Viale delle Terme di Caracalla, 00153 Rome, IT www.fao.org 14/01/2025

Submission by the Food and Agriculture Organization of the United Nations (FAO) to the secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) in relation to the 2025 Forum of the Standing Committee on Finance (SCF) on accelerating climate action and resilience through financing sustainable food systems and agriculture

In response to the call for inputs on the 2025 SCF Forum on accelerating climate action and resilience through financing for sustainable food systems and agriculture, FAO welcomes the opportunity to submit views to contribute to the discussion, including 1) evidence and information relevant to the possible sub-themes identified by the co-facilitators; 2) examples and case studies related to financing sustainable food systems and agriculture; and 3) possible additional sub-themes for the co-facilitators to consider in the programme.

Highlights:

- Agrifood systems remain significantly underfunded, receiving only 4.3% of global climate finance flow in 2019-20. This puts a strain on unlocking the agrifood system transformation that can address the major interlinked challenges of climate change, biodiversity loss, land degradation, food insecurity, and poverty. Directing finance to agrifood systems and ensuring this finance effectively reaches agricultural communities is critical.
- Grant-based, concessional finance and non-debt instruments are vital for the agrifood sector. They can be complemented by the growing voluntary carbon markets and repurposing inefficient and harmful subsidies into agrifood system transformation. Innovative financial instruments such as green bonds and insurance mechanisms present potentials for directing finance to agrifood systems.
- It is important to raise ambitions for agrifood systems with the upcoming round of NDC in 2025. National governments must align their national climate targets with global investment needs and identify pathways for scaling up public and private investment required for agrifood systems transformation.
- Accurate measurement of climate finance, particularly for agrifood systems, remains challenging due to inconsistent data, methodologies, and assumptions. Robust data collection, coherent methodologies, and a strong sector-specific evidence base are essential for informed climate finance decisions in agrifood systems.
- Small-scale producers, the backbone of global agricultural production, are often on the sideline of climate finance. Enhancing the quality and equitable access to climate finance for small-scale producers, women, youth and other vulnerable groups is essential for advancing a just transition.

Agrifood systems and climate change

The recent 29th Conference of the Parties to the UNFCCC (COP29) emphasized the critical need for increased financial support to address climate change, with a critical commitment by developed nations to triple annual financial aid to USD 300 billion and collaboratively mobilize USD 1.3 trillion per year by 2035. As the international community charts a pathway to achieve these targets, ensuring an inclusive and adequate flow of climate finance to agrifood systems and rural communities is paramount.

Agrifood systems generate one-third of global greenhouse gas emissions and are highly vulnerable to climate change, threatening rural livelihoods. The agriculture sector also bears a substantial share of climate-associated loss and damage. Over the past 30 years, disasters have caused USD 3.8 trillion in crop and livestock losses, representing an annual average loss of USD 123 billion or 5% of global agricultural GDP.[1]

More than 100 million people could be pushed into extreme poverty by 2030 because of climate change.[2] Vulnerability is particularly pronounced in areas with poverty, weak governance, limited resources, conflict, and climate-sensitive livelihoods like agriculture, livestock, forestry, fisheries, and aquaculture. Marginalization based on wealth, gender, and age exacerbates communities' vulnerability to climate stressors, increasing their exposure and sensitivity while hindering their capacity to adapt effectively.[3]

Despite these challenges, agrifood systems offer a wide range of climate solutions to maximize the co-benefits of adaptation and mitigation on the ground. These solutions include, but not limited to, restore and sustainably manage agricultural land, ensure efficient and resilient livestock systems, promote sustainable aquaculture and fisheries, halt deforestation and promote agroforestry, restore ecosystems and ensure sustainable use of biodiversity, safeguard seeds and plant genetic resources for the future, develop energy smart agrifood systems and promote the bioeconomy.

Climate finance towards agrifood systems

Sources of climate finance include both public and private funding. Public finance is derived from domestic sources and climate-related developmental finance (CRDF), which includes bilateral flows from governments and multilateral channels such as development banks, climate vertical funds (e.g., Green Climate Fund), and multilateral organizations. Private finance consists of market-based measures by companies, banks, and investment funds, as well as private grants from NGOs or foundations.

Despite the gradual increase in climate finance across all sectors, agrifood systems remain vastly underfunded. It is estimated that the annual cost of transitioning global agrifood systems to align with a

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[1] FAO. 2023. *The Impact of Disasters on Agriculture and Food Security 2023 – Avoiding and reducing losses through investment in resilience.* Rome. https://doi.org/10.4060/cc7900en

[2] Mbow, C., Rosenzweig, C., Barioni, L.G., Benton, T.G., Herrero, M., Krishnapillai, M., Liwenga, E. *et al*. 2019. Food security. In: P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.O. Pörtner, D.C. Roberts, P. Zhai *et al.*, eds. *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*, pp. 437–550. Intergovernmental Panel on Climate Change, Geneva.

[3] FAO. 2024. *The unjust climate. Measuring the impacts of climate change on rural poor, women, and youth*. https://www.fao.org/socioeconomic-research-analysis/resources/unjust-climate/the-unjust-climate/en

1.5 C pathway requires USD 1.1 trillion[4]. In contrast, current climate finance for agrifood systems averages only USD 28.5 billion annually, accounting for just 4.3% of global climate finance tracked at the project level in 2019/20.[5] To close this gap, investments in sustainable agrifood systems must increase nearly 40-fold. Addressing persistent finance gaps and uneven distribution of resources across regions, sectors, and both mitigation and adaptation efforts is essential to driving sustainable agrifood systems transformation. This approach must prioritize support for small-scale producers and the most vulnerable groups.

Climate-related development finance (CRDF)[6]

In 2022, USD 29 billion (23% of total CRDF) was allocated to agrifood systems, reflecting a small recovery from previous declines but still insufficient for agrifood systems transformation.[7] OECD Development Assistance Committee (DAC) members provided the largest share of climate-related development finance to agrifood systems (46%), closely followed by Multilateral Development Banks (MDBs) (45%), with the latter seeing a surge in contributions from an annual average of USD 5 billion (2017–2021) to a record USD 13 billion in 2022. This growth was driven by the World Bank's more than doubling of contributions, alongside significant increases from the Asian Development Bank and the Development Bank of Latin America (CAF).

The use of grants and debt instruments remains the main financial instruments but varies by region. In Africa, the primary beneficiary region of CRDF, 67% of climate finance was provided through grants, whereas Asia and America predominantly relied on debt instruments, accounting for 67% and 80% of their funding, respectively. Global/interregional projects depended almost entirely on grants, with a balanced split observed in Europe and the Near East/North Africa. In addition, contributions to Small Island Developing States (SIDS) have increased to USD 731 million, but the amount remains significantly low to address the needs.

While 50% of overall CRDF targeted mitigation, agrifood-specific allocations prioritized adaptation (51%), followed by mitigation (26%) and cross-cutting objectives[8] (23%). When looking at the composition of climate-related development finance flows within the agrifood systems[9], agriculture continues to be the largest recipient of funding, reaching USD 11.6 billion), followed by environment and biodiversity, and food security. Energy and fishery saw the largest increases from 2021 in terms of yearly variation of flows.

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[4] CPI & FAO, 2024. *The Triple Gap in Finance for Agrifood Systems*. climatepolicyinitiative.org/publication/the-triple-gap-in-finance-for-agrifood-systems https://www.climatepolicyinitiative.org/publication/the-triple-gap-in-finance-for-agrifood-systems/

[5] CPI. 2023. *Landscape of climate finance for agrifood systems*. https://www.climatepolicyinitiative.org/publication/landscape-of-climate-finance-for-agrifood-systems/

[6] The Organisation for Economic Co-operation and Development (OECD) provides Climate-related Development Finance (CRDF) dataset. This dataset includes Official Development Assistance (ODA), other official flows (OOF), private grants and private amounts mobilized reported by DAC and non-DAC members. The analysis focuses on the recipient perspective, including bilateral flows and the outflows from multilateral providers, allowing a standardized, policy-aligned reporting framework, ensuring consistency, transparency, and accountability in tracking official public climate finance flows across countries.

[7] FAO. 2024. *Climate-related development finance to agrifood systems 2024 update.* Rome.

[8] "Cross-cutting" refers to both mitigation and adaptation.

[9] The concept of "agrifood systems" under this analysis includes agriculture, crop production, forestry, fishery, livestock, food security, environment and biodiversity, energy, emergency/resilience, and cross-cutting.

FAO has been supporting countries to access various vertical funds with a current total value of USD 1.4 billion Green Climate Fund (GCF) portfolio[10] consists of 23 high-impact programmes covering cross-cutting areas (52%), adaptation (26%) and mitigation (22%). As a partner agency for the GEF, FAO supports countries worldwide in addressing the complex challenges at the nexus between the agrifood systems and the environment. Since 2006, FAO has supported 141 countries in accessing $1.9 billion for projects that respond to local priorities, deliver global environmental benefits, and advance the Sustainable Development Goals (SDGs)[11].

Voluntary carbon market

The voluntary carbon market (VCM) in agrifood systems is still in its early stages, generating USD 30.6 million in transactions in 2023, down from USD 41.7 million in 2022[12]. Average carbon credit prices in agrifood were USD 6.51 per tonne CO2e for agriculture and USD 15.74 for afforestation/reforestation projects. While agrifood projects constitute 11% of VCM projects, they account for only 1% of issued carbon credits, underscoring significant untapped potential. Methane digesters, sustainable grassland management, and agroforestry are the most common project types, and removals are expected to grow in the next five to ten years, driven by soil carbon projects in development

Despite its promise, agrifood VCM faces challenges such as high measurement, reporting, and verification (MRV) and transaction costs, inconsistent data standards, and concerns about carbon credit integrity. Smallholder projects, while delivering diverse sustainable development benefits, are particularly hindered by high upfront costs, complex MRV requirements, and limited scalability. Development costs for agrifood projects often exceed revenue from carbon credits, deterring investment. Furthermore, uncertainties around corporate demand, regulatory frameworks, and farmer incentives continue to restrict the sector's growth. Agrifood sectors with high mitigation potential, like livestock and rice, remain underrepresented, offering an opportunity for targeted interventions.

Blended finance and other innovative financial mechanisms

Investment in the agri-food sector is often perceived as high risk. In recent years, the use of innovative financial instruments, such as blended finance, has gained prominence as a key instrument to unlock investments in the agrifood sector by integrating public and private resources to mitigate risks and catalyze private finance flows for climate change adaptation and mitigation. In 2022, 36% of global blended climate finance agreements supported rural and smallholder farmers, a significant increase from the 26% registered in 2016-2018.[13] Mechanisms such as public guarantees, direct public financing, and insurance tools—including crop and weather-index-based schemes—are essential for managing risks. Other innovative financial instruments, including catastrophe funds and debt instruments like sovereign green bonds, can also be used to finance small-scale producers and agricultural small- and medium-sized enterprises (agri-SMEs) and address loss and damage (L&D) in agrifood systems.

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[10] FAO and the Green Climate Fund (GEF) website: https://www.fao.org/gcf/en

[11] FAO and the Global Environmental Facility (GEF) website: https://www.fao.org/gef/en

[12] FAO. Forthcoming. Agrifood Systems in the Voluntary Carbon Market: Status and Prospects

[13] World Economic Forum. 2023. *Green returns: Unleashing the power of finance for sustainable food systems*. White paper. https://www3.weforum.org/docs/WEF_Green_Returns_2023.pdf

Collaboration among international organizations, governments, multilateral financial institutions and the private sector is key to developing and scaling innovative financial mechanisms and capacities that support sustainable development and resilience. The Forest and Farm Facility[14] exemplifies this approach, partnering FAO, IIED, IUCN, and Agricord to strengthen forest and farm producer organizations in 10 core countries. By providing direct financial support and technical assistance, the Facility empowers smallholders, rural women's groups, local communities, and Indigenous Peoples' institutions to drive climate adaptation and sustainable development. This inclusive model highlights the importance of aligning global resources and expertise with local needs to address environmental and agricultural challenges effectively.

Climate finance gaps in agrifood systems

Climate finance is essential to transforming agrifood systems into sustainable, resilient contributors to global climate goals. However, significant gaps hinder progress.

Planning gap

Current climate planning for agrifood systems reveals significant discrepancies between the investment required to achieve climate targets and actual commitments. A global top-down analysis indicates a need for USD 1.1 trillion annually to achieve emissions reduction and climate resilience targets by 2050. However, bottom-up analysis shows countries collectively need USD 201.5 billion annually until 2030 to meet the agrifood-related climate pledges in their Nationally Determined Contributions (NDCs)[15]. This sixfold gap in climate finance highlights the need for national governments to substantially increase their climate finance commitments for agrifood systems. Furthermore, raising ambition is not only about increasing the volume of climate finance but also improving the quality and direction of funding. Planning and investment in adaptation for agrifood systems tend to receive less attention and funding because they are perceived as less commercially attractive. This is further compounded by difficulties in costing adaptation needs and measuring their impacts.

Data gap

A data gap exists in current climate finance planning, with NDCs underestimating the investments needed for agrifood systems, which account for only 15% of total reported funding needs despite contributing a third of global greenhouse gas emissions[16]. Additionally, only 37% of NDCs provide sector-specific breakdowns. Data limitations and inconsistencies across methodologies exacerbate these issues. Meanwhile, small-scale producers, often overlooked in global financing landscapes, are significant contributors to climate adaptation. 439 million small-scale producers invest an estimated USD 368 billion

[14] FAO website of Forest and Farm Facility. https://www.fao.org/forest-farm-facility/en/
[15] CPI & FAO, 2024. *The Triple Gap in Finance for Agrifood Systems*. climatepolicyinitiative.org/publication/the-triple-gap-in-finance-for-agrifood-systems https://www.climatepolicyinitiative.org/publication/the-triple-gap-in-finance-for-agrifood-systems/
[16] CPI & FAO, 2024. *The Triple Gap in Finance for Agrifood Systems*. https://www.climatepolicyinitiative.org/publication/the-triple-gap-in-finance-for-agrifood-systems/

annually—20–40% of their incomes—in measures like biodiversity conservation and resilience-building[17]. These investments, critical for transforming agrifood systems, should be acknowledged and integrated into broader climate finance strategies alongside repurposed subsidies and incentives for tested local practices.

Finance gap and particular challenges of direct access by small-scale producers

Small-scale producers, who are responsible for a third of the world's food receive only 0.8% of total climate finance tracked across all sectors and 19% of climate flows to agrifood systems as a whole in 2019/20.[18] During the same period, nearly half of climate finance for small-scale agrifood systems came as grants (USD 2.7 billion), with concessional debt accounting for 39% (USD 2.2 billion). Equity financing remains minimal, constituting only 0.6% of total flows. Increasing equity finance and scaling up direct access to both public and private climate finance are crucial for supporting innovative and high-risk projects that require substantial upfront investment but have the potential for significant long-term benefits in terms of climate adaptation and resilience building. Climate-responsive social protection systems can address gaps by providing safety nets and facilitating inclusive adaptation for vulnerable populations reliant on agrifood systems, including women, youth, and Indigenous Peoples.

Opportunities and strategies for financing agrifood systems to tackle the climate crisis, build resilience, and support sustainable development

Financing for the agrifood system needs to not only increase in volume but also improve in quality and direction of funding – with a priority focus on the most vulnerable groups (including small-scale producers, women, youth, and Indigenous Peoples). Increasing climate finance requires a step change in the level of ambition of domestic finance targets for agrifood systems, particularly in the NDCs. Yet, the lack of accurate and granular data partly contributes to the gap in developing more ambitious and result-oriented planning for climate and agrifood systems. Therefore, the transition to resilient and sustainable agrifood systems requires tackling the gap in finance, planning, and data simultaneously.

1. Closing the planning gap by raising the ambition of domestic climate targets

Raising national climate targets in line with global investment needs is the prerequisite for collective climate action for agrifood systems. While NDCs reflect national priorities, they should also contextualize global investment needs in line with the long-term global climate targets. There is a need for international organizations and development partners to support national efforts, enhance capacity for developing credible national pathways, and design the necessary structures and mechanisms for mobilizing private investment in climate solutions outlined in the NDCs, involving and building capacities of farmers and rural communities during the design, planning, and management phases.

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[17] IIED. 2023. *The unsung giants of climate and nature investment: insights from an international survey of local climate and nature action by smallholder forest and farm producers*. https://www.iied.org/21976iied

[18] CPI. 2023. *The climate finance gap for small-scale agrifood systems*. https://www.climatepolicyinitiative.org/wp-content/uploads/2023/11/The-Climate-Finance-Gap-for-Small-Scale-Agrifood-Systems.pdf

Increasing national climate targets within NDCS are the springboards to unlock climate finance from public and private sources. Clear and coherent targets in the NDCs give way to building confidence in the private sector to align their business practices with the NDCs and to invest in agrifood system solutions outlined in the NDCs. Outward-looking investment plans for agrifood systems with private investment in mind is necessary to open opportunities for financing efficient agrifood system solutions. Meaningful engagement with the private sector in the design and revision of NDCs and National Adaptation Plans (NAPs) is important to inform public policy and investment priorities. The next round of NDCs due in 2025 is an opportunity that cannot be missed for a successful agrifood system transformation that delivers for climate, biodiversity, and the environment.

2. Closing the finance gap by directing funds into sustainable agrifood system solutions

Grant-based, concessional finance and non-debt instruments remain vital and need to be sustained. Recent increases in multilateral support, highlight the critical role of multilateral development banks (MDBs) in climate finance. Enhanced coordination between Development Assistance Committee (DAC) members and MDBs is essential to efficiently align resources with recipient countries' climate and development priorities, driving transformative investments in resilient and sustainable agrifood systems.

To maximize the impact of climate finance, blended approaches combining diverse financial instruments should be prioritized. Policymakers, MDBs, and development partners must scale up private finance by enhancing credit mechanisms and reducing risks. Insurance mechanisms, sovereign green bonds, and other innovative financial mechanisms should be further explored. Tailored, locally relevant investments leveraging innovative financial tools are essential to drive transformative and climate-resilient agrifood systems.

To unlock the potential of voluntary carbon markets to finance agrifood system transition, data integrity, harmonized methodologies, and precise and cost-effective MRV are crucial. Governments have a role in supporting carbon credit markets through regulation, farmer incentives, and ensuring equitable benefit-sharing. High-priority areas and regions with the greatest mitigation potential should be targeted for intervention. Leveraging VCM finance alongside other climate finance mechanisms can enhance long-term impacts, while technological innovations and scalable business models can drive cost reductions and greater participation. By addressing these barriers, agrifood VCM can play a transformative role in climate mitigation and sustainable development.

Repurposing public agricultural investments and subsidies for climate-resilient agrifood systems. FAO analysis in 2021 shows that globally, support to agricultural producers accounted for almost USD 540 billion a year, or 15 percent of total agricultural production value. This support is heavily biased towards measures that are distorting, unequally distributed, and harmful for the environment and human health. Under a continuation of current trends, this support could reach almost USD 1.8 trillion in 2030[19]. Phasing out the most distorting and environmentally and socially harmful producer support is essential to bridge the climate finance gap. However, this phasing out will need to be coupled with the redirection of finance

[19] FAO, UNDP and UNEP. 2021. *A multi-billion-dollar opportunity – Repurposing agricultural support to transform food systems*. Rome, FAO. https://doi.org/10.4060/cb6562en

towards investments for the provision of public goods and services for agriculture. FAO's work with governments in policy optimisation and development of national public spending scenarios in agriculture has shown that it is possible to redirect investments, within existing budgets, and deliver positive returns for agricultural production, the economy, and people's well-being[20].

3. Closing the data gap by strengthening data collection and harmonizing methodologies

Collecting more comprehensive and consistent finance data is a prerequisite to leverage NDCs in guiding Paris-aligned investments. In doing so, countries require support from the UNFCCC and other international institutions to equip governments with the tools, knowledge, and capacities to strengthen data collection and submit updated NDCs. To this end, FAO has developed tools such as the Nationally Determined Contribution Expert Tool, the Adaptation, Biodiversity, and Carbon Mapping tool, and the Climate and Agriculture Risk Visualization and Assessment tool that are designed in line with the enhanced transparency framework of the Paris Agreement. Work is underway with countries to adopt these Paris-aligned tools in strengthening data analysis and reporting to the Paris Agreement.

Rigorous, transparent, and standardized methods to cost climate finance needs will help develop the knowledge base for investments. Varying methods, models, and assumptions lead to inconsistent agrifood climate finance estimates. Harmonizing taxonomies, terms, and scopes across agriculture, forestry, and land use sectors can improve data collection and analysis. Developing regional and country-specific models is critical to identifying finance gaps.

4. Advancing a just transition in agrifood systems by improving the quality and equitable access to climate finance

Climate finance should not leave small-scale producers and those in vulnerable situations behind. The increased reliance on debt instruments, such as concessional loans, calls for careful design of financial instruments that support farmers in adopting sustainable agricultural practices with adequate repayment terms and grace periods. Climate finance for small-scale producers and other vulnerable groups must prioritize grant-based, patient, and predictable funding. Simplified access modalities, reduced co-financing requirements, and mechanisms that ensure direct funding flows to local communities, small-scale producers, women, youth, Indigenous Peoples, and subnational actors are vital. Climate finance must address the most vulnerable, particularly in LDCs, LLDCs, SIDS, and fragile or conflict-affected settings, by reducing transaction costs and enhancing capacity-building efforts.

Financing the inclusive and just transition requires inclusive multi-stakeholder partnerships that prioritize the engagement of women, Indigenous Peoples, and youth. These partnerships should bring together policymakers, researchers, private sector actors, NGOs, and farmer organizations. Initiatives such as the FAO's Food and Agriculture for Sustainable Transformation (FAST) Partnership and the newly launched Baku Harmoniya Climate Initiative for Farmers play pivotal roles in aligning efforts, sharing best practices, and fostering coherence between climate finance initiatives for the agrifood systems.

[20] FAO. 2024 Spending smarter on food and agriculture. Rome, FAO. https://openknowledge.fao.org/handle/20.500.14283/cd3674en

Recommended additional sub-themes for the co-facilitators to consider in the programme

1. Accelerating and scaling finance for sustainable, resilient and adapted agrifood systems to tackle the interconnected climate, biodiversity and food crises.
2. Repurposing agriculture and food investments and subsidies (institutional and policy level) to tackle the climate crisis but also to address the Hidden Costs of the Food System.
3. Boosting access to financing for locally-led climate adaptation, resilience and mitigation action (community level) especially for small holder farmers.

Annex:

Case studies and reference materials related to the possible sub-themes

1) **Strategies for financing the policy nexus of agricultural sustainability, food systems, climate change and sustainable development,** including policy and financial planning, efforts and partnerships to address adaptation, mitigation, loss and damage and other related environmental priorities.

Regional mechanisms for the low-carbon, climate-resilient transformation of the energy-water-land Nexus in Central Asia' consortium programme: Supported by FAO and the European Bank for Construction and Development (EBRD) the programme aims to support Uzbekistan, Tajikistan, Kyrgyz Republic, Turkmenistan and Kazakhstan in applying energy, water, land-use nexus approaches to modify the planning processes and adopt a whole-of-government concept to address socio-economic and environmental challenges. The nexus approach aims to enhance institutional and individual capacity and scale up finance for projects and businesses that generate nexus benefits and contribute to deeper regional and cross-sectoral co-operation toward climate, energy, water, and food security, and foster political dialogue at the regional level. Under the EBRD Agrifood Nexus Programme, FAO is developing a methodological approach for the new EBRD financing mechanism in relation to the energy-water-land nexus to facilitate engagement with the private sector in nexus-related investments.
Investing in food loss and waste: FAO's analysis highlights action areas for development banks to meet the challenge of food loss and waste and options to attract private sector investment .
Investment in climate-efficient agrifood system infrastructure: associated conceptual framework and key economic, environmental, and social performance indicators to assist the decision-making process for private and public investments.
Investment in carbon neutrality: This provides a comprehensive assessment of key challenges and opportunities of for investment in the carbon neutrality agenda in agrifood systems.

5) Experiences and lessons learned in designing and financing country-driven **sustainable farming practices tailored to country-specific needs and priorities.**

FAO has supported countries to conduct assessments and identify priority areas and entry points for targeted public and private investments towards agrifood system transformation at the country and regional level. Case studies include:

- Latin America: Opportunities to invest in bioinputs in the agroecological transition to sustainable agrifood systems in Latin America.
- Belize: Priority areas for climate-resilient irrigation and drainage investments in Belize that can improve agricultural productivity, resilience, and production.
- Kazakhstan and Kyrgyz Republic: a rapid assessment methodology to identify and prioritize climate technologies and practices in the agri-food sector and opportunities for targeted investment in Kazakhstan and the Kyrgyz Republic.
- China: policy and investment in climate smart agriculture; the development pathway, experiences, innovation, and investment opportunities in conservation agriculture; and development pathway, experiences and good practices, investment in sustainable agricultural mechanization.

- Rwanda: Analysis of existing opportunities for the uptake of solar energy technologies within Rwanda's agri-food sector.
- Food system assessment: Between 2021 and 2023, FAO, European Union (EU) and CIRAD conducted 49 rapid food systems assessments at country level and are following up with the EU to support Sustainable Agrifood Systems Intelligence (SASI) to support investment planning in Bhutan, Colombia and Sierra Leone.

6) **Integrating climate-resilient and science-based adaptation strategies** into agricultural and food systems **policies, national development strategies and national climate and investment plans.**

Examples of toolkits and guidelines:

Making climate-sensitive investments in agriculture. Approaches, tools and selected experiences – The investment toolkit provides investment practitioners with practical reference material on integrating climate risk considerations at all stages of the investment project cycle. Building on the Intergovernmental Panel on Climate Change (IPCC) reports, it showcases FAO-developed tools, tested approaches and selected experiences, and discusses climate financing opportunities for agriculture.

- Investment guidelines for youth in agrifood systems in Africa: Practical guidance - including tools and examples - to design, develop, implement, monitor and evaluate youth-focused and youth-sensitive investment programmes and to engage youth fully as partners in agrifood system transformation.

7) **Fiscal instruments, incentives and regulation and multisectoral policy coherence and coordination** as means to support, incentivize and enhance sustainable agricultural production.

Repurposing harmful subsidies to agrifood system transformation: Analysis of past and current agricultural producer support for 88 countries with projection to 2030 and opportunities for phasing out harmful subsidies and redirecting them to investments in public goods and services for agriculture.

8) **Access to finance for sustainable food systems and agriculture,** including public sources, national and international financing, as well as private sources, including from agribusinesses, private banks and impact investors.

- Forest and Farm Facility**:** The Forest and Farm Facility is a partnership between FAO, the International Institute for Environment and Development (IIED), the International Union for Conservation of Nature (IUCN) and Agricord. The Facility works in 10 core countries providing direct financial support and technical assistance to strengthen forest and farm producer organizations representing smallholders, rural women's groups, local communities and Indigenous Peoples' institutions.
- Agri-Hire in Sub-Saharan Africa: Analysis of different business models for private investment in sustainable mechanization hire services in Africa. It identifies success factors, and provide entry points for investment, providing a better understanding of how agricultural mechanization hire service provision can contribute to agricultural and rural development.
- Forthcoming in April 2025: *Business models and de-risking strategies to scale up private sector engagement in climate change action*
- Forthcoming in May 2025: *Sustainability linked loans – Emerging markets agrifood focus*

9) **Innovative financial instruments,** particularly those which are tailored for smallholder farmers and other small and medium-sized enterprises, including green bonds, climate-smart agricultural loans, insurance schemes and digital financial platforms.

- Payment for ecosystem services through the RECSOIL initiative: The RECSOIL Initiative (recarbonization of global soils), established under the FAO Global Soil Parnership, aims to restore degraded agricultural soils by encouraging farmers to adopt good practices. Through harmonized protocols and a robust monitoring system, soil health, productivity, and GHG emissions are monitored. Farmers are rewarded for their beneficial action through the mechanism of payment for ecosystem services such as carbon sequestration, biodiversity enhancement, and improved water availability.
- Forthcoming in early 2025: *The state of carbon payments and the voluntary carbon market in agriculture*

10) **Essential role of international and multi-stakeholder cooperation,** public and private partnerships, trade and trade policies, non-Party stakeholders and other actors in supporting climate action in the agricultural and food sectors.

Assessment of the export of coffee in Honduras and Guatemala to the European Union: Analysis of economic and political structures of the coffee supply chain and potential traceability systems that could meet the requirements of the EU Regulation for Deforestation-Free Imports (EUDR).

11) **Capacity-building and technical support** for farmers, small and medium sized enterprises and institutions involved in the agricultural and food sectors in developing countries to prepare investment-ready projects and strengthen access to different financing sources and instruments.

- RuralInvest (RIV) **-** *RuralInvest* is a free toolkit designed to support field technicians in their work with entrepreneurs by allowing the systematization and development of bankable and sustainable business proposals. Through a participatory and bottom-up approach, *RuralInvest* methodology brings together local communities, rural entrepreneurs, government field technicians, project staff, and financing institutions to identify, prepare, evaluate and finance small-and medium-size sustainable rural investment projects.
- How to invest in farmers? - A guide for agriculture human capital investment projects - The toolkit provides investors including policymakers, government officials, international and national development banks and the private sector, with the evidence, analysis, guidance and processes to make investment decisions on projects, programmes and policies that strengthen farmers' capacities.

12) **Financing a Just Transition in Agrifood Systems:** delivering climate financing to foster an inclusive and just transition to a low emissions and climate adaptive agrifood system

Measuring the impacts of climate change on rural poor, women, and youth: FAO analysis that draws on data from 24 low- and middle-income countries in five regions to measure the effects of climate change on rural women, youths and people living in poverty. It analyses socioeconomic data collected from 109 341 rural households (representing over 950 million rural people) in these 24 countries.