Hub for SMEs (Solution 13).

Solution's alignment to the 'game changing and systemic solution' criteria: This proposal seeks to change the rules of the food marketing game. Current approaches are not changing the incentives that drive unhealthy marketing to dominate. As long as these incentives remain, the imbalance will continue. Experience indicates the enablers identified here have the potential to re-incentivise the current balance of marketing—and that marketing works.

Impact potential at scale: If implemented, this would have ripple effects across the business model of large food and beverage companies, which operate globally.

Actionability: As fully envisioned, this is not an immediately implementable solution. Given the challenging nature of change in this space, the initial 'game changer' is to start a conversation about these fundamental shifts with the gatekeepers and existing accountability mechanisms.

Sustainability: This seeks sustained change in the food and beverage industry rather than a quick win

Co-benefits include the following: over the medium-long term, it will create business opportunities for producers of nutritious foods, including SMEs, thus advancing equitable livelihood opportunities; if the campaigns focus on planetary health, they could yield benefits for environmental sustainability; and it can also benefit women (especially low-income mothers) since they are more likely to undertake food shopping and thus are often pestered by their children to buy promoted, unhealthy foods that they may not be able to afford, creating negative dynamics within families.

Existing evidence: There is strong evidence that youth globally are exposed to a large volume of marketing for unhealthy foods through multiple platforms, despite voluntary food business commitments²⁵ and partial restrictions by some governments.²⁶ Evidence is clear that advertising influences children's food preferences and intake.²⁷ Yet marketing healthier foods, especially when sustainable,²⁸ can also be effective, especially if commercial success factors are used.²⁹ Generating a health promotion budget through a levy on businesses has been tried and tested with successful outcomes in Thailand.³⁰

Current/likely political support: Making this solution feasible is not easy. Nor will gaining traction at the government level – but could build from countries who have focused on restricting marketing and/or financing healthy campaigns (several countries worldwide have attempted to regulate marketing to children and many have implemented public campaigns). But the initial space to find support would be communications companies, the investor community and transparency mechanisms.

²⁵ e.g., Kelly B et al. 2019. Global benchmarking of children's exposure to television advertising of unhealthy foods and beverages across 22 countries. *Obesity Reviews* 20:116-28.

²⁶ Whalen R et al. 2019 Children's exposure to food advertising: the impact of statutory restrictions. *Health promotion international* 1;34(2):227-35.

²⁷ e.g., Boyland et al, 2016. Advertising as a cue to consume: a systematic review and meta-analysis of the effects of acute exposure to unhealthy food and nonalcoholic beverage advertising on intake in children and adults. *AJCN* 103(2), pp.519-533.

²⁸ e.g., Abril EP, Dempsey PR. 2019. Outcomes of healthy eating ad campaigns: A systematic review. *Progress in cardiovascular diseases* 1;62(1):39-43.

²⁹ Aschemann-Witzel et al 2012 Lessons for public health campaigns from analysing commercial food marketing success factors: a case study. *BMC Public Health* 12(1):1-1.

³⁰ Pongutta et al. 2019. Lessons from the Thai health promotion Foundation. *Bulletin of the World Health Organization* 97(3):213.



Contexts for which this is well suited: It applies in all places where large F&B companies operate. A fundamental part of the design of this gamechanger is that it facilitates the context-specific design of integrated marketing campaigns designed to be effective for young people in their national and local contexts.

9. Launch a Workforce Nutrition Alliance to reach food system workers

The Solution: This solution seeks to scale up the Workforce Nutrition Alliance (WNA) to expand access to and knowledge about good nutrition to hundreds of millions of individuals by using companies as a strategic lever to connect through the workplace to their employees and supply chain workers. This initiative will address the currently untapped potential of reaching and sustainably modifying the nutritional environment of millions of low-income food system workers, both directly employed by multinationals and in their supply chains, who may be otherwise difficult to reach through traditional public health interventions.

The workplace has huge potential as an intervention setting: it is a controlled environment in which most adults will spend at least one-third of their lives, making multiple choices throughout the day that affect their long-term nutritional health. But despite the prevalence of malnutrition and the losses in human capital it brings about, it is not yet at the forefront of employers' priorities. Showcasing WNA as a game-changer would bring visibility to this issue and catalyse systemic change by leveraging some of the biggest food system actors to raise industry standards in worker health and wellbeing.

This innovative solution not only engages with companies and their employees but provides the systemic framework and tools and resources necessary to achieve, scale-up, and sustain success. These include a self-assessment scorecard for a company to use to identify areas in which it can improve its workforce nutrition programme plus tools for target setting, plan development, implementation, monitoring and reporting, and maximising benefits.

The WNA was co-founded in 2019 by the Consumer Goods Forum (CGF) and the GAIN. WNA brings together business associations and technical experts to support employers in adopting and expanding workforce nutrition programmes and impacting 30 million employees in their organisations and supply chains by 2030. Leveraging action platforms like UNFSS and Nutrition for Growth (N4G), the WNA will reach the most vulnerable workers in the food system with nutrition interventions proven to benefit both men and women's overall health and productivity. With its established framework, tools, and commitment from a growing number of companies, the WNA is poised to be a significant "game-changing systemic solution" within AT1 and with substantial complimentary benefits to AT4.

Source of the Solution: The workforce nutrition concept was piloted in 2014 and has been scaling up since 2015, with eight global tea companies now engaged, reaching 750,000 farmers and their families in India, Kenya, Tanzania and Malawi. The concept also has proven success in reducing anaemia in factory workplaces in Bangladesh. Due to these successes and growing demand, the WNA was established to bring together stakeholders to develop a strategic plan, framework, and the tools and resources necessary to ensure replication success. In order to improve access at scale to farmers in supply chains, the WNA was strengthened through a partnership with SourceUp, a pioneering platform with a landscape approach that brings together farmers, producers, government, and civil society working towards shared sustainability objectives and sourcing strategies. Workplace nutrition programmes will now feature in the SourceUp platform and directly reach farming communities in Africa, Asia, and Latin America. This innovative approach will model how the systematic inclusion of workers' nutrition can be scaled and integrated in other landscaping approaches.



Problem addressed within food systems: An estimated USD 8–38 billion in annual business loss is due to underweight workers' reduced productivity and USD 4–27 billion is lost annually due to obesity. Only a proportion of those who work in corporate offices in high-income countries have access to healthy food options at work. Many supply chain employers who provide food to meet a regulatory requirement do not offer nutritious foods. Meals supplied to low-income workers are often staple-heavy and lack important diversity from fruits, vegetables, and proteins. The COVID-19 pandemic has underscored healthy employees' importance in ensuring business productivity and continuity. The WNA addresses this burden of malnutrition by providing access to and information about good nutrition through four inflexion points: healthy food at work, nutrition education, nutrition-focused health checks, and breastfeeding support. Evidence from these programme areas has demonstrated dietary improvements, reduced anaemia, lower NCD risk, lower healthcare costs, and lower rates of absenteeism.

The solution reduces hunger by providing access to nutritional meals and clean drinking water in the workplace and improving rates of exclusive and continued breastfeeding, addressing inequities that specifically affect vulnerable communities and women. This solution provides increased access to and information on nutritious and safe foods. It also includes initiatives to increase access to affordable nutritious food options through employer subsidies.

How this solution will address that problem: The WNA uses the 'workplace' as a leverage point from which to reach millions of people systematically; it offers employers a systemic framework, tools, technical support and the business case to start or improve proven workplace nutrition programmes. This, in turn, allows employers, particularly large multinational companies relying on sizeable workforces, to implement ambitious workforce nutrition programmes that also reach supply chain workers, including targeting vulnerable communities and women. Other actors can enable ambitious workforce nutrition programmes through policies and TA, globally and nationally. This results in millions of workers benefitting from improved nutrition via effective workforce nutrition programmes.

Solution's alignment to the 'game changing and systemic solution' criteria: The WNA is feasible (piloted and proven), has a conceptual framework that would shift operational models, provides a systemic framework, engages various stakeholders across the food system, has a positive effect on equitable livelihoods, advances human health, is ambitious with concrete pathways for systemic change, mutually reinforces achievement of other ATs' goals, promotes gender equality and women's empowerment in food consumption systems, and is implementable at a sufficient scale to reach a large portion of the population with clear, timely and verifiable outcomes that produce significant impacts by 2030. The WNA can be sustainable as it leverages private-sector investment. Through a clear business case, it can become embedded in standard business practices, thereby catalysing lasting change. This solution aligns particularly well with AT4, supporting livelihoods: well-nourished workers are healthier and therefore have fewer sick days and increase their earnings and income.

Existing evidence: As highlighted previously, this solution has been successfully piloted by global companies and is meeting implementation goals. There is also a substantial and growing body of evidence demonstrating the effectiveness and potential of such interventions on workers' nutritional health and business-level outcomes. Indeed, the business case for employers is increasingly convincing, which will help sustain these company-funded programmes in the long term.

Current/likely political support: This solution has the full support of the GCF, one of the world's leading business organisations, with member companies that directly reach 10 million employees and an additional 90 million workers indirectly. The WNA also works with the World Business Council for Sustainable Development, the SUN Business Network, and other networks, activating hundreds of other large employers. Political support for existing workforce nutrition programmes is high in Bangladesh,



Mozambique, India, and Kenya and growing in Tanzania, Nigeria, and Malawi; further member states will follow as the solution is scaled up. UNICEF, ILO, and other development partners have been involved in different aspects of this concept's technical development.

Contexts for which this is well suited: The solution may not be well-suited for conflict zones or other areas destabilised to the point of no regular employment infrastructure. However, one strength of this solution is that it can be implemented across geographies in high-income countries and LMICs in all work settings (government, civil society and industry). Wherever there is a “workplace”, this solution can bring healthy nutrition.

10. Promote women-led enterprises to grow and sell nutritious but neglected crops

The Solution: Enabling Innovators of Women-led Enterprises for Nutritious but Neglected Crops will support women currently facing poverty and inequality to create small enterprises, generating economic empowerment and agency in decision-making in producing, selling, and eating nutritious foods. It consists of: (a) leadership programmes for innovators at the community level, (b) small-scale women-led enterprises designed to work in local contexts, and (c) nature-friendly food production. At its heart is developing women-led food enterprises with an explicit nutrition-related purpose.

Source of the Solution: A member of the group, Maureen Muketha (founder of Tule Vyema, a community-based organisation providing nutrition education and training on growing underutilised, indigenous plant species to women in Kenya) initiated the idea. Based on her project's experience, Maureen developed the idea supported by a small subgroup of the AT1 working group for nutritious foods. Input was also provided by Alessandro Meschinelli of the Global Forum on Agricultural Research and Innovation.

Problem addressed within food systems: Food systems fail to deliver to the world's most nutritionally and financially vulnerable people. Low, variable, and unpredictable incomes limit the foods that women can afford and access. Many of these women have minimal access to social protection programmes. This leads to inadequate intake of nutritious foods, placing the women and their children at risk of diet-related NCDs, micronutrient deficiencies, and child stunting. Due to structural barriers and inequalities, women have inadequate agency in food systems. They often lack economic empowerment, the ability to generate and control earnings, and the information and resources needed to become more economically empowered.

How this solution will address that problem: Catalysing women-led enterprises will economically empower low-income women and increase decision-making power about what to grow, sell, and feed their families. Such enterprises can change social norms and mindsets, as women would gain agency in making decisions, acquire feelings of self-respect and self-efficacy, and have greater respect from their families and communities. They – and their families – would then, directly or indirectly, have the capacity and opportunity to eat more nutritious foods. Turning this theory into practice would take four interlinked inputs:

- **Enabling innovators.** The initial input is empowering innovators within communities to establish women-led enterprises through regional-level incubators, challenge funds, or hubs. Local innovators are crucial for ensuring enterprises can work in local contexts, considering gender relations and the nature of local markets.



- *Women-led enterprises.* Depending on local contexts, activities could include capacity building fora, distributing seeds, production, adding value along the value chain, distributing and/or selling. The innovators would establish enterprises to engage women in activities based on identified solutions in their local contexts with the community's full ownership and trust.
- *Nutritious, profitable crops.* These would vary by context, but neglected crops have promise. First First, some of them are highly nutritious. Second, while demand may be limited in the absence of efforts to develop wider markets, profitable local markets can often exist (owing to perceptions of health benefits). Third, these crops are typically not favoured by men, so women face lower barriers to entry, thereby overcoming embedded structural gender inequalities. Women tend to hold traditional knowledge about how to prepare the crops. Fourth, there is potential to add value to these crops through processing to create new business opportunities and income.
- *Raising awareness and access to markets.* Marketing campaigns designed to increase the appeal of the crops and connect supply with market demand, such as local school food programmes and social protection programmes (Solutions 3, 11, and 12).

Given the intention is that these enterprises would grow and succeed with women at the forefront, this would need to be accompanied by complementary game changers. For example, women's ability to travel to receive cash for their crops may be restricted by cultural prohibitions, or cash may be taken away from them by male household heads. Moreover, men often capture the benefits of agricultural development as it becomes more successful, necessitating action to support women's control over their income and their access to services. Supporting solutions include self-help groups for women's savings, mobile money apps (requiring efforts to increase women's access to mobile phones and associated services).

Solution's alignment to the 'game changing and systemic solution' criteria: is the solution is likely to be game-changing in that women-led enterprises based on neglected food crops may transfer agency to women so they are active protagonists in their own development and that of food systems rather than being passive recipients of external 'solutions' or doing the work without the decision-making. Placing women in the lead would allow them to unleash their ingenuity to find creative solutions to challenges. Giving women a voice can also change mindsets about gender roles in food systems, changing some of the underlying rules for a more equitable and nutritious food system.

Impact potential at scale: enabling the innovators creates the potential for hundreds of local initiatives, which can learn from each other via peer-to-peer learning.

Actionability: there are existing successful examples (see below).

Sustainability: local ownership would support sustainability.

Co-benefits to the primary goal include generating income and creating jobs and business opportunities, thus advancing equitable livelihoods; supporting sustainable consumption (low carbon footprint of the food), nature-friendly food production (minimal use of pesticides), and resilience to vulnerabilities, shocks and stresses (drought-resistant crops); and benefitting (low-income) women through economic empowerment, greater equality, and better nutrition.

Existing evidence: There are several successful examples of women's enterprises growing neglected species. Examples of different elements of the approach include the Pacific Breadfruit and Seed Initiative of the Pacific Island Farmers Organisation Network; India's first smart food reality show and Smart Food Campaign of ICRISAT (on finger millet and sorghum); Self Employed Women's Association (SEWA) India initiative on finger millet; Kuli Kuli, Inc., which works directly with women's cooperatives and small family



farmers; and Tule Vyema. Evidence indicates that while women's autonomy in agricultural production and control over income decisions may not necessarily improve women's diets in resource-poor settings, household dietary diversity and child nutrition often do improve.

Current/likely political support: The goal would be to build on existing efforts in countries in Asia, East Africa, and Latin America. A coalition around this idea has begun to be formed with AT3. The next phase of the work by AT1 is developing a plan to build on the global actions.

Contexts for which this is well suited: As this solution aims to empower women with limited livelihood options and living in poverty, as well as those already producing neglected crops, it is suited to these contexts.

11. Make social protection programmes more nutrition sensitive

The Solution: Making Social Protection Nutrition Sensitive will augment and adapt national cash transfer programmes to enable the millions of nutritionally vulnerable households who receive them to afford and access a healthier diet while also stimulating food systems to supply nutritious foods. It would be a positive complement to Solution 3 to have large-scale impacts on huge global population.

Source of the Solution: Julio Berdegue, a member of the working group, suggested the idea, which was readily supported by considerable on-going work by other members of the group, including members from WFP, FAO, UNICEF and a former Peruvian minister in charge of social protection. The solution was developed by Julio, Saskia DePee, Allison Oman, Ignacio Roblero, Carolina Trivelli, and Natalia Winder-Rossi.

Problem addressed within food systems: Low, variable, and unpredictable incomes limit the amount, diversity, and quality of foods that households can afford, physically access, and consume over time. This leads to inadequate intake of nutritious foods and inadequate diets. Nutritious, desirable foods are economically inaccessible by most vulnerable households, with the cost of a 'healthy' diet estimated at 3.75 international dollar purchasing power parity/capita/day and a nutrient-adequate diet costing 2.33. Financially empowering vulnerable groups through food enterprises is one strategy to address this (Solution 10), as is reducing costs in food supply chains (Solution 7). But looking to supply-side changes to reduce the cost of food has its limits. Indeed, the emphasis on providing affordable food for 'consumers' is one reason why food systems face such pressures: poverty among farmers; tiny margins for many food businesses; and environmental impacts of low-cost intensive production methods. Tackling the lack of access (physical and economic) to affordable diets for low-income households must involve reducing poverty, risk, and vulnerability.

Existing cash transfer programmes are one solution, but the transfer values are typically calculated based on an official poverty line, which does not capture the cost of a healthy diet. Evidence shows that existing transfers do not provide sufficient cash for sustainable access to and consumption of healthy diets. Ensuring that cash transfers address economic access to nutritious foods is one of the most prominent challenges in ensuring they meet people's essential needs. At the same time, it is essential to recognise the challenges posed by the ready availability of cheap but unhealthy foods in these contexts and the impact of these on the health of individuals, even in impoverished settings.

How this solution will address that problem: This solution will address the problem by providing a model for new cash transfer programmes that promote healthy diets through effective linkages with nutrition



and food systems. Based on solid evidence of impact at scale, existing programmes would be redesigned to be nutrition-sensitive “cash plus” to meet various inter-related essential needs. The outcome would be that low-income households could afford nutritious foods, creating demand for nutritious foods through their greater spending power. The impact would be that these nutritionally vulnerable households would eat more nutritious foods. Achieving this would require six interlinked inputs (with a need for context-specific design given considerable heterogeneity in terms of size, frequency, reliability, recipient starting point, and local purchasing options):

(i) *Building on existing cash transfer programmes.* Estimates of the number of cash transfer recipients range from 350 million to 1.1 billion (2020). They offer an opportunity to channel sizeable, regular, and predictable transfers (disposable real income) to eligible individuals, acting as effective social risk management tools, providing a sustained way to address socio-economic barriers to nutritious foods. On average, participants receive \$121/household/yr (\$0.33/hh/day) (deflated average), an increase of 20% of incomes. While this can be used for food and non-food purchases, according to SOFI, around 63% of income is used for food. Building on these existing programmes reduces the costs of establishing the transfers and leverages existing technical expertise and institutional capacities in the country and the initial budgets already available.

(ii) *Bridging the affordability gap.* Based on existing tools to calculate the size of the affordability gap in different contexts, the transfer's size would be increased to a level at which households could afford a healthy diet. In addition to the transfer's size, programmes should anticipate and mitigate disruptions to ensure cash is provided with the regularity and predictability needed to minimise negative coping mechanisms with implications for diet quality, health, and human capital development. More cash can also cover opportunity costs and practical needs like transportation costs to physically access markets so that people can get to the food they need.

(iii) *Facilitating access to nutritious foods.* Different modalities of cash transfers work differently in different contexts; there is no “right” transfer modality since they depend heavily on contextual factors. Compared with non-cash assistance (e.g., food distribution), cash assistance is significantly more cost-effective for poverty reduction. For healthy diet objectives, vouchers for selected food categories can be added to facilitate spending on nutritious foods as part of a cash-based scheme (and even food, depending on context). If well-designed, this has the added advantage of multiplier effects, providing guaranteed demand to stimulate supply-side investment, production and growth.

(iv) *Essential social services for nutritionally vulnerable groups* in support of healthy diets are needed to ensure efficacy. Nutritionally vulnerable population groups (e.g., pregnant women, breastfeeding women, children, adolescent girls, the chronically ill) would be provided with cash transfer top-ups together with complementary actions and services, such as supplementary food, home gardens, education, social behavioural change communication on healthy diets, and regular health check-ups for household members.

(v) Where relevant, *leverage digital innovations for delivery* in support of healthy diets. In recent years, cash transfers have seen many digital delivery innovations. Where present, they could reduce the cost of delivering transfers and/or vouchers, add transparency, improve market access for nutritious foods, and open an educational/informational channels on nutrition-related topics (this would not be possible in all circumstances due to digital connectivity or capability gaps).

(vi) *Strengthen public finance provisions.* Sustaining cash transfer programmes involves protecting current budget allocation as well as increasing it when need and enhancing the value of transfers will inevitably have implications on the financial resources required. Countries need support in securing public finance



provisions and sound fiscal measures to help them progressively ensure the sustainability, effectiveness and equity of programmes aiming to bridge the affordability gap, coupled with technical advisory services with an emphasis on public policy finance models that make investments in cash transfer programmes attainable and feasible to countries over time. Social protection is an investment in human capital.

This is not an isolated ‘silver bullet’ but part of an integrated approach, including scaling up social protection (Solution 3), other social protection measures (e.g., school food programmes, Solution 12), cross-sectorial initiatives (e.g., quality of essential services), and complementary measures to rebalance food environments towards healthier food (Solutions 8 and 14). To maximise impact, complementary gamechangers are needed, notably purposeful actions to ensure demand for nutritious foods is met by sufficient supply. If supply cannot respond efficiently, the prices of nutritious foods will increase, worsening the affordability gap. Addressing the price issue will require investigating the availability of healthy foods in different contexts and across seasons.

Solution’s alignment to the ‘game changing and systemic solution’ criteria: Making social protection nutrition-sensitive would dramatically change an existing solution to facilitate access to nutritious food for millions of households. Existing initiatives indicate that this is an actionable and impactful solution. Moreover, the COVID-19 pandemic has highlighted that governments are able to effectively and rapidly respond to crises via social protection systems. This is the moment to improve the design of interventions to improve nutrition. There are no apparent negative trade-offs but plenty of positive spill-over impacts. For example, cash transfers enhance the productivity of farmers, improving the availability of nutritious foods. Grants are invested in agricultural assets and diversification of ventures. They have been shown to support higher returns on agricultural expenditures and have multiplier effects in local rural economies. In addition, if targeted at women, they could give women control over income, with benefits for their families’ nutrition.

Existing evidence: Cash transfer programmes have already been shown to improve human capital development and nutritional outcomes in certain contexts with impacts on income, poverty, undernutrition, and dietary diversity. Evidence shows that recipients usually invest the money first in food, then in social services and production. In locations advanced in the ‘nutrition transition,’ cash transfers present a platform to reduce obesity risk among adults, granting access to more nutritious foods rather than reliance on cheaper, largely staple-based foods. There are several examples of cash transfer programmes designed to support nutrition, including in Bangladesh and Pakistan (e.g., ante-natal care check-ups, growth monitoring, nutrition education, food for women/children), Dominican Republic (e.g., growth monitoring, nutrition education, and the distribution of micronutrient powders), and (until recently) Mexico (adapted to take into account the nutrition transition).

Current/likely political support: Cash transfers are becoming a core strategy for poverty reduction across countries, with COVID-19 further increasing recognition that they are an essential instrument. A small group of supportive countries could likely be readily convened to take the idea forward.

Contexts for which this is well suited: It applies to countries where there are existing cash transfer schemes but should also be front and centre for countries building nascent social protection programmes and systems, including in fragile contexts.

12. Implement comprehensive school food programmes in every country



The Solution: This solution seeks to leverage the currently insufficiently tapped transformative power of “school food systems” by dramatically improving the impact of school food programmes in every country. This solution builds extensive existing knowledge, guidance, structures, and networks that foster contextually relevant and sustainable networks of exchange and technical advice in support of national legal frameworks on financing and governance and local ownership and innovation. In so doing it will benefit the diets, development, and longer-term food literacy of millions of children and bring co-benefits across the food system for livelihoods and environmental sustainability.

Source of the Solution: During a working group meeting, the importance of focusing on schools emerged. When Irish Baguilat joined the group, she volunteered to take the idea forward, given her depth of experience working with school food programmes. Irish consulted extensively, including WFP, FAO, Chile, and experts outside of the working group to develop the solution.

Problem addressed within food systems: Low, variable, and unpredictable incomes and lack of capacity and assets limit the foods that households can afford and prepare. Providing meals at school means children in these households have access to healthy food and are more likely to attend school. Providing education and skills on nutrition is vital to equip children with knowledge, to enhance the appeal of nutritious foods, and to reduce their aspiration and access to unhealthy foods. Schools (and childcare centres) are leverage points for food systems transformation. Already, most countries have programmes providing food, undertaking a vast amount of food procurement and reaching millions of children with food that is often unaffordable or inaccessible at home. Schools are a site where children can be educated about the food system, becoming food literate through nutrition education, food skills, and school gardens. Taking a comprehensive approach to school food programmes can reap multiple benefits for the food system, enhancing food security and nutrition, school attendance, nutrition education, gender equality, livelihoods of producers, and environmental sustainability.

Yet its enormous potential is inadequately recognised. Many countries with school food programmes have no cohesive framework defining the source of funding or budget allocation. The programmes do not explicitly outline roles, responsibilities, and coordination. The food supplied may be of poor quality with no nutritional guidelines. The opportunity to provide guaranteed markets for producers and/or enhance environmental sustainability is underutilised. Often, school-based interventions and food literacy and nutrition education are fragmented and ineffective. Thus, the maximum benefits for child nutrition are not being reaped. However, there are plenty of examples of good practice that could be exchanged across countries.

How this solution will address that problem: This solution will address the problem by ensuring children are benefitting from comprehensive school programmes sustained over time while creating co-benefits across food systems. School food programmes have existed for decades; the gamechanger here is to find a way to build on existing structures to unlock the bottleneck to their implementation, effectiveness, and sustainability as an agent of food system change. The intended impact is that school-aged children eat more nutritious diets and encourage their families to do so, forming healthy habits for life. This would emerge if healthy school meals/food were provided in a healthy school environment accompanied by innovative nutrition education and food literacy. The elements needed to make these programmes work for nutrition would be: (a) provision of tasty, nutritious, affordable and sustainable food that appeals to children, with nutrition guidelines; (b) a strong food literacy curriculum (e.g., nutrition education, taste education, food skills, school gardens, agriculture-based education); (c) complementary school-based interventions (e.g., WASH, health); (d) procurement mechanisms to guarantee markets for preferred providers, such farmer groups (e.g., brokers, cooperatives); and (e) participatory monitoring, capitalising on digital technologies. The theory is that these elements could be delivered effectively if school food



programmes benefitted from (a) a stable budget; (b) local capacity to adapt the programme to local contexts; and (c) regional networks fostering exchange of lessons learned and technical advice. Benefits would also accrue for producers and, where relevant, environmental sustainability.

This proposal draws on extensive experience of school food programmes at international (e.g., FAO, WFP, C40), regional, and national levels. That experience makes it clear that school food programmes vary enormously between and within countries (e.g., in some countries they are run nationally and in others locally) and there is no one size fits all. However, three inputs, all taken forward together, would be game changing in unlocking the bottlenecks to change:

- 1) A national legal framework on budget, roles, and responsibilities. Legislation is needed to sustain budgets through political cycles and clarify who pays and how money is spent. Clarity is needed on who (e.g., donors, education departments, city governments) has responsibility for the different elements.
- 2) Localisation to ensure the programme delivers multiple benefits in context. To benefit from local knowledge and encourage ownership, action research should be used to develop local prototypes to deliver the elements effectively with a critical mass of schools and multiple actors, which can then be scaled through learning circles and teacher-to-teacher extension. Mechanisms would be needed for multi-level coordination.
- 3) Regional networks of champions to foster exchange and support with stakeholders from local schools, city-level networks, and national programmes along with political figures and institutions identified as 'champions,' supported by regional bodies, to foster exchange of lessons learned and provide technical assistance.

Solution's alignment to the 'game changing and systemic solution' criteria: This solution is game changing in that it builds on existing models but departs from existing practices by being comprehensive, addressing a long-term constraint through sustained financing, and being more effective through local-level adaptation.

Impact potential at scale: It would cover millions of schools everywhere.

Actionability: The fact that making this happen has proven difficult suggests the need for a more concerted, coordinated approach, but there are already scores of existing initiatives that would support it. The frameworks, tools, knowledge, and networks needed are largely already there.

Sustainability: The solution will call for a legally embedded financing model.

Co-benefits - While costly, there are no apparent negative trade-offs but potential positive spill-over impacts, such as enhancing livelihoods of producers serving the schools; providing opportunities to procure nature-friendly food; and providing income for women who work in school food while reducing the burden on women who lead food preparation at home.

Existing evidence: The benefits of school food programmes are well documented (education and gender equality, health, and nutrition; social protection; local economies and agriculture). Guidance and evidence of best practice exists on sourcing foods for school meals locally, which broaden their benefits to the local economy by providing structured demand, stable markets, and income opportunities. Brazil's model of linking school feeding and farmers and scaling out to neighbouring countries demonstrates that the approach can work logistically. Local experience suggests that local ownership is necessary for an effective model.



Current/likely political support: School food programmes exist in many countries. There are many different networks at regional, national and city levels and major international agencies have programmes on school food. These institutions and networks have offered their support of this solution, including FAO, WFP, ICLEI, and C40 (the latter focusing on local government/city-level support, given municipal governments often have delegated authority for schools). A new World Coalition on School Nutrition has just been formed, led by Germany. Chile and China have expressed an interest in championing a comprehensive, sustained approach as part of the FSS. The Summit offers an opportunity to consolidate this significant existing support and work to take it to the next level.

Contexts for which this is well suited: One of the benefits of the approach is that schools exist everywhere across low-, middle-, and high-income countries.

13. Create a global virtual nutritious food innovation hub for SMEs

The Solution: The Global Virtual Nutrition Innovation Hub for SMEs is a virtual, global hub that will dramatically accelerate and transform how SMEs pilot, launch, and scale convenient, easy-to-prepare nutritious foods.

Source of the Solution: The solution was generated by Ndidi Nwuneli, member of the working group and a social entrepreneur based in Nigeria, co-founder of AACE Foods and Sahel Consulting Agriculture & Nutrition and founder of Nourishing Africa and LEAP Africa. Through her 25 years of international development experience, and extensive consultations with SMEs across Africa, Ndidi noted that the new product development process was inefficient, ineffective, and expensive, linked explicitly to the difficulties and high costs associated with obtaining technical support, knowledge, and data. Sight & Life and Partners in Food Solutions confirmed that the proposed services reflect real SME needs, based on their extensive experiences in Africa, Latin America, and Asia.

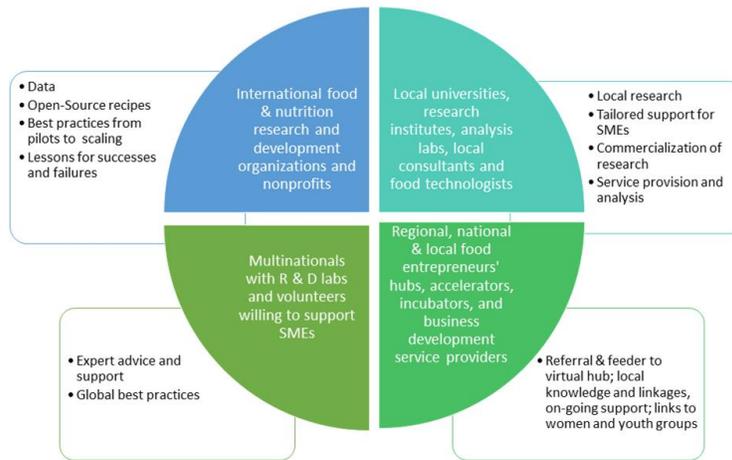
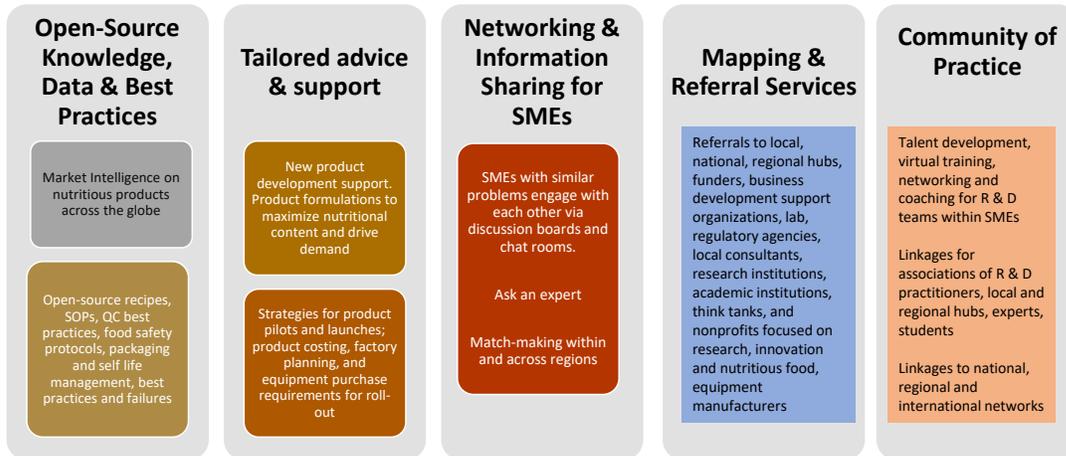
Problem addressed within food systems: The reason why people do not eat more nutritious foods is not just that they are not affordable – some are. It is that they are not affordable and convenient (and tasty). The solution will tackle this problem by working with SMEs. SMEs are the lifeblood of the food and agriculture landscape globally, especially in emerging markets. Yet most of these SMEs in emerging economies face a competitive disadvantage: they cannot easily access or afford R&D support and new product development expertise because these services are expensive and the operators, researchers, and consultants that offer them operate in silos in fragmented ecosystems with limited knowledge-sharing across communities, countries, and regions. This leads millions of SMEs to work to compete according to the current rules of the game (i.e., for unhealthy foods), diverting them from where they could have competitive advantage: the nutritious foods marketplace.

At the same time, there is a lack of convenient, easy-to-prepare, and ready-to-eat nutritious foods, which are unavailable and unaffordable in most emerging economies. Unprocessed nutritious foods available may be affordable (e.g., legumes), but their lack of convenience (in the context of heavy preparation time burdens among lower-income consumers, especially women) and perception of low quality, palatability, or status make them unappealing, largely linked to shelf life, packaging, and branding concerns, especially when competing with highly palatable and affordable foods of low nutritional value (see Solutions 8 and 14). As a result, vulnerable households rely on convenient but less nutritious foods, contributing to unhealthy diets.

How this solution will address that problem: This new global, virtual hub will offer a range of inputs, providing SMEs with the R&D and technical support required to develop, pilot, launch, and scale new



nutritious foods that are affordable, accessible, and acceptable to populations at scale, which will shorten the time and cost of new product introductions, accelerate the emergence of new nutritious products, and translate into healthier diets for the millions of people. By virtually connecting SMEs to resources, tools, and support and linking physical hubs and labs to resources and tools that they need, it will shift the information and knowledge asymmetry in the food research and development ecosystem, increase efficiency, and reduce service delivery costs. The virtual hub will have special service windows for women and youth and will provide more tailored services to meet their unique needs and bridge the gender gap. The hub will be made up of the following spectrum of services and partners:



The output would be that entrepreneurs have increased knowledge, skills, and capacity to develop, launch, and scale nutritious food.³¹ The outcome would be more convenient, affordable, and nutritious foods available in the market. The impact would be foods with few nutritional benefits being replaced with highly nutritious alternatives.

Solution’s alignment to the ‘game changing and systemic solution’ criteria: The hub would play a key role in creating a more nutritious playing field for businesses in the food system, contributing to a more diverse, thriving food economy that places nutritious foods in the spotlight. It will do so by shifting operational models and underlying rules, incentives, and structures that shape food systems for SMEs,

³¹ Progress towards achieving this output would be tracked by number of partners, downloads, SME clicks and visitors, annual number of new product ideas developed, piloted launched and implemented by SMEs; volumes of products sold; number of referrals to technical, funding and business development services resources engaged via the Hub; attendance/participation in community of practice events and feedback received; results of survey of physical hubs and labs whose staff and members engage on the hub.



creating a more level playing field for them to compete and collaborate with businesses focused on “unhealthy foods.” In a novel innovation, the hub will use digital technology to bring a global community of experts and service providers within reach of SMEs. It will create relationships between international organisations, global companies, and food-producing SMEs in emerging economies. The hubs will leverage donor funding to partially subsidise some of the tailored service provision, with support from private-sector companies and corporate volunteers. As a result, SMEs that previously could not afford expert advice will now have access to the know-how they had lacked. By partnering with local academia and service providers, the capacity of local market actors and ecosystems will be improved. The hub will also map local, national, and regional labs, resources, and make matches. Large corporations will leverage their underutilised labs to support SMEs in their regions.

Impact potential at scale: By providing global services it has impact potential at scale (including return on investment), and its collaborative structure and funding could help ensure sustainability to 2030 and beyond.

Sustainability: The start-up phase will require funding from development partners to build out the hub, engage a wide network of supporters, and generate local, regional, and global awareness and interest. Over time, the hub will generate income via three primary levers: 1) advertising for local and regional labs, hubs, consultants, and equipment manufacturers listed on the hub; 2) Sponsorships for quarterly virtual networking events and conferences; and 3) earned income via tailored advisory services for SME clients.

Co-benefits - It can help yield strong spill-overs for livelihoods in SMEs, including support for women and youth entrepreneurs.

Existing evidence: Acting individually, SMEs struggle to achieve scale and to solve problems beyond their most immediate and pressing concerns. Platforms that convene and provide access to business support solutions can help, as demonstrated in a review of the SUN Business Network. Partners in Food Solutions have, over their 12-year history, demonstrated the potential for remote support provided by corporate volunteers to African food companies.

Current/likely political support: We expect that the Hub will attract the support of local, national, regional, and global governments, universities, private companies, funders, hubs, think-tanks, research institutions, funding, and non-profit organisations. The World Economic Forum (WEF) has launched a Food Innovations Hub, initially with a country focus and ultimately with a global focus. The Dutch government has endorsed the WEF hubs and will host the hubs’ secretariat.

Contexts for which this is well suited: This solution is well-suited to contexts where SMEs have reliable internet access in emerging economies across the globe, where locally available technical assistance is not available or is prohibitively expensive. The hub will be available globally but will be most suitable for SMEs who have English, French, and Spanish-speaking staff. In the future, the hub could make its advice and materials available in additional languages. The hub will make a deliberate effort to engage partners who specifically serve youth and woman entrepreneurs.



14. Foster a global conversation around coherence for food environment policies for healthier children

The Solution: The solution is a global conversation about how international financial institutions, UN agencies, intergovernmental institutions (e.g., OECD), academia, civil society, and donors can work together effectively towards making healthy food environment policies the norm in all countries.

An extensive consultation was conducted to identify a “game changer” on healthy food environment policies. This revealed high engagement and shared belief among a range of stakeholders that international entities are vital in advancing effective healthy food environment policies but that there is a hole in coherent working at the international level. Also emerging was a shared belief that the time is *now* to accelerate the implementation of taxes, labelling, and marketing policies to create a playing field for competition among food businesses that incentivises the production and sale of healthier foods and places competitive pressure on SMEs to innovate by lowering the cost of unhealthy foods. Vital roles for the international institutions in this process identified were:

Providing clarity and technical support on nutrient profiling. Meeting national demand for clarity on nutrient profiling on ‘healthy’ and ‘unhealthy’ foods for the purpose of policy implementation at the national and subnational level (e.g., which foods should be taxed).

Building capacity on the process of designing, implementing, and evaluating policies at country and/or sub-national levels focusing on three specific policies: taxes, labelling, and marketing restrictions.

Helping countries anticipate and overcome potential policy barriers, including providing guidelines to ensure good practice in policymaking unencumbered by vested interests (e.g., from industry).

Changing the narrative. Reflect upon ways to effectively change the narrative on healthy food environment policies (e.g., integrating child rights in advocacy; adding a gender lens; clarifying that they are ‘double duty’ policies also benefitting intake of nutritious foods).

Most international institutions are already acting in some way on healthy food environment policies (e.g., OECD advocates a clear policy package to its member countries; the World Bank develops sugary drinks tax packages for countries; WHO works on nutrient profiling models; UNICEF is developing an advocacy role; FAO works on labelling; UNDP works on sugary drinks taxes). They also represent existing structures well used by countries to drive policy. For example, UNDP works with integrated national financing frameworks (a major entry point to SDG financing and domestic fiscal space) as well as international financial institutions and bilateral donor behaviour; it is now bringing food taxes into that structure. Guidance on managing commercial determinants of health and development and the role of large businesses are part of the work of UNDP and UNWomen in the context of the SDGs. The OECD is advancing guidance on engagement with multinational enterprises. The IMF and the World Bank conduct regular policy reviews in countries, which provide economic and technical advice to the Ministry of Finance (e.g., advice on taxes and regulations affecting businesses). The WHO provide health-related guidelines and advice on “healthy” foods.

There are tremendous opportunities to build on these structures to position healthy food environment policies as essential safeguards all countries to ensure a healthy food system. Yet ways to scale and take advantage of these existing systems are absent. There is nothing that obliges them to jointly provide coherent technical support to countries in this specific area. There has been no targeted funding or timebound partnership model to make them work in practice. Nor is there a process of ensuring the agencies articulate their contribution and are accountable to do it. Thus, the opportunity to build these efforts into a force for change at the country level is under-leveraged. There is no immediate answer to this: the consultation revealed the common view that change is vital, but diverse opinions about how to



do it. For example, concerns about UN agencies' ability to formally work together and the need to engage existing networks of civil society and academia. Thus, the *actionable* gamechanger is the conversation – the dialogue – that could define the way forward, which the FSS presents the opportunity to do.

Source of the Solution: The need for mechanisms to make markets work better for healthier foods was raised early in the working group discussions. Lorena Allemandi explored the idea, working with member Sirpa Sarlio and extensively consulting with others, including academics, regional coalitions, and research funders. This indicated that the 'game changer' was not so much a single policy, but processes designed more effectively to ensure effective implementation.

Problem addressed within food systems: The current food system makes 'ultra-processed' foods, many high in sugars, fats and salt, readily accessible, affordable, appealing and aspirational, creating an environment that displaces more nutritious foods. This represents a huge inefficiency: efforts being undertaken to increase affordability and access of nutritious foods are being undermined by the more powerful palatability of cheap unhealthy foods. This threatens the well-being of children and adolescents and undermines obligations to protect and fulfil children's rights.³² Frequent consumption of these foods increase the spread of NCDs with greater impact (80% of mortality) in LMICs; NCDs account for 72% of deaths and 75% of healthcare dollars globally. While it will never be possible to make these foods undesirable, shifting nutritious foods into the spotlight will increase their perceived affordability and appeal. Promoting healthy diets implies actions to make healthier foods more available, especially to children and adolescents, but also regulating food and beverage businesses.

The economics of food systems mean food businesses (large and small) compete on less healthy products, with larger food companies leveraging 'classic' brands while innovating new products, and smaller brands mimicking them to make unhealthy snacks and drinks even more widely available at lower prices. There are many lock-ins to changing this economy towards a more diverse, thriving food economy that places nutritious foods in the spotlight. Not least, the tempting, palatable nature of these foods and the way they are sold and marketed habituate young people to these foods, thus generating demand and stimulating further competition between businesses for their loyalty. The playing field is uneven: limited access to and low aspiration for nutritious foods, even when affordable, versus high access, affordability, and aspiration for 'unhealthy' foods. Breaking this negative cycle will require a space that incentivises competition for healthier foods, including those produced by SMEs (Solution 13) through a fair, healthy playing field for competition. Government policies, implementable at a national and municipal level, can help level that playing field through labelling, levies, and marketing restrictions. All of these policies influence food company practices, shifting them towards contributing to healthier food environments and protecting children's rights. Indeed, they can help the food businesses who are willing to lead change.

Yet these healthy food policies face numerous barriers to effective design and implementation at national and municipal levels, including outright opposition and debates about what is defined as 'unhealthy.' Moreover, as explained above, there is a missed opportunity to build on international efforts to drive these policies forward to ensure that countries have what they need when designing and implementing healthy food policies and are encouraged to do so as part of sound policy-making.

How this solution will address that problem: The solution addresses this problem in an actionable way by starting by hosting a Global Conversation around Coherence for Food Environment Policies for Healthier Children. The conversation could be convened by trailblazing international entities in this space (e.g., PAHO, UNDP, World Bank, UNICEF, OECD) or a donor and focus on how these actors could bring together their actions to more effectively support national-level implementation (involving countries in that conversation to ascertain need). This will *enable the delivery* of effective policy in countries, making

³² <https://www.unicef.nl/files/Advocacy-brief-healthy-food-enviro-final.pdf>



it easier for bilateral agencies and funders to come together in support of these policies, sending a strong signal that these policies should be the norm. The output would be widespread adoption of these policies, effectively designed and enforced. The outcome would be people living in healthier food environments, better informed and less distracted by the affordability and appeal of foods that compete with nutritious foods, and governments both more supported and accountable for designing and implementing effective healthy food policy. The **impact** would be that people consume healthier diets and food businesses large and small are competing on healthier foods.

Solution's alignment to the 'game changing and systemic solution' criteria: This is game-changing because this conversation (which has been waiting to happen but has not yet happened) would change the rules of the game about how the international system works together in this space. This would then change the operational rules within which food businesses conduct business, internationally and nationally.

Impact potential at scale: The purpose of the conversation is to be able to optimise existing structures that operate at scale.

Actionability: This is a conversation that UN agencies and others want to have, now, as part of the Summit process. Moreover, ignoring these policies would risk undermining the benefits of other solutions designed to advance nutritious foods.

Existing evidence: While food is very different to tobacco and should not be viewed as the same, the experience of effective tobacco control is that it was only when there was strong global support for taxation and other legislative approaches, and clarity about managing vested interests, that change really happened. For climate, until the Paris Agreement, there was no consistent approach to reducing use of fossil fuels. The need for this consistency is evident if healthy food policies are to become the normal operating space for successful food businesses. There is also growing evidence behind these policies, including that taxes have modest but positive impacts on purchasing as well as stimulating reformulation,³³ that advertising influences children's food preferences and intake,³⁴ and that when marketing is regulated there are reductions in exposure to unhealthy food advertising^{35,36}. Also, when well-designed, labelling stimulates awareness and knowledge about the content of packaged foods, reduces sales of unhealthy products, and positively influences choosing healthier food options³⁷.

Current/likely political support: The next phase of work by the working group is to identify who could lead this conversation, building on widespread consultation. It will also identify interest among member states who have introduced some of these policies and mobilise civil society for public support at the country level.

Contexts for which this is well suited: These policies are needed in every country.

³³ Popkin BM, Ng SW. Sugar-sweetened beverage taxes: Lessons to date and the future of taxation. *Plos Medicine*. 2021 Jan 7;18(1):e1003412.

³⁴ e.g., Boyland et al, 2016. Advertising as a cue to consume: a systematic review and meta-analysis of the effects of acute exposure to unhealthy food and nonalcoholic beverage advertising on intake in children and adults. *AJCN* 103(2), pp.519-533.

³⁵ Reyes M, et al. (2020). Changes in the amount of nutrient of packaged foods and beverages after the initial implementation of the Chilean Law of Food Labelling and Advertising: A nonexperimental prospective study. *PLoS medicine*, 17(7), e1003220

³⁶ Mediano Stoltze F, et al. Prevalence of Child-Directed Marketing on Breakfast Cereal Packages before and after Chile's Food Marketing Law: A Pre-and Post-Quantitative Content Analysis. *International journal of environmental research and public health*. 2019; 16: 4501.

³⁷ Croker, H., et al. (2020). Front of pack nutritional labelling schemes: a systematic review and meta-analysis of recent evidence relating to objectively measured consumption and purchasing. *Journal of human nutrition and dietetics*, 33(4), 518-537.



1. **Bring new evidence for effective action.** New evidence permits more accurate identification of those who can benefit from anaemia interventions^{42,43,44,45} and provides critical tools to adapt the package of interventions needed, in a given context, to accelerate change.⁴⁶ Through convening discussions and debates on the causes, responses, and measurement of anaemia, the Alliance will develop evidence-based programme and policy recommendations for countries and donors and generate joint research agendas to address remaining biological and programmatic issues that constrain progress. Leading this translation through the multi-sector Alliance can break down silos to ensure that anaemia prevention and control strategies are based on up-to-date evidence and foster coordinated cross-sector action. Highlighting such evidence and proof of success will drive further commitment and inform approaches beyond the FSS and N4G.
2. **Foster commitments, investment, and action.** Through advocacy and aligned with FSS and N4G, the Alliance will mobilise sector-specific commitments and direct actions to deliver proven interventions. For food systems,⁴⁷ this includes staple food fortification (rice and double/multiple fortified salt), and actions to improve availability and affordability of nutrient-rich foods such as animal source foods and legumes, with particular emphasis on support for women entrepreneurs.

Solution's alignment to the 'game changing and systemic solution' criteria: New evidence illustrates the need for a radical change in approach that cannot be achieved without collaboration across sectors. The Alliance will advance coordinated action across sectors with implications for FSS and N4G, and the breaking down of silos to advance evidence and action through joint research, policy, and programmes. This approach will unlock *impact at scale* that has been constrained by insufficient attention to the multi-sector nature of anaemia. At the same time, it will ensure *actionability* and *sustainability* by fostering commitments for the scale up of proven approaches within each sector. In this manner, the Alliance combines a novel approach to engagement and cooperation, while building evidence, momentum, and resources for actionable efforts needed in countries.

Existing evidence: Alliances have been an effective way to galvanise interest and mobilise resources to solve big problems that cut across sectors. The most prominent example is the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund), which has advanced evidence, policy and programmes, mobilised significant funding, and demonstrably improved the lives of millions.⁴⁸ The Global Alliance for Vaccines and Immunization (GAVI) has helped vaccinate more than 800 million children.⁴⁹ Like these examples, the central premise of the Strong Blood Alliance is to bring key stakeholders together around a common mission that will advance the resolution of research issues, advance programmes, and mobilise resources at a scale and speed that could not be achieved by a single sector working alone. Robust evidence also exists for food systems-specific actions related to anaemia reduction.^{Error! Bookmark not defined.} Systematic reviews have demonstrated reductions in anaemia from improved micronutrient intakes,

⁴² Neufeld LM, Larson LM, Kurpad A, Mburu S, Martorell R, Brown KH. Hemoglobin concentration and anemia diagnosis in venous and capillary blood: biological basis and policy implications. *Annals of the New York Academy of Sciences*. 2019;1450:172–89.

⁴³ Rappaport AI, et al. Variability in haemoglobin concentration by measurement tool and blood source: an analysis from seven countries. *Journal of Clinical Pathology* [Internet]. BMJ Publishing Group; 2020

⁴⁴ <https://www.who.int/nutrition/events/2019-meeting-guideline-development-group-6to8Nov/en/>

⁴⁵ <https://www.advancingnutrition.org/what-we-do/monitoring-evaluation-and-learning/anemia-task-force>

⁴⁶ Wirth, J. P. et al. (2017). Predictors of anemia in women of reproductive age: Biomarkers Reflecting Inflammation and Nutritional Determinants of Anemia (BRINDA) project. *The American Journal of Clinical Nutrition*, 106(suppl_1), 416S-427S.

⁴⁷ The Alliance will also seek sector-specific action based on proven interventions in other sectors, for example through N4G: malaria and infection control, antenatal care and maternal micronutrient supplementation, etc.

⁴⁸ Friebel, Rocco, et al. "On results reporting and evidentiary standards: spotlight on the Global Fund." *The Lancet* 393.10184 (2019).

⁴⁹ Brugha, R., Starling, M., & Walt, G. (2002). GAVI, the first steps: lessons for the Global Fund. *The Lancet*, 359(9304), 435-438.



including through fortification.⁵⁰ Fortification has a very good benefit-cost ratio (8:1 for iron in wheat or maize flour) for averted disease, improved earnings, and enhanced work productivity.^{51,52} Today, rice represents over 20% of daily energy and protein intake for 3.5 billion people but is a poor source of micronutrients, and <1% of rice is currently fortified. This highlights enormous potential for scale. Similarly, leveraging the unmitigated success of salt iodisation and the ubiquity of salt⁵³ presents enormous potential for impact at scale of double-fortified (DFS – iron and iodine) or multiple-fortified salt.⁵⁴ Several countries have adopted DFS as part of social safety net programmes, for example reaching 60 million people in India. Beyond fortification, working with SMEs in the nutritious food (e.g., animal-source foods, fruit/vegetables, pulses) sector and ensuring they have access to technical and financial opportunities to grow and optimise processes across the food value chain can substantially increase availability and affordability of nutrient-dense foods.⁵⁵ In this regard, women entrepreneurs are of particular focus. There are systemic barriers to access and participation at all stages of the food system for women entrepreneurs.⁵⁶ Placing women’s empowerment at the centre of the Alliance can help shift this balance.

Current/likely political support: The inclusion of anaemia as an SDG2 indicator has created unprecedented interest and commitment. New evidence has already sparked actions from WHO to update diagnostics⁵⁷, from others to strengthen data quality and availability,⁵⁸ and new public-private partnerships to accelerate scale-up of specific interventions (such as the Healthy Mothers Healthy Babies Initiative).⁵⁹ Several country governments have already made concrete commitments to advance the agenda of several of the actions described, for example rice fortification in India and the Philippines. The Alliance, grounded in women’s empowerment, can bring in a diverse range of existing and new stakeholders, including the Bill and Melinda Gates Foundation, Children's Investment Fund Foundation, Women Deliver, Micronutrient Forum, USAID, UNITLife, BASF, DSM, and academics across sexual and reproductive health, haematology, nutrition, malaria, and infectious disease. The Scaling Up Nutrition (SUN) Business Network can be leveraged to engage with SMEs supplying nutrient-rich foods in LMICs.

Contexts for which this is well suited: The alliance would be global, with a focus on countries with the highest burden of anaemia

⁵⁰ Keats, E. C., Neufeld, L. M., Garrett, G. S., Mbuya, M. N., & Bhutta, Z. A. (2019). Improved micronutrient status and health outcomes in low-and middle-income countries following large-scale fortification: Evidence from a systematic review and meta-analysis. *The American journal of clinical nutrition*, 109(6), 1696-1708.

⁵¹ <https://ww2.gatesfoundation.org/Ideas/Articles/food-fortification-to-fortify-the-future>

⁵² Nordhagen S. Supporting gender equity through food system businesses in lower-income countries. GAIN Working Paper #11. Geneva, Switzerland, 2020. DIO: <https://doi.org/10.36072/wp.11>

⁵³ The World Health Organization has reviewed and concluded that the fortification of salt is compatible with parallel sodium reduction efforts: https://apps.who.int/iris/bitstream/handle/10665/101509/9789241506694_eng.pdf?ua=1

⁵⁴ Mkambula, P., Mbuya, M. N., Rowe, L. A., Sablah, M., Friesen, V. M., Chadha, M., ... & Gorstein, J. (2020). The unfinished agenda for food fortification in low-and middle-income countries: quantifying progress, gaps and potential opportunities. *Nutrients*, 12(2), 354.

⁵⁵ Morris S, and Haddad L. Selling to the world’s poorest. The potential role of markets in increasing access to nutritious foods. Global Alliance for Improved Nutrition (GAIN). Working Paper Series #14. Geneva, Switzerland, 2020. <https://doi.org/10.36072/wp.14>.

⁵⁶ Nordhagen S, Condes S. Supporting gender-equitable food systems through access to finance for small and medium-sized companies. Global Alliance for Improved Nutrition (GAIN). Working Paper Series #13. Geneva, Switzerland, 2020. <https://doi.org/10.36072/wp.13>.

⁵⁷ <https://www.who.int/nutrition/events/2019-meeting-guideline-development-group-6to8Nov/en/>

⁵⁸ <https://www.advancingnutrition.org/what-we-do/monitoring-evaluation-and-learning/anemia-task-force>

⁵⁹ <https://micronutrientforum.org/goalkeepers/accelerator-updates/>



16. Scale up biofortified crops

The Solution: Biofortified crops, naturally bred⁶⁰ staple crops that have higher vitamin and mineral content than standard staples, are good for humans and good for the planet. Biofortified crops are a subsistence commodity with potential to nourish the world. This three-pronged solution to kick-start a sustainable market for biofortified crops. The solution will connect a stable supply of quality-assured biofortified staple crops from farmers to aggregators, who will in turn meet the demand of institutions that provide biofortified foods to low-income consumers. The three aspects of this approach are:

- a) **Verified Sourcing Areas⁶¹ (VSAs)** for biofortified crops. Within each VSA, farmers collectively agree to adhere to a set of production practices. When compliance of the entire group is verified, all farmers from the area can sell their produce as VSA-verified. Within VSAs for biofortification, farmers will agree to produce biofortified varieties. The process of verification and certification of farmers collectively, rather than individually, aids simplicity.
- b) **Volume guarantee scheme.** Grain dealers will be assured of guaranteed offtake of large volumes of biofortified grain. Dealers will in turn establish purchase contracts with farmers. Farmers, knowing that they will be able to sell what they produce, will invest in biofortified seeds. Once the seed and grain are produced, these will enter local supply chains and can be taken up by customers. After farmers profit from biofortified crops, they will continue to invest in planting biofortified varieties.
- c) **Publicly available standards.** The micronutrient content in biofortified varieties can vary due to genetic changes or product mixing. Publicly available standards will establish an acceptable range of micronutrient content required for biofortified crops and food products. Standards will initially apply within VSAs and eventually, through government policies, to the mainstream market.

Source of the Solution: This solution emerged from programmatic learnings between GAIN, HarvestPlus, and other partners.

Problem addressed within food systems: Too many people, especially among the poor, consume diets that are overly reliant on staple foods. Such diets are low in micronutrients. Biofortified crops can improve the supply of micronutrients within a food system. By switching from normal to biofortified varieties, micronutrient intake of poor consumers can be increased, without major behavioural changes or additional expenditure on food. Biofortified crops thus have an unrealised potential to improve nutrition outcomes for lower-income consumers.

For this potential to be realised, each actor must profit from their participation in the value chain for biofortified crops and foods. Therefore, we will address a series of constraints:

- Limited uptake of biofortified crops by farmers who are unsure of their market potential.
- A lack of guaranteed off-taker demand for biofortified grain, which limits farmers' desire to produce biofortified crops.
- Insufficient demand for biofortified varieties of seed, which stems from farmers' uncertainty.
- The fact that the term 'biofortified' does not have a universally accepted meaning or range of acceptable micronutrient content.

How this solution will address that problem: The Volume Guarantee Scheme will assure crop merchants that they can sell the biofortified products that they aggregate. The scheme will offer forward contracts, subsidised by donor funding, to aggregators. The aggregators who accept forward contracts will source

⁶⁰ Biofortified crops are not genetically modified organisms.

⁶¹ <https://www.idhsustainabletrade.com/publication/what-are-verified-sourcing-areas-vsas/>



biofortified crops from VSAs. Farmers within the areas will apply for certification that their crops are biofortified, or that farmers are collectively making acceptable progress toward increased cultivation of biofortified varieties. Once an acceptable amount of an area's crops is biofortified, the crop from that area will be considered—and certified as—biofortified.

Simultaneously, we will develop Publicly Available Standards for biofortified crops. These international standards will allow producers of biofortified crops and foods to operate with a universal understanding of the level of micronutrient content that is required for the crop or food to be considered biofortified.

As a result of these interventions, farmers will produce more biofortified foods. The quality and purity of biofortified crops and foods throughout the supply chain will be ensured. This intervention will increase production and marketing of biofortified crops. Producers and consumers will know which products are biofortified. As more biofortified products are consumed, diets will improve, resulting in improved micronutrient intake among poor consumers. We assume that all phases of the supply chain will be profitable for value chain actors and that our interventions will not distort local markets for inputs or food.

Solution's alignment to the 'game changing and systemic solution' criteria: Market forces will be harnessed and leveraged ensure the sustainability and success of this intervention. Once the proof of concept of this three-pronged approach is demonstrated, the intervention can be scaled up to new crops and other geographies. To ensure the intervention is actionable in the initial stages, we propose to pilot this eventually global intervention in India, where institutional demand for biofortified crops already exists. India's Public Distribution Scheme has already committed to purchasing biofortified products. As the market ecosystem for biofortified crops develops, continued demand for foods will drive more supply, ensuring sustainability.

Existing evidence: The efficacy of biofortified staple crops in reducing micronutrient deficiencies has been demonstrated for iron biofortified beans⁶² and pearl millet⁶³, as well as for vitamin A biofortified cassava⁶⁴, maize⁶⁵ and sweet potato⁶⁶. Studies have demonstrated impacts of the consumption of these crops on functional, cognitive, and health outcomes and work efficiency. Our solution can cost-effectively⁶⁷ prevent micronutrient malnutrition. Today, varieties of 11 staple crops have been formally released for production in over 40 LMICs and there are biofortification programmes in 41 countries across Africa, Asia and Latin America. The effectiveness of volume guarantees, in the form of advance purchase commitments, has also been documented⁶⁸. Combining volume guarantees with VSAs will connect a guaranteed market with a reliable supply of biofortified products.

The success of volume guarantees in scaling up availability and uptake and reducing prices of global health commodities such as contraceptives and anti-retroviral drugs for HIV/AIDS has been well documented.⁶⁹ We will replicate this success to biofortified crops by working with philanthropies, impact financiers, and donors to provide guarantees for farmers to produce biofortified crops.

⁶² Haas, J. D. et al. 2016. Consuming Iron Biofortified Beans Increases Iron Status in Rwandan Women after 128 Days in a Randomized Controlled Feeding Trial. *J Nutr* 146:1586–92.

⁶³ Finkelstein, J. L. et al. 2019. Iron biofortification interventions to improve iron status and functional outcomes. *Proc Nutr Soc* 78:197–207

⁶⁴ Talsma, E. F. et al. 2013. Biofortified Cassava with Pro-Vitamin A Is Sensory and Culturally Acceptable for Consumption by Primary Schoolchildren in Kenya. *PLoS ONE*. 8 (8): e73433, doi: 0.1371/journal.pone.0073433.

⁶⁵ Gannon, B. C. et al. 2014. Biofortified orange maize is as efficacious as a vitamin A supplement in Zambian children even in the presence of high liver reserves of vitamin A: A community-based, randomized placebo-controlled trial. *Am J Clin Nutr* 100:1541–50.

⁶⁶ Low, J. W. 2007. A food-based approach introducing orange-fleshed sweet potatoes increased vitamin A intake and serum retinol concentrations in young children in rural Mozambique. *J Nutr* 137:1320–7.

⁶⁷ CAST Task Force., 2020. Food Biofortification—Reaping the Benefits of Science to Overcome Hidden Hunger A paper in the series on The Need for Agricultural Innovation to Sustainably Feed the World by 2050. Council for Agricultural Science and Technology (CAST).

⁶⁸ https://www.who.int/intellectualproperty/submissions/MichealKremerKTW_CIPIH_submit_2.pdf?ua=1

⁶⁹ https://ssir.org/articles/entry/guaranteed_impact



Current/likely political support: Governments in India, Tanzania, and elsewhere have demonstrated their interest in procuring biofortified foods for their public distribution and school feeding programmes, respectively.

Contexts where this is well/not well suited: This solution is suited to contexts where there is institutional demand—for example, as mentioned above, India and Tanzania. In contexts where demand would be less predictable, the interventions would need to be complemented by demand-side interventions (like marketing or new product development).



Potential Solutions for Making Food Safer

Note: These three solutions are seen as an interrelated set to create a global ecosystem for safe food for all and supplement ongoing efforts of the UN agencies and multi-lateral institutions. They are based on an understanding among members of the working group that the primary challenge is unsafe food in informal markets in LMICs due to their high contribution to foodborne disease burdens; the neglect of these systems by governments, donors, and researchers; and the high potential for improvement, as indicated by pilots and certain countries. These solutions could also bring about broader change related to nutritious and sustainable diets.

17. Develop a new global food safety index

The Solution: In order to motivate and measure progress in improving food safety, a Global Food Safety Index (GFSI) is proposed. It will be validated, improved, and developed into a standalone index to be updated annually and managed by an International Global Organisation (IGO) or consortium of IGOs.

Source of the Solution: The idea came from the food safety working group.

Problem addressed within food systems: Most risky food is sold in the informal systems (i.e., small-scale, traditional processing and retail that escapes comprehensive and effective food safety assurance) of LMICs, yet these have been largely ignored by the public sector, civil society, and donors. A global index that covers the informal sector will provide information on the status quo, help benchmarking, act as a baseline, help resource allocation, and measure and motivate progress. Global indices exist for most areas of development concern including health, gender equity, ease of doing business, but none for food safety. However, several global initiatives collect some information on food safety outcomes, performance, and process from most countries on a regular basis. These include: The WHO International Health Regulations (WHO IHR); the World Animal Health Organisation Performance of Veterinary Services Pathway (OIE PVS); the Institute of Health Metrics and Evaluation (IHME); the African Union African Food Safety Index (AFSI). These tend to focus on the formal sector, but many contain data relevant to the informal sector. In addition, many high-income countries collect information on foodborne disease and food safety.

How this solution will address that problem: People have a strong preference to eat safe, unadulterated food; when they have credible information that food is unsafe, they cease to buy and consume it. Informal food systems often sell traditional, minimally processed, locally produced food. The challenge in informal markets is that both public and private sectors lack the ability to assure the safety of foods. Moreover, there is no culture of food safety and lack of trust in public and private sectors. For this to change, multiple integrated interventions are needed.

One of these would be the GFSI, as what cannot be measured will not be managed. Development of a food safety index that, for the first time, covers LMICs and provides a framework to track outcome and process indicators will help identify and prioritise areas of intervention that are likely to maximise outcomes for member states. For example, one indicator in the index might be the rate of food safety tests per product; this would help evaluate if an appropriate number of tests are being done on appropriate products, to shift food inspection activities. It would also serve a baseline against which progress could be measured and a benchmark that countries could use to compare themselves with others, motivating a spirit of competition and improvement. It might also be a target in the SDGs, which currently have very poor coverage of food safety.

The index will measure processes and outcomes in a granular way that focuses on specific areas that can be implemented directly. Several sources of information on food safety exist but these are fragmented



because of the siloed nature of institutional operation and because the importance of food safety has only recently been realised. By compiling information from these, a prototype index could be developed rapidly and at low cost. An algorithm and computer programme would be developed to integrate, synthesise, and present the information. This would be an imperfect index, as it would miss several important indicators, especially those related to the informal sector, but some information is better than none; if successful, this could be followed by a second phase of development in which additional indicators are added and collected.

Annual reports would be released on indicators relevant to food safety; over time, we would expect these to lead to more rational and risk-based resource allocation by food safety funders, greater investment in food safety in the informal sector, and improvements in food safety indicators over time. The final impact would be global reduction in sickness and death from foodborne disease (which has a health burden equivalent to malaria, HIV/AIDS, or tuberculosis).

Solution’s alignment to the ‘game changing and systemic solution’ criteria:

Impact potential at scale: The GFSI will be global covering every country currently reporting to WHO, OIE, African Union, EFSA and gathering data from IHME and, as it becomes active, the Global Burden of Animal Diseases. Informal food systems have been neglected and so represent ‘low-hanging fruit’ where quick progress may be anticipated.

Actionability: The GFSI will be developed in two stages. The first is to gather information on food safety already being collected by the aforesaid agencies and to develop algorithms and models that allow information to be integrated and synthesised. This will require buy-in from the aforesaid agencies, but there is already considerable interest in food safety as well in improving co-ordination, as witnessed by the IHR-PVS bridging workshops. The second stage would be filling the gaps and developing a more comprehensive index.

Sustainability: In its simplest form, the GFSI is an amalgamation of existing data and could be maintained by one or more of the agencies involved at minimal cost. A stand-alone index would be more expensive, but many other indices have proven useful and long lived.

Existing evidence: Global or widely used indices such as the human development index, Transparency International index, and Programme for International Student Assessment have been very effective in helping supra-national strategy and planning and in motivating change at national level. According to Kelly and Simmons (2019)⁷⁰, the massive growth in global indices reflects their success in leveraging politicians’ and bureaucrats’ reputational concerns by framing, establishing ‘standards,’ and repeatedly engendering public comparisons. They can be deployed to stimulate state competition and shape policy agendas, that is, as ‘technologies of power’.⁷¹ The nascent AFSI is already demonstrating the feasibility and utility of a food safety index for the continent of Africa.

Current/likely political support: Several countries are interested in improving food safety in the informal sector. There are currently major initiatives in Ethiopia, Nigeria, Bangladesh, Vietnam, Cambodia, and India. This idea will rely on buy-in from WHO, OIE, IHME and AFSI. We have senior members from WHO, OIE, FAO, EC on the working group’s Expert Advisory Committee and think they would be interested in improving understanding and management of food safety. At least one IGO has already expressed

⁷⁰ Kelly JG, Simmons BA, 2019. Introduction: The Power of Global Performance Indicators. *International Organization*, 73, 3, 491 – 510.

⁷¹ Hansen, Hans Krause. 2012. The Power of Performance Indices in the Global Politics of Anti-Corruption. *Journal of International Relations and Development* 15 (4):506–31



interest. However, there are inevitable tensions between the formal food safety system and the informal food safety system, which will need to be managed.

Contexts for which this is well suited: Although the index will be global, we suggest dissemination and promotion should prioritise LMICs, particularly those with transitioning economies, high or increasing urbanisation, more literate consumers with high concerns over food safety, and evidence of a high burden of foodborne disease. Many countries meet these criteria.

18. Develop a Global Alliance on Safe Food for All

The Solution: Global Alliance on Safe Food for All (GASaFA) would be an action-oriented, member-driven, collaborative platform for cooperation that will design and apply food safety solutions which are ‘fit for purpose’ in the domestic markets of LMICs. It will bring together governments, bilateral and multilateral organisations, food businesses and other stakeholders to work to achieve the common goal of advancing food safety, in an affordable and equitable manner. It will establish networks and develop synergies with the efforts of other bodies (e.g., WHO, FAO, CAC, OIC and CGIAR) that are currently engaged in food safety, and will support the work of the World Bank and regional banks. This systemic solution would create a new networked structure focused on building capacities for food safety management as a sustainable, long-term way to address unsafe food and food fraud.

Source of the Solution: The idea came from the food safety working group.

Problem addressed within food systems: There is growing recognition of the high incidence of foodborne disease in LMICs and the associated health and economic consequences. In the context of rising incidence of zoonotic diseases, (including possible linkages of COVID 19 with wet food markets and avian flu with food animals), the world requires a more robust mechanism for global coordination on food safety.. There is also recognition that action is needed to improve practices in the production, manufacturing, distribution and preparation of food to more effectively manage food safety risks. To address these issues, high-income countries often apply cutting-edge innovations, especially in the physical and information sciences. Many of these, however, are very difficult to apply in LMIC market settings due to cost and their scientific, institutional or other prerequisites and incompatibility with institutional structures and *modus operandi* of food value chains.

How this solution will address that problem: The alliance would provide less expensive models of ensuring food safety compared to large bureaucratic institutions for food safety in advanced nations. Coordinated by a global headquarters, main focal points of the alliance would be regional centres (8 to 10) established in LMICs. These centres would be established based on mapping of foodborne disease burden across the globe, ideally linked to existing institutions with food safety capacity so as to reduce the lead time.

These centres will support member nations in many ways including: (1) developing integrated public health surveillance systems for foodborne diseases; (2) institutionalise surveillance-based testing for commonly adulterated/sub-standard foods; (3) generate local data to aid risk assessment and standard setting processes; (4) build and augment data and standards for traditional/indigenous foods; (5) develop a training ecosystem for all food handlers; (6) integrate training and third-party certification for food safety; (7) build food testing capacities including in the private sector; (8) help develop cheap and fast credible diagnostics that can be used directly by consumers and build food testing capacity; (9) build regulatory capacity and leverage private sector capacities to bolster the enforcement framework; (10) provide effective measures and control systems; (11) support One Health through an integrated approach



from farm to fork; (12) develop an ecosystem for safe and sustainable packaging; (13) develop environmentally sustainable cold chain grids through public-private partnerships; and (14) identify institutions and people who work on food safety and build such groups across regions to help build food safety capacity in LMICs.

There is a demand for capacity building in these areas in most LMICs, and delivery through centres located in the region will make them have greater relevance and enable LMICs to achieve their goal of advancing food safety, in an affordable and equitable manner. Solutions will be focused on the informal food sector, perhaps using cluster-based models to efficiently address food safety. Innovation and new technologies would also be leveraged. The regional centres would help promote these approaches and support LMICs in adopting them.

In terms of *inputs*, a 5-E process will be adopted to *Engage* stakeholders, *Excite* them about the benefits of safe food, *Empower* them to create a safe food ecosystem (both to demand safe food as safe businesses handlers ensure safety of food delivery), *Enable* them through training capacity building to deliver safe food, and finally *Entice* them through reward (financial or non-financial) and recognition. This process will create a mutually reinforcing process of change and create a strong and sustainable food safety culture. The *output* of this will be the establishment of robust and effective food safety systems in many LMICs. This will lead to less foodborne disease, greater cooperation and collaboration among LMICs (including on issues that go beyond food safety). Alliance and its regional centres are essentially an institutional arrangement that can be extended to promote consumer demand for more nutritious food or sustainable diets or influence businesses to produce more nutritious food. In India, the country's food authority is steering Eat Right India campaign that not only focus on safe food but also on nutritious and sustainable food.

We assume that we will receive buy-in from some LMICs to host the global headquarters and regional centres and buy-in of a majority of LMICs to join; buy-in of multilateral institutions, industry and civil society partners is desirable.

Solution's alignment to the 'game changing and systemic solution' criteria:

Impact potential at scale – The alliance will be active in all LMIC regions.

Actionability – Given that consumer and politician concern over food safety is very high in several LMICs, we expect great support for the alliance. The World Bank, regional banks, several high-income countries, and food businesses with expertise and interest in food safety are likely to support to enhance their reach and impact.

Sustainability – Given that funding requirements will be modest, several national governments would likely be willing to support. The funding could come from the national governments, the World Bank, regional development banks, and donor agencies. While traditional development aid has often failed to achieve desired results in food safety, a global alliance based on south-south cooperation is well suited for addressing the problem (as context, culture, and relevance are important in food safety).

Existing evidence: The concept of global alliances has been used in sanitation, hygiene, and menstrual health, tackling anti-microbial resistance, nutrition, promoting gender equality and facilitation trade. Thus, this concept is well-established, particularly in the context of addressing complex societal issues. There is also evidence that a well-functioning food safety management system built on the principle of 'shared responsibility' and not 'command and control' can be put in place at low cost. For instance, India has developed an effective and efficient food safety management system with an annual budget of USD 40 million (compared to above USD 1.5 billion spent by the USFDA and USDA in the United States).



Current/likely political support: Several countries are interested in improving food safety in the informal sector. So far, we have not reached out to the specific countries, but the expectation is that several countries could be interested in hosting the alliance and the regional centres. Further, given that the alliance and regional centres would support the efforts of other bodies that are currently engaged in food safety (e.g., WHO, FAO, CAC, OIC and CGIAR), these would be likely supporters.

Contexts for which this is well suited: We suggest priorities should be LMICs with transitioning economies, high or increasing urbanisation, more literate consumers with high concerns over food safety, and evidence of a high burden of foodborne disease. Many countries meet these criteria. In addition, most LMICs do not have food safety agencies that can discharge these functions; when such agencies exist, they often lack capacity to do many of these things.

19. Assemble and launch a Food Safety Toolkit

The Solution: To develop a Food Safety Toolkit which would comprehensively address food safety improvement, focusing on informal markets, through a suite of information, training material, assessment guides, monitoring and evaluation guides, intervention options, incentives, communication, and engagement material. This toolkit would focus on ‘how’ rather than ‘why’ and ‘what’ to bring about large-scale change in the way food safety is managed in various countries.

Source of the Solution: The idea came from the food safety working group.

Problem addressed within food systems: Most risky food is sold in the informal systems of LMICs, yet food safety in these settings has been largely ignored, and there are very few widely known, available, affordable, and acceptable methods to address it. The persistence and rising incidence of foodborne diseases in informal food systems is often attributed to three root causes: inadequate policy, regulation, standards, and infrastructure; lack of capacity, appropriate technology, and compliance by the private sector; and absence of food safety culture.

How this solution will address that problem: By providing a packaged, modular, easy-to-use set of tools for risk assessment, management, and communication, we will address all three, giving national and local authorities, development actors, and the organised informal private sector the ability to invest in improving public health through safer food. Given that multiple integrated interventions are needed to address the abovementioned issues, a toolkit approach is found most useful. This toolkit would be a compendium of tools, technologies, and approaches for which there is evidence of success. Each element would have different gradations: for example, empirical tests for milk safety could range from a simple ‘clot on boiling’ to polymerase chain reaction tests in specialised laboratories. This would allow the toolkit to be adapted to the resource availability and capacity of the users. The toolkit would focus on small-scale, traditional food processing and retail and have five themes. Each theme would contain training materials addressing incentives and behaviour change including consumer pressure, peer norms, credible information on safety and nudges. The themes are:

1. **Support to policy and standard development:** This could include guidelines to developing food safety strategies for the informal sector; training on risk assessment, commodities, and value chains to best use scarce resources; developing locally appropriate standards; and exploring trade-offs such as very high safety standards resulting in nutritious food being unaffordable to the poor. For example, this could include advice on developing local standards rather than adopting standards from high-income countries (which over 90% of traditional food products fail).



2. **Building food testing capacity:** In LMICs, historically, food was very unsafe. Developing tests for hazards and making results publicly available incentivised the private sector to make food safer. Tools for food testing include engaging consumers and media in testing; simple surveillance; use of ICT; and rapid tests. For example, instead of using conventional tests based on isolating, growing, and bio-typing bacteria, LMICs can use simpler, rapid kits such as lateral flow.
3. **Effective inspection and regulation:** This could include improving trust in inspection by better transparency and complaint mechanisms; methods of co-regulation and group certification to reduce burden on inspectors and increase trust in the process; inspection and audit that supports improvement rather than punishes deficits; incentives for detecting and removing ‘bad actors.’ For example, LMICs could use greater reliance on peer-to-peer inspection with public authorities overseeing the process and conducting periodic checks.
4. **Improving private-sector capacity and compliance:** This could include forming or supporting a group for economies of scale in inspection; training for all food handlers; suggestions for incentives to increase compliance; simple technologies and protocols for improving hygiene and safety, with certification and branding for competent handlers; third-party audits to increase trust in training and branding; using peer pressure and consumer pressure to improve compliance; and rewards for good performance. For example, clearly visible “scores on doors” type initiatives can be used to show the level of food safety performance of private businesses.
5. **Consumer empowerment:** This could include raising awareness of foodborne disease through social marketing and by integrating it into school and university; involving media in communication; encouraging consumers to recognise and demand safe food,

To develop this toolkit, a group would be convened to compile tools and approaches and package them in ways that ensure they could be easily used and adapted to context; these would be available in local languages, online, and on social media. Adoption of these tools would be expected to lead to better national food safety policies, appropriate standards, better compliance with standards, more consumer trust in food, and safeguarded livelihoods for informal sector workers. This, in turn, would lead to a reduction in foodborne disease and improved nutritional outcomes.

This assumes sufficient resources to support implementation of tools; that government, the private sector, and the public respond to the incentives for behaviour change incorporated in the toolkit; and growing recognition and support for the informal food system and desire to improve food safety and reduce disease emergence.

Solution’s alignment to the ‘game changing and systemic solution’ criteria:

Impact potential at scale: As informal markets provide most food to consumers in LMIC and the major market for smallholder producers, the potential market is huge. The toolkit will be piloted in several countries and a generic version developed, which will be available to any country for scaling. It can be a living toolkit, with improvements added as experience grows.

Actionability: The toolkit will be modular, with tools and approaches at different levels of complexity. Some countries wish to upgrade informal food systems; others are more antagonistic. We will pilot in the former hoping to extend to the latter. The costs will vary from moderate to high depending on the level of effort.

Sustainability: The toolkit will likely be adopted by countries if it can be shown to improve food safety and have other benefits. The proposed GFSI (Solution 17) will leverage consumer demand for safer food and reputational concerns of governments to seek to invest more in food safety, motivating use of the toolkit. The recent finding that foodborne disease has a health burden comparable to malaria, HIV/AIDs or



tuberculosis and an economic cost of more than \$100 billion USD per year in LMICs should stimulate greater public and donor investment in improving food safety.

Existing evidence: There is much empirical evidence for the success of different elements of the toolkit, and it is likely that combining them will be more effective. For example, India has had good success in applying many of the potential toolkit elements to a very large food system with a high degree of informality. Overall, informal food systems have been neglected and so represent “low hanging fruit” where quick progress may be anticipated.

Current/likely political support: Several countries are interested in improving food safety in the informal sector and aware that their current approaches are inadequate. There are currently major initiatives in Ethiopia, Nigeria, Bangladesh, Vietnam, Cambodia, and India. We have senior members from WHO, OIE, FAO, EC on the working group’s Expert Advisory Committee and think they would be interested in improving understanding and management of food safety. This group would work with a coalition of large food businesses to bring about systemic changes in a manner that is inclusive of both formal and informal sectors.

Contexts for which this is well suited: We suggest priorities should be LMICs with transitioning economies, high or increasing urbanisation, more literate consumers with high concerns over food safety, and evidence of a high burden of foodborne disease. Many countries meet these criteria.

Potential Cross-Cutting Solutions

20. Foster shared learning on Food System Transformation Pathways

The solution: Promoting and supporting a country-owned process that brings a food system framework perspective to agri-food policy planning and implementation. This would lead to identifying new pathways for food system development, which could be embodied within a new cross-government, multi-stakeholder National Food System Development Plan or through refreshing an existing strategy. Stronger food system planning is an intermediate output of the process and an important guide to investing to transform food systems. These pathways will also consider conflict sensitivity and risk mitigation in food systems planning in countries affected by conflict.

Source(s) of the Solution: The AT-1 public idea survey database, leadership of AT1, and members of the AT1 zero hunger working group.

Problem addressed within food systems: Food systems transformation requires collaboration across many government ministries and agencies and with other stakeholders, all within a food systems framework. Existing policies and investments are inadequate for food systems transformation because they address separate components of food systems (e.g., agriculture, climate change, trade, consumer behaviour, health outcomes, prices, etc.) in isolation rather than at the system level. Because various components of the food system are interconnected and interact with each other, a change in one component may lead to unexpected or undesirable changes in other components. Without a food systems framework, to develop a transformation strategy, including learning from initiatives that intended similar cross-government and multi-stakeholder process (e.g., NAIP and SUN), the risk of incoherent action and wasted resources is significantly raised.



How this solution will address that problem: Addressing this problem is important for achieving the goals of the entire food system. This would be a cross-AT initiative and could support changes in the way governments and their partners think about, analyse, and strategize their food systems.

Theory of change: Learning about experiences of other countries who have adopted elements of food system planning and transformation pathway identification will make member states more comfortable with the process, will reveal strengths and weaknesses of others' processes, and will help build an appetite and a capacity for such work. This planning can help bring coherence among the various policies and interventions that are implemented to target different components of the food system. If so, the outcomes of the system are more likely to be achieved without adversely affecting other outcomes. Synergies can be derived across hunger reduction, nutrition, climate, environment, inclusive livelihoods, and resilience while minimising trade-offs. Strategies and frameworks are as good as the process that develops them. As countries are overwhelmed with plans, this process would need to (when possible) link existing plans, for example in agriculture, climate, and nutrition or simply infuse existing plans with a food system perspective.

- **Pre-Summit:** Develop a shared learning programme that (1) brings together countries that have some experience of undertaking food system planning and pathway identification (e.g., Guatemala, Ireland, Norway) or related processes (e.g., NAIPs/CAADP, NDCs/UNFCCC, NPANs/SUN) to build a knowledge base of the issues and challenges and (2) brings in data and evidence that can help describe, diagnose, and recommend potential courses of action.
- **Post-Summit:** Support countries to develop their own multi-stakeholder, multidisciplinary process to describe the current state of their food systems and actors. The learning would include (1) diagnosing and analysing the various outcomes, drivers, and choices available to (2) lead to identifying relevant pathways for transforming the system with the right interventions and deliver on multiple outcomes. Highlighting **the right to food** will be important as a foundational value but also as an accountability mechanism.

Assumptions: This assumes that the process would be country-driven; that various implementing ministries are willing and able to work together to learn, own, develop, and eventually implement the plans accordingly (as such a plan will cut across many sectors); it may also require willingness to change existing policies and the ability (political will, appropriate timing) to do that. Finally, it assumes that support of the process is forthcoming from other member states and experts within and outside the country.

Solution's alignment with the 'game-changing and systemic solution' criteria:

Impact potential: without a plan or identified transformation pathways and a process to develop them, action is likely to be incoherent.

Actionability: Several countries have expressed interest in the process of learning about and developing such planning capacity and, eventually, pathways or plans. Based on the CAADP National Agricultural Investment Plan (NAIP) (and Global Agriculture and Food Security Program, GAFSP) and SUN experience, preparing such a strategy itself is not too costly. The challenge is to get high-level political buy-in and develop sufficient capacity to implement it.

Sustainability: If the process is developed in a country-driven, country-owned way, with sensitive and responsive external support, then the process has every chance of being sustainable.

Existing evidence: Planning and identifying pathways are no panacea. But learning to plan and identify transformation pathways with a food system framing is likely to have large benefits and would be a game-



changer in itself. It is not straightforward, however, and this initiative would help member states to prepare for the post-summit work by learning from the experiences of various member states.

At an individual plan level, the NAIP (or national agricultural and food security investment plan, NAFSIP) is an example of a multi-sectoral strategic plan with other non-agriculture components such as infrastructure, climate change, trade, gender and youth, and resilience among others to deliver on multiple outcomes including growth, employment, resilience, prosperity, food security, and nutrition. The NAIP was seen as an innovative solution for fighting hunger, malnutrition, and poverty, to the extent that the GAFSP, for example, evaluate proposals that have “been through a CAADP or CAADP-like due diligence process” and “provide grants to low-income country governments to support NAFSIPs developed together with farmers, agribusinesses, technical experts, and civil society organizations.”

Current/likely political support: Currently, a few member states of varying income levels expressed interest in developing these food systems transition pathways. These member states include Egypt, Guatemala, Ireland, Norway, and Philippines. We expect other member states to express interest as well.

Contexts where this is well/not well suited: The food system strategies are expected to be applicable across all contexts and at both the national and the subnational level.

21. Develop new standards and legal frameworks to drive private-sector change and hold companies accountable for their social and environmental impact

The Solution: This solution is comprised of two parts: 1) the creation of best-in-class, social and environmental food standards to drive behaviour change in the private sector, coupled with 2) the promotion and adoption of a corporate legal framework that holds companies accountable for their impact on society and the environment. Developed in collaboration with key experts and stakeholders, the food standards will provide a concrete roadmap for companies to measure, manage, and improve their performance, while the legal framework will ensure that this commitment to social and environmental performance is built to last through an innovative corporate governance structure. The end objective: a fundamental shift in the economic and food systems to be more inclusive, equitable, and regenerative.

Source of the Solution: AT1 Lead, Lawrence Haddad, was familiar with B Lab, the global non-profit behind the B Corporation movement, and reached out to discuss the Summit. B Lab had been considering how to best drive greater change in the food industry, including researching and developing new food standards to add to its existing standards architecture. The Summit presents a unique opportunity to accelerate and amplify these plans.

Problem addressed within food systems: The current global economic system, driven by shareholder primacy, has little accountability for companies’ impacts on environmental, social, and health goals, creating misaligned corporate incentives for the delivery of, and access to, nutritious, affordable food. A primary focus on profitability and shareholder value has led to worker exploitation, environmental degradation, and inequitable consumer access. The creation and adoption of business standards specifically focused on food systems would create a comprehensive, educational road map for the private sector to improve their social and environmental performance, providing greater food access to underserved populations, improved transparency, and higher-quality end products. The adoption of a new corporate legal structure would ensure that companies are accountable not only to shareholders but also for their impact on the food system (consumers, workers, supply chain, environment).



Addressing this is essential for reducing malnutrition and hunger because a large and growing share of food, across all world regions, is provided by the private sector. Food systems cannot be separated from the economic system in which these food companies operate. Improving the private sector's social and environmental performance and increasing accountability will lead to better outcomes for end consumers: safer, more accessible and nutritious food available to underserved populations.

How this solution will address that problem: High-functioning food systems are dependent on the private sector to produce outcomes that benefit society and the environment as well as shareholders. Driving better outcomes in the food system will require broader economic systems change, including behavioural, structural, and cultural change in business. Producing better outcomes from business requires: 1) a set of industry-specific standards that outline a road map for behaviour change, including policies, practices, inputs, outputs, and outcomes; 2) a new corporate governance structure that creates legal accountability and transparency for the production of those outcomes, and 3) story-telling and collaboration with a community of leaders to shift the cultural expectations of business.

Behaviour Change: The B Impact Assessment is a free, online platform that allows companies to measure, manage, and improve their social and environmental performance. It provides a comprehensive assessment of a company's impact on all stakeholders (consumers, workers, community, environment, and governance), and encourages businesses to improve. The platform provides free best practices guides and management tools, inspiring companies to set targets and benchmark their performance against others in their industry. In 2020, B Lab reframed this platform to encourage companies to manage, measure, and improve their performance toward the SDGs. The product (SDG Action Manager) was co-designed with the UN Global Compact. B Impact Assessment and SDG Action Manager have been used by more than 135,000 companies across the globe.

The solution proposed here would add a specific track focused on food sector businesses to these existing platforms, highlighting the unique challenges, opportunities, and practices for the industry. Though other food standards exist, they are primarily focused on a particular product attribute (i.e., organic) or practice (i.e., Fair Trade). The B Impact Assessment is unique in its comprehensive approach, evaluating a company's impact on all its stakeholders and providing a free management platform for improvement and benchmarking.

Structural Change: B Lab has developed, introduced, and supported a new corporate governance structure that shifts the fiduciary duty to balance the interests of stakeholders and shareholders. This legal framework has been developed in over 40 jurisdictions, with specific legislation creating a new corporate form passed in 43 US states and seven countries (Canada, Colombia, Ecuador, France, Italy, Peru, Rwanda). The Summit offers an opportunity to dramatically increase awareness of this structural solution and drive broader adoption in the food system. This shift in corporate accountability is particularly applicable in the food sector, where businesses should be legally required to consider their impact on society as well as their financial performance. The solution would create a set of clear policy recommendations for governments (the "Stakeholder Governance Toolkit") to drive broader adoption of this corporate structure in their global food chains, creating accountability for their impact on society and environment. The toolkit would include a range of policy recommendations, including passing legislation, private-sector incentive structures, and investment and procurement preferences.

Cultural Change: B Lab has created a global certification, Certified B Corporations, that recognises best-in-class companies that have demonstrated the highest standards of social and environmental performance, transparency, and legal accountability. This Certification has been awarded to 3,800+ companies, including approximately 500 in the food and beverage sector. The broad adoption of the solutions outlined above is predicated on a communications strategy that shifts the cultural expectations



of the private sector in the food system. The Summit creates an opportunity to produce and distribute case studies highlighting these leaders and sharing innovations that are currently being deployed at scale to improve food systems around the globe.

Solution’s alignment to the ‘game changing and systemic solution’ criteria:

Impact Potential at Scale - B Impact Assessment and SDG Action Manager jointly represent the world’s largest impact management platform. Building comprehensive, private-sector food standards on this existing structure would leverage more than \$20 MM of technology investment and 200+ existing distribution partnerships (including the UNGC, YPO, the B Team, and Imperative 21), reaching tens of thousands of companies across the globe. Similarly, the policy solutions have been passed in over 50 jurisdictions and have been vetted and recommended by numerous institutions, including the G7. The Summit creates the opportunity to scale existing proven solutions in the Food Sector.

Actionability - The comprehensive food standards will be built in collaboration with, and leverage the existing work of, the Global Reporting Initiative, SASB, the Impact Management Program, the World Benchmarking Alliance, and the Access to Nutrition Index, to name a few. Total costs to research, develop, and implement these new standards, produce the Stakeholder Governance Toolkit for Government, and write and promote five case studies would be an investment of less than \$3 million.

Sustainability - The Impact Platform and policy solutions have been developed and vetted over the last 15 years and require modest investments to keep active. Simultaneously, usage of these tools continues to grow with awareness of the movement. This solution can shift performance and legal accountability of food sector businesses in the long term.

Existing evidence: A global certification that inspires others to follow, using free, broadly available, simple tools has served as B Lab’s theory of change for 15 years. In 2020 alone, the community of Certified B Corporations protected 200,000 hectares of land, offset 16 million tons of carbon, saved 225 million liters of water, and diverted 207 thousand metric tons of waste. The community is 75% more likely to hire workers from chronically underemployed populations, 68% more likely to have a majority female workforce, 210% more likely to screen suppliers based on positive social and environmental performance, and has an average a pay ratio of 7:1 from CEO to lowest-paid worker. Just in 2020, the community inspired 46,000 new users of the B Impact Assessment who registered to use the platform to measure, manage, and improve their social and environmental performance. These are proven tools that can be focused on the food sector to drive systems change.

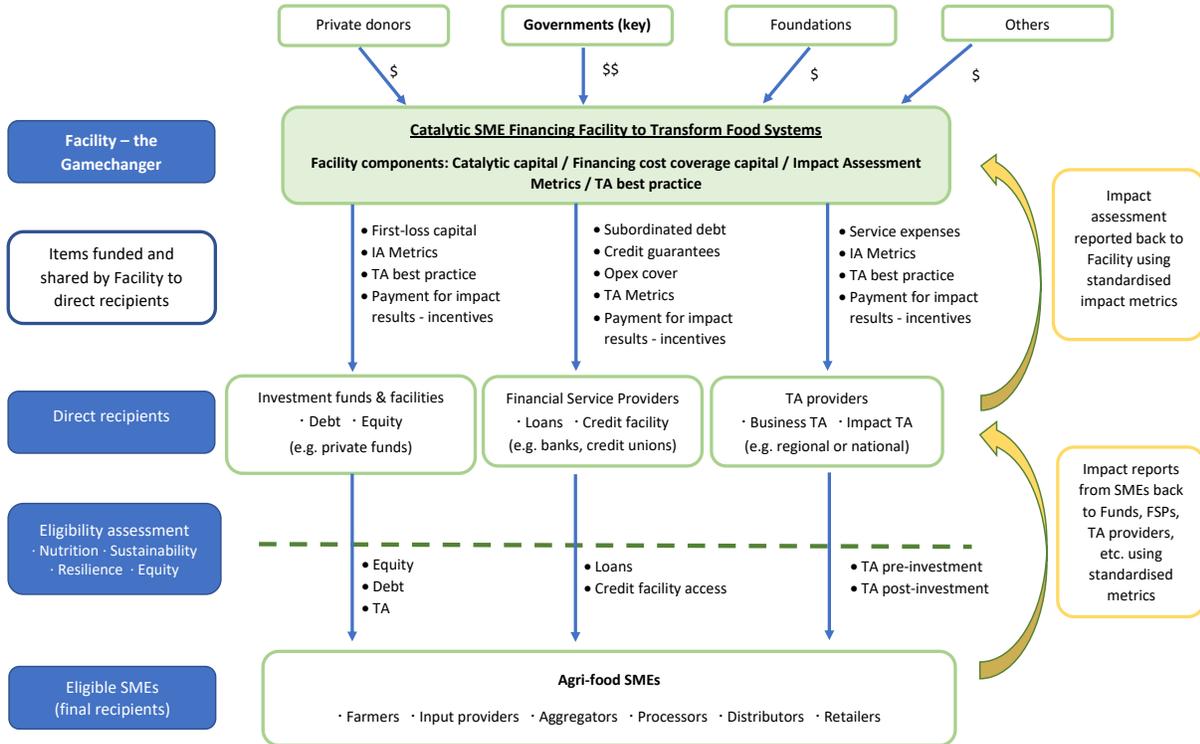
Current/likely political support: Though the B Corp Movement was born in the US, in 2020, more than 77% of users on the B Impact Assessment originated from outside the US, including 14,851 companies from the Global South. B Lab has partnerships with over 200 organisations who use the tools, including the UNGC, YPO, WEF, Conscious Capitalism and Imperative 21. It plans to work with other standards bodies to develop food standards, including GRI, SASB, IMP, WBA, ATNI, to drive broader adoption. Its legislative efforts have been largely bipartisan, with over 30 unanimous votes, and have passed in the US, Europe, Latin America, and Africa.

Contexts for which this is well suited: This solution can be deployed globally.



Annexes

Annex 1: Supporting figure for the catalytic SME financing facility solution (Solution 4)





Annex 2: Theory of Change for Solution on Cold Chain Scaling (Solution 6)

OUTPUTS	DRIVERS	OUTCOMES	ASSUMPTIONS	INTERMEDIATE STATE (PROJECT OBJECTIVE):
COMPONENT 1: Establish UNFSS sustainable rural cooling and cold-chain Taskforce within the Cool Coalition to coordinate partnerships and support action on system approaches to sustainable rural cooling and cold chain				Governments and private sector take, or firmly commit to taking, action to meet demands for food cold chain expansion in a comprehensive manner, in line with the Paris Agreement, the Kigali Amendment to the Montreal Protocol and Sustainable Development Goal 2 (SDG 2), which seeks to end hunger and all forms of malnutrition by 2030.
<p>OUTPUT 1:</p> <p>1.1 Establish Workplan with Taskforce members to mobilise commitments in the run to UNFSS</p> <p>1.2 Building on the Rome Declaration, strengthen and expand engagement with governments (at national and subnational level), finance sector and industry to scale up action on existing commitments on sustainable rural cooling and cold chains</p>	<p>D1. Multi-stakeholders are engaged in promoting a common agenda</p> <p>D2. UNFSS Food Cold Chain Taskforce structure identifies champions among governments (e.g., Italy, UAE, India) and private sector stakeholders (e.g., Carrier) to promote best practices and keep the momentum</p>	<p>The UNFSS Cold Chain Taskforce is operationalised with consensus built on objectives and alignment of existing and planned activities. Taskforce in turn supports knowledge, advisory and demonstrations and advocacy activities leading to comprehensive actions by public and private stakeholders on sustainable rural cooling and cold chains that are linked to NDC enhancement and implementation, and to the SDGs</p>	<p>AS1. Governments maintain political will towards sustainable rural cooling and cold chains and to take comprehensive actions; stakeholders are willing to participate in the Cool Coalition’s UNFSS Food Cold Chain Taskforce; stakeholders agree to a common strategy for change (tailored by sector, geography etc. as needed)</p>	<p>INTENDED IMPACT:</p> <p>SDG 2 - End hunger, achieve food security and improved nutrition, promote food safety and sustainable agriculture. Improved agricultural sector & reduction in food loss.</p>
COMPONENT 2: Accelerate efforts to address data gaps and conduct needs assessments for Sustainable Rural Cooling and Cold Chains at national level				Improved food safety and sustainable agriculture.
<p>OUTPUT 2:</p> <p>2.1 Standardised guidelines and existing tools are used to conduct data collection and needs assessments for sustainable rural cooling and cold chains at national level, to then leverage opportunities for action under a coherent framework for action</p>	<p>D1. Capacity of governments and private sector to conduct needs assessments and country level-mapping is improved through the use of existing comprehensive approaches, including the OzonAction Cold Chains Database, the Cool Coalition National Cooling Action Plan Methodology, and the SEforALL/Heriot Watt</p>	<p>Governments, industry and civil society stakeholders have increased actionable knowledge on sustainable rural cooling and cold chains status and needs, benefits (nutrition, food loss, resilience, climate change etc.),</p>	<p>AS2. Increased knowledge of trends, existing and future needs, performance of best practices used by peers, and existing supporting tools will motivate governments, industry, finance to make more commitments and</p>	<p>OTHER POSITIVE IMPACTS:</p> <p>SDG 1 – Contribute to poverty reduction by improving livelihoods and</p>



<p>2.2 New and additional knowledge on sustainable rural cooling and cold chains is generated and collated, and progress on UNFSS commitments tracked</p> <p>2.3 Knowledge exchange workshops to enable learning and support evidence-based decision-making are developed and/or (co)-organised</p> <p>2.4 South-South cooperation on cold chain needs assessments is supported</p>	<p>Whole System Assessment of Cooling and Cold-Chains</p> <p>D2. Increased amount of data of needs and trends is collected at national level and will serve as the basis to plan implement greater action, including through innovative methods such as BASE’s Virtual Cold Chain Assistant</p> <p>D3. South-South cooperation on data collection and needs assessments is enabled</p>	<p>trends and have a greater capacity to act.</p>	<p>take greater action faster</p> <p>AS3. Partners will provide data, information, tools, open-access data management and feed into common data collection and needs assessment approaches</p>	<p>incomes in rural communities</p> <p>SDG 3 - Ensure healthy lives. Improved health and safety through access to nutritious and safe food.</p> <p>SDG 7 - Ensure access to affordable, reliable, sustainable and modern energy for all. Improved rate of EE and higher shares of RE. Accelerated decarbonization of power & refrigerated transport sectors.</p>
<p>COMPONENT 3: Advisory and demonstration support activities to scale-up implementation of Community Cooling Hubs (CCH) and Centres of Excellence for Cold Chains (CECC)</p>				
<p>OUTPUT 3:</p> <p>3.1 Governments are supported to integrate sustainable rural cooling and cold chain actions into National Cooling Action Plans, Logistics Plans, Food Systems Action Plans, COVID recovery plans, National Infrastructure Funding and Long-Term Strategies (LTS)</p> <p>3.2 Governments access international support and establish partnerships with members to support implementation of CCHs and CECCs and other best practices. Cool Coalition as a neutral broker for support to drive action.</p> <p>3.3 Partners demonstrate how to develop and implement comprehensive approaches to sustainable rural cooling and cold chain linked with NDCs, SDGs and refrigerant transition plans implementation.</p> <p>3.4 International network of CECCs are supported and linked to living labs and demonstrations.</p>	<p>D1. Promote government, private sector, civil society stakeholder engagement through partnerships and demonstration of benefits of action on sustainable rural cooling and cold chains</p> <p>D2. National government engagement and support to link needs assessments with action and promotion of cold chain, and particularly CCH, under numerous national strategies, plans and financial mechanisms</p> <p>D3. Cool Coalition will promote the piloting and up-scaling of best practices, including CCHs and CECCs, Cooling as a Service, on-bill and on-bill financing</p>	<p>Governments have greater confidence to raise ambition and implement comprehensive approaches to sustainable rural cooling and cold chain as the benefits of CCHs and CECCs are showcased and their alignment with national priorities</p> <p>Government, private sector and civil society actions to address cold chain are more holistic and address diverse SDGs, particularly at the rural level</p>	<p>AS4. Governments, private sector and civil society are engaged in the development of CCHs and CECCs through strengthened private-public partnerships and international cooperation</p> <p>AS5. Governments agree to begin the process of integrating sustainable cold chain and CCH into adapted strategies, plans, policy and regulatory frameworks and support CECC development</p>	<p>SDG 8 - Promote inclusive and sustainable economic growth, employment and decent work for all.</p> <p>SDG 9 - Build resilient infrastructure, promote sustainable industrialization and foster innovation. Creation of jobs and promotion of innovation by building capacity and transferring international expertise on technologies that are new for a country.</p> <p>SDG 12 - Ensure sustainable consumption and production patterns by</p>



Cooperation between CECCs is enabled				reducing food waste, increasing farming inputs efficiency, reducing cold chain emissions.
COMPONENT 4: Scale-up outreach and advocacy on integrated and comprehensive approaches to Sustainable Rural Cooling and Cold Chains				
<p>OUTPUT 4:</p> <p>4.1 Advocacy and awareness raising material on sustainable rural cooling and cold chain for the UNFSS is designed and disseminated</p> <p>4.2 High-level Event and Roundtables organised at UNFSS and subsequent political fora on sustainable rural cooling and cold chain</p> <p>4.3 Advocacy and outreach campaign is launched with common and differentiated messaging for different stakeholder groups</p>	<p>D1. Awareness raising to stakeholders at multiple levels is raised on the benefits of sustainable rural cooling and cold chain, creating demand for government and private sector action</p> <p>D2. Stakeholders have greater awareness on the role of sustainable rural cooling and cold chain as underpinning the SDGs and as a vital need for rural development.</p> <p>D3. Stakeholders' awareness on barriers to cold chain expansion and holistic models is improved and linked to solutions (financing, training, business models, policy etc.)</p>	<p>Awareness is raised on the role of sustainable rural cooling and cold chain in achieving the SDGs and the barriers to its deployment, leading to decisions to act by governments, private sector and civil society</p>	<p>AS6. Broad promotion of the avoid-shift-improve-protect holistic and cross-sectoral approach to meet the cooling needs promoted by the Cool Coalition through collective action and tools and sufficient engagement of all stakeholders.</p> <p>AS7. Government, private sector, and civil society partners continue to update and disseminate outreach material, tools and messaging on sustainable rural cooling and cold chain</p>	<p>SDG 13 – Take urgent action to combat climate change and its impacts. GHG emissions from cold chains are reduced. Better adaptation and food system resilience to climate change. Access to reliable, affordable, sustainable rural cooling and cold chains.</p> <p>SDG 17 - Revitalize the global partnership for sustainable development. Proof that complex, cross-sectoral partnership and actions needed to tackle climate change and SDGs</p>



Annex 3: Major Investment Opportunities from Ceres2030 report, to support the ‘2030 Fund’ solution (Solution 1)

Empower the Excluded

DONOR CONTRIBUTION: USD 3 BILLION PER YEAR

FINDINGS FROM NATURE RESEARCH	MODEL INTERVENTIONS	RECOMMENDATIONS
Membership in a farmers' organization was associated with positive effects on income in 57% of the cases reviewed.	Currently no modellable intervention	1. Enable participation in farmers' organizations.
Programs that offer training in multiple skills to rural youth show promise in increasing employment levels and wages.	Vocational training	2. Invest in vocational programs for rural youth that offer integrated training in multiple skills.
Social protection programs work best when they create a bridge to productive employment and remove barriers in accessing markets, education, and credit.	Income support through food subsidy	3. Scale up social protection programs.

On the Farm

DONOR CONTRIBUTION: USD 9 BILLION PER YEAR

FINDINGS FROM NATURE RESEARCH	MODEL INTERVENTIONS	RECOMMENDATIONS
The most important determinants of adoption of climate-resilient crops were the availability and effectiveness of extension services.	Extension services	4. Investment in extension services, particularly for women, must accompany research and development (R&D) programs.
Market and non-market regulations and cross-compliance incentives that include short-term economic benefits are more successful than measures that only provide an ecological service.	Agroforestry subsidy Capital endowment Extension services Investment subsidy Production subsidy R&D National Agricultural Systems (NARS) & Consultative Group on International Agricultural Research (CGIAR)	5. Agricultural interventions to support sustainable practices must be economically viable for farmers.
Successful adoption is positively correlated with inclusive extension services, access to inputs, and crop varieties that are commercially viable.	Extension services combined with input, production, and investment subsidies R&D National Agricultural Systems (NARS) & CGIAR	6. Support adoption of climate-resilient crops.
Nearly 80% of small-scale farms in developing countries are in water-scarce regions. Underexplored solutions include digital applications and adding livestock to mixed farming systems.	Capital endowment Extension services Rural infrastructure (irrigation)	7. Increase research on water-scarce regions to scale up effective farm-level interventions to assist small-scale producers.
Obvious and useful options to improve the quantity and quality feed are being overlooked, such as better support for the use of crop residues.	Capital endowment Extension services Improved forage subsidy Production subsidy R&D National Agricultural Systems (NARS) & CGIAR	8. Improve the quantity and quality of livestock feed, especially for small and medium-scale commercial farms.

Food on the Move

DONOR CONTRIBUTION: USD 2 BILLION PER YEAR

FINDINGS FROM NATURE RESEARCH	MODEL INTERVENTIONS	RECOMMENDATIONS
Storage interventions are effective, but other interventions are also needed, such as better handling, improved packaging, and careful timing of the harvest.	Extension services Storage (post-harvest losses)	9. Reduce post-harvest losses by expanding the focus of interventions beyond the storage of cereals, to include more links in the value chain, and more food crops.
SMEs are successfully serving farmers in low and middle-income countries, particularly in Africa, and are correlated with technology adoption and higher productivity.	Rural infrastructure (roads) Storage (post-harvest losses)	10. Invest in the infrastructure, regulations, services and technical assistance needed to support SMEs in the value chain.