



BLEND  
ED  
FINANCE  
TASKFORCE

# Better Finance, Better Food:

Investing in the new food  
and land use economy

---

Partner logos



The logo for Systemiq, consisting of the word "SYSTEMIQ" in a bold, sans-serif font, enclosed within a white rectangular border.

This report was supported by NICFI in partnership with the Food and Land Use Coalition

---

Cover photo credit:  
Colombia – Cacao Produce/Chris de Bode for Panos Pictures/Food and Land Use Coalition

---

This report has been produced by the Blended Finance Taskforce Secretariat. Members and friends of the Blended Finance Taskforce or their organisations have provided inputs and insights into the material but have not been asked to formally endorse this work and they should not be taken to have done so. The Blended Finance Taskforce is not an investment adviser and makes no representation regarding the advisability of investing in any company, investment fund or other vehicle. Readers may reproduce material for their own publications, as long as they are not sold commercially and are given appropriate attribution.

---

Blended Finance Taskforce  
c/o SYSTEMIQ  
69 Carter Lane  
London EC4V 5EQ  
United Kingdom

[contact@blendedfinance.earth](mailto:contact@blendedfinance.earth)

Copyright Blended Finance Taskforce  
This work is licensed under a Creative Commons License  
Attribution-NonCommercial 4.0  
International (cc by-nc 4.0).

# TABLE OF CONTENTS

Foreword	4
1. The new food and land use economy	7
2. Inefficiencies in financing food and land use systems	9
3. Better Finance, Better Food	12
4. Accelerating investment in the new food and land use economy	22
Acknowledgements	28
References	29



Chang Tianle, who runs the Beijing Farmers' Market. She volunteers her time at the Tianfu Garden Farm (God's Grace Garden) to help pick ripe organic cherries. Ian Teh for Panos Pictures/God's Grace Garden.

# FOREWORD

**Transforming today's food and land use systems could unlock \$4.5 trillion in new business opportunities every year; to get there we need to rapidly replicate and scale what is already working**

Today's food and land use systems are typically extractive, destructive and reinforce major inequalities. They generate over \$12 trillion a year in hidden environmental, social and economic costs.<sup>1</sup>

Meanwhile, over half the world's GDP depends on nature<sup>2</sup> and is therefore at risk because of the ongoing destruction of terrestrial and ocean ecosystems linked to the way we currently produce food and use land. The covid-19 pandemic brought the world's



attention to the unintended consequences of our relationship with nature as we farm and feed ourselves. Covid-19 has also reinforced inequalities across the food system, disrupting supply chains and pushing millions of vulnerable people below the poverty line.

Transforming to a more sustainable food and land use system is critical if we want to curb climate change, protect biodiversity and improve human health. It is also critical as we seek to (re)build more inclusive post-covid economies – especially for rural communities – while ensuring food security, supporting resilient jobs and tackling systemic vulnerabilities which make shocks like natural disasters, recessions – and pandemics – so much worse.

This is not only about protecting people and planet. Investing in more regenerative, nature-positive solutions can unlock \$4.5 trillion in new business opportunities each year by 2030, driven by shifting consumer preferences for healthier food, new policies around responsible production, advances in technology which improve supply chain transparency, and widespread corporate and country commitments to reach “net zero” – which will need to include investment in largescale nature-based solutions.

This unprecedented set of enabling conditions will create value in the “new” food and land use economy, and destroy value in the old; investors will be left behind if they don’t shift capital out of “4-degree” food and land use portfolios and stranded agricultural assets.

We are already seeing this play out in real time. Commitments to finance nature and sustainable land use are already on the rise. In 2020 alone, HSBC announced that it would raise a \$1 billion natural capital investment fund;<sup>3</sup> Lombard Odier launched a \$400 million circular bioeconomy fund that seek to harness the power of nature;<sup>4</sup> and Walmart committed to transforming the world’s supply chains to be truly regenerative, while protecting, managing or restoring at least 50 million acres of land and one million square miles of ocean by 2030.<sup>5</sup>

Meeting these commitments will require a significant shift in both what and how we invest. It means moving away from financing short-term, capital-intensive, high-input business models which are inherently exposed to climate risk, as well as major drivers of it. Instead, we need to invest in more resilient, circular solutions which are knowledge-based, regenerative and driven by value instead of volume.

New financial products, innovative supply chain partnerships, and investment vehicles which blend public, private and philanthropic capital are already being developed to shift capital out of the “old” food and land use economy and into the new one. We have identified seven core business model and financing “archetypes” which can accelerate this shift – from blended finance funds to supply chain partnerships to sustainability linked debt and insurance products to market solutions to pay for ecosystem services (see Exhibit 1).

Each of the archetypes tackles a different inefficiency in the financial system to (i) create/capture the value of nature; (ii) incentivise more resource-efficient outcomes; and/or (iii) harness public and philanthropic funds to mobilise private finance to get to scale. The “Better Finance, Better Food” case study catalogue includes over 50 examples of these different business models and financing solutions.

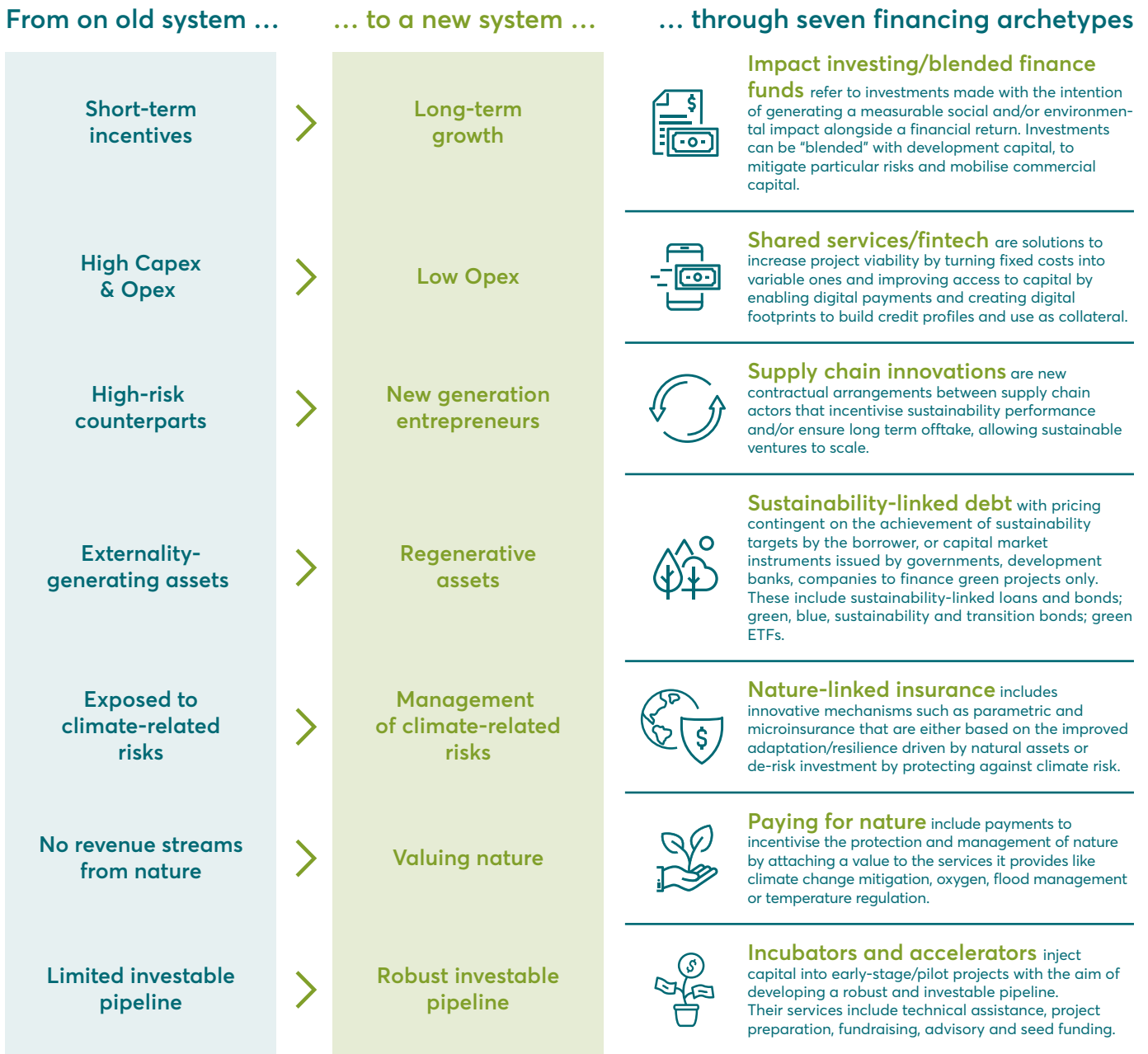
Unfortunately, many of these solutions are still sub-scale and/or not well-known. The “Better Finance, Better Food” case study catalogue is designed to address this issue. We hope it serves as a source of knowledge and inspiration for investors, business leaders, policymakers, development finance institutions, project developers, philanthropies and local communities who do not want to reinvent the wheel. What’s more, we hope it demonstrates that there is already a wide range of investable opportunities across the risk/return spectrum around the world.

The real challenge lies in replicating these business models and financing archetypes to get to scale. We need to significantly reduce transaction costs and cut down the time it takes to access and deploy capital. That means we need to mainstream new financial products, standardise investment structures and rapidly accelerate pipeline development. Unless we learn from what is already working to streamline transactions and make “innovative” solutions more “vanilla”, then largescale capital will never shift fast enough.

It is in that spirit that we have compiled some of the most promising business models and financial instruments/products in this catalogue. Success will be if “Better Finance, Better Food” helps to:

- a. Demonstrate a strong pipeline of investable food and land use assets around the world which are good for people and planet
- b. Rapidly scale financial innovations which are already delivering results
- c. Replicate what is working across geographies and asset classes
- d. Ensure that policy interventions accelerate proven solutions and unlock private capital for market-based solutions

# Business model and financing archetypes can address key inefficiencies of today's system



Source: Blended Finance Taskforce, 2020

Success also looks like building a movement – gathering more examples through an open-source campaign where everyone can access the learnings. We know there are many more people – from farmers to fund managers – who have a story to share. Help us get to 500+ case studies and take this agenda mainstream! “Better Finance, Better Food” is just the beginning.

For more information, or to submit a case study, please visit [www.blendedfinance.earth/case-studies](http://www.blendedfinance.earth/case-studies) or email [contact@blendedfinance.earth](mailto:contact@blendedfinance.earth).

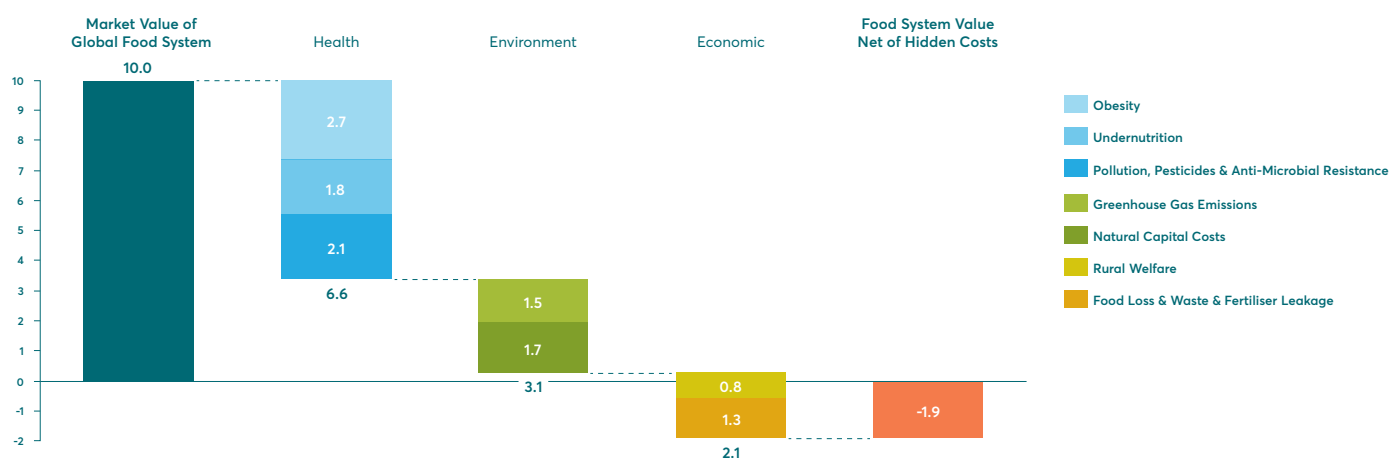
# 1. THE NEW FOOD AND LAND USE ECONOMY

Despite having achieved impressive results in terms of calorie production and low prices to feed a continuously growing human population, current food and land use systems incur substantial environmental, health-related and economic costs that are not accounted for or “hidden” (see Exhibit 1).

These include (i) environmental costs – not only global greenhouse gas emissions<sup>1</sup> but also biodiversity loss, soil degradation and ocean nutrient pollution; (ii) health issues for approximately 1 person every 5 due to poor nutrition:<sup>2</sup> and (iii) significant economic imbalances, with two-thirds of the 740 million people living in extreme poverty worldwide working in agriculture.<sup>3</sup>

EXHIBIT 1

## Trillions USD, 2018 prices



(see online technical annex for methodology at <https://www.foodandlandusecoalition.org/global-report/>)

Source: Food and Land Use Coalition, 2019

Transforming food and land use systems<sup>4</sup> by 2030 to curb climate change, protect biodiversity, improve health and create more inclusive rural economies while ensuring food security is possible. It will require the implementation of a comprehensive reform agenda, including investment of more than \$300 billion a year<sup>5</sup> into more regenerative, equitable and nature-positive assets.

The Food and Land Use Coalition’s Global Consultation Report “*Growing Better*” lays out the scientific and economic case for the transformation to a more sustainable food and land use system by implementing ten critical transitions: from improved nutrition and regenerative farming practices, to minimising food loss and waste and strengthening local supply chains; from optimising ocean productivity and diversifying protein intake to advancing the digital revolutions and strengthening rural infrastructure (see Box 1).

Implementing these transitions is not easy and requires changes in behaviour and practices from farmers, consumers, policymakers, corporate leaders and investors. Governments, corporates, private investors, presidents and shareholders from multilateral institutions and civil society all have a role to play in shaping and advancing this critical agenda for planet and people.

The prize is minimising \$12 trillion of hidden costs<sup>6</sup> from today’s unsustainable system while continuing to feed a growing population at affordable prices, protecting vital natural ecosystems and dramatically improving the quality of life for billions of people around the world.

## 10 Critical Transitions to transform food and land use systems

- 1 Promoting healthy diets:** Global diets need to converge to local variations of what is “people and planet” positive – a predominantly plant-based diet, high in protective foods (fruits, vegetables and whole grains), a diverse protein supply and low in sugar, salt and processed foods with relevant local variations, emphasising high-quality and affordability.
- 2 Scaling productive and regenerative agriculture:** Agricultural systems and techniques that enhance soil health, reduce the use of chemical fertilisers and improve crop resilience should become more widespread. Combining traditional techniques like crop rotation and agro-forestry with deeper knowledge of local soil, water and weather conditions will be key; new advanced precision-farming technologies and bio-based fertilisers and pesticides should also become the standard
- 3 Protecting and restoring forests and other natural ecosystems:** There is enough land to feed the world while protecting nature and limiting global heating to well below 2 degrees. This will require an end to deforestation and conversion of other ecosystems for agriculture. 1.2 billion hectares of land currently used for agriculture will also need to be freed up for restoration by 2050.<sup>7</sup> This can be achieved by scaling regenerative business models that create value from standing forests (including carbon sequestration), agriculture production-protection models and businesses that generate value from forest regrowth, including ecosystem services and forest commodities.<sup>8</sup>
- 4 Securing a healthy and productive ocean:** Sustainable fishing and aquaculture can unlock the untapped potential to increase supply of ocean protein. This can reduce pressure on land for food and support a more diverse protein supply for healthier diets. This will require the reform of wild-catch fisheries and expansion of “mariculture”, or open-ocean cultivation. It will also be critical to protect and restore essential ocean habitats – estuaries, wetlands, mangroves and coral reefs – while curbing nutrient and plastic pollution.
- 5 Diversifying protein supply:** Rapidly developing alternative sources of protein is critical for healthy diets and reducing environmental degradation. Protein supply should be further diversified into plant-based, insect-based and laboratory-cultured sources. Animal-based protein substitutes have already entered the market and are expected to scale rapidly – they could make up ~ten percent of the global meat market by 2030.<sup>9</sup>
- 6 Reducing food loss and waste:** Approximately one third of all food produced goes to waste, costing around \$1 trillion a year and using an agricultural area almost the size of the US. Tackling food loss and waste would relieve future pressures on land for food production, significantly bring down food-related greenhouse gas emissions and environmental damage and reduce food insecurity around the world.
- 7 Building local loops and linkages:** 80 percent of food will be consumed in cities by 2050; what urban dwellers choose to eat will therefore shape the future of global food systems. Peri-urban areas could become major farming centres over the next decade – especially for fruit, vegetables and other perishable foods. Urban farming is expected to stay small-scale, but it can act as a useful supplementary form of production which improves the resilience of food supply to urban areas. Innovation is growing in this area with high-tech horticulture to low-tech circular business models.
- 8 Harnessing the digital revolution:** Digitising food and land use systems (e.g. through precision farming, logistics and digital marketing tools) can help producers and consumers make more informed choices and improve efficiency from production to consumption. Digitisation and better connectivity are also driving the development of infra-light, distributive and circular business models for next-generation supply chains.<sup>10</sup>
- 9 Improving rural livelihoods:** Making the food system more inclusive will require investment in to transforming rural economies. Improving the productivity, access to market infrastructure and related skills of agriculture workers – especially those living below the poverty line in emerging markets– is critical to a more equitable and secure way of producing food and using land.
- 10 Accelerating the demographic transition:** Women play a central role in food and land use systems, given their decision-making role in resource-management, nutrition and family planning. Crucially, women in rural areas are often disadvantaged due to lack of land ownership, access to credit and education. Ensuring equal access to women has also been identified as a key strategy in reducing birth rates, leading to lower greenhouse gas emissions and less competition for resources.



## 2. INEFFICIENCIES IN FINANCING FOOD AND LAND USE SYSTEMS

There are also major inefficiencies in the way food and land use systems are financed. Current practices typically fail to price in the hidden costs of climate-related financial, social and environmental risk. They therefore expose investors to significant stranded asset risk and potential loss of shareholder value. The limited availability of investable business models and large-scale bankable projects also means that critical elements of food and land use systems – such as smallholders or ecosystem services – are underserved. Finally, the majority of market support mechanisms, such as agricultural subsidies, fail to incentivise sustainable farming practices that contribute to positive outcomes for the environment, public health and inclusion.

### 2.1 INEFFICIENCIES IN CAPITAL ALLOCATION, ESPECIALLY FOR SMALLHOLDERS

High upfront costs, long payback periods, untested business models that incorporate conservation, lack of training for farmers, and the often small or disaggregated nature of sustainable projects can make it difficult for private investors to justify the transaction costs of investing in small-scale food production. The volatility of food prices, increasingly unpredictable weather patterns and other commercial, technical and macro risks also pose significant barriers to investors in a sector that is often considered high risk and low return. This is especially the case in emerging markets, where the perception of political, regulatory and currency risk is particularly high, compounded by weaker local capital markets. Current bank lending to farmers is typically in the form of short-term seasonal credit and a majority is not linked to any kind of sustainability outcome.

This has resulted in major gaps in local currency financing, early-stage risk financing for project development, liquid investment instruments and vehicles that aggregate projects to make them viable for larger players. Providers of development and philanthropic capital are underusing instruments such as guarantees and insurance to mitigate the challenges and risks faced by private investors. Such risks are especially apparent in the food and agriculture sector compared to, for example, the energy sector, because sustainable business models and their revenue streams are less well-established and projects are typically smaller and harder to exit.

These risks are exacerbated by information asymmetries and poor collection and dissemination of data, especially in developing countries. Where information (including from development banks) does not flow freely, ratings agencies and private investors are not equipped to price risk adequately. Nor can they evaluate creditworthiness or identify predictable patterns in, for example, weather, pests, market access, price and performance.

#### EXHIBIT 2

 <b>Macro risk</b>	<b>Political risk:</b> political decisions / events in the investment country which negatively impact the attractiveness of an investment opportunity  <b>Currency risk:</b> potential depreciation of local currencies against hard currencies like USD
 <b>Commercial risk</b>	<b>Credit/counterparty risk:</b> the risk of default from borrowers on debt repayments, especially for smallholders who may have limited track record and lack of collateral  <b>Demand Risk:</b> risk around commercial viability and sales  <b>Liquidity Risk:</b> inability to exit / sell an asset when desired
 <b>Finance risk</b>	<b>Access to capital:</b> risk of not being able to secure financing
 <b>Technical risk</b>	<b>Construction risk:</b> risk of project not completing as planned  <b>Operational / technology risk:</b> risk that asset or supply chain does not operate as planned
 <b>Litigation risk</b>	<b>Litigation risk:</b> risk of legal action for negative health impacts attributed to consumption of specific foods or exposure to chemicals in fertilisers and pesticides or from unfounded claims regarding health benefits of products
 <b>Regulatory risk</b>	<b>Regulation/policy changes:</b> risk that policy and regulatory changes such as carbon pricing, taxes on sugar and salt, liability payments for deforestation, regulation on land management, subsidy reform affect the profitability of investments
 <b>FOLU-specific risk</b>	<b>Off-take risk:</b> inability to secure long-term contractual commitment for purchase of a commodity <b>Pipeline risk:</b> challenge to generate and develop investable projects or bring enough projects from concept to bankability <b>Scale risk:</b> assets are too small to attract mainstream investors / unable to be aggregated <b>Physical risk:</b> assets are exposed to natural disasters and other climate-related risks

Investors are also concerned about the credit risk of borrowers – especially that presented by smallholders, who often have no collateral, unclear land rights, and a limited track record or formal financial history. This means that almost 90 percent of smallholder farmers do not have access to formal finance, despite constituting the vast majority of the global farming population.<sup>12</sup> An even smaller percentage of their portfolios, possibly less than five percent, is allocated to women farmers.

Lending is also limited to the intermediaries who finance smallholders. In developing countries, microfinance institutions and other value chain actors meet more than 75 percent of smallholder financing needs, but often at high cost and with limited balance sheet capacity themselves.<sup>13</sup> Lack of even short-term seasonal financing for inputs and harvest costs leaves smallholders trapped in a cycle of low productivity and poverty. Although farmers have a long-term interest in investing in sustainable practices, their lack of knowledge about affordable finance and its scarcity are major barriers, leaving smallholders particularly underserved. Farmer cooperatives, which can support members by providing information about sustainable farming practices and bulk purchasing production inputs, also often lack proper management capacity and other resources as well as having difficulty accessing credit.

## 2.2 INEFFICIENCIES IN RISK ASSESSMENT

While investors find it hard to allocate capital to assets which may drive better overall system performance, they may also be unaware of major risks which currently sit in their portfolios. Today's risk assessment methodologies fail to capture many of the hidden costs of investments or subsidies in food and land use systems. \$44 trillion of economic value, or over half of global GDP, has been estimated to be moderately or highly dependent on the services provided by these systems, including healthy soils, clean water, pollination and a stable climate. Construction, agriculture and food and beverage companies have the most direct dependency.

This leaves the financial sector significantly exposed to the nature-related risks of those companies. These include the risk of assets being stranded by climate-related physical risks (natural disasters or loss of natural capital), likely regulatory changes (such as land management codes, taxes on sugar and salt, payments of carbon liabilities, subsidy reform), operational risks arising from environmental stresses such as water scarcity and loss of soil health, credit risks associated with rapidly shifting market trends driven by technological developments and consumer preferences (which can affect the credit profile of borrowers), and liability risks driven by the hidden costs of current food and land use systems. Plant-based proteins for example are expected to capture 10 per cent of the current meat industry by 2030.<sup>14</sup> Recent analysis shows that tech disruptions driven by rapid advances in precision biology could reduce production volumes of the US beef and dairy industries by 50 per cent by 2030.<sup>15</sup> Similarly, regulatory changes could prove certain companies to devalue by up to 62 percent if governments act to meet the Paris Agreement, causing abrupt shifts in asset values at the company and sector level.<sup>16</sup> Some companies have lost significant shareholder value following lawsuits related to the health consequences of chemical components in fertilisers.<sup>17</sup> The United States has also seen cases (so far unsuccessful) of obesity litigation. The risk of litigation for agri-food companies is likely to rise.

By definition, financial systems are exposed not only to the returns of the current food economy, but also – as yet indirectly – to its hidden costs. Many financial institutions hold assets that are large drivers of greenhouse gas emissions, biodiversity losses, nitrogen-based eutrophication and air quality problems. They may also hold processing or marketing assets that have been linked to major public health challenges. Not only are such assets major drivers of the climate crisis, they are also vulnerable to its consequences. In particular, the agriculture sector is deeply exposed to physical climate risk, with hundreds of billions of dollars in losses from flooding, fires, drought and other natural disasters each year. Many of these losses are uninsured, and this protection gap is growing, especially in developing countries.<sup>18</sup> This exposure also poses a threat to global financial stability, as identified by the financial regulators gathered under the Network for Greening the Financial System with the aim of better understanding and managing climate-related risks.<sup>19</sup>

Despite the scientific evidence for climate change, only 13 percent of all assets managed by the world's largest pension funds have yet undergone any formal assessment for climate risk.<sup>20</sup> This is even more pronounced among investors in the food and land use value chain. Arguably, the food and agriculture portfolios of most financial institutions are “4-degrees Celsius” portfolios, meaning they are aligned with a 4-degrees Celsius global warming scenario. This is because these portfolios tend to be skewed towards conventional livestock and dairy assets, which are responsible for around half of total greenhouse gas emissions from food and land use systems.<sup>21</sup>

Farm Animal Investment Risk and Return (FAIRR) is an investor network that advocates for sustainable animal farming, backed by 180 fund managers with assets worth \$10.5 trillion. The FAIRR network recently found that 70 percent of the world's 60 largest publicly listed meat, dairy and aquaculture producers are failing to manage climate risk.<sup>22</sup> FAIRR found that, of the 16 global food companies, only six – Marks and Spencer, Tesco, Walmart, General Mills, Nestlé and Unilever – have set targets to reduce supply chain emissions from livestock agriculture. Investors holding assets that are not meeting such targets risk seeing them stranded by a combination of the physical effects of climate change, regulatory changes and shifting consumer preferences.

Rapid advances in disruptive, capital-light technologies also put investors in relatively capital-intensive animal-protein value chains at risk.<sup>23</sup> Such investors may be more exposed to this disruption risk than their modelling indicates.



Field workers plant new trees and take care of newly planted ones at the Cinta Raja Rainforest Restoration Site in Gunung Leuser National Park (GNLP) in Sumatra, Indonesia.

## 2.3 INEFFICIENCIES IN PUBLIC FINANCE

There are also significant inefficiencies that stem from the ways in which governments provide agricultural support. These include market mechanisms, like tariffs and quotas, and subsidies paid directly to farmers. Of the over \$700 billion of support, about \$530 billion is paid in agricultural subsidies to farmers worldwide each year.<sup>24</sup> Less than 15 percent of this support is for public goods according to the International Food Policy Research Institute (IFPRI).<sup>25</sup>

Few governments are currently putting in place integrated policy frameworks or making use of the tools available (including the alignment of public finance with public goods) to shape economically efficient food and land use systems that protect biodiversity, align with positive public health outcomes or support inclusion.

A significant repurposing of subsidies or change in the support regime could dramatically alter the creditworthiness of many farmers and change the valuation of farm assets. As a result, banks with substantial agricultural loan books are heavily dependent on the current subsidy regimes. They may be much more at risk than they realise from a shift in regulations and a repurposing of the public subsidies to food and agriculture sectors that currently underpin them.

# 3. BETTER FINANCE

Delivering the ten critical transitions of the food and land use transformation will require a fundamental shift in *what* gets financed: from capital-intensive, externality-generating, high-input assets in linear value chains to 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 also require a systemic shift in how food and land use systems are financed – away from short-term investment practices that fail to price in climate-related financial, social and environmental risk, 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.

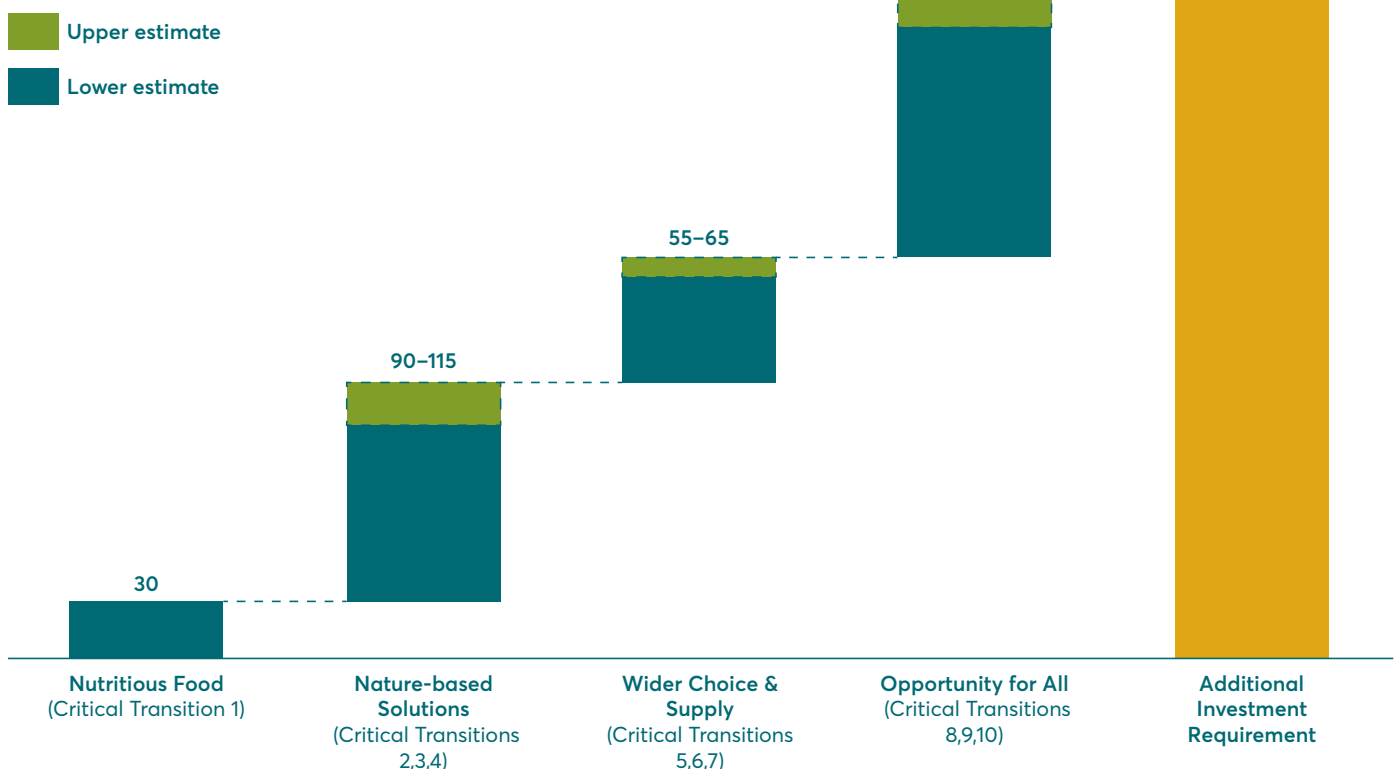
To realise this vision, capital will need to be reallocated from the “old” food and land use economy into the new one. New investment will also be needed – to the tune of \$300 to \$350 billion each year to 2030 (see Exhibit 3). This is not insignificant – especially as more than half will need to be deployed in developing markets as these regions will see the most significant growth in food demand and have the greatest potential for productivity gains.

However, put in context, the additional investment needed to deliver the transformation is only a fraction of what is currently invested in the global food and land use system.<sup>26</sup> It also amounts to less than six percent of the \$6 trillion annual SDG funding requirement. Yet it could deliver almost one third of the required carbon savings alongside huge benefits for biodiversity, human health, livelihoods and inclusion. The economic gains from this investment are estimated at \$5.7 trillion by 2030, delivering a return to society of more than 15:1.<sup>27</sup>

EXHIBIT 3

## The annual investment requirements associated with the ten critical transitions are between \$300 and 350 billion (2018 – 2030)

USD billions per year (2018 prices)



Source: SYSTEMIQ, Blended Finance Taskforce, 2019 (see online technical annex for methodology).

## Lessons from the renewable energy growth

The renewables revolution, which has been the driving force for the global low carbon energy transition, offers useful parallels as we try to understand what it will take to shift capital into the critical transitions, since we need to:

- a. Increase the upfront capitalisation of the system.** Renewables, like regenerative agriculture and other new food and land use assets, have higher upfront capital costs but much lower operational requirements. By contrast, thermal coal power plants have higher opex costs and volatile fossil fuel prices that introduce further uncertainty.
- b. De-risk through longer-term contractual arrangements.** For Power Purchase Agreements in the energy system, comparative offtake agreements must be implemented in the agriculture space. Regenerative business models that include restoring degraded land can require longer payback periods and need to be supported by longer-term offtake agreements. This can also help de-risk counterparts and build the next generation of rural entrepreneurs. There are several innovations appearing on the market where supply chain actor guarantees can substitute for financial collateral or where they incentivise their own supply chains to minimise exposure to nature-related risks (see Case Study Catalogue).
- c. Move to more distributed capital deployment.** As in off-grid solar and distributed energy systems, shared services and fintech can help reach farmers in remote areas. The challenge, is that capital is being redeployed away from organisations with big balance sheets and liquidity capacity, towards entities which have small balance sheets and are much less liquid, hence the need for impact investing, blended finance and other innovative solutions to tackle credit risk and other barriers to investment (see more in Section 4 and in the Case Study Catalogue).

### 3.1 INVESTMENT REQUIREMENTS FOR THE NEW FOOD AND LAND USE ECONOMY

#### Financing rural livelihoods

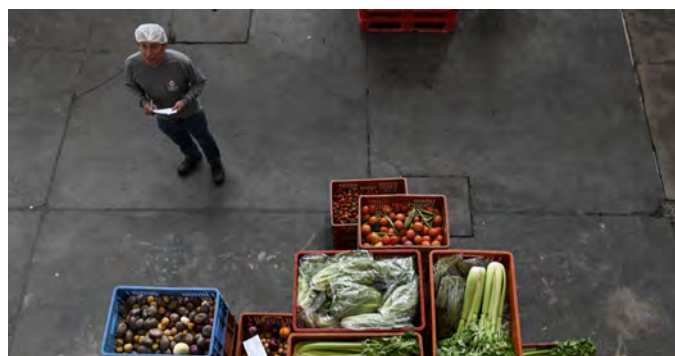
Unsurprisingly, almost half of the investment (or just under \$150 billion a year) is needed for investment in rural infrastructure, extension services, financing smallholders, education for girls and family planning.

The lion's share is needed in sub-Saharan Africa and other regions without adequate roads and energy systems. This kind of infrastructure investment will provide savings by reducing the overall cost of food production and dramatically lowering food loss and waste. Expanding irrigation and improving irrigation efficiency are also critical areas for investment, given their potential to increase yields and reduce uncertainty for farmers, especially as climate-related risks grow.<sup>28</sup>

Such investments have high upfront capital costs and often require “patient” public capital and effective management. Financing solutions suited to rural infrastructure therefore include public-private partnerships and blended finance vehicles, which use development capital to mitigate investor risks. Innovative mobile payment solutions and shared infrastructure, such as solar-powered pay-per-use cold storage units or solar-powered water pumps (Box 3), can lower the estimated financing needs.<sup>29</sup>



Left: God's Grace Farm selling organic cherries at the Beijing Farmer's Market.



Right: Employees of the Bogota Food Bank are selecting, storing and processing food items at a big warehouse located next to their offices in Bogota, Colombia.

## Blended finance for rural infrastructure

CDC – the UK development finance institution – is championing a blended finance solution to mobilise capital for rural infrastructure in the new food and land use economy through its investment in SunCulture. This is a solar irrigation company providing smallholder farmers who grow high-value fruit and vegetables in Kenya with products for spray and mist irrigation, drip irrigation and solar pumping. SunCulture has launched a solar-powered water pump called the RainMaker. Smallholders who are not able to buy a pump because of their high borrowing costs and limited access to working capital can access a pay-as-you-go financing scheme.

Rainmaker users report an increase in yields of an average of 300 percent a year. They also significantly reduce costs by saving the energy they used to spend on collecting water and the money they used to spend on fuel for electric pumps.

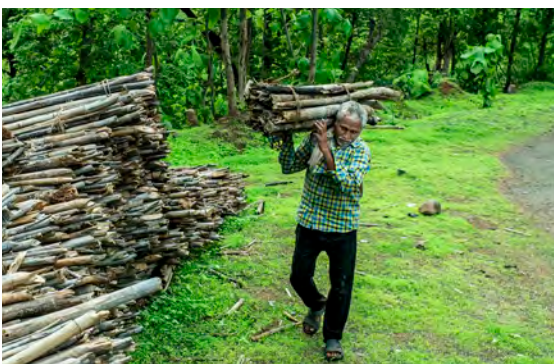
### Financing nature-based solutions

Approximately \$100 billion new investment will be needed each year in regenerative agriculture practices, to support a healthy and productive ocean and to restore forests and other critical ecosystems. Scaling up payments for ecosystem services and business models that integrate a “produce and protect” approach will help mobilise capital for nature-based solutions. Financing solutions that incorporate conservation into traditional commodity production will be critical to start shifting the obligation to protect and restore nature on to the beneficiaries of ecosystem services.

Financing forest protection and restoration (with restoration costing anywhere between \$30 to \$50 billion a year) is particularly important as it forms the majority of the nature-based solutions investment requirement, and holds massive future benefits for climate, ecosystems, biodiversity, and water. On average around \$14 billion a year would go to forest protection to achieve the low deforestation rate we need to meet the Paris Agreement, reaching the targeted REDD+ costs of \$50 billion a year in 2030 (if deforestation reduction results are achieved). Around \$1 billion would go to additional forest management costs. Even at \$65 billion a year, the cost is modest, given the huge benefits derived from forest ecosystem services. The social benefit of the forest related “mitigation gap” achieved by the transformation in 2030 is conservatively estimated at around six gigatonnes, i.e. a social cost of \$600 billion, meaning a nine to one rate of return on investment.

### 3.2 THE FOOD AND LAND USE TRANSFORMATION BUSINESS OPPORTUNITY

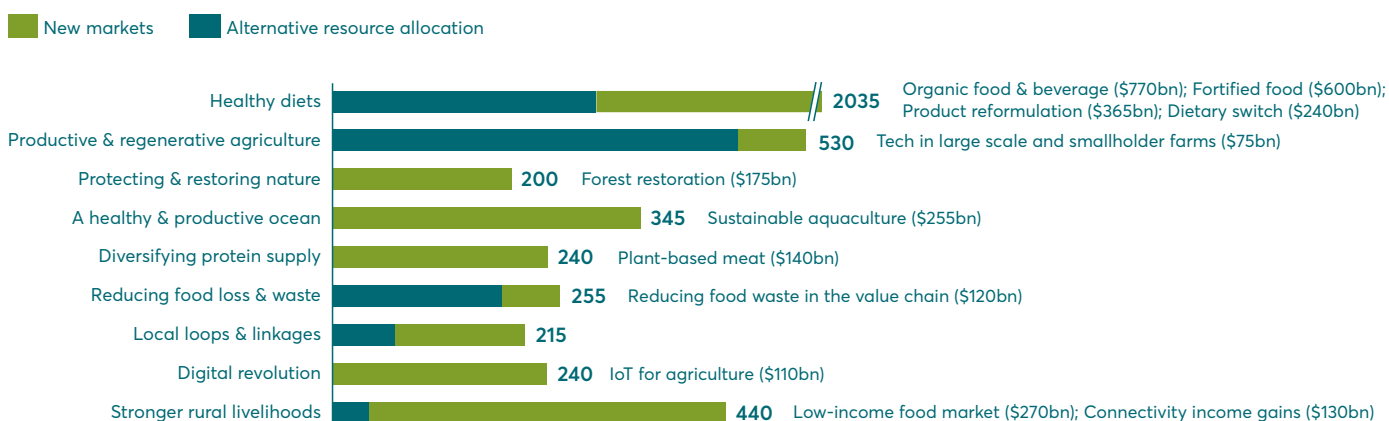
Analysis carried out by the Blended Finance Taskforce suggests that the food and land use transformation represents an economic opportunity of around \$4.5 trillion by 2030 (Exhibit 4). This includes revenues from new markets and products across the ten critical transitions – for example, the market for sustainable aquaculture and bivalves which together could be worth over \$300 billion a year by 2030. It also includes system savings derived from a reduction in land use, less food loss and waste and a range of other efficiency gains in the system – essentially freeing up capital to be reallocated for assets in the new food and land use economy that are not associated with trillions of dollars of negative externalities (see Exhibit 1 on hidden costs).



Left: Sagai Forest in the Narmada district of Gujarat, India, part of the Community Forestry Management initiative.  
Right: Locals work in their communally managed village fields of Sagai forest in Narmada district in Gujarat, India.  
Atul Loke for Panos Pictures/Community Forestry Management, Narmada, Gujarat.

# There is an annual business opportunity of \$4.5 trillion associated with the ten critical transitions in 2030

USD billions (2018 prices), 2030 estimates, examples of opportunities >\$100bn



Source: SYSTEMIQ, Blended Finance Taskforce, 2019 (see online technical annex for methodology).

Redirecting capital into low-carbon, regenerative, circular models of food production and consumption should drive higher-quality, lower-risk economic growth in developed and emerging markets and open up entirely new business opportunities and efficiency gains. This is not a new concept. When the Business and Sustainable Development Commission originally estimated the value of the new food and land use economy in 2017, it projected an economic prize of up to \$2.3 trillion a year through investment in a more knowledge-intensive, resource-efficient, nature-based system.<sup>30</sup>

Analysis for this paper has confirmed that this figure was relatively conservative, and that there may be over \$2 trillion extra a year in business opportunities on top of the original projections by the Business Commission.

The business models and assets of the new food and land use economy will often have lower capital requirements, use fewer inputs and capture widespread efficiencies from natural capital solutions. For example, the growing alternative proteins sector (embracing, plant-based meat substitutes or lab-grown meat) is more “infra-light” than livestock production. Beef and dairy production in particular have major capital expenditure requirements for abattoirs, milking machines and other processing infrastructure, and require much more land to deliver the same protein count. Similarly, more regenerative, resource-efficient agriculture should reduce the need for inputs such as inorganic fertilisers and pesticides.

While more traditional investment in rural infrastructure may have higher upfront capital costs, it will improve productivity and supply chain management, thus lowering future food production costs. A 15 percent reduction in food loss and waste results in almost \$200 billion a year of recouped market value. There is also a significant social benefit from reducing externality costs related to health and climate by scaling these new industries. This makes their value proposition even more appealing to policymakers by avoiding hidden costs and negative externalities (Exhibit 15 on hidden costs).

Of course, capital that is “saved” from shrinking sectors such as beef, dairy and agro-chemicals will not automatically be redeployed for the “new” food and land use economy. It is especially difficult to shift investment from capital-intensive physical assets into recurring operational expenditure costs of human and natural capital development. Putting in place the right policy framework, including regulations, incentive structures and subsidies, and improving information sharing, risk mitigation and mechanisms for scaling innovation are essential. So too is mandating the disclosures recommended by the Task Force on Climate-related Financial Disclosures (TCFD) for the main agri-businesses, and expanding the disclosure categories to include nature, water, biodiversity and public health. A corresponding shift in the use of public and development funds to mobilise private capital for the new food and land use economy will also be critical.

### 3.3 FINANCIAL INNOVATIONS THAT WILL DRIVE THE TRANSITION

The business opportunities, potential system-savings and wide-ranging positive externalities for people and planet from the transformation scenario are hard to ignore. Capturing them will depend on creating the right financial instruments and innovative partnerships, as well as expanding the pipeline of bankable opportunities to accelerate investment. These measures will help investor



Organic rice and duck farm. Combine harvester harvests rice.

“agility” to move capital into the new food and land use economy. Of course, this financial transition will also need to overcome existing macro, regulatory, technical and commercial risks, as well as pipeline constraints.

The catalytic use of development and philanthropic capital will be crucial in overcoming various risks (both real and perceived) and constraints to attract private investment into assets in the new food and land use system. These assets typically share five characteristics:

- **Higher perception of risks**, especially to finance smallholders who typically have limited or no credit history, credit rating or collateral, and high debt burdens
- **New business models** such as conservation or integrated landscape approaches that combine multiple revenue streams
- **Innovative technology and practices with unfamiliar risk profiles**, for example in regenerative agriculture and alternative proteins
- **Riskier geographies**, since many assets in the new food and land use economy will be located in emerging markets where political risk, weak legal systems (especially relating to land titles), lack of local currency financing, hedging costs and weak institutional and physical infrastructure are all barriers to investment
- **Long-term finance requirements** typically needed for investments in irrigation, improving soil quality, forest and ecosystem protection, nature-inclusive agriculture, new farm equipment and farmer training. Most banks perceive these investments to be too risky, or lack access to the funding they need to provide long-term lending. They may also find that the required loan tenors make it difficult to comply with increasingly stringent banking regulations such as Basel III.

The pipeline of investment opportunities will be supported by broader policy reforms addressing each critical transition that should strengthen the enabling environment and make it more attractive to play in the new food and land use economy. However, many of the most significant investment opportunities will still have the characteristics listed above. Mobilising the additional \$300 to 350 billion a year needed to transform food and land use systems will therefore depend on rapidly scaling innovative financing solutions which can mitigate these risks and attract more private capital, until investment in the new food and land use assets becomes mainstream.



### 3.4 INNOVATIVE FINANCING SOLUTIONS

A range of financial products and structures are already on or coming to the market and could help mobilise capital for new food and land use assets and address some of the major inefficiencies.

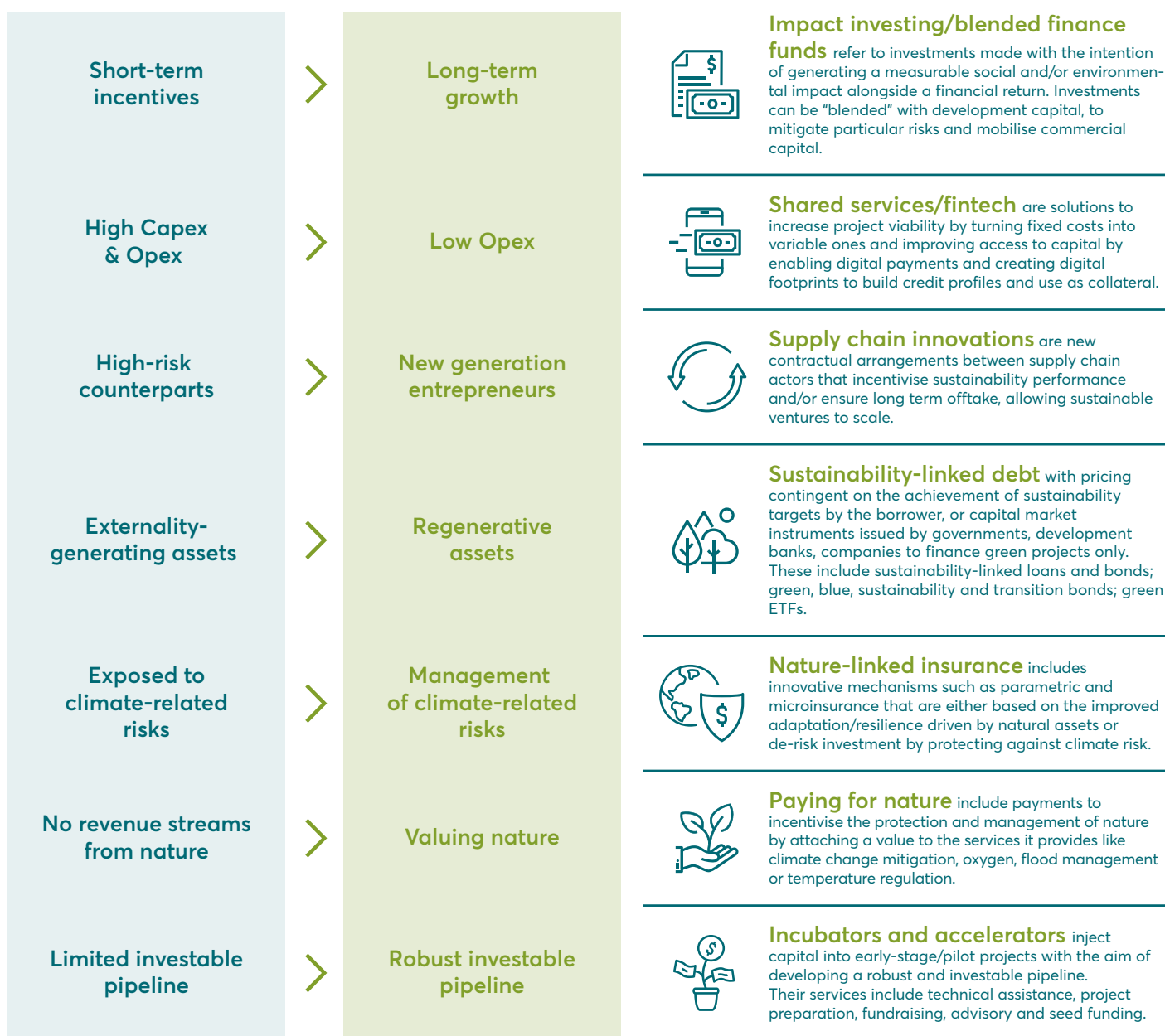
EXHIBIT 5

## Business model and financing archetypes can address key inefficiencies of today's system

From an old system ...

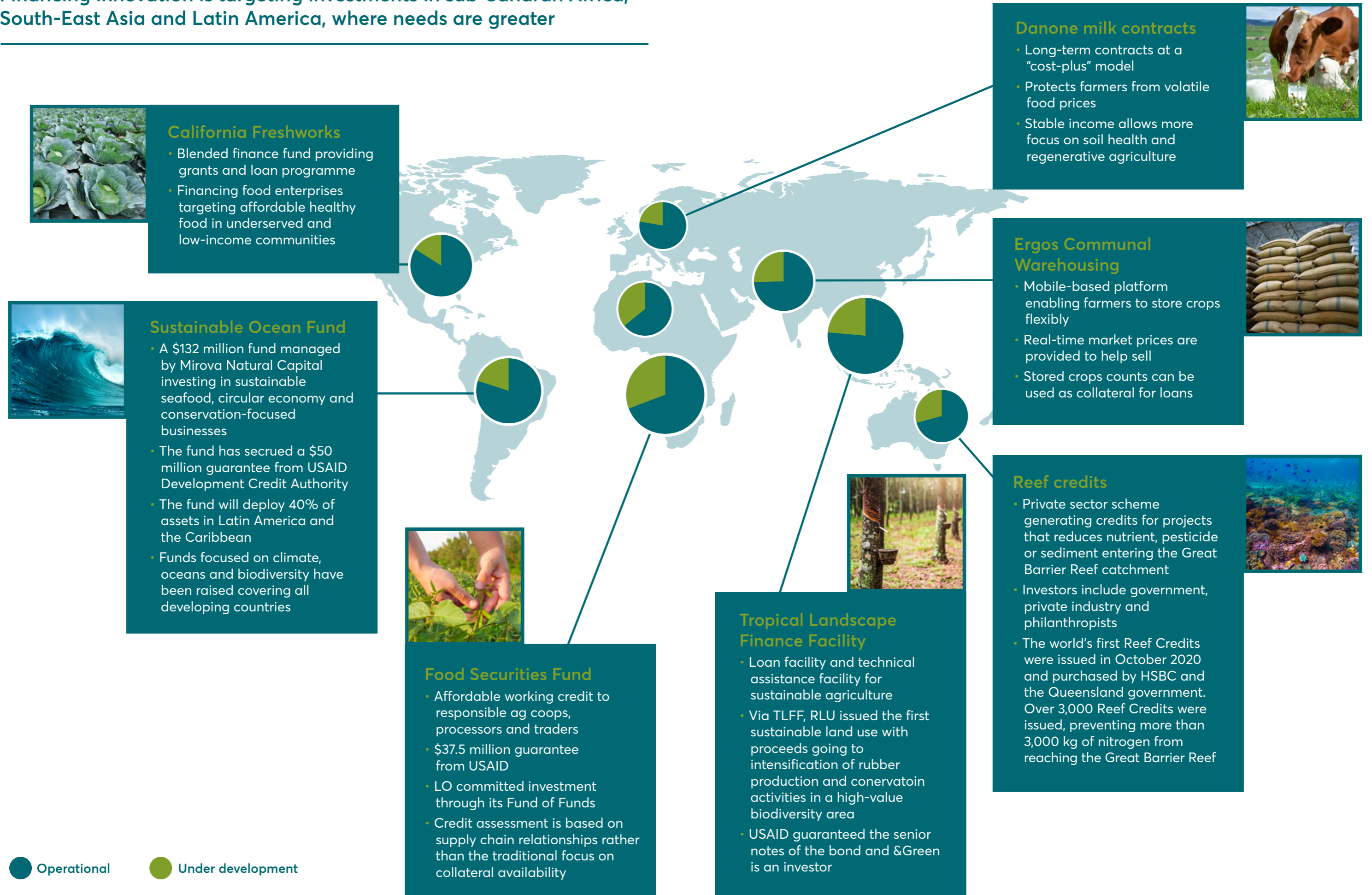
... to a new system ...

... through seven financing archetypes



Exhibits 5 and 5 sets out some of the business models, financial products and investment already available that could help mobilise capital for assets in the new food and land use economy. They include blended finance vehicles, value chain partnerships to de-risk smallholder finance, green and blue bonds, sustainability-linked credit and insurance products, venture capital for ag-tech, carbon credits and other market mechanisms which pay for ecosystem services, and fast-track pay-outs to build resilience to natural disasters. They also include more distributed, local solutions that encourage shared services through tech-platforms such as pay-as-you-go or pay-as-you-use farming equipment or storage facilities, and supply chain redesign to de-risk the next generation of entrepreneurs. The key will be rapidly scaling those financial innovations which are delivering results, replicating what is working across geographies and asset classes and ensuring that policy interventions accelerate the spread of these proven solutions.

# Financing innovation is targeting investments in sub-Saharan Africa, South-East Asia and Latin America, where needs are greater





Homestead Farmer, Tilahun Gelaye, a beneficiary of The Debre Yacob Watershed Learning Restoration Project in Bahir Dar, Ethiopia. Abbie Trayler-Smith for Panos Pictures/Watershed Restoration and smallholders Bahir Dar.

### 3.5 NEW FINANCING SOLUTIONS AT WORK

New analysis has been carried out for this paper on more than 50 case studies which lay out different business models and financial solutions to attract investment for the ten critical transitions across all geographies.

Many of the innovative financing solutions shown in exhibits 9 and 10 involve new forms of risk sharing, including “blended” vehicles and instruments that use development capital to crowd in private capital. This happens by mitigating specific investor risks that currently prevent mainstream capital from flowing into new food and land use assets.

Two examples are the Rabobank AGRI3 Fund (a partnership between the UN and FMO, the Dutch development finance institution) and the &Green Fund (set up in partnership between the Norwegian government Norway, IDH and Unilever). Both aim to use concessional capital to invest in sustainable, deforestation-free commodities and supply chains. AGRI3 provides de-risking financial instruments and tailor-made technical assistance, while &Green provides flexible forms of concessional/first-loss capital to finance commodity supply chain projects in jurisdictions with progressive forest and peatland protection policies.

Financial instruments are also being created to address specific funding gaps and inefficiencies, such as smallholder access to finance. For example, Clarmondial’s Food Securities Fund provides loans to value chain actors (local cooperatives, processors, traders) that engage with smallholders who implement best in class environmental and social practices, but struggle to get access to working capital because they are too small or lack collateral. Loans’ interest rates and size are dependent on the quality of the relationship with supply chain actors, addressing limited collateral issues in an innovative way. The Food Securities Fund will create a more efficient, scalable credit channel between qualified investors and emerging market agricultural companies. It benefits from a partial guarantee from USAID’s Development Credit Authority. This blended finance structure reduces risk for the commercial partners, while partnerships with leading international companies provide access to an extensive pipeline at low transaction costs. This structure allows the fund to address the gap in season-long loans for agriculture production in emerging markets and to promote climate-smart agriculture and responsible, deforestation-free supply chains.

On the credit side, digitisation of payments is helping to fill the credit gap in several countries by creating credit histories for farmers. Access to mobile money is also improving financial resilience and increasing occupational choices for women. In Kenya, access to M-pesa, a mobile money service, had a pronounced impact on female-headed households, where women moved out of agriculture and into business.<sup>31</sup> Better risk-sharing arrangements, better partnerships and better data collection throughout the value chain are necessary to tackle credit gaps and attract more private capital to the new food and land use economy.

New sustainability-linked financial products that shift payment incentives also encourage critical changes in behaviour. Sustainability-linked loans are one example. For instance, Olam, a global agri-business, has secured a three-year, \$500 million sustainability-linked revolving credit facility from ING for its Asian agriculture operations. The interest rate on the facility will be reduced as the company meets its ESG targets. COFCO – another food and agriculture giant – has agreed a \$2.1 billion sustainability-linked loan with a consortium of 20 banks. It is one of the largest sustainability-linked loans by a commodity trader, with the interest rate tied to the company’s sustainability performance. Targets include year-on-year improvement of ESG performance and increasing traceability of agriculture commodities, particularly directly sourced soy in Brazil. If it meets the agreed targets, COFCO will invest the discounts in improving the sustainability of its supply chain, enhancing health and safety measures and supporting local communities.

Innovation is also making it easier to insure a more sustainable food and land use economy. In Kenya, Acre (former Kilimo Salama) is a micro-insurance programme that uses technology and scale to reduce the cost of insuring smallholders (on-farm monitoring costs the same for one acre as it does for 1,000) through distribution networks and shared weather data infrastructure. Some 50,000 smallholder farmers are insured by the company. It uses automated weather stations to estimate crop losses and automatically settles payments through a mobile payments channel, eliminating the claims process. Crop insurance products or land financing linked to land fertility are still to be developed, reflecting the constraints and challenges of measuring soil health, but offer considerable promise for the future.

Projects are also starting to take a more integrated investment approach, combining multiple revenue models, financial structures and outcomes. One example is financing “produce/protect” business models that build an element of environmental conservation or “payment for nature” and “new commodities” into farming a traditional crop or commodity. For instance, Selva Shrimp raises black tiger prawns naturally in the mangrove forests of south-east Asia. The prawns depend on intact mangroves, which provide all the nutrients they need without external inputs. They are then sold at a premium as they have been produced without chemicals and in a natural environment. The shrimp farmers are thus incentivised to maintain the mangrove forests through this proxy payment for the mangrove ecosystem services.

#### BOX 4

### New business models for regenerative assets

“Produce and protect” business models, financial incentives from buyers/owners to suppliers/tenants and leasing or pay-per-use arrangements are proving effective in financially connecting different economic agents of the food and land use system to utilise resources more efficiently. For example, land tenancies could include “fertility clauses” so tenants are incentivised to implement regenerative practices and owners ensure soil health and land productivity is maintained over time. Land valuations could also be tied to soil health conditions and eventually, once there is agreement and integrity on the science and measurement practices around soil carbon content, linked to carbon markets to produce a further revenue stream for farmers that are maintaining healthy, nutrient-rich soils. The Sustainable Commodities Conservation Mechanism is an example of how finance can be used as an enabler and accelerator of new business solutions: a finance platform connecting members of the Roundtable on Sustainable Palm Oil looking to clear historical liabilities (a requisite to maintaining responsible certification) with conservation projects.

The Tropical Landscape Finance Facility (TLFF) is another example where integrating conservation has become an important part of financing the underlying commodity – in this case rubber in Indonesia. The TLFF’s inaugural transaction was a landmark \$95 million sustainable land use bond that helps finance 34,000 hectares of rubber in two heavily degraded landscapes in Indonesia’s Jambi and East Kalimantan provinces. In Jambi, the plantation will function as a critical buffer zone to stop further land speculation and encroachment in the biodiverse 143,000 hectare Bukit Tigapuluh National Park, one of the last places in Indonesia where Sumatran elephants, tigers and orang-utans are found. Conditions of the loan require the plantation to comply with a clearly defined environmental and social action plan which includes social benefits for the local community and requires leaving almost half of the 88,000 hectare rubber concession area untouched for conservation and community development. This is tracked by a publicly available Landscape Protection Plan as required by the latest investor into the project, the &Green Fund, which has purchased the 15-year subordinate notes, critical to catalyse commercial investors. The transaction benefits from a partial credit guarantee from USAID, which contributed to the “Aaa” rating by Moody’s for senior notes, helping provide investor confidence in the transaction and attract mainstream capital.

Finally, fintech and shared-services platforms are helping accelerate the food and land use transformation by enabling business model innovation for new food and land use assets. One example is Indian communal warehousing model “Ergos”. Through a mobile app, Ergos provides farmers with a warehouse stock count and real-time market prices. Farmers can use digital warehouse receipts as

collateral with loan providers to access short-term funding allowing them to wait to sell the produce at a higher price. Maize farmers who use the facilities have sold their produce at prices 20-30 percent higher than before using Ergos.<sup>32</sup> Through its work, Ergos is providing better livelihoods for farmers as well as reducing food loss and waste at the production level. Hello Tractor in Kenya also enables farmers to share equipment through a mobile app and mobile payments. Usually, equipment costs are fixed. By turning them into variable costs, smallholders are given access to productivity-enhancing equipment that would otherwise be beyond their means.

Clearly a new generation of assets in the food and land use economy is emerging. Businesses and investors position themselves for comparative advantage if they can develop and implement the investment solutions required to finance the new food and land use economy. However, these solutions and their early adopters are still marginal in the world of finance. It will take time for experiments by a handful of companies and investors to become economically viable at scale and move into the mainstream. This will not only shift 4-degree portfolios into <1.5-degree assets but also attract new pools of capital. Systematically implemented and rapidly scaled, these solutions could revolutionise the food and agricultural sector.



Germination room in the greenhouses at Gullele Botanical Gardens, Addis Ababa, Ethiopia. Here, seedlings are selected that are difficult to grow. Abbie Trayler-Smith for Panos Pictures/Watershed Restoration and smallholders Bahir Dar.

# 4. ACCELERATING INVESTMENT IN THE NEW FOOD AND LAND USE ECONOMY

**Making the new food and land use economy “investable” relies on the right real economy settings – from regulatory frameworks and a track record of enforcement, to policy signals, investor coalitions, hubs for pipeline development, repurposing of agricultural subsidies, active use of public procurement, pricing of externalities and public “bads” and clear disclosure requirements.**

To spur investment in the new food and land use economy, the financial sector will need to develop a more rigorous approach to assessing and managing risks in its existing food and land use portfolios. These portfolios are currently carbon-heavy and exposed to risks arising from changes in:

- **Regulation and subsidies.** Farmer borrowers who rely on inefficient subsidies will be exposed if regulators reform subsidy regimes, affecting their credit profiles; companies are also facing policy shifts especially linked to deforestation-free supply chains and sustainable production
- **Consumer preferences.** Investors that finance the agro-foods industry are potentially exposed to widespread shifts in consumer diets arising from shifting demographics and growing concerns about nutrition, deforestation, the impact of meat consumption and the use of chemicals
- **Technologies and business models.** Investors in incumbent industries and companies face disruption from the rapid penetration of new technologies, processes and business models.

Given these trends, better data and risk assessments should lead to a divestment out of 4-degree food and land use assets. The future is closer than we think, and the reallocation of capital into new food and land use systems is likely to be a few years away rather than a few decades –RethinkX predicts that production volumes in the US beef and dairy industries and their suppliers will decline by more than 50% by 2030, and nearly 90% by 2035.

Several investors are already moving in this direction, for example Credit Suisse and Lombard Odier launched the Responsible Consumer Fund in 2019 to invest in listed companies including those that focus on more sustainable food and supply chains. There has also been an increase in venture capital for circular food innovation, recent mega-IPOs for alternative proteins companies, the launch of new “healthy” lines in major supermarkets and fast food chains, the booming organics market (predicted to be worth \$730 billion in 2030, up from \$145 billion in 2018), and significant oversubscription figures for green bonds and other debt instruments for sustainable land use.

Seven actions to replicate and scale the business models and financing archetypes which are tackling inefficiencies in the system include:

1. **Modernising development finance:** Donor governments and development capital providers can (i) increase support for sustainable agriculture and natural solutions (it currently attracts less than 3% of finance from multilateral development banks); (ii) support early stage investment solutions to demonstrate the viability of regenerative and nature-positive business models; (iii) optimise the use of catalytic instruments such as guarantees to de-risk investment and mobilise private capital; and (iv) commit to sharing data and best practice for blended finance transactions to enable better risk management for long-term growth.
2. **Harnessing the power of technology:** Financial intermediaries and technology providers can strengthen and scale partnerships to leverage the full potential of digital solutions to help address well-established barriers to financing - including land tenure issues, poor credit profile of borrowers and limited access to collateral. This can facilitate the development of more distributed, infra-light and resource-efficient systems while helping farmers and forest communities access global supply chains.
3. **Disclosing climate and nature-related risks:** Financial institutions, investors and corporates should integrate and disclose climate and nature-related risk assessments when evaluating counterparts, making investment decisions and evaluating portfolios, building on the recommendations of the Taskforce for Climate-Related Financial Disclosure’s and the newly established Taskforce for Nature-Related Disclosure.



Portrait of an illipe nut farmer at the forest in Sintang regency, West Kalimantan, Indonesia.  
Kemal Juffri for Panos Pictures/Wild Illipe Nut Butter Production and Palm Sugar, Kalimantan.

4. **Establishing high-integrity impact metrics:** The finance sector needs to partner with civil society and academia to develop science-based benchmarks, metrics, and labelling schemes to avoid “greenwashing”. Efforts are underway, including with the European Union’s sustainable finance taxonomy and green bond label, and the Science-Based Targets initiative for financial institutions.
5. **Integrating resilience and adaptation:** The role of nature-based solutions to improve resilience against climate shocks needs to be better understood and integrated into financial products. The insurance industry, enabled by technologies and complex scenario modelling, has a key role to play in evaluating the role of nature in mitigating climate-related risks and can mainstream parametric solutions to rapidly pay-out after climate events to build physical and financial resilience for governments and communities.
6. **Standardising payments for nature:** Investors can contribute to robust public-private initiatives such as the Taskforce on Scaling Voluntary Carbon Markets, explore new solutions like Queensland’s reef credit scheme and learn from programmes like the Architecture for REDD+ Transactions, to develop high-quality markets for carbon and other environmental outcomes (e.g. biodiversity, reef protection) that largely remain unregulated.
7. **Optimising the use of philanthropic capital:** The philanthropic community can play a leading role in deploying catalytic, early stage capital to support civil society activities and policy shifts, as well as pipeline development through investments in technical assistance, project preparation, advisory and seed funding.

## Coalition to develop principles for investing in the food and land use system

Leading commercial and development banks could work together to develop a set of “Equator Principles” for financing food and land use assets. These principles would address the natural capital risk exposure of their food and land use portfolios and potentially explore their public health and social impacts in light of growing litigation risk.

Just like the Green Bond Principles or the Principles for Responsible Banking, such an initiative would send a powerful signal to the market and could provide the momentum and guidance needed to shift capital out of high-carbon assets – which expose investors and society to huge hidden costs related to climate, biodiversity, nutrition and livelihoods – and accelerate investment in the new food and land use economy. It would also help finance institutions to standardise their lending approach by following key principles on common goals, credit risk assessment and incorporation of mobile technology to gather data. This would also streamline the participation of public and private players in different transactions.

The principles could work with, or build on, the United Nations Environment Programme Finance Initiative (UNEP FI) Natural Capital Credit Risk Assessment in Agricultural Lending framework, the World Bank/Food and Agriculture Organization (FAO) Principles for Responsible Agriculture Investment and the United Nations Principles for Responsible Investment (UN PRI) and be presented in occasion of the UN Food Systems Summit.

The principles could include:

- Financing production of lower-carbon and more nutritious food
- Promoting resource efficiency and regenerative farming methods
- Conserving and restoring natural capital
- Contributing to development and poverty reduction
- Transforming sustainable and transparent food value chains
- Providing improved risk scores to companies that have strong science-based targets – especially for biodiversity – and that integrate climate resilience, nutrition and health outcomes and inclusion into their corporate strategies
- Zero deforestation supply chains
- Zero tolerance for environmental crime
- Zero tolerance for land grabbing or exploitation



Left: View of The Gullele Botanical Gardens in Addis Ababa, Ethiopia.

Right: Dr Birhanu, 39, Research Director at Gullele Botanical Gardens, Addis Ababa, Ethiopia, with coffee arabica in the greenhouses. Abbie Traylor-Smith for Panos Pictures/Watershed Restoration and smallholders Bahir Dar.



## Capital market oversight – civil society’s role in developing financial markets for sustainable and fair food and land use systems

Numerous new capital market oversight mechanisms are shedding light on risks in current supply chains. They are designed to enable more effective disclosure by bringing transparency to the hidden liabilities on companies’ balance sheets, helping to build trust between consumers, civil society, business and investors.

Farm Animal Investment Risk and Return (FAIRR) is one example. An investor network that advocates for sustainable animal farming, it is backed by 180 fund managers with assets worth \$10.5 trillion. Planet Tracker is another. This not-for-profit financial think tank provides data and market intelligence to identify, quantify and rectify the disconnect between financial markets and planetary limits. Global Canopy’s Trase Finance tool, aims to map more than 70 percent of global trade in major forest risk commodities, promoting supply chain sustainability. The research initiative Orbitas is also using scenario analysis to assess climate-related transition risks for tropical commodities and determine the potential volume of stranded assets to 2030 and beyond.

Initiatives such as the Science-Based Targets initiative (SBTi) can also help companies and financial institutions align their activities with a 1.5-degree Celsius world. The Science Based Target Network is developing sector methodologies for land use and biodiversity to achieve SBTs within planetary boundaries. The True Cost of Food initiative from the World Business Council for Sustainable Development and FreSH brings together 70 agri-food companies on issues such as climate-smart agriculture, food loss and waste, positive nutrition and protein diversification and improvement. They aim to reform business on the ground and at board level. In addition, ESG screening and SDG analysis (including initiatives like Aviva’s World Benchmarking Alliance) are all beginning to work as powerful forms of informal regulation that show how capital markets are part of the solution to environmental challenges.

## Science-based targets for financial institutions

The Science Based Targets Initiative (SBTi), was created in 2015 and focuses entirely on climate impact targets. The SBTi has developed guidance for dividing our total remaining carbon emissions budget and dividing it among different sectors and specific organizations within those sectors. As FIs’ largest impact on climate change is through their investment and lending activities, the guidance prioritises target setting in these via three methodologies:

- **Sectoral Decarbonization Approach (SDA):** Emissions-based physical intensity targets are set for real estate and mortgage-related investments and loans, as well as for the power generation, cement, pulp and paper, transport, iron and steel, and buildings sectors within corporate instruments.
- **SBTi Portfolio Coverage Approach:** Engagement targets are set by financial institutions to have a portion of their investees set their own SBTi-approved science-based targets such that the financial institution is on a linear path to 100 percent portfolio coverage by 2040.
- **The Temperature Rating Approach:** FIs can use this approach to determine the current temperature rating of their portfolios and take actions to align their portfolios to ambitious long-term temperature goals by engaging with portfolio companies to set ambitious targets.

This new guidance marks a significant shift in expectations for the financial industry. Until recently, the guidance on emissions accounting in portfolios was set out by the GHG Protocol Scope 3 Standard on Category 15 - Investments. These guidelines did not require financial institutions to account for emissions arising from managed investments (this was listed as an optional category).

Ultimately, the financing required to realise the food and land use transformation is within reach. The financial innovation needed to mobilise capital for new food and land use assets is available but needs to be rapidly scaled from one-off examples to mainstream and cost-effective solutions with the support of donors and providers of development capital. Adopting “whole balance sheet” approaches that start from mainstream principles and govern decision-making for mainstream banks and investors will be critical.

The real challenge lies in replicating and scaling proven financing solutions and mobilising the right leadership at every point of the investment value chain. Rising to these challenges will make sure finance is a powerful enabler of the new food and land use economy, an accelerator rather than an anchor.



# ACKNOWLEDGEMENTS

The Taskforce would like to thank Norway's International Climate and Forest Initiative (NICFI) for funding this report. The Taskforce would also like to thank all the members and friends that provided time, inputs and insights into the material, particularly all the examples of innovative financing that are showcased in the case study catalogue.

## ABOUT THE BLENDED FINANCE TASKFORCE

The Blended Finance Taskforce was launched in 2017 by the Business & Sustainable Development Commission. The Blended Finance Taskforce is a partnership that brings together actors from across the development and finance communities to accelerate the mobilisation of capital and finance the SDGs through thought leadership, convening and capital matchmaking. The Taskforce has produced leading research, implemented a comprehensive action programme to unlock capital for the SDGs, and supported the development and scaling of numerous blended finance vehicles and country platforms. The Taskforce has helped mobilise billions of dollars for the SDGs including through its support for the “Tri Hita Karana Forum for Sustainable Development”.



Farmer harvesting crops by hand in a reas that are too difficult to access at an organic rice and duck farm

# REFERENCES

## Foreword

- 1 'Growing Better: Ten Critical Transitions to Transform Food and Land Use'. 2019. The Food and Land Use Coalition. <https://www.foodandlandusecoalition.org/wp-content/uploads/2019/09/FOLU-GrowingBetter-GlobalReport.pdf>.
- 2 'Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy'. 2020. World Economic Forum. [http://www3.weforum.org/docs/WEF\\_New\\_Nature\\_Economy\\_Report\\_2020.pdf](http://www3.weforum.org/docs/WEF_New_Nature_Economy_Report_2020.pdf).
- 3 'HSBC Pollination Climate Asset Management'. n.d. Accessed 20 October 2020. <https://www.assetmanagement.hsbc.co.uk/en/institutional-investor/investment-expertise/sustainable-investments/climateassetmanagement>.
- 4 Alastair Marsh. 2020. 'Lombard Odier Launches \$400 Million Natural Capital Equity Fund'. Bloomberg Green, 16 November 2020. <https://www.bloomberg.com/news/articles/2020-11-16/lombard-odier-launches-400-million-natural-capital-equity-fund>.
- 5 'Walmart Sets Goal to Become a Regenerative Company'. n.d. Walmart. Accessed 20 October 2020. <https://corporate.walmart.com/newsroom/2020/09/21/walmart-sets-goal-to-become-a-regenerative-company>.

## Better Finance, Better Food

- 1 Shukla, P.R., J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.-O. Pörtner, D. C. Roberts, P. Zhai, et al. 2019. 'Climate Change and Land: An IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems'. Intergovernmental Panel on Climate Change. <https://www.ipcc.ch/site/assets/uploads/2019/11/SRCCL-Full-Report-Compiled-191128.pdf>.
- 2 SYSTEMIQ, Blended Finance Taskforce. 2019. For more detail see: 'Growing Better: Ten Critical Transitions to Transform Food and Land Use. Technical Annex: <https://www.foodandlandusecoalition.org/wp-content/uploads/2019/09/FOLUGrowingBetter-TechnicalAnnex.pdf>.
- 3 World Bank. 2018. 'Poverty and Shared Prosperity 2018: Piecing Together the Poverty Puzzle'. Washington, DC: World Bank. <https://openknowledge.worldbank.org/bitstream/handle/10986/30418/9781464813306.pdf>.
- 4 The term "food and land use systems" covers every factor in the ways land is used and food is produced, stored, packed, processed, traded, distributed, marketed, consumed and disposed of. It embraces the social, political, economic and environmental systems that influence and are influenced by those activities. Food from aquatic systems, marine and freshwater, is also included in the definition.
- 5 SYSTEMIQ, Blended Finance Taskforce. 2019. For more detail see: 'Growing Better: Ten Critical Transitions to Transform Food and Land Use. Technical Annex: <https://www.foodandlandusecoalition.org/wp-content/uploads/2019/09/FOLUGrowingBetter-TechnicalAnnex.pdf>.
- 6 'Growing Better: Ten Critical Transitions to Transform Food and Land Use'. 2019. The Food and Land Use Coalition. <https://www.foodandlandusecoalition.org/wp-content/uploads/2019/09/FOLU-GrowingBetter-GlobalReport.pdf>.
- 7 IIASA GLOBIOM. 2019. For more detail see: 'Growing Better: Ten Critical Transitions to Transform Food and Land Use. Technical Annex: Technical Annex i) Integrated Scenarios for Sustainable Food and Land-Use: An Overview of IIASA's Global Biosphere Management Model'. 2019. London: Food and Land Use Coalition. <https://www.foodandlandusecoalition.org/wp-content/uploads/2019/09/FOLU-GrowingBetter-TechnicalAnnex.pdf>.
- 8 Douglas Flynn, Sanna O'Connor, and Morten Rossé. 2019. 'Prosperous Forests'. London: Food and Land Use Coalition. [https://www.foodandlandusecoalition.org/wp-content/uploads/2019/11/FOLU-Prosperous-Forests\\_v6.pdf](https://www.foodandlandusecoalition.org/wp-content/uploads/2019/11/FOLU-Prosperous-Forests_v6.pdf).
- 9 Emiko Terazono. 2019. 'Alternative Meat' Sales to Hit \$140bn Annually, Barclays Says'. Financial Times, 22 May 2019. <https://www.ft.com/content/c0be42e0-7c7d-11e9-81d2-f785092ab560>.
- 10 'INFRA 3.0: Better Finance, Better Infrastructure'. 2019. London: Blended Finance Taskforce. <https://static1.squarespace.com/static/5acdc066c258b4bd2d15050b/t/5cb46ddc71c10b4ea8d91875/1555328487716/Infra+3.0+FINAL+Taskforce+Spring+Meetings+-+digital.pdf>.
- 11 'Agricultural Support'. n.d. OECD Data. <http://data.oecd.org/agrpolicy/agricultural-support.htm>.
- 12 IFC. 2014. 'Access to Finance for Smallholder Farmers: Learning from the Experiences of Microfinance Institutions in Latin America'. Washington, D.C: International Finance Corporation. <https://openknowledge.worldbank.org/bitstream/handle/10986/21679/949050WPOBox3800English0Publication.pdf?sequence=1&isAllowed=y>.
- 13 Laura Goldman, Michael Tsan, Radoslava Dogandjjeva, Clara Colina, Sanat Daga, and Virginia Woolworth. 2016. 'Inflection Point: Unlocking Growth in the Era of Farmer Finance'. Dalberg Global Development Advisors, Initiative for Smallholder Finance (ISF). [https://mastercardfdn.org/wp-content/uploads/2018/06/Inflection-Point\\_April-20160-accessible.pdf](https://mastercardfdn.org/wp-content/uploads/2018/06/Inflection-Point_April-20160-accessible.pdf).
- 14 'Alternative Meat' Sales to Hit \$140bn Annually, Barclays Says'. Financial Times, 22 May 2019. <https://www.ft.com/content/c0be42e0-7c7d-11e9-81d2-f785092ab560>.

- 15 Catherine Tubb, and Tony Seba. 2019. 'Rethinking Food and Agriculture 2020-2030: The Second Domestication of Plants and Animals, the Disruption of the Cow, and the Collapse of Industrial Livestock Farming'. RethinkX Sector Disruption Report. Rethink X. <https://static1.squarespace.com/static/585c3439be65942f022bbf9b/t/5d7fe0e83d119516bfc0017e/1568661791363/RethinkX+Food+and+Agriculture+Report.pdf>.
- 16 Principles for Responsible Investing (PRI). 2019. 'The Inevitable Policy Response: Preparing Financial Markets for Climate-Related Policy/Regulatory Risks'. UNEP Finance Initiative/United Nations Global Compact. <https://www.unpri.org/download?ac=9833>.
- 17 Atkins, Ralph. 2019. 'Lex In Depth: Bayer's €50bn Blunder'. Financial Times, 7 August 2019. <https://www.ft.com/content/a139ef68-b07c-11e9-bec9-fdcab53d6959>.
- 18 Oxfam. 2017. 'Climate Insurance: Closing the Protection or the Resilience Gap?' Oxfam Views & Voices. 4 July 2017. <https://views-voices.oxfam.org.uk/2017/07/climate-insurance-closing-the-protection-or-the-resilience-gap/>.
- 19 'A Call for Action Climate Change as a Source of Financial Risk'. 2019. Network for Greening the Financial System. [https://www.banque-france.fr/sites/default/files/media/2019/04/17/ngfs\\_first\\_comprehensive\\_report\\_-\\_17042019\\_0.pdf](https://www.banque-france.fr/sites/default/files/media/2019/04/17/ngfs_first_comprehensive_report_-_17042019_0.pdf).
- 20 AODP. 2018. 'Nearly 90% of Public Pension Savings Exposed to Global Warming despite UN Warning'. Asset Owners Disclosure Project. 23 October 2018. <https://aodproject.net/nearly-90-of-public-pension-savings-exposed-to-global-warming-despite-un-warning/>.
- 21 Tim Searchinger, Richard Waite, Craig Hanson, and Janet Ranganathan. 2018. 'Creating a Sustainable Food Future A Menu of Solutions to Feed Nearly 10 Billion People by 2050 (Synthesis Report)'. Washington, D.C: World Resources Institute. [https://files.wri.org/s3fs-public/creating-sustainable-food-future\\_2.pdf](https://files.wri.org/s3fs-public/creating-sustainable-food-future_2.pdf).
- 22 Terazono, Emiko. 2019. 'Concerns Intensify over Food Producers' Impact on Environment'. Financial Times, 2 January 2019. <https://www.ft.com/content/b0688b84-038e-11e9-99df-6183d3002ee1>.
- 23 The increasing frequency and severity of extreme weather events, changing rain patterns, pest infestation and soil degradation, as well as risks linked to technology disruptions (e.g. sudden advancements in genetically modified organism (GMO) production), changes in legislation (e.g. increased carbon pricing), and shifts in consumer preferences (e.g. fast reduction in demand for meat due to increase in vegetarian and flexitarian diets – largely driven by the health conscious rather than climate or sustainability) can have a major impact on food and land use portfolios, causing short-term losses and medium- to long-term "stranded assets" for financial players.
- 24 OECD. 2019. 'Agricultural Policy Monitoring and Evaluation 2019'. Text. OECD Publishing. [https://www.oecd-ilibrary.org/agriculture-and-food/agricultural-policy-monitoring-and-evaluation-2019\\_39bfe6f3-en](https://www.oecd-ilibrary.org/agriculture-and-food/agricultural-policy-monitoring-and-evaluation-2019_39bfe6f3-en).
- 25 Laborde, David, Abdullah Mamun, Will Martin, Valeria Piñeiro, and Rob Vos. 2020. 'Modeling the Impacts of Agricultural Support Policies on Emissions from Agriculture'. IFPRI Discussion Paper 1954. Washington, D.C: International Food Policy Research Institute (IFPRI). <https://doi.org/10.2499/p15738coll2.133852>.
- 26 In 2016, public investments in infrastructure amounted to ~\$620 billion including government expenditure and development flows while total credit from private/commercial banking sector to producers in agriculture and, forestry and fisheries accounted for ~\$560 billion. Including investments from other value chain actors would bring the share of additional investment requirements further down. See: 'The Sustainable Infrastructure Imperative: Financing For Better Growth And Development - Key Messages and Executive Summary'. 2016. Washington, D.C: New Climate Economy. <https://www.un.org/pga/71/wp-content/uploads/sites/40/2017/02/New-Climate-Economy-Report-2016-Executive-Summary.pdf>.
- 27 'Growing Better: Ten Critical Transitions to Transform Food and Land Use'. 2019. The Food and Land Use Coalition. <https://www.foodandlandusecoalition.org/wp-content/uploads/2019/09/FOLU-GrowingBetter-GlobalReport.pdf>.
- 28 'Crops and Drops: Improving Irrigated Production...' 2002. Rome: Food and Agriculture Organization of the United Nations. <http://www.fao.org/3/Y3918E/y3918e10.htm>.
- 29 'INFRA 3.0: Better Finance, Better Infrastructure'. 2019. London: Blended Finance Taskforce. <https://static1.squarespace.com/static/5acdc066c258b4bd2d15050b/t/5cb46ddc71c10b4ea8d91875/1555328487716/Infra+3.0+FINAL+Taskforce+Spring+Meetings+-+digital.pdf>.
- 30 AlphaBeta. 2017. 'Valuing the SDG Prize in Food and Agriculture'. London: Business and Sustainable Development Commission. <http://s3.amazonaws.com/aws-bsdc/Valuing-SDG-Food-Ag-Prize-Paper.pdf>.
- 31 Suri, T. and Jack, W. 2016. 'The Long-Run Poverty and Gender Impacts of Mobile Money'. Science 354, no. 6317: 1288–92. <https://doi.org/10.1126/science.aah5309>.
- 32 'Empowering Participation from Farmers'. n.d. Ergos. <https://ergos.in/.34> 'Task Force on Climate-Related Financial Disclosures: Status Report - 2019 Status Report'. 2019. The Task Force on Climate-related Financial Disclosures. <https://assets.bbhub.io/company/sites/60/2020/10/2019-TCFD-Status-Report-FINAL-0531191.pdf>.



Balaynesh Kasa (pictured here with her children) a farmer and beneficiary of the Debre Yacob Learning Watershed Restoration Project in Bahir Dar, Ethiopia. Abbie Traylor-Smith for Panos Pictures/Watershed Restoration and smallholders Bahir Dar.

---

A report supported by NICFI, in  
partnership with the Food and  
Land Use Coalition

---

