

Food Finance Architecture Executive Summary

Financing a Healthy, Equitable and Sustainable Food System

Today's food systems generate \$12 trillion in hidden social, economic and environmental costs. Implementing five “food finance imperatives” would not only reduce these costs but help unlock \$4.5 trillion in new business opportunities every year. Mobilising smart capital for a more sustainable food system is key to COVID-19 recovery, job creation, eliminating hunger, protecting nature and tackling climate change. There is no time to lose.

A high-performing and inclusive food system is critical to achieving the Sustainable Development Goals (SDGs). It is the best way to tackle world hunger, accelerate COVID recovery, create resilient jobs and reverse devastating climate change and nature loss – which disproportionately affect the world's most vulnerable and weakens economic and political systems.

We are running out of time to transform the food system to achieve these goals. Unlocking the capital needed to finance this transformation will be key, especially as COVID has exacerbated existing challenges – pushing another 150 million people into extreme poverty, exacerbating hunger and unemployment and adding to debt burdens.

In short: today's food system is failing us. It generates at least \$12 trillion in hidden social, economic & environmental costs each year. It prioritises volume over nutritional value, fails to pay a living wage while creating sizeable profits for a concentrated set of players, and treats the natural environment as an infinite resource – resulting in massive waste and undermining the stability of the entire food system and global economy.

The scale of the transformation is huge. But so is the size of the prize. First, it can deliver huge gains for **health and nutrition**: ending hunger for 800 million people (a number which is growing rapidly due to COVID) and halving the disease burden from unhealthy diets and over-consumption linked to \$6 trillion in public health costs.

Second, it can drive **economic recovery & prosperity**: creating over 120 million decent rural jobs; boosting the income for the bottom 20% to tackle primary drivers of poverty & hunger; and increasing productivity while eliminating food loss & waste which costs the world \$1 trillion each year.

Third, it can **reverse climate & regenerate nature**: keeping the world below 1.5 degree warming and protecting biodiversity which supports over half (\$44 trillion) of the world's GDP by: (i) reversing deforestation & degradation of carbon-rich ecosystems like peatland and mangroves; (ii) scaling consumption of sustainable aquatic protein; and (iii) restoring soil health. Any one of these individual outcomes would make a food system transformation worth it. Take them together, and the case is undeniable.

But how much will it cost? The short answer is **\$300-400 billion of additional investment per year – less than 0.5% of global GDP**. But when this investment is properly directed, the more accurate answer is that the transformation will pay for itself: (i) through doubling total system productivity over the next 20 years while halving the resource inputs; (ii) by repurposing at least a third of the \$500-700 billion of agricultural subsidies which have no public good benefit; (iii) by strengthening resilience and lowering risk, both physical & transition, especially for the most vulnerable; and (iii) by attracting high-quality capital to invest in \$4.5 trillion of new business opportunities by 2030.

Despite the size of the prize, **business as usual is still too easy** – especially when the handful of people and institutions that benefit from an unsustainable system often have the most political and financial power. A food system transformation therefore requires a coordinated reform agenda across countries, business, investors and consumers.

The UN Food System Summit has brought people together to develop the solutions we need. Through more than 140 National Dialogues, a Champions Network, a Private Sector Guiding Group, a Science Committee, Action Tracks and Levers of Change, people around the world have shared ideas to help transform food systems.

The Summit's "Finance Lever" (made up of the World Bank, IFPRI and SYSTEMIQ's Food & Land Use Coalition) has developed a new Food Finance Architecture which lays out the building blocks for how banks, institutional investors, development finance institutions, food companies, farmers & fishers, governments and philanthropy can shift capital out of a high-carbon, unequal, extractive food assets and into nature-positive, inclusive, climate-smart, circular business models which create value for people, planet and the economy.

The Food Finance Architecture contains five core "imperatives" needed to optimise public spending and mobilise private capital for a global food system transformation:

1. **Reshape public support and incentives** using subsidies and market mechanisms to redirect capital out of unhealthy, destructive assets to support public goods
2. **Integrate health, environmental and social risks into financial decision-making**, future-proofing portfolios by measuring & disclosing food system risks and redirecting investment into new business models to mitigate exposure
3. **Scale fit-for-purpose financial products and business models**, mobilising private capital by de-risking and mainstreaming innovative financial instruments & regenerative assets while improving access to finance & services for primary producers through new supply chain partnerships
4. **Secure equitable food systems** by rebalancing bargaining power, investing in rural infrastructure to drive sustainable production & development and implementing fair prices and living wages to ensure access to affordable, healthy diets
5. **Strengthen food governance and stability** as the underpinning foundation of the entire food system to build physical and financial resilience to shocks

Food finance architecture helps optimise public capital and mobilise private capital through five core imperatives



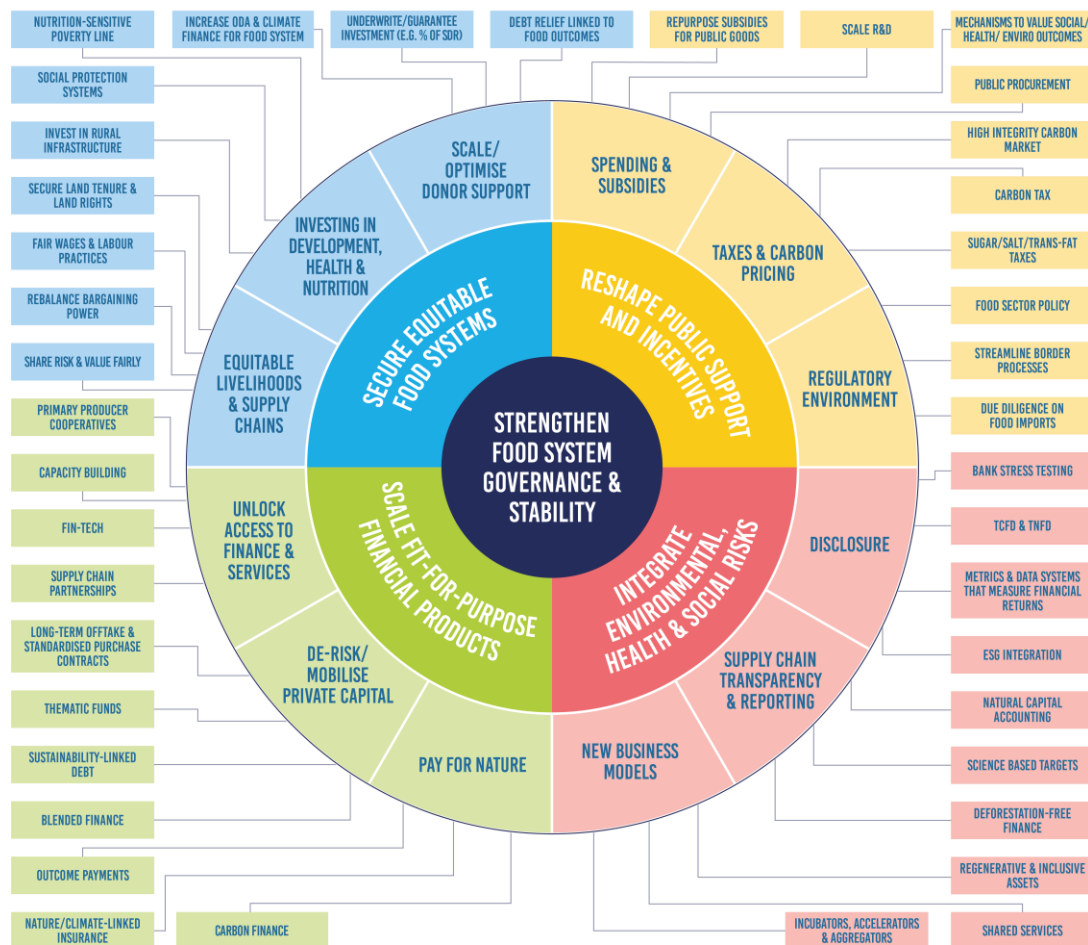
By laying out a roadmap of potential solutions and directing them at specific actors in the financial system, these imperatives should help accelerate the shifts in what and how we finance to ensure our food systems are more equitable, sustainable, resilient and healthier for both people and planet.

We now need all countries, especially in the developed world, to step up and put in place **food system transformation & investment pathways** together with policy reform and an integrated public investment programme to deliver these pathways. And we need strong public-private platforms to share these country food system pathways, add up the results (not just the targets), increase ambition and hold all countries to account for their commitments.

We need to take collective responsibility for building a better food system, both at country level and globally, for today and future generations. A **triennial review of country pathways** could provide a similar “upward ratchet” for food system transformation like the NDC climate pathway mechanism of the Paris Agreement. A **Food System Stability Board** could play a similar role to the Financial Stability Board in testing for weaknesses in the global food risk system, creating transparency and strengthening risk management.

A high-performing and equitable food system is within reach. The Food Systems Summit can help everyone play their part. We have had much talk of food system reform over the past decade. Now is the time to act. The Food Finance Architecture provides specific ways to unlock capital for the transformation by “double clicking” on implementable solutions. There is an incredible global movement of food system entrepreneurs, activists and citizens ready to take action. If we can change the menu, then they can change the world.

Specific action areas within each imperative highlight critical priorities to finance food system transformation



Food Finance Architecture

Financing a Healthy, Equitable and Sustainable Food System

The Secretary General announced the UN Food Systems Summit in 2019, recognising the role of food system transformation in delivering the 2030 Sustainable Development Goals. The Special Envoy to the Summit, Dr Agnes Kalibata, invited the World Bank to be the custodian of the Finance Lever of Change with the International Food Policy Research Institute (IFPRI) and the Food and Land Use Coalition (FOLU).

Over the past 10 months, the Finance Lever of Change has developed analysis and held dialogues and consultations with stakeholders to help prepare the following “Food Finance Architecture” as a formal input to the Summit process.

The purpose of this paper is to set out clearly to the global community – member states, producers, businesses, financial institutions, civil society, donors – that public capital needs to be optimised and repurposed and private capital needs to be scaled and redirected to invest in a healthier, more equitable and more sustainable way of producing and consuming food. This paper lays out five core “food finance imperatives” needed to shift/mobilise this capital for food system transformation.

These are (1) reshape public support & incentives; (2) integrate environmental, health & social risks into financial decision-making; (3) scale fit-for-purpose financial products & business models; (4) secure equitable food systems; and (5) strengthen food governance & stability.

Each imperative includes a “double” and “triple” click – laying out specific action areas which are priorities to unlock capital for better food systems. This provides a roadmap of potential solutions. By directing these solutions to specific actors across the financial system, these imperatives should help accelerate the shifts in what and how we finance to ensure our food systems are more equitable, sustainable, resilient and healthier for both people and planet.

The prize: why we need to invest in more sustainable food systems

A high-performing and inclusive food system is critical to achieving the 2030 Sustainable Development Goals (SDGs) and the Paris Climate Agreement. It is key to tackling hunger, accelerating COVID-19 recovery, creating resilient jobs and reversing devastating climate change and nature loss, which disproportionately affect the world's most vulnerable.

We are running out of time to transform the food system to achieve these goals. Food systems will need to feed a global population of almost 10 billion by 2050, and COVID-19 has pushed us backwards in many respects. An additional 118 million people facing hunger in 2020,¹ and national governments' increased debt burdens are limiting scope to invest. The pandemic has also highlighted the risks from continuing to erode natural capital and allowing dysfunctional interactions between humans and animals in food chains.

We cannot deliver a high-performing, inclusive food system without proper finance. Mobilising private finance and optimising public finance can help protect forests and coral reefs; it can help producers manage risk; it can help develop the business models needed in a transformed food system; and it can help address hunger and inequalities throughout the system.^{2,3}

The status quo: food systems have come a long way, but are not longer fit for purpose

On the surface, the performance of the global food system over the last century has been extraordinary. Farmers, processors, traders, retailers and all the other agents active in the food system have been able to feed a global population that has increased from 1.6 billion in 1900 to nearly 7.6 billion in 2020, while at the same time bringing down real food prices.

Over that period, all four dimensions of food security improved – availability, access, reliability and nutrient adequacy. Caloric sufficiency increased as yields of a few staple crops rose, with cereals production doubling globally in the second half of the 20th century. And improved transport, storage and processing reduced the prevalence of pathogens, making food safer. Advances in labour productivity in agriculture released workers to the service and manufacturing sectors, thereby fuelling growth, economic diversification and poverty reduction, and thus making food more affordable.

These accomplishments have not been universally shared, however, and carried unacknowledged environmental, health, social and economic costs. Today's food systems generate hidden costs estimated at between \$6 trillion⁴ and \$12 trillion⁵ annually, while only generating a market value of around \$10 trillion per year. These costs are set to continue to rise under a business-as-usual scenario.

The scale of these hidden costs is huge, but so is the size of the prize from addressing them. Transforming food systems could:

- **Eliminate hunger and malnutrition** for the more than 820 million people who currently regularly go hungry, and the 3 billion for whom a healthy diet is out of reach. On current trends, half the world's population will suffer from some form of malnutrition and related health effects by 2030, with large individual and public costs. At the same time, 680 million adults are classed as clinically obese. Obesity is the 7th highest cause of (disability-adjusted) lost life-years globally and one of the biggest costs to public health systems and national economies through lost productivity.
- **Keep the world below 1.5°C of global warming and protect biodiversity** that supports of half (\$44 trillion) of the world's GDP by: (i) reversing deforestation and degradation of carbon-rich ecosystems such as peat and mangroves; (ii) scaling consumption of sustainable aquatic protein; and (iii) restoring soil health. About one third of the world's greenhouse gas emissions

originate from the food system, and it is the leading cause of natural capital asset destruction. Even a 2°C temperature scenario will not be reached from a reduction in fossil fuels alone, and the food sector, as the second largest emitter, must also step up. The food system is the leading cause of natural capital asset destruction, uses 70 per cent of blue water and has caused 60 per cent of the losses of vertebrate biodiversity since the 1970s.⁶

- **Transform employment in the sector to address poverty and inequalities.** The food system is the biggest global employment sector, but it does not distribute equitably the benefits it generates. In many cases, the food system is characterised by low and uncertain incomes for farmers and poorly paid and insecure jobs in food value chains: two thirds of people living in extreme poverty are agricultural workers and their dependants. This particularly affects women, ethnic minorities and youth: women are more likely to be malnourished (from undernutrition to obesity) but are also key actors both in household nutrition and in the production system.

The case for transformation: financing a more sustainable food system

There will obviously be a cost to transform food systems and shift food finance. Ending hunger by 2030 could cost up to \$160 billion per year.⁷ Addressing the system's wider global impacts, including keeping global warming below 1.5°C and protecting nature, could cost \$300 to \$400 billion annually to 2030.⁸ **But not acting will cost more.** The potential to avoid trillions in hidden costs and generate new investment opportunities means that mobilising the additional capital required and optimising existing investments into the food system is eminently affordable: it will pay for itself.

What's more, given the size of the global economy and existing financial flows into the food system, these costs are entirely achievable. The top-end \$400 billion estimate represents less than 0.5% of global GDP in 2020. Overall, the flow of global savings at the world level is about \$22 trillion.⁹ The value of global assets which were aligned with environmental, social and governance (ESG) principles, broadly defined, hit over \$40.5 trillion in 2020. In 2019-20, the outstanding stock of green bonds totalled \$750 billion; with \$170 billion in social bonds. On top of that, international public development funds amount to some \$260 billion per year (though not nearly enough of that goes into supporting a more sustainable food system). And public or government support for agriculture and food amounts to more than \$720 billion per year.¹⁰

A successful transformation could also generate significant returns. The total economic gains to society could reach \$5.7 trillion a year by 2030 and \$10.5 trillion a year by 2050. New business opportunities – including from tackling food loss, creating new value chains for regenerative agriculture and shifting to healthy diets – are worth an estimated \$4.5 trillion a year by 2030.¹¹ There is no technical or economic reason why we cannot feed ourselves with healthy diets and produce food through decent employment and practices that help us stay within planetary boundaries.

Transforming food systems should therefore be an urgent priority for governments and private sectors globally.

The winds of change: how finance can help transform the food system

Finance is both a driver of food system inefficiencies and an essential ingredient to their transformation. Changing what gets financed and how it gets financed will require big changes. We need to realign incentives to ensure financiers of the food system take a longer-term view and so better manage health, environmental and social risks, redirecting finance into more sustainable assets and activities. We need to support the creation of new business models and products that support the food system transformation and can thrive in the transformed system. We need to shift incentives across the system to enable more sustainable production and to better value nature. We need to

ensure equity in the system and across the economy. And we need to support wider system stability, ensuring food can flow to where it is needed and international effort to transform the system is coordinated.

This will shift finance away from capital-intensive, environmentally damaging, high-input assets in linear value chains and towards knowledge-based, regenerative and circular business models that are driven by value rather than volume and are more resilient, human-scale, diversified and in balance with nature. It will move away from short-term investment practices that fail to price in climate, health, social and environmental risks and into long-term investment solutions that put a price on nature and account for the trillions of dollars of hidden costs relating to climate, biodiversity, human health and livelihoods. These changes would improve access to affordable finance for poor households, subsistence farmers, women, youth, indigenous peoples and other vulnerable groups, whose labour plays a disproportionate role in supporting the food system.

Change is starting to come, bringing food to the forefront of the sustainable finance agenda. We have convened the first global Food Systems Summit (UN FSS). Governments – with support from development partners and civil society organisations – have started to amend policies and regulations, realign public expenditure, and undertake education and investment programmes. Both corporate and financial institution investors are changing strategies to respond to new opportunities, fulfil sustainability commitments and better assess and tackle climate- and nature-related risks.

Better food finance: five imperatives for action

Five “food finance imperatives” set out below provide a roadmap of potential solutions to mobilise private finance and optimise public finance to transform the food system. They set out how finance and drive a shift to a more equitable, sustainable, resilient and healthier food system for both people and planet.

These imperatives have been developed in consultation with experts and practitioners and cover both flows into the financial system as well as flows within it, and the enablers required to shift those flows.

They include actions for all major financial decision-makers in the food system. They should be read alongside the [Better Finance, Better Food Case Study Catalogue](#) of business models, financing archetypes and examples which showcase the range of investment products and structures already on or coming to market which could help mobilise capital for more sustainable food assets and address some of the major food finance inefficiencies.¹²



The imperatives identify critical levers needed to unlock capital while specific action areas provide a more detailed roadmap on how to implement the imperatives. Following this roadmap should rapidly scale investment and shift capital to net-zero, nature-, nutrition- and socially-positive food markets that build resilience, contribute to

economic growth, enhance global competitiveness and address political priorities of jobs, livelihoods, health, climate and nature.

1. Reshape public support and incentives in the food system to shift the market towards positive social and environmental outcomes

How can governments shift incentives to address market failures and accelerate investment in assets & business models which reduce carbon emissions, penalise habitat destruction, minimise unhealthy food consumption while increasing investment in nature and nutrition?

Reshaping public support through fiscal and other tools can address market failures and change how investments are allocated in markets.

The challenge: The current food system incentivises unsustainable choices. Policy, regulation and legal frameworks do not account for the costs that individuals and businesses inflict through their choices in the food system. This market failure makes it harder to stamp out unsustainable practices, and for sustainable practices and models to scale.

Most of the \$600 billion in public financial support for agriculture and fisheries contributes to the overuse of natural resources and often benefits richer, larger farmers over smaller ones. Public policy does not sufficiently penalise, or in some case may even promote the production and consumption of less nutritious or more harmful foods, to the cost of nutrient-rich, diversified diets. This means that costs that consumers and producers face, from the sale price of high fat, high sugar foods and drinks, to inadequately priced carbon emissions and water prices, do not reflect the cost to society from the consumption of these products or use of these resources,

Nature is not appropriately valued, and there are not yet suitable mechanisms for investment in natural assets. This leaves producers without a vehicle to earn an income from their work as custodians of natural capital.

Finally, governments do not consistently account for inter-related risks when developing policies associated with the food system. This is in part due to siloed decision-making processes that mean the Ministries of Agriculture, Health, Environment and Finance (among others) may face competing and conflicting objectives for the food system, with inadequate mechanisms for resolving these tensions, collaborating on major reforms (including repurposing public subsidies) or producing a coherent overall strategy. This can result in negative outcomes and mean win-win solutions may be left untouched (e.g. reducing health costs associated with non-communicable diseases through promotion of healthy diets).

The imperative: Governments and financial regulators can reshape public support and regulation to shift the market towards sustainable practices. Governments can repurpose fiscal incentives away from economic “bads” (e.g. carbon emissions, biodiversity destruction, consumption of excessive sugar, salt or trans-fats etc.) and towards sustainable practices (e.g. rural infrastructure, better river catchment area management for water quality and flood risk mitigation) and the generation of knowledge and innovation (R&D investment). Public spending on natural capital should also create mechanisms for others to invest in nature conservation. And regulatory requirements around due diligence on imports of key commodities can help create a premium for deforestation-free products. Central banks can also introduce stress testing for financial institutions based on their viability in a future economy that fully accounts for negative externalities.

2. Integrate climate, nature, social and health risks into financial decision-making

How do we mitigate the risks that are building in investment and public spending portfolios to minimise future losses and avoid stranded assets? How do we analyse these multi-faceted and connected risks, and what actions do we need to take?

We need to change how risk is assessed and integrated into financial decision-making, reflecting the growing exposure of the food sector to both physical and transition risks (climate, nature, social, litigation etc.) These risks are de-stabilising both public and private sector portfolios. Integrating these risks into financial decision-making in a meaningful way is critical to redirect capital out of unsustainable and potentially stranded food assets and into regenerative and resilient business models.

The challenge: Health, environmental and social risks are building in the food system, including climate-related physical and operational risks; likely regulatory changes linked to health, environmental and social impacts; liability risks associated with stranded assets; and credit risks across the supply-chain.

As a major driver of negative outcomes for climate, biodiversity, health and poverty, but also as a system with huge physical exposure to climate change, nature loss and social instability, risks in the food system threaten the entire economy. Yet financial decision-makers in banks, asset management and ownership companies, food businesses and governments do not consistently account these. Only 13% of all assets managed by the world's largest pension funds have undergone any formal assessment for climate risk. Similarly, few companies understand, let alone account for, the risks embedded in their supply-chains and business models linked to the production of key commodities, unhealthy consumption patterns, high rates of poverty and labor abuses.

There is also limited accountability in the system. There are no standardised reporting measures for climate, biodiversity and health; and the reporting that exists remains voluntary and is not routinely implemented by investors. Only one food company features in the Wall Street Journal's top 100 sustainable companies based on ESG practices.

Without change, lenders providing finance to unsustainable production and deforestation will see loans starting to under-perform as soils are depleted and rainfall patterns change. Governments will see increasing health costs as hunger and malnutrition resulting poverty persist, even as billions of dollars of public money are spent supporting food production. And food chain companies will find that their suppliers and workers are not as productive as they could be where they cannot afford to invest in their businesses or buy a healthy diet. This accumulation of risks could lead to stranded assets and jobs and increased exposure to future litigation or physical degradation of assets.

The imperative: Public and private financial decision-makers must integrate climate-, nature-, health- and social- risks into financial decision-making. Banks, investors and large businesses can adopt and report against the Taskforce on Climate Related Financial Disclosures (TCFD), help develop the Taskforce on Nature-related Financial Disclosure (TNFD) and set Science-Based Targets (SBTs), targeting Paris-aligned / net zero portfolios. Banks and investors can work with their clients to adopt similar targets and pathways. Financial institutions can commit to deforestation-free portfolios (e.g., deforestation-free pension funds).

Both the private sector and public institutions should incorporate environmental, health and social costs into decision-making. In the case of governments, it is critical that there is coordination across departments to unlock potential win-wins and avoid negative side effects. This includes aligning public procurement with good food practices, recognising the risks in continuing to depend on unsustainable

supply-chains. This needs to be supported by improving integration of data systems, radically strengthening transparency and coordination to detect and manage risks.

By better accounting for risk in investment and spending decisions, decision-makers in governments can reduce costs and improve fiscal sustainability, businesses can improve long-term profitability and growth, and financial institutions can secure more stable and resilient returns on investment.

3. Scale fit-for-purpose financial products to respond to a changing context & capture new opportunities

How can we transform the financial system to capture the benefits of new technologies & regenerative business models, making use of powerful financial products that extend financial services where they are currently lacking and to create vehicles for investment in the new business models we need in a sustainable food system?

The challenge: Mobilising capital to pilot early stage, nascent business which are good for people and planet can have high transaction costs, meaning these solutions struggle to get to scale and business-as-usual practices get locked in despite the negative externalities.

Key food system actors – especially small producers – also face barriers to access finance, limiting their ability to transition to sustainable practices and to increase scale. Limited investor appetite or ability to serve small producers is weakened by the perception of the sector as high risk and low return. Information asymmetries and poor collection and dissemination of data; and credit risk of smallholders, who often have no collateral, unclear land rights or credit history (almost 90% of smallholders lack access to formal finance). Farmers knowledge about affordable finance is limited, while farmer cooperatives often lack proper management capacity and have difficulty accessing credit.

Businesses looking to transition to more sustainable production practices often need to shift to new, innovative business models and income streams (e.g., from forest carbon credits/ payments for ecosystem services) that are unproven or do not yet have significant markets. This can limit investor interest, who struggle to assess the risk profile of unfamiliar business models.

Sustainable entrepreneurs and SMEs also face challenges to access finance due to ticket size being seen as too large or too small, and risk profile misalignment.

A range of innovative financial products exist with the potential to address the challenges outlined above, from de-risking sustainable practices to realigning incentives and redistributing opportunity across the food system. Yet financial institutions are not currently unlocking the potential of such financial products, instead remaining in old patterns of behaviour. This reduces access to finance for key food system actors and limits the flow of finance to public goods in the food system.

The imperative: There is a huge opportunity to develop, replicate and scale fit-for-purpose financial products to unlock investment in key food system actors and sustainable practices and business models. Development finance institutions can commit to use their capital more catalytically, including engaging in blended finance solutions, issuing food system bonds and providing targeted preparation facilities and capacity building for sustainable business models through incubators and accelerators. Banks and investors can engage early with blended finance solutions and scale financial solutions that account for the value of sustainable practices, such as sustainability-linked debt (scaling the \$120 bn in sustainability-linked loans issued in 2020 by 10x).

Banks and financial institutions can develop financial instruments that support sustainable business models (as a key growth area) and that extend financial services to a wider pool of potential

customers, e.g., accessible crop insurance/ nature-linked insurance, pay-per-use and shared services, and fintech solutions that enable informal actors to build financial histories and credit profiles, and monitor risk.

These priorities represent not just an opportunity to enhance access to finance for food system actors, securing more productive and resilient food systems, but also for financial actors to unlock growing markets and tap into new, larger pools of potential customers.

4. Secure equitable food systems

How can we set up the system to share value and risk fairly so that everyone can afford a healthy diet; producers in the chain can invest in their businesses; and all governments are able to invest where needed?

The challenge: Income inequality and inadequate social protection systems leave millions of people hungry every day and billions unable to afford a healthy diet.

Within the food supply chain, primary producers are often fragmented and geographically dispersed, and employees in food manufacturing mainly by relatively low-skilled. Farmers, particularly among indigenous groups may have weak land rights. And women may face challenges across the whole system as primary producers, employees and, in many societies, anchors for household nutrition.

This can leave them with limited bargaining power in the supply chain. This can mean they bear a disproportionate share of risk and keep only a small share of value. This means they are unable to invest in the sustainability of their businesses or able to maintain a decent livelihood.

Finally, at the government level, there are significant differences between countries in the availability of fiscal space to invest in transforming the food system. This has been worsened by the COVID-19 pandemic, with many countries accumulating unmanageable debts.

The imperative: Public and private actors can cultivate equitable food systems across value-chains and within and between countries.

First, governments must improve social protection systems, with nutrition-sensitive poverty lines, to ensure everyone can afford a nutritious diet. They should also focus on long term economic growth to secure economic opportunities for all. Governments can invest in infrastructure and work to improve border processes to help food flow to where it is needed and mitigate volatility.

Second, companies in the supply chain should ensure they pay sufficient wages for their employees to be able to afford a healthy diet and so deliver at their best when they are working. They should also review the prices they pay to suppliers to ensure they also can maintain their livelihood and invest to improve sustainability. Government investment in infrastructure and R&D and strengthening of land rights can further support producers' productivity and ability to invest, helping to improve their profitability. Enforcement of labour laws can help employees in the supply chain, and standardisation of purchase contracts and support for cooperatives can help producers' bargaining positions.

Third, poorer countries with limited fiscal capacity need international support to invest in food systems. Wealthy countries can increase ODA and climate finance for the food system through development finance institutions. Rich governments can introduce targeted debt relief to facilitate the flow of capital to climate-smart, nutrition- and nature-positive food system practices. This could be supported by innovative financial instruments, such as guarantees (e.g. using a percentage of the new allocation of Special Drawing Rights (SDRs) and other public funds) for a new type of perpetual/ long-dated social and environmental bond, with capped adjustable rates (simultaneously addressing C19 debt burdens).

5. Strengthen governance and stability of the food system

How do we invest and design governance mechanisms to ensure food can flow where it's most needed, and the transition can proceed in an orderly way?

Underpinning these imperatives is a change in how the food system is managed to secure improved governance and stability. This is critical to secure the effectiveness of the imperatives outlined above.

The challenge: Food markets are inherently volatile. Weather, macroeconomic conditions, conflict, technology and health shocks all affect food production and the availability of food for consumption. These risks are set to mount, as climate change and biodiversity loss increase the likelihood and intensity of extreme weather events and erode the resilience of the food system. The transformation of the food system will also carry new risks, as new business models are developed and producers have to adapt to changing financial flows.

The food system today is not set up to deal with these mounting risks. There lacks adequate regulation, transparency and international coordination to limit unsustainable and/ or illegal practices and manage shifting dynamics across complex, global value-chains. This undermines the resilience of the food system to changes and threats, increasing the likelihood of future crises and dislocations. The changes required also cross international borders, and if countries proceed in an uncoordinated way, this can lead to new problems emerging.

The imperative: The international governance system needs to be enhanced to promote stable, productive and equitable food systems. International coordination is critical to share knowledge and expertise, design transformation programmes, manage spill-overs between countries (e.g., the impact of export restrictions in one country on food supplies and GHGs elsewhere) and respond to emerging crises (e.g., breadbasket failures/ food price volatility). An international coordinating body could help to play this role.

At the same time, improvements can be made to the flow of food from sources of production to consumption to manage volatility and ensure food flows to where it is needed most. Priorities include the reform of trade barriers (including tariffs, taxes and import bans) and investments in infrastructure in underserved areas to improve access to food and markets.

And underpinning this is a need for better governance and international coordination of action to transform the food system. Such governance can provide expertise and knowledge to help countries design transformation programmes. It can help manage spill-overs between countries, such as impacts of export restrictions on food supplies and greenhouse gas emissions elsewhere.¹³ And it can help to maintain momentum, mobilising finance and convening stakeholders to build consensus about change. Such action can help further stabilise the system, reducing the risk of sudden dislocations in the food system that can push people into hunger.

The Food Systems Summit: a critical moment for action

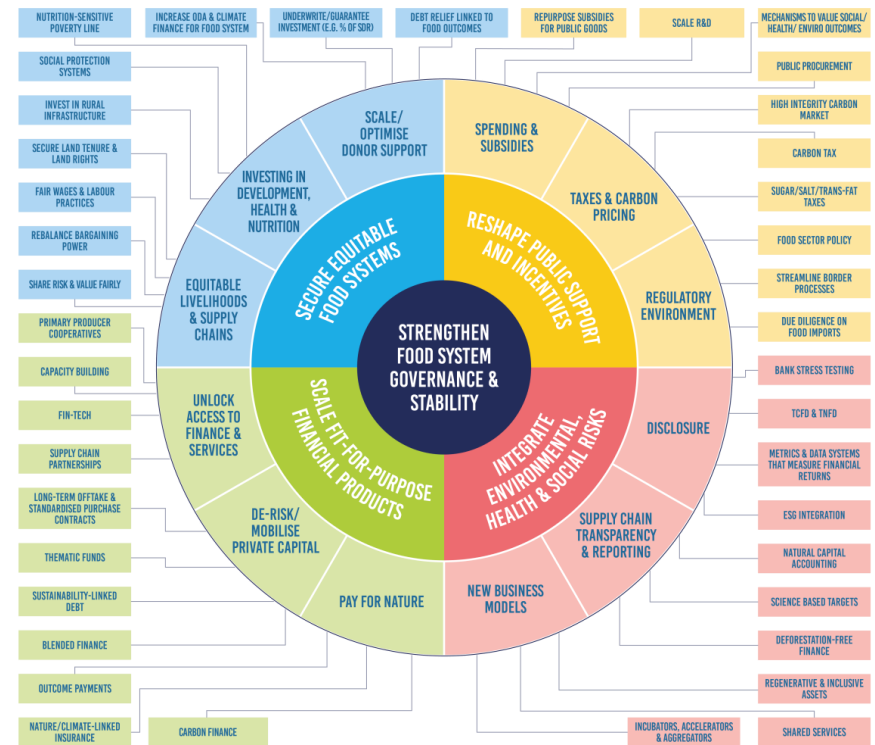
The UN Food Systems Summit represents a critical moment to promote and scale initiatives and solutions that can help to deliver on the imperatives that underpin this Food Finance Architecture. Emerging and existing initiatives that are being launched and scaled via the Food Systems Summit interact with the food finance imperatives at multiple points. The UN FSS Finance Lever looks forward to continuing working with partners to support these initiatives, drawing on the imperatives to determine where impact could be greatest and what interventions are best suited to deliver key goals.



Implementing this programme of change would help to deliver more sustainable, nutritious food systems, underpinning the growth and security of the global economy, enhancing livelihoods, tackling the climate crisis, improving human health and bolstering the global economy against future climate change and other shocks. We can all agree: that is a prize worth chasing.

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Specific action areas within each imperative highlight critical priorities to finance food system transformation



Annex 1: Actions to take forward the imperatives by institution

<p>Banks</p>	<p>Integrate climate, nature, social and health risks into all financial decisions</p> <ul style="list-style-type: none"> • Adopt and report against the Task Force of Climate-related Financial Disclosures (TCFD) framework for assessing climate risks and incorporate this framework into their decision-making. They should support the emerging Taskforce on Nature-related Financial Disclosures (TNFD) framework and other frameworks for social and health impacts; • Adopt and report against Science Based Targets consistent with a 1.5°C Paris-aligned trajectory; a pathway to zero deforestation; as well as other appropriate social targets in order to help address the risks they face and reduce their environmental, social and health impacts; • Insist that their clients and portfolio companies adopt similar targets and risk reporting. • Take action to mitigate these risks and achieve these targets, prioritising investing in nature, protecting and expanding forests, restoring reefs and repairing habitats to generate resilience, protect other assets, sequester carbon and ensure long term sustainable food production. <p>Fit for purpose financial products to support new sustainable business models</p> <ul style="list-style-type: none"> • Seek to mitigate risks by redirecting investment towards more sustainable businesses and to protecting natural assets such as rainforests, coral reefs and mangroves that provide resilience and sequester carbon; • Develop financial products that incentivise more sustainable business models that both mitigate risks and future proof portfolios. Engage early with blended finance solutions to help structure investment vehicles effectively; • Explore how they can use new digital technologies to extend financial services (including insurance) to a wider range of potential customers, allowing them to build credit histories and invest in their businesses.
<p>Investors</p>	<p>Integrate climate, nature, social and health risks into all financial decisions</p> <ul style="list-style-type: none"> • Adopt and report against the Task Force of Climate-related Financial Disclosures (TCFD) framework for assessing climate risks and incorporate this framework into their decision-making. They should support the emerging Taskforce on Nature-related Financial Disclosures (TNFD) framework and other frameworks for social and health impacts; • Adopt and report against Science Based Targets consistent with a 1.5°C Paris-aligned trajectory; a pathway to zero deforestation; as well as other appropriate social targets in order to help address the risks they face and reduce their environmental, social and health impacts; • Insist that their clients and portfolio companies adopt similar targets and risk reporting. • Take action to mitigate these risks and achieve these targets, prioritising investing in nature, protecting and expanding forests, restoring reefs and repairing habitats to generate resilience, protect other assets, sequester

	<p>carbon and ensure long term sustainable food production.</p> <p>Fit for purpose financial products to support new sustainable business models</p> <ul style="list-style-type: none"> • Seek to mitigate risks by redirecting investment towards more sustainable businesses and to protecting natural assets such as rainforests, coral reefs and mangroves that provide resilience and sequester carbon; • Develop financial products that incentivise more sustainable business models that both mitigate risks and future proof portfolios. Engage early with blended finance solutions to help structure investment vehicles effectively.
<p>Food businesses</p>	<p>Integrate climate, nature, social and health risks into all financial decisions</p> <ul style="list-style-type: none"> • Adopt and report against the Task Force of Climate-related Financial Disclosures (TCFD) framework for assessing climate risks and incorporate this framework into their decision-making. They should support the emerging Taskforce on Nature-related Financial Disclosures (TNFD) framework and other frameworks for social and health impacts; • Adopt and report against Science Based Targets consistent with a 1.5°C Paris-aligned trajectory; a pathway to zero deforestation; as well as other appropriate social targets in order to help address the risks they face and reduce their environmental, social and health impacts; • Take action to mitigate these risks and achieve these targets, prioritising investing in nature, protecting and expanding forests, restoring reefs and repairing habitats to generate resilience, protect other assets, sequester carbon and ensure long term sustainable food production. <p>Ensure equity in the system to support sustainability</p> <ul style="list-style-type: none"> • Recognise the need for primary producers to invest so they can transform their businesses to produce sustainably, and need to share value and risk with them in ways that reduce their costs to investment. They must pay living wages to employees and share value and risk with primary producers to ensure living incomes and the ability to invest in sustainable production. <p>Fit for purpose financial products to support new sustainable business models</p> <ul style="list-style-type: none"> • Seek to mitigate risks by redirecting investment towards more sustainable businesses and to protecting natural assets such as rainforests, coral reefs and mangroves that provide resilience and sequester carbon.
<p>Governments</p>	<p>Integrate climate, nature, social and health risks into all financial decisions</p> <ul style="list-style-type: none"> • Incorporate climate, nature and health impacts consistently across all areas of decision-making, overcoming siloed decision-making. This should mean reassessing public support for the food system and shifting it away from support for unsustainable product and for prices towards: <ul style="list-style-type: none"> ○ Poverty relief; ○ Public environmental goods, including afforestation and other habitats, where the private sector will struggle to invest; and ○ R&D and training for primary producers, giving them the skills and creating the technologies to produce efficiently and sustainably;

	<ul style="list-style-type: none"> • Assess environmental, health and social risks in their procurement supply chains, ensuring public institutions continue to have access to the food they need to deliver their services; • Use regulatory powers to mandate financial and corporate risk analysis and disclosure. <p>Shift incentives towards more environmentally and socially sustainable production</p> <ul style="list-style-type: none"> • Set standards and create mechanisms for payments for ecosystem services. They must also invest directly in areas where the private sector will not be able to, or where there is a clear public benefit. And they should tax public bads such as unhealthy foods and carbon emissions, and adequately price water, in order to shift incentives away unsustainable practices and choices. <p>Ensure equity in the system to support sustainability</p> <ul style="list-style-type: none"> • For the food supply chain, facilitate the formation of primary producer cooperatives to strengthen producers’ negotiating positions. They should enforce minimum wage and employment laws to address any exploitation and ensure a fair flow of funds. And they should consider other regulatory action to improve and standardise purchase contracts with primary producers. They should also create an enabling environment for financial services including by strengthening land rights; • For the population at large, invest in nutrition-sensitive poverty relief so people can afford a healthy diet and to mitigate long term health risks. <p>Fit for purpose financial products to support new sustainable business models</p> <ul style="list-style-type: none"> • Use catalytic capital to derisk investments in innovative, sustainable business models such as agro-forestry and reef-positive companies, and develop proofs of concept. This will help to bring in private investment, both in these both at these early stages and also when setting up private funding to lead expansion of these models in the future. It will also require a shift in institutional incentives and mandate for risk. <p>Governance and investment for stability in food markets</p> <ul style="list-style-type: none"> • Invest in infrastructure to help ensure food can flow to where it is needed; • work to reduce trade barriers; • collaborate in new international food system governance to help coordinate transformation.
<p>Donors and Multilateral Development Banks</p>	<p>Ensure equity in the system to support sustainability</p> <ul style="list-style-type: none"> • At least double international development funds allocated to the food system (increasing by about \$12–16 billion annually above current levels) to support transformation where it is most needed, while seeking to leverage in other sources of funding, especially from the private sector. This could be supported by innovative financial instruments, such as guarantees (e.g. using a percentage of the new allocation of Special Drawing Rights (SDRs) and other public funds) for a new type of social and environmental bond, as a perpetual

(or long-dated) bond, with capped adjustable rates. This can be used to jointly address developing countries' post-Covid-19 debt burdens, while also helping to address the climate and environmental impacts of the food system and build administrative capacity in countries to transform the food system.

Fit for purpose financial products to support new sustainable business models

- Use catalytic capital to de-risk investments in innovative, sustainable business models such as agro-forestry and reef-positive companies, and develop proofs of concept. This will help to bring in private investment, both in these both at these early stages and also when setting up private funding to lead expansion of these models in the future. It will also require a shift in institutional incentives and mandate for risk.

Governance and investment for stability in food markets

- Invest in infrastructure to help ensure food can flow to where it is needed.

Annex 2: Ideas for taking forward post-Summit

We also need to mobilise around a few critical areas of collective action and scaled-up finance. The Finance Lever has therefore produced a series of more specific proposals within the imperatives that could be led by a mix of member states, the private sector and civil society, and could change the game over the next decade.

This agenda is not only possible but investable and can be seized with coordinated leadership and enablers like R&D, technology, better finance, bold policy and civil society engagement.

Health and Nutrition: Halving the disease burden from unhealthy diets and over-consumption by (i) eliminating food insecurity and hunger from the 800 million who suffer today; (ii) ending all forms of malnutrition by 2030, cutting stunting and wasting in children under 5 by 50% by 2025; and (iii) halving the number of deaths per year linked to high BMI globally.

- **30 x 30 to end hunger:** Working with the **Zero Hunger Alliance**, donor countries would pledge at least \$30 billion to end hunger by 2030. Its goal would be to make sure that all citizens, especially children, have access to affordable healthy food (e.g. through the **School Lunches Programme** which has over 50 country members)
- **50% target for nutritious foods:** Companies would commit to ambitious product reformulation, targeting 50% of nutritious products in portfolios by 2025 and supporting necessary policy reforms.

Economic prosperity and recovery: Eradicating poverty and securing decent livelihoods for food system actors while boosting productivity, efficiency and growth by (i) securing a living wage and decent livelihoods for 1 billion people working in agriculture; (ii) creating over 120 million decent rural jobs; (iii) boosting agricultural productivity by at least 10% by 2030, notwithstanding climate headwinds; and (iv) cutting food loss and waste by 25% by 2030.

- **\$50bn climate/development finance for food:** G7 governments would make \$50bn ODA commitment to food systems over 5 years and support ambitious targets for the Multilateral Development Banks (MDBs) to invest in developing country food system transformation programmes. This should target the most vulnerable and challenging sectors and geographies and link debt relief programmes to sustainable food outcomes.
- **Farmer finance for 300m:** MDBs, bilateral donors and impact investors would work with the fintech community to roll out standardised and affordable credit packages for 30 million smallholder farmers a year to 2030 and other financial products that strengthen physical and financial resilience (e.g. parametric climate crop insurance).
- **50 x 50 for sustainable supply chains:** Top 50 leading food and ag companies and their lenders commit to investing \$50 billion over the next 5-10 years to scale inclusive, circular,

climate-smart, forest- and nature-positive supply chains. This funding should be coupled with commitments to (i) disclose climate- and nature-related risks (TCFD/TNFD) and use True Cost Accounting; (ii) set Science Based Targets; (iv) establish full supply-chain sourcing transparency to tackle environmental and social abuses; (v) halt and reverse deforestation; (vi) deliver on ambitious food loss and waste targets; and (vii) pay living wages.

Reverse climate change and regenerate nature: transition to a net-zero, nature-positive food system by 2050 (cutting emissions by 40% to less than 5 GT a year by 2030) by (i) halting deforestation and restoring over 350 million hectares of natural land and forests by 2030; (ii) scaling diverse, alternative proteins to account for 70% of protein consumption by 2030; and (iii) mainstreaming regenerative agricultural practices that improve soil health across 50% arable crop land (approximately 1 billion ha) by 2030 (and 0.5 billion hectares by 2025)

- **Leading countries would launch a [Net Zero Country Alliance](#)** to commit to net-zero emissions from food and land use by 2050, engaging with relevant initiatives including the Forest, Agriculture, Commodities Trade “FACT” Dialogues at COP26.
- **\$1 billion extra capital for agriculture innovation:** Leading philanthropies to scale a CGIAR-led **Climate Smart Innovation Fund** to \$1 billion by 2023 (up from \$200 million), increasing long-term funding for essential food system research and innovation.
- **50% shift to regenerative models:** A new coalition of countries, farmers, companies and civil society (**Regen10**) would aim to shift 50% of global arable and livestock farming towards **regenerative models** which increase soil health/carbon (sequestering up to 1 GT per year) and lower input requirements by 2030.
- **\$1 trillion AUM goes deforestation-free:** Financial institutions with \$1 trillion AUM commit to deforestation-free flows, as part of their net zero asset owner or asset manager commitments (e.g. partnering with the Net Zero Asset Owners Alliance, Net Zero Asset Managers Initiative, Make My Money Matter, Partnership for Forests and others).

¹ Food and Agriculture Organization of the United Nations and others, *The State of Food Security and Nutrition in the World 2021. Transforming food systems for food security, improved nutrition and affordable healthy diets for all* (Rome, FAO, 2021), available at <http://www.fao.org/documents/card/en/c/cb4474en>.

² Shenggen Fan and others, “SDG 2.1 and SDG 2.2: Why open, transparent, and equitable trade is essential to ending hunger and malnutrition sustainably”, in *Achieving Sustainable Development Goal 2: Which Policies for Trade and Markets?* Jonathan Hepburn and Christophe Bellmann, eds. (International Centre for Trade and Sustainable Development, Geneva, Switzerland, 2018), available at <https://ieep.eu/uploads/articles/attachments/b94ce9c4-9476-4543-8d25-6d7ee674d954/Achieving%20Sustainable%20Development%20Goal%202.pdf?v=63771019594>.

³ These outcomes relate to SDGs 1, 2, 3, 5, 8, 10, 12, 13, 14 and 15.

⁴ See Martien van Nieuwkoop, “Do the costs of the global food system outweigh its monetary value?”, 17 June 2019, available at <https://blogs.worldbank.org/voices/do-costs-global-food-system-outweigh-its-monetary-value>.

It notes that it may be a conservative estimate accounting only for five “externalities” of the current food system: malnutrition, food loss and waste, food safety, land degradation, and the greenhouse emissions from current agricultural (non-land related).

⁵ The Food and Land Use Coalition, *Growing Better: Ten Critical Transitions to Transform Food and Land Use* (The Food and Land Use Coalition, September 2019), available at <https://www.foodandlandusecoalition.org/wp-content/uploads/2019/09/FOLU-GrowingBetter-GlobalReport.pdf>.

⁶ Mario Herrero Acosta and others, “Transforming Food Systems Under a Changing Climate: Future technologies and food systems innovation for accelerating progress towards the SDGs: key messages”, CGAIR Research Program on Climate Change, Agriculture, and Food Security, 14 October 2019, available at <https://ccafs.cgiar.org/resources/publications/transforming-food-systems-under-changing-climate-future-technologies#.Xda-L1dKg2w>.

⁷ David Laborde, Marie Parent and Carin Smaller, *Ending Hunger, Increasing Incomes, and Protecting the Climate: What would it cost donors?* (Ceres 2030, International Institute for Sustainable Development (IISD) and International Food Policy Research Institute (IFPRI), 2020), available at <https://ceres2030.org/wp-content/uploads/2020/10/ceres2030-what-would-it-cost.pdf>.

ZEF Center for Development Research University of Bonn and Food and Agriculture Organization of the United Nations, *Investment costs and policy action opportunities for reaching a world without hunger (SDG2)* (Bonn, Germany, ZEF and FAO, 2020).

⁸ The Food and Land Use Coalition, *Growing Better: Ten Critical Transitions to Transform Food and Land Use*.

⁹ Eugenio Díaz-Bonilla, *Financing SGD2 and Ending Hunger* (Bonn, Germany, ZEF, 2021), available at <https://dx.doi.org/10.48565/scfss2021-ba75>.

¹⁰ OECD, *Agricultural Policy Monitoring and Evaluation 2021: Addressing the Challenges Facing Food Systems* (Paris, OECD, 2021), available at https://www.oecd-ilibrary.org/agriculture-and-food/agricultural-policy-monitoring-and-evaluation_22217371.

¹¹ The Food and Land Use Coalition, *Growing Better: Ten Critical Transitions to Transform Food and Land Use*.

¹² Blended Finance Taskforce, *Better Finance, Better Food*, (Blended Finance Taskforce, London), available at <https://www.blendedfinance.earth/better-finance-better-food>

¹³ See, for example, work by IFPRI.