

Compendium of Country Briefs: Accelerating Transition to Sustainable Agriculture



Edition One:

Lead set of sample Country Briefs

Contents

Foreword.....	3
Chairs' Summary	5
Vietnam: Policy repurposing for the transition to sustainable food and agriculture.....	10
Colombia: Unlocking policy options for equitable green growth in agriculture	13
Zambia: Developing an approach to climate-smart agriculture	18
Mongolia: Redirecting agriculture policies for domestic food security and climate-smart agriculture	21
Italy: Accelerating the transition to sustainable agriculture and food systems	25
New Zealand: Transforming agriculture and the He Waka Eke Noa climate action partnership.....	29

Photos (Shutterstock.com): Nguyen Quang Ngoc Tonkin (cover), Daniel J. Rao (p4), Dzung Vu (p10), Somchai_Stock (p11), Orchid photho (p13), Anamaria Mejia (p16), Jhon Gracia (p17), Ed Williams (p18), FANKS (p19), africa924 (p20), Rawpixel.com (p21), Pierre Jean Durieu (p23), saltat007 (p24), Julia Lopatina (p25), AerialVision_it (p27), Yulia Grigoryeva (p28), Greg Brave (p29), TheOldhiro (p31), ChameleonsEye (p33).

Foreword

Agriculture is vital for people's health and well-being, nutritious diets, jobs and livelihoods. Yet agriculture is also a major source of greenhouse gas emissions, the main driver of biodiversity loss and a leading cause of water contamination. At the same time, farmers' livelihoods are increasingly vulnerable to shocks and stresses due to climate change and environmental damage, which in turn negatively impact economic development and global food security.

Climate change has already wiped out an estimated equivalent of seven years' worth of productivity gains.¹ If current trends continue, greenhouse gas emissions from agriculture will increase by 58 per cent, and 56 million more hectares of land with natural vegetation will be converted to agriculture by 2040.² It is vital to transform agriculture to be more productive, resilient to recurring climate shocks, and more sustainable for the benefit of coming generations.

Governments have a key role to play. Globally, governments spend over US\$800 billion annually in public support to agriculture,³ but often this support is inefficient and incentivizes harmful practices that drive emissions and damage the environment, (such as overuse of chemicals and natural resources, mono-cropping and deforestation). Redirecting just 10 per cent of public support to agriculture towards less harmful, more efficient and sustainable production could deliver net gains of US\$2.4 trillion by 2040.⁴

In 2021, the UK COP Presidency and World Bank launched a Policy Dialogue on Accelerating Transition to Sustainable Agriculture to share experiences and catalyse policy leadership among governments. The Dialogue is framed around success criteria for sustainable agriculture that delivers for **people** (healthy diets and economies), **climate** (mitigation and adaptation) and **nature** (protecting and restoring biodiversity).

Getting the most effective policies in place to deliver these "triple wins" is extremely complex and challenging. No one country has all the answers. We are thankful to the many colleagues across governments who have shared their experiences through this valuable compendium of country briefs. This Compendium will be released in two editions: Edition One in November 2022 with a lead set of sample briefs, followed by a full set of country briefs in Edition Two to be released in early 2023.

¹ Ortiz-Bobea, A., Ault, T.R., Carillo, C.M., Chambers, R.G., Lobell, D.B. 2021. Anthropogenic climate change has slowed agricultural productivity growth. *Nature Climate Change* 11: 306–312.

² Gautam, M., Laborde, D., Mamun, A., Martin, W., Pineiro, V. and Vos, Rob. 2022. *Repurposing Agricultural Policies and Support: Options to Transform Agriculture and Food Systems to Better Serve the Health of People, Economies, and the Planet*. Report, World Bank, Washington, D.C.

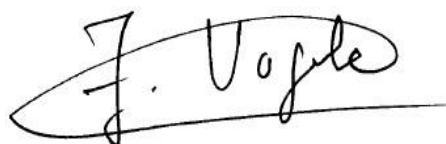
³ In 2019-2021, the 54 countries monitored by OECD spent US\$817 billion in annual public support to agriculture. Taken from: OECD. 2022. *Agricultural Policy Monitoring and Evaluation*. Report, Paris: OECD.

⁴ Gautam, M., Laborde, D., Mamun, A., Martin, W., Pineiro, V. and Vos, Rob. 2022. *Repurposing Agricultural Policies and Support: Options to Transform Agriculture and Food Systems to Better Serve the Health of People, Economies, and the Planet*. Report, World Bank, Washington, D.C.

These country briefs highlight policy measures countries are taking to transform agriculture: from policy diagnostics to innovative support schemes and incentive structures for farmers, to national legislation to promote sustainable food systems. We hope these experiences will serve as inspiration for others. They show that options exist, change is possible and that, collectively, we can build the leadership needed for transformative change in agriculture and food systems.



Rt Hon Lord Goldsmith, Minister of State
for Foreign, Commonwealth & Development
Office (FCDO)



Juergen Voegelé, Vice President for
Sustainable Development Practice Group,
World Bank



Chairs' Summary

Policy Dialogue on Accelerating Transition to Sustainable Agriculture Through Redirecting Public Policies and Support and Scaling Innovation

Purpose

Catalyse policy leadership to accelerate transition to sustainable agriculture and food systems, urgently needed to deliver on the Paris Agreement and Sustainable Development Goals.

Objectives

- Share evidence, knowledge and experiences of policies and support that work to accelerate a transition to sustainable agriculture, to deliver **triple wins** for **people** (healthy diets and economies), **climate** (mitigation and adaptation) and **nature** (protect and restore biodiversity).
- Mobilize peer support and collaboration on policy actions for sustainable agriculture, including redirecting policies and support away from harmful to sustainable practices.
- Showcase leadership and good practice for achieving sustainable agriculture and food systems in practice.

Context: the case for transition to sustainable agriculture, for food security, resilient food systems, lower emissions and economic growth

In the current context of heightened global food insecurity, it is more critical than ever to transform agriculture to make it more productive, resilient to recurring climate shocks and more sustainable for the benefit of coming generations.

Agriculture is vital for food security, livelihoods and national incomes. In 2021, public support to the sector amounted to over US\$800 billion in the 54 developed and emerging economies monitored by the Organisation for Economic Co-operation and Development.⁵ The sector provides jobs for 874 million people (27 per cent of the global workforce) and added US\$3.5 trillion of value to the global economy in 2019.⁶ The tripling of agricultural production over the past 60 years has had huge benefits for economies and society; but this has come with enormous “hidden” costs and is patently not sustainable.

Alternatively, redirecting just 10 per cent of public support to the agriculture sector towards less harmful, more efficient and sustainable production (including research and innovation) could deliver net gains of US\$2.4 trillion in 2040.

The current global food insecurity crisis has exposed the underlying fragility in our agriculture and food systems. Climate change and environmental degradation are root causes of this fragility. Already climate change has wiped out an estimated equivalent of seven years' worth of productivity gains.⁷ If current trends continue, greenhouse gas emissions from agriculture

⁵ OECD. 2022. *Agricultural Policy Monitoring and Evaluation*. Report, Paris: OECD.

⁶ FAO. 2021. *Gross domestic product and agriculture value added 1970–2019: Global and regional trends*. FAOSTAT Analytical Brief No. 23., Rome: FAO.

⁷ Ortiz-Bobea, A., Ault, T.R., Carillo, C.M., Chambers, R.G., Lobell, D.B. 2021. Anthropogenic climate change has slowed agricultural productivity growth. *Nature Climate Change* 11: 306–312.

will increase by 58 per cent, and 56 million more hectares of land will be converted to agriculture between now and 2040. As this exacerbates global warming, heat extremes and drastic changes to hydrological cycles are more likely, with further negative impacts on global crop yields.

Alongside energy transition, urgent transition to sustainable land use and food systems is critical to reach Paris Agreement and Sustainable Development Goals. The Policy Dialogue to Accelerate Transition to Sustainable Agriculture, launched by the UK COP Presidency and World Bank in 2021, is designed to help catalyse this change.

Governments have a key role to play to deliver this transformation. Globally, governments spend over US\$800 billion annually in public support to agriculture: much of this is delivered in a way that distorts producer incentives, inadvertently driving climate change and environmental damage.⁸ Moreover, at global level, public support to agriculture is highly inefficient in terms of benefits to producers and society more widely, with estimated returns of 35 cents to the dollar.⁹

Increasing evidence shows that this support could be redirected to achieve better results for people and the planet. Coupled with scaling up climate-smart innovation, policy reform to support and incentivize the uptake of sustainable agriculture practices could help reduce emissions, restore biodiversity and deliver healthy diets for lasting food security.

By 2030, food and agriculture transformation has the potential to bring climate change under control, increase biological diversity, ensure healthier diets for all and create new business opportunities worth up to US\$4.5 trillion a year.¹⁰

Achieving sustainable agriculture

The Policy Dialogue, which is co-hosted by the UK Government and the World Bank, brings countries together to share knowledge and build ambition to achieve sustainable agriculture.

In 2021, the dialogue converged around a **Policy Action Agenda**, which set out a shared and non-prescriptive understanding of “sustainable agriculture” as well as a set of guiding principles (see next section). This year, the Policy Dialogue has evolved from discussion of what sustainable agriculture looks like to **actions that can help achieve it** and how we might measure progress.

To help with policy design, Dialogue participants broadly endorsed **three “success criteria” for sustainable agriculture: delivering for people** (healthy diets and economies), **climate** (mitigation and adaptation) and **nature** (protecting and restoring biodiversity).

The success criteria are set out in a Policy Note and are described as:

1. Agricultural production drives inclusive economic growth: reducing poverty, providing people with resilient livelihoods and increasing food and nutrition security.
2. Agriculture contributes to putting the planet on the pathway to 1.5 degrees.¹¹
3. Farming is done in a way that protects and enhances natural resources/ecosystems.

The proposed criteria are intended as mutually reinforcing indicators of sustainability and no one is sufficient. Each success criterion is underpinned by a range of internationally agreed

⁸ For instance through encouraging inefficient use of chemical products, land use expansion into fragile lands and monocropping that reduces biodiversity.

⁹ Gautam, M., Laborde, D., Mamun, A., Martin, W., Pineiro, V. and Vos, Rob. 2022. *Repurposing Agricultural Policies and Support: Options to Transform Agriculture and Food Systems to Better Serve the Health of People, Economies, and the Planet*. Report, World Bank, Washington, D.C.

¹⁰ The Food and Land Use Coalition. 2019. *Growing Better: Ten Critical Transitions to Transform Food and Land Use*. The Global Consultation Report of the Food and Land Use Coalition.

¹¹ 1.5 degrees global warming above pre-industrial levels.

indicators that countries can draw on, according to context, to measure progress. The aim is to build relevant indicators into national policies and plans.

Policy Action Agenda and pathways for action

Evidence and experiences shared through the Dialogue have helped to set out a **Policy Action Agenda**. This is a non-prescriptive framework for action to guide governments and other stakeholders in finding equitable and inclusive pathways to sustainable agriculture.¹²

The Policy Action Agenda provides a working definition of what sustainable agriculture looks like and illustrates the type of actions that governments and others can take to achieve it. It sets out suggested milestones to track progress on policy development and reform, from data analysis and modelling of policy options through to design, testing and piloting, communications (informing stakeholders, correcting negative media biases) and scaling up innovative and successful approaches.

In endorsing the Policy Action Agenda, stakeholders commit to progress a just transition to sustainable agriculture through appropriate policies, investments and support according to their context and mandate.

At COP26, the UK Presidency brought agriculture and food systems to plenary for the first time. Through the Policy Dialogue, in collaboration with the World Bank, a lead group of 17 countries endorsed the Policy Action Agenda. These efforts also contribute to delivering on the **Glasgow Leaders' Declaration on Forests and Land Use** (GLD) endorsed by 145 countries, including the GLD commitment to policy reform for sustainable agriculture.

Building on this momentum, through technical sessions and written exchange a growing number of countries have joined the Policy Dialogue. Over 45 countries across 6 continents have engaged at senior official and ministerial levels.

The Policy Dialogue is building a growing knowledge bank of experiences that countries have shared on the policy action, reforms and innovations they are making. These include policy, legislative and public expenditure reforms to:

- Strengthen nationally determined contributions and net zero strategy targets for the agriculture sector
- Improve land management, climate-smart agriculture, organic farming and investment in eco-services
- Increase efficiency/reduce intensive use of inputs
- Lower emissions from agriculture
- Scale up regenerative and restorative agriculture, helping to stem biodiversity loss
- Promote more efficient and sustainable use of natural resources, helping to improve productivity, nutrition, food security and incomes.

More detail on country experience can be found in the Compendium of Country Case Studies launched at COP26¹³ and in the forthcoming set of Country Briefing Notes on progress toward policy action.

This is a challenging agenda. Through the Dialogue, policymakers have shared some of the barriers to shifting policies towards sustainable agriculture. Particularly in poorer countries, smallholder farmers are extremely vulnerable to the impacts of climate change and biodiversity loss, but also to the impact of any loss in government support. And governments need the institutional capacity to deliver these changes. Participants re-confirmed the need for a just

¹² *Policy Action Agenda for Transition to Sustainable Food & Agriculture*. Agenda, Washington, D.C.: Just Rural Transition. Accessed 08/11/2022. <https://justruraltransition.org/policy-action-agenda>

¹³ Just Rural Transition. 2021. *Compendium of Country Case Studies: Accelerating Transition to Sustainable Agriculture*. Report, Washington, D.C.: Just Rural Transition.

rural transition that takes into account food security and livelihoods as well as the need to relocate production within planetary boundaries.

Policy Dialogue and innovation

Policy action, innovation and investment are critical levers for sustainable agriculture, and innovation forms a central topic of the Policy Dialogue. Many of the technologies needed for sustainable increases in the production of nutritious foods and other agricultural commodities are yet to be developed; but the opportunities are huge. Modelling suggests investments in innovation designed to lower emissions and raise productivity by 30 per cent could reduce emissions from agriculture and land use by more than 40 per cent, return 105 million hectares of land to natural habitats and deliver gains for poverty reduction and economic growth.

However, even when such technologies are available, the right policy incentives and enabling environment will be key to scaling these up. Thus, policy action and innovation are interlinked. This is reflected in collaboration between Policy Dialogue participants and a range of country-led innovation initiatives, including the Agriculture Innovation Mission for Climate (AIM4C) and the Agriculture Breakthrough¹⁴ (launched under the Glasgow Breakthrough Agenda at COP26). Signatories to these initiatives have in turn identified sharing policy approaches to scale innovation for sustainable agriculture as a priority.

Multi-stakeholder collaboration

Policymakers play a key role in transition to sustainable agriculture, but they cannot achieve this alone. Farmers are on the frontline of shocks and stresses caused by climate change and environmental degradation and must be at the heart of a just rural transition. Farmers and other private sector stakeholders also need the right enabling environment and incentives to transition from harmful to sustainable value chains and food systems.

In addition to peer-to-peer dialogue between national policy makers, the Policy Dialogue provides a platform for multi-stakeholder exchange and collaboration. This is through a partnership with the **Just Rural Transition (JRT) initiative** and a new strand of dialogue on **Public–Private Partnerships** for sustainable agriculture.

The JRT initiative was launched at the United Nations Climate Action Summit in 2019 to create a global community of practice on the evidence, perspectives and approaches that can help drive a just transition to sustainable agriculture and food systems. JRT provides a knowledge hub and platform for multi-stakeholder discussion.¹⁵

In September 2022, the UK and World Bank, as co-conveners of the Policy Dialogue, hosted a **Policymakers and Investment Workshop** to explore opportunities for public-private collaboration to shift investment to sustainable agriculture. This workshop, which was organized in partnership with EAT Foundation and the Good Food Finance Network, began to identify areas for collaboration such as standard-setting, labelling, research and development, co-investment, de-risking, metrics and monitoring, among other issues. This exchange is set to continue under a bespoke workstream of the Policy Dialogue.

¹⁴ The Agriculture Breakthrough is a commitment by countries to develop and deploy clean, green technologies and approaches to “make climate-resilient, sustainable agriculture the most attractive and widely adopted option for farmers everywhere by 2030”. Priority Actions identified by signatories include to “test, develop evidence and share learning on approaches to design and implement innovative public policies and programmes to incentivize and support a transition to sustainable agriculture, through the development and adoption of clean technologies and sustainable solutions in the agriculture sector”.

¹⁵ Just Rural Transition Secretariat. 2022. *Just Rural Transition*. Website, Washington, D.C.: Just Rural Transition. Accessed 08/11/2022. <https://justruraltransition.org>

Forward look: COP27 and beyond

At COP26 the UK and World Bank committed to support an ongoing Policy Dialogue to accelerate a just transition to sustainable agriculture. Countries endorsing the Policy Action Agenda have committed to take this forward, and momentum is growing. This is reflected at UNFCCC COP27, where leadership through the Policy Dialogue is showcased at COP Presidency and Ministerial level on Agriculture and Adaptation Day.

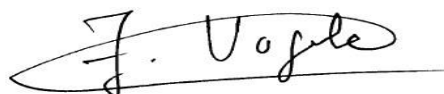
In 2023, the Policy Dialogue will seek to complement the foundations laid at COP27, including on financing for sustainable agriculture. The Policy Dialogue is premised on the understanding that the most impactful way to finance sustainable agriculture is through shifting incentives at a systems level. This means policy design and reform to (re)direct incentives for both public and private investment into more sustainable approaches, technologies and practices. This involves agriculture policy development, redirecting public subsidies where appropriate, as well as broader fiscal reforms to incentivize and support sustainable agriculture and food systems. It means incentives and an enabling policy environment for farmers and other private sector players to invest in sustainable production and value chains.

Development assistance also plays a role, for instance the World Bank's technical assistance programme to repurpose agricultural policies and support, to assist developing country governments to undertake the data gathering, modelling and analysis, strategic design and consultations needed to design and implement new policy approaches for climate-resilient, sustainable food systems. The Policy Dialogue provides a forum to facilitate and support this collaboration.

The Policy Dialogue – both as an independent channel and through other, existing fora – will continue to provide a platform to share knowledge and experience to build partnerships and to collaborate as we jointly seek to resolve barriers and deliver pathways to sustainable agriculture and food systems.



Rt Hon Lord Goldsmith, Minister of State
for Foreign, Commonwealth & Development
Office (FCDO)



Juergen Voegelé, Vice President for
Sustainable Development Practice Group,
World Bank

Vietnam: Policy repurposing for the transition to sustainable food and agriculture

Overview

Vietnam has achieved impressive growth in agriculture, reducing poverty and increasing food security. These outcomes are threatened by climate change and environmental degradation, projected to result in significant yield losses across major crops by 2030. Recognizing the climate and environmental challenges facing its agriculture sector, Vietnam in collaboration with the World Bank undertook a study on 'Agricultural Policy Re-purposing' to inform its policy choices. The study found that certain policies and support measures were creating a disincentive for farmers to adopt low carbon, sustainable farming. Recommendations included shifting policy incentives for farmers to encourage more environmentally sustainable practices, increased public investment in research and development for sustainable technologies and a public information campaign on the need for green transition in agriculture. This study made a significant contribution to Vietnam's new *Strategy for Sustainable Agriculture and Rural Development* and its implementation action plan launched in September 2022.



Background

- **Vietnam's agriculture sector has supported both growth and poverty reduction in the past three decades.** Since the 1990s, the sector has maintained a relatively steady growth rate of 2.5–3.5 per cent per year. It contributed about 14 per cent of gross domestic product (GDP) and employed about 38 per cent of the labour force in 2020. Vietnam's agriculture sector played a major role in reducing the country's poverty rate to less than 6 per cent, bringing food security to the whole population, maintaining social stability and earning over US\$48 billion in export revenues in 2021 by establishing Vietnam as a major and competitive exporter of rice, coffee, fruits, vegetables and seafood.
- **Vietnam's agriculture sector is, however, at an inflection point.** The impressive sector growth and its export competitiveness are threatened by environmental degradation and climate change impacts, among other challenges. Degraded

ecosystems are less productive and cannot supply vital services upon which agriculture depends, such as freshwater stocks and healthy soils. Climate change impacts are expected to result in yield losses across many crops, especially cereals such as rice, from drought, flooding, saltwater intrusion and other extreme climatic events. Projections show that crop production could drop by more than 6 per cent by 2030 and by more than 13 per cent by 2050 due to climate change. The most vulnerable agroecological areas of the country, such as the Mekong Delta and the Red River Delta, are likely to be affected more due to increasing frequency of droughts, floods and saltwater intrusion.

- **The Government of Vietnam has long recognized these challenges and taken actions correspondingly.** In 2013, the government adopted the *Agricultural Restructuring Plan (ARP)* to consolidate agricultural sector transformation and to address the challenges of the sector's environmental impact. In 2020, after seven years of implementation, the Ministry of Agriculture and Rural Development decided to review the effectiveness of ARP to inform the subsequent strategies to accelerate the sector's green and low-carbon transformation. The Agricultural Policy Re-purposing Study examined in detail policy and programme performance under ARP. The study's findings and recommendations have informed the new *Strategy for Sustainable Agriculture and Rural Development for 2021–2030 with a Vision to 2050*, approved by the Prime Minister in January 2022. This new strategy prioritizes resilient, green, low-carbon agricultural transformation and the development of a transparent, responsible and sustainable agrifood system.



Key findings

The study highlighted the policy, regulatory and institutional challenges which discourage farmers from shifting towards sustainable low-carbon production practices. The key findings of the study include: (i) some policies and support measures prevent farmers from adopting sustainable production practices; (ii) the pattern of public expenditure needs to be optimized to be consistent with the sector's long-term sustainability objectives; (iii) institutional weaknesses reduce incentives to implement relevant policies and programmes in an integrated and coordinated manner; and (iv) there is an urgent need to strengthen the civil society's awareness about and the private sector's participation in the agricultural green transformation.

Recommendations

- Getting the policy incentives right and enforcement mechanism functional to encourage farmers' production behaviour to be more environmentally sustainable.
- Re-orienting public expenditure towards research and development for innovations, science and technology enhancing sustainability goals.
- Strengthening institutions to improve utilization efficiency of production elements such as land and water and to better protect soil health, plant health, livestock health and biodiversity.
- Conducting a civil society information campaign about the green transformation, incentivizing private sector's participation and mobilizing international climate finance.

Way forward

Looking ahead, the outlook for the implementation of the study's recommendations is encouraging. The study contributed significantly to the new *Strategy for Sustainable Agriculture and Rural Development for 2021–2030 with a Vision to 2050*.¹⁶ The Ministry of Agriculture and Rural Development approved and launched the Action Plan for the implementation of this new strategy in September 2022. The Action Plan sets specific milestones for achieving adaptation and emission reduction targets by 2030 and for further consolidating relevant actions to achieve net-zero emissions in agriculture by 2050. The study also complements other World Bank analytical work such as *Spearheading Vietnam's Green Agricultural Transformation: Moving to Low-Carbon Rice (P174482)*¹⁷ and *Vietnam's Country Climate and Development Report (CCDR – P177241)*.¹⁸ The Bank's agriculture and food portfolio in the next Country Partnership Framework cycle and beyond will also benefit from these analytical reports to support the Ministry of Agriculture and Rural Development's implementation of the new *Strategy for Sustainable Agriculture and Rural Development*.

¹⁶ Available from the legal document search system at Văn bản pháp luật (<https://vanbanphapluat.co/decision-150-qd-ttg-2022-sustainable-agriculture-and-rural-development-strategies>).

¹⁷ Available from the World Bank (<https://documents1.worldbank.org/en/publication/documents-reports/documentdetail/09973510922222315>).

¹⁸ Available from the World Bank Open Knowledge Repository (<https://openknowledge.worldbank.org/handle/10986/37618>).

Colombia: Unlocking policy options for equitable green growth in agriculture

Overview

Agriculture is a key sector for Colombia's economy and constitutes the principal income source for many of the country's poorest households. It is also a major driver of environmental degradation. The agriculture, forestry and other land use sector is the largest contributor to GHG emissions in Colombia, mainly due to deforestation and livestock emissions.

Agricultural policies play a crucial role in shaping the carbon and environmental footprint of the sector. More than 80 per cent of public support to the sector currently is via market-distorting instruments that divert resources from productive, low emissions intensity activities towards unproductive and high emissions intensive activities. Moreover, this support tends to exclude smallholders who lack access to formal commercialization channels.



Unlocking agriculture's potential for economic growth and poverty reduction, while ensuring sustainable management of natural resources, will require comprehensive policy reforms and investments. This Country Brief is based on a joint assessment by the Government of Colombia and the World Bank of the agriculture sector's policy framework and support measures, aimed to identify options to increase productivity whilst improving environmental performance. The assessment finds that re-orienting support towards public goods and general services such as research and innovation, extension services and infrastructure is crucial for meeting the GHG mitigation objectives of the country, unlocking its productive potential and providing equal access to government resources.

The assessment has prompted the government to provide repurposing support to the sector by implementing targeted input subsidies; increasing investments in research and development; and directing credit support programmes towards the adoption of green technology packages, including training and information systems.

Background

The agricultural sector of Colombia has a vast potential to contribute to the sustainable development and growth of the country. The agriculture export basket is currently dominated by coffee (30 per cent of the sector's export value), flowers (22 per cent of the sector) and bananas (12 per cent of the sector). The agriculture sector is the primary source of job creation in rural areas: it employs 17 per cent of the country's labour force, and two-thirds of the people employed in populated and dispersed rural centres are dedicated to agricultural activities. Likewise, small-scale farmers produce nearly 70 per cent of the food consumed domestically. Colombia produces enough to meet the internal demand for potatoes, cassava, yams, tropical fruits and vegetables. In addition, there are 36 million hectares of land with agricultural potential, which would help to harness surpluses for export market expansion.

Nevertheless, the competitiveness of the Colombian agriculture sector has been negatively affected by many growth-constraining factors. Currently, fewer than 10 per cent of farmers received agriculture extension services and only 5 per cent of them used state-of-the-art technology in 2020. In terms of infrastructure, rural areas in Colombia are lacking investments in transport network and associated logistics to connect farmers to markets. Also, it is estimated just 6 per cent of the total area where irrigation is feasible is currently irrigated.

All constraints briefly mentioned above have negatively impacted the long-term potential of the agriculture sector. Growth in the sector has been moderate. Between 1990 and 2016, the annual growth rate of total factor productivity was just 1.1 per cent. This growth rate is below the average total factor productivity registered in the OECD countries (1.5 per cent), Mexico (2.3 per cent), Brazil (2.1 per cent) and Chile (2.5 per cent). Given that agriculture constitutes a significant share of the rural economy, is the principal income source for many of the country's poorest households and that it is a major driver of environmental degradation and a major user of natural resources, unlocking the power of agriculture to economic growth and diversification, poverty reduction and sustainable management of natural resources will require comprehensive policy reforms and investments.

Colombia and the World Bank have been working on different initiatives to unlock the potential of agriculture and improve the environmental performance of the sector. In particular, the World Bank is financing three projects. The first, the *Sustainable Low-Carbon Development in the Orinoquia Region*, aims to generate the enabling conditions for sustainable and low-carbon landscape planning and management in project targeted areas. The second is titled *Developing Climate-Smart Agriculture Supply-Chains: Opportunities, Challenges, and Emerging Lessons*, and aims to promote the generation, validation and sharing of knowledge on effective approaches to support climate-smart development of agricultural supply chains. The third, the *BioCarbon Emissions Reduction Program*, aims to pay for measured, reported and verified emission reductions in the Orinoquia region through better land management. The first two projects will use evidence to drive policy reforms to deliver results on the ground. The third project is a contract between the World Bank and the Government of Colombia to buy emissions credits, which are then independently verified and certified. These efforts are well aligned with the work on repurposing agriculture policies and support.

Objective of joint assessment

Given the continuous importance of agriculture and the food system to Colombia's economy, the purpose of the technical assistance was to evaluate the sector's policy framework and support measures and provide recommendations for repurposing support policies to ensure an enabling environment to increase agriculture productivity, competitiveness and efficiency while ensuring it is inclusive, resilient and sustainable.

Key findings

- Public policy efforts aimed at improving the productivity of the agriculture sector have not been consistent over time. Public spending directed at strategic investments is highly fluctuating as it responds to short-term events including the volatility in prices of agricultural outputs in the local and export markets, the volatility of the exchange rate, fiscal needs, the opening up of the Colombian market in 1990, the negative impacts of the 2011 El Niño Southern Oscillation, and the signing of the 2016 Peace Agreement, among others.
- Approximately 83 per cent of the transfers directed at the sector (total support estimate) is market distorting. Market price support mechanisms (mainly via tariffs and price regulations) dominate the support to the sector (77 per cent), followed by payments based on production and the use of variable inputs (6 per cent). Furthermore, 50 per cent of the market price support is concentrated in three value chains, namely rice, milk and poultry products.
- The allocation of public resources to promote agriculture's green growth has decreased despite being a central topic on the country's agenda, falling from 8.4 per cent of total spending in 2012 to 1.2 per cent in 2021. Further, programmes and projects in the agricultural sector are scattered and fragmented and lack coordination. The analysis identified 4,630 projects totalling US\$57.97 billion pesos from 2010 to 2020.
- During the period 2000–2021, the support for agricultural innovation and knowledge systems represented 11 per cent of the spending on public goods and general services (and 2 per cent of the total support directed to the sector). This share was lower than the average participation of transfers to the agricultural innovation systems in transfers to general services registered in OECD countries (17 per cent), Chile (20 per cent), Brazil (60 per cent), Argentina (27 per cent) and Mexico (13 per cent). Between 2016 and 2021, the government reduced spending on other critical factors for competitiveness, such as enhancing the capacity for the inspection and safety of agricultural products as well as sanitary and phytosanitary controls. Likewise, the share of spending on adaptation to climate change within spending on general services was only 0.11 per cent in the same period.
- Public expenditure for the purchase of inputs represented 65 per cent more than the budget dedicated to the agricultural innovation and knowledge system, and 109 per cent more than that dedicated to the development and maintenance of infrastructure, thus reflecting an imbalance.

Recommendations and prospects of implementation

Strengthen agriculture support towards public goods and services

- Limit and reduce the market price support programmes such as intervention prices, minimum prices, storage prices, stabilization prices and others that tend to distort markets and are regressive.
- Reorient US\$735 billion pesos of support to the sector from market price support (US\$684 billion pesos) and payments based on output and variable input use (US\$51 billion pesos) to the support of general services aiming to improve competitiveness, productivity, climate resilience and poverty reduction:
 - Implement the National Agricultural Innovation System to guarantee the provision of extension services.
 - Strengthen systems and mechanisms for the generation of disaggregated, more accurate, timely and regular data and information of the agriculture sector (including prices, climate, production, traceability measurement, reporting and verification).
 - Strengthen programmes that promote agriculture health and food safety.
 - Strengthen the Colombian Agricultural Institute's technical programmes for animal and plant health to increase the robustness of procedures and information systems.

Enhance the agricultural innovation system to advance towards sustainable agriculture and resilient production systems

Implement the National Agricultural Innovation System to guarantee the provision of extension services.

- Review and adjust the *Strategic Plan of Science, Technology and Innovation 2016–2027* and its agenda, and promote the adoption of a results-based management model of resources.
- Promote producers' associations, to achieve economies of scale and lower the costs of extension services.



Next steps

The Government of Colombia is interested in options to improve the targeting of public support to agricultural producers. Potential future work is under discussion with the World Bank to deploy smart subsidies to mitigate the impact of increased prices of food staples and agriculture inputs on local farmers. This operation could help to enhance the efficiency of the Agriculture Input Access Fund among other objectives.

The Government of Colombia sees the agriculture sector as one of the key engines to achieve a sustainable transition of the economy towards one that is more inclusive, productive and egalitarian. It believes the best way to achieve this vision will be based on five possible strategies:

- The Rural Reform (Reforma Rural Integral in Spanish)
- Inclusion of smallholders, indigenous and Afro-Colombian communities
- Production planning based on water resources
- Inclusive and sustainable production systems
- Agricultural transformation based on a territorial approach.

These strategies will be support by four pillars: Colombia as an agrifood engine, social justice, environmental justice and total peace. These four pillars together will serve as the basis for the development of the full potential of the agriculture sector under appropriate environmental, climate-smart and inclusionary principles. The Government of Colombia has also set specific objectives aligned with these pillars, including improving land administration and clarifying land tenure, and increasing the sector's competitiveness. The latter will demand changing gears from distortive support towards a public policy framework that fosters general services to the agriculture sector.

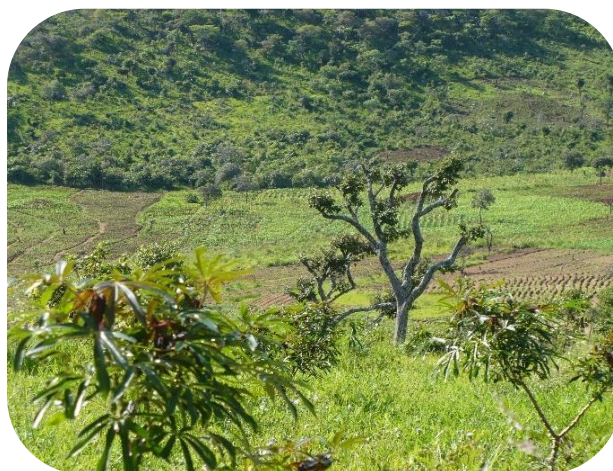


The Government of Colombia's agenda includes actions to strengthen the National Agricultural Innovation System and the institutions in charge of the sector development pillars, such as land tenure and management (National Land Agency), financial services (FINAGRO), extension services (Rural Development Agency), research and development (AGROSAVIA), animal and plant sanitary controls (–Colombian Agricultural Institute), and information systems for rural agriculture planning (Agricultural Rural Planning Unit), among others. This agenda also includes the support to ongoing and emerging cooperatives and smallholder farmer associations that will serve as platforms to develop the agriculture sector strategy in rural and remote territories.

Zambia: Developing an approach to climate-smart agriculture

Overview

Zambia is affected by climate change, with cycles of severe drought and floods becoming more frequent. This has put the country's food security at risk as more than 90 per cent of agriculture is rain-fed. Additionally, other challenges such as lack of finance, poor infrastructure, inadequate extension services and a set of policy measures have constrained private sector investment. The Government of Zambia is seeking to realign policies and programmes with measures that promote sustainable and resilient growth and reduce the sector's environmental footprint. This Country Brief presents a summary of findings and recommendations from a World Bank study to support this effort, the policy action taken, evidence of progress, and targets and milestones for further policy actions.



Background

- Many factors are hindering agricultural development in Zambia. Crop and livestock productivity has been constrained by several factors, including climate change, lack of finance, poor infrastructure, poor pricing mechanisms, inadequate extension services, unavailability of market information, and discretionary and inconsistent public policies and programmes.
- The study focused on reviewing agricultural policies and support programmes, and proposing solutions for realigning these policies and programmes with measures that promote sustainable and resilient growth and reduce the sector's environmental footprint.

Key findings

- **Price incentive analysis:** Producers faced price disincentives. These were mainly from government market and trade interventions, in particular export bans/restrictions for maize and soybeans and import restrictions for some horticultural crops. Pan-seasonal and pan-territorial prices hindered producers from benefiting from price increases as the season progressed and blocked any opportunities to invest in storage.
- **Public expenditure analysis:** Expenditure patterns were skewed towards strategic grain reserves and farmer input support programmes focused on supporting the maize

staple crop, stifling crop diversification. Public expenditure for agriculture was largely below the 10 per cent target of the Comprehensive African Agricultural Development Programme, driven by increased expenditure towards storage, marketing and input support programmes. Meanwhile, spending towards other key agriculture sector growth drivers such as infrastructure, research and extension, cash transfers and other support for consumer technical assistance and training remained low.

Recommendations

- Reform the Farmer Input Support Programme to allow farmers to select inputs of their choice and create jobs through the shift to implement an e-voucher system that provides a larger number of options for farmers to choose from.
- Allocate at least 10 per cent of the total budget to agriculture and improve the quality of budget allocation. In particular, increase funding to agricultural research and development and extension services to achieve long-term agricultural growth and productivity and poverty reduction.
- Reduce proportion of investment going to strategic grain reserves and use saved resources on other efficient social protection programmes.



Policy action taken

- Zambia is implementing the Climate Smart Agriculture Programme, which includes conservation agriculture, minimum tillage, agroforestry and the production of climate-resilient crop varieties. This programme is in line with the South African Development Community's Regional Agriculture Policy and with Zambia's Eighth National Development Plan, which aim to boost agricultural production, improve productivity and create employment.

- The Government of Zambia has approved in principle the amendment of two pieces of legislation that look at sustainable agriculture (the Plant Variety Seeds Act [Cap. 236] and the Plant, Pests and Diseases Act).

Evidence of progress

- The country has continued to develop crop varieties that mature early, tolerate drought by their ability to improve water use efficiency, tolerate low soil fertility by improving their ability to use the little available nutrients for their biochemical processes effectively, and are resistant to new biotic stresses such as pests, diseases and weeds.
- Zambia is now upscaling production of seed for crops other than maize, such as soya beans, cowpeas, common beans, groundnuts and sweet potato vines for orange-fleshed potatoes, among others.
- To encourage year-round production of food and increase land area under irrigation, the government has continued developing irrigation infrastructure such as dams, irrigation schemes, canals and other water harvesting technologies.

Targets and milestones for further policy action on sustainable agriculture

- Zambia is developing a set of targets for sustainable agriculture for the Eight National Development Plan implementation strategy.



Mongolia: Redirecting agriculture policies for domestic food security and climate-smart agriculture

Overview

Agriculture is a key sector in Mongolia and one third of the population depends on livestock for their livelihoods. However, many foods are imported, and agriculture contributes nearly 48.5 per cent of the country's greenhouse gas emissions. Livestock grazing capacity is also heavily overloaded, leading to desertification and declining productivity. Building on its Health Protection and Economic Recovery Plan of 2021 (also known as the New Recovery Policy), Mongolia is now developing a medium-term strategy to revitalize its agrifood system, which includes repurposing public expenditure for green transitioning and policy reform to create incentives for private investment in green and climate-smart agriculture. The Government of Mongolia is planning to implement this with World Bank support under the Green and Competitive Agriculture Project.



Background

The Ministry of Food, Agriculture and Light Industry of Mongolia includes nine major sectors, one of which is the agriculture sector. Mongolia covers a total area of 1.5 million square kilometres, about 75 per cent of which is under permanent pastures, and 0.1 per cent is arable land and under permanent crops. Food, agriculture and light industry sectors account for more than 30 per cent of Mongolia's total domestic product and 53.9 per cent of its total workforce. The number of livestock in Mongolia has grown steadily in recent years, reaching 67.3 million by the end of 2021.

The value of domestically produced food and beverages increased 140 per cent between 2018 and 2021. Currently, 27.1 per cent of dairy products, 38.2 per cent of baked goods, 38.5 per cent of vegetables, 48.6 per cent of eggs, 67.4 per cent of butter, 98 per cent of chicken meat and 98.5 per cent of vegetable oil are imported. Additionally, 100 per cent of legumes, all types of rice, sugar, fish and fish products, and 95 per cent of the main raw materials for food packaging are imported due to Mongolia's climatic and geographical characteristics.

Due to epidemics, transportation logistics difficulties, unemployment, poverty, shortage of goods and rising prices, food supply and security have become urgent problems for every country. Despite this, there are strong prospects for agriculture in Mongolia. By 2030, Mongolia is predicted to be able to fully supply the domestic demand for meat, milk and dairy products, flour and baked goods. According to this prediction, 95,400 tonnes of animal meat, 54,600 tonnes of meat products, 288,000 tonnes of milk and dairy products, 111,000 thousand tonnes of flour, and 21,000 tonnes of baked goods can be exported annually. In addition, 69 per cent of vegetable oil, 41 per cent of greenhouse vegetables, 41 per cent of sugar and 44 per cent of rice consumption will be provided from domestic production. Vegetables, chicken, eggs, pork and fat from the open field can be fully supplied from within the country.

The following progress has been made towards implementing the Mongolian people's right to food:

- Food supply has improved: food and beverage production has increased 1.9-fold over the past five years, and the level of import dependence of some products has decreased by an average of 7 per cent.
- Poverty in Mongolia has decreased by 0.6 percentage points from 2018–2020; the average monthly household income has increased by 24.1 per cent in the past four years; and the amount spent on buying food has increased by 1.7 per cent – a positive reflection on the population's ability to buy food.
- Mongolians consume 22.8 per cent more calories.
- In terms of food safety, the number of high-risk incidents has decreased by 2.5 per cent in the last five years.
- The drinking water security of the population has improved, and 61.4 per cent of water supply sources are now regularly monitored.

Policy actions for climate- and nature-positive agriculture

Mongolia has unique challenges that make its agrifood sector vulnerable. It is a landlocked country with harsh climatic conditions, and its food security is tied to food imports to meet nutrition and dietary needs of its growing population. One third of the population depends on the livestock sector for their livelihoods.

Agriculture contributes to nearly 48.5 per cent of Mongolia's greenhouse gas emissions. The number of animals in the livestock sector is significantly higher than the 30 million carrying capacity of the country's pastures, leading to desertification and declining productivity of the sector. As a result, climate mitigation and adaptation strategies for the agriculture sector are intricately intertwined.

Declining productivity and other economic challenges have adversely affected food security in Mongolia in recent years. Mongolia has organized five rounds of the National Population Nutrition Survey, in 1992, 1999, 2005, 2010 and 2016, and has conducted the Sample Survey of Social Indicators in 2013 and 2018. These studies show sharply declining household food security in some regions, especially in the central Khangai region (80 per cent decline) and Ulaanbaatar (68 per cent). Moreover, 27 per cent of households with children under the age of five in Ulaanbaatar live at a level where food security is severely compromised.

In the past 10 years, underweight and stunting among children under 5 years of age have steadily decreased, but the percentage of overweight children has increased. Among children and women, 61 per cent of children under 5 years of age and 75 per cent of pregnant women are deficient in micronutrients, such as vitamin D.

In an effort to redress the situation, and in keeping with its Long Term Development Plan Vision 2050 for an “inclusive, competitive and resilient agrifood system”, Mongolia endorsed the New Recovery Policy in February 2021. This US\$3.5 billion recovery package is almost the size of the annual state budget. It includes US\$900 million in support to agriculture and food sectors with the aims of enhancing adaptation and resilience through support for spring crops; promoting fruit and vegetable production; income protection to livestock producers, particularly for cashmere livestock; and soft loans to small and medium-sized enterprises. These measures are bringing noticeable results.

Mongolia is currently developing a medium-term strategy which will allow the country to revitalize its agrifood systems, which is both important and urgent. To achieve this, the strategy will entail:

1. Policy reform for repurposing public expenditure for green transitioning and creating the right incentives to attract private investments, thereby building complementarity between public and private responses.
2. Prioritizing investment for mainstreaming green and climate-smart agriculture actions in key national projects and institutions. This would require significant investments in research and development to develop and promote green technologies as well as prioritizing both public and private investments.
3. Institutional strengthening and building capabilities, as well as robust measurement, reporting and verification protocols, for climate-smart agriculture investments.

Future prospects

The Ministry of Food, Agriculture and Light Industry of Mongolia is working to provide the population with healthy, safe and guaranteed food based on the interrelated sectors within its mandate – animal husbandry, agriculture, food and light, small and medium industries – with the aim of increasing value addition of final products, increasing export income, improving the country's service industry and creating jobs, thus improving the quality of life of Mongolian people.



The President of Mongolia, Ukhnaagiin Khürelsükh, launched the “Food Supply and Security” National Movement in May 2022 aiming to promptly solve the challenges faced by the food industry, attract investments, carry out drastic system reforms and protect the rights of Mongolian people. Within this framework, on 17 June 2022 the



State Great Khural or Parliament approved Resolution No. 36 on “Measures to be Taken to Ensure Food Supply and Security” and the implementation plan for these measures in 2022–2026. This aims to improve the legal environment, provide long-term concessional loans and train personnel to improve health outcomes in Mongolia and ensure the country is free of livestock diseases and fully able to meet domestic demand in a sustainable manner for 19 types of main food products in the next five years. The overall goal of the resolution is to make Mongolia a food-exporting country in the region.

To achieve this, the resolution sets the following targets:

- Improve the legal environment for creating an optimal food supply and supply system.
- Conduct a step-by-step analysis of investment gaps needed to increase food supply.
- Develop advanced technologies and innovations to increase food supply, strengthening the capacity of academic, training and research institutions.
- Update standards and technical regulations and increase the number of accredited organizations with certification authority.
- Create stable working conditions for professional personnel and the inclusion of necessary capital and financial resources in state and local budgets.
- Develop the agricultural production and sales network to fully meet the domestic demand for main food products, to support the increased production of import-substitution and export-oriented products, and to coordinate the development of agricultural production, livestock production and food processing production.
- Organize training, advertising and awareness-raising on healthy, appropriate and culturally compatible food consumption.

Within the framework of the 2020–2024 strategic plan of the food, agriculture and light industry sector, the government aims to improve livestock productivity on existing pastoral land. Special attention will be paid to strengthening the gene pool of certified breeds. Policy measures will be taken to protect, restore and improve the use of grasslands and water supply.

Italy: Accelerating the transition to sustainable agriculture and food systems

Overview

Under the revised *EU Common Agricultural Policy 2023–2027*, Italy is adopting an innovative policy approach to enhance competitiveness, resilience and environmental sustainability of its agriculture sector. The National Strategic Plan for Agriculture includes a range of policy measures and support to facilitate improvements in natural resource management; including eco-schemes, support to organic farming and the introduction of sustainability certificates for agricultural produce. Increased public investments in renewable energy and irrigation infrastructure will further help to secure low emission, sustainable food supply chains. However, agriculture plans alone will not be sufficient to achieve transformation and Italy aims to ensure synergy across agriculture and its *National Recovery and Resilience Plan* for green transition.



Background

Italy aims to strengthen the strategic role of the agricultural, food and forestry sectors within its overall national economic system. This policy needs to be set within the international context and the European Union (EU) policy framework's prioritization of the areas where agriculture is concentrated.

Under the revised *EU Common Agricultural Policy 2023–2027*,¹⁹ Italy's *National Strategic Plan* (NSP) for agriculture aims to address environmental, social and economic issues through an innovative approach that values the following:

- Opportunities arising from ecological, green and digital transition; enhancements to the bioeconomy and the circular economy; food waste reduction; agroecology and other approaches.

¹⁹ The timeframe considered in this brief is mostly limited to 2027, when the current Common Agricultural Policy will be updated.

- Reducing environmental pressures of silvopastoral activities on natural capital (water, air, soil and biodiversity), landscape and climate.
- Ecosystem, regulation, supply and cultural services produced by agrifood, forestry and rural areas in general.
- Simplification and harmonization of different production schemes.

The NSP aims to enhance competitiveness of the agriculture sector and the resilience, vitality and fairness of rural livelihoods while ensuring sustainability of the environment and of supply chains.

However, the NSP alone is not sufficient to achieve these goals and the government will seek to synergize effort across sectors and instruments, as already planned in the *National Recovery and Resilience Plan* for green transition.

National Strategic Plan for Agriculture

Among the NSP's interventions aimed to support the ecological transition of Italy's production system, over €10.7 billion will be devolved for interventions with clear environmental purposes.

In this context, five national eco-schemes will acquire great relevance. A quarter of direct aid resources will support farms in adopting agroecological practices for climatic and environmental sustainability. This will help to reduce the use of chemical pesticides, fertilizers and safeguard biodiversity and pollinators.

Direct aid will further help farmers shift away from overuse of antibiotics in animal husbandry, as well as uptake more sustainable practices to enhance soil fertility.

Organic farming

Organic farming and organic livestock farming are strategic priorities of the NSP. A total of €2.5 billion are allocated to this method, with the ambitious goal to transition 25 per cent of utilized agricultural area (UAA) under organic farming by 2027 (three years in advance of the European Commission target). The forthcoming *Organic Action Plan* also provides for financing of supply chains that favour organic farming.

Sustainability certifications

In addition to encouraging organic farming, Italy was one of the first EU countries to adopt sustainability certification for its agricultural production. For instance, in March 2022 it introduced the National Certification Regulations for sustainable supply chains in the wine industry. Sector stakeholders can now access a single certification system, recognized by the Ministry for Agriculture and Food Sovereignty, with which they can label their products.

A Technical Sustainability Committee has been set up to draft similar, specific regulations for the fruit and vegetable sector.

Animal welfare

A significant share of the resources for eco-schemes (about €1.8 billion) is dedicated to animal welfare and the reduction of veterinary drugs to counteract the global health emergency of antimicrobial resistance.



Renewable energy

As part of its *National Recovery and Resilience Plan*, Italy plans to invest €1.92 billion in interventions on biomethane; the promotion of energy production from renewable sources; and the promotion and dissemination of ecological practices in biogas production in order to reduce the use of synthetic fertilizers. It also plans to increase the supply of organic material in the soil and create consortium poles for the centralized treatment of digestates and effluents for the production of fertilizers of organic origin. These measures aim to promote innovation in, and diversification of, agricultural enterprises and will help to combat climate change and improve air quality by reducing the volatilization of ammonia.

Furthermore, the *National Recovery and Resilience Plan* includes €1.5 billion for the Agrisolar Park initiative for the installation of photovoltaic panels on the roofs of buildings for productive use in the agricultural, livestock and agro-industrial sectors (for example stables and warehouses), simultaneously carrying out the redevelopment of the production structures subject to intervention also in terms of energy efficiency, with the removal of asbestos, if present, and/or the improvement of insulation and ventilation.

The aim is to reduce business costs by enhancing energy self-supply and limiting emissions.

Irrigation investments

The Ministry for Agriculture and Food Sovereignty has invested significant resources to modernize irrigation. From 2018 to 2022, some €1.24 billion have already been invested, with new planned resources. The aim is to improve water resource management, prevent losses and improve the measurement and monitoring of water uptake to facilitate efficiency.

Additional measures for sustainable agriculture and food systems

In addition to these measures, Italy is taking a number of other measures to promote resilience and support sustainable development of the agrifood sector. Given the increasingly dramatic consequences of climate change, the Ministry for Agriculture and Food Sovereignty is undertaking reforms to the national agriculture risk management system, including adding a National Mutual Fund to the traditional instrument of subsidized insurance.

Further measures are being put in place to promote innovation in agriculture, such as the Transition 4.0 initiative: a tax credit to all agricultural businesses that invest in innovative machines and technologies.

These are accompanied by additional measures on sustainability in agriculture related to improving air quality, such as a ban on burning stubble; animal welfare; the maintenance of crop residues on the ground; improved management of livestock effluents through burial or direct ground injection in addition to spreading; reduced fertilizer use; and structural modernization in the livestock sector through the roofing of livestock manure storage facilities.

To promote the reuse of food surpluses and limit food waste, Italy has set up a fund for distribution of foodstuffs to destitute people.

For the implementation of the interventions envisaged by the Strategy, €420 million have been allocated until 2032.

Ecological Transition Plan

The *National Ecological Transition Plan* was approved on 8 March 2022 and responds to the European Green Deal to ensure sustainable growth, preserving and balancing ecosystem health, social equity and economic competitiveness within planetary boundaries. The Interministerial Committee for Ecological Transition, which the Ministry for Agriculture and Food Sovereignty also participates in, will monitor the progress of the plan, with particular attention on the goal of completing the decarbonization process by 2050.



New Zealand: Transforming agriculture and the He Waka Eke Noa climate action partnership

Overview

Agriculture and livestock produce about half of New Zealand's total greenhouse gas emissions. The Government of New Zealand in partnership with private sector and indigenous peoples' groups is exploring innovative policies to promote productivity, whilst reducing emissions in agriculture and improving the sector's environmental sustainability. New policy measures include development of a pricing and reporting system for agricultural greenhouse gas emissions, being designed in a partnership between government, industry and Māori, entitled **He Waka Eke Noa – Primary Sector Climate Action Partnership**. Together with the private sector, the government is also increasing investment in agricultural technologies to reduce emissions and improve environmental sustainability in agriculture; and boosting its specialized climate-focused extension services to farmers. The Maori principle of **Te Taiao** – a deep relationship of respect and reciprocity with the environment – is central to the government's new strategy.



Background: New Zealand's unique context

New Zealand's economy relies on our environment and the primary production it supports through farming, forestry and fisheries. This makes our emissions profile unique – agriculture and livestock produce about half of New Zealand's total greenhouse gas emissions, which is unusual for a developed country. This also makes the transition to a lower emissions future one of the biggest and most pressing challenges facing our agriculture sector.

New Zealand's agricultural sector is one of the least subsidized in the OECD. Between 1984 and 1990, all direct farmer support was eliminated. This came with significant challenges, but as a result New Zealand's agricultural sector became more focused on production, its customers and their needs. Freedom from subsidies allowed producers to be agile and respond to market signals, creating a more innovative, efficient and sustainable agricultural sector.

In addition to our own learnings, we are also looking to the body of international research to inform our future direction. There is extensive research to suggest that focusing expenditure on innovation, and particularly research and development, should support mitigation and foster sustainable production growth while reducing income pressures.²⁰

Transitioning to a lower-emissions future

We recognize that there is no one-size-fits-all solution to the challenge of transitioning to a lower emissions future, and that we must take a holistic view. New Zealand's *Fit for a Better World* roadmap recognizes this, as we aim to increase the productivity, sustainability and inclusivity of our sector in concert.

The *Fit for a Better World* roadmap works to lock in a prosperous future for our farmers, growers, fishers and foresters – and for future generations. The strategy **embraces principles of Te Taiao** – a deep relationship of respect and reciprocity with the environment. This means prioritizing the health of the climate, land, water and living systems, and recognising that when nature thrives, so do our families, communities and businesses.

Productivity	Sustainability	Inclusivity
<ul style="list-style-type: none"> Adding NZ\$44 billion in export earnings over the next decade (2020–2030) through a focus on creating value. 	<ul style="list-style-type: none"> Reducing biogenic methane emissions to 24–47 per cent below 2017 levels by 2050, including 10 per cent below 2017 levels by 2030. Restoring New Zealand's freshwater environments to a healthy state within a generation. 	<ul style="list-style-type: none"> Employing 10 per cent more New Zealanders by 2030, and 10,000 more New Zealanders in the food and fibre sector workforce over the next four years.

We believe that the best way to support producers is to empower positive change at the farm and catchment level, incentivizing innovation that benefits sustainability without compromising economic efficiency. We take an outcomes-based approach that allows farmers and growers to achieve goals in ways that are best suited to their circumstances. By attracting and training an inclusive and resilient workforce we can be better positioned to achieve our targets.

This Country Brief showcases some of the new initiatives underway in New Zealand to empower farmers and growers to enact positive change towards achieving our sustainability objectives.

²⁰ OECD Agricultural Policy Monitoring and Evaluation 2022: Reforming Agricultural Policies for Climate Change Mitigation.

Pricing agricultural emissions

A new shift in New Zealand's agricultural policy is currently underway – the development of a pricing and reporting system for agricultural greenhouse gas emissions. By 2025, agricultural greenhouse gas emissions (biogenic methane and nitrous oxide) will be priced in New Zealand.

We know that for this to be successful, it needs to effectively meet emissions reductions targets, while also being practical for the primary sector to implement. This is why the emissions pricing system to measure, manage and reduce agricultural greenhouse gas emissions is being designed by a partnership between government, industry and Māori, entitled **He Waka Eke Noa – Primary Sector Climate Action Partnership**.



In May 2022, the He Waka Eke Noa – Primary Sector Climate Action Partnership reached an important milestone, delivering its recommendations to the government on its preferred system to price greenhouse gas emissions from agriculture. This process has required participants to navigate several tough trade-offs to find a way forward. The Government considered the recommendations alongside advice from New Zealand's independent Climate Change Commission. In October 2022, the Government released its response to the proposals for public consultation.

Empowering the primary sector to enact change

The He Waka Eke Noa – Primary Sector Climate Action Partnership has highlighted the demand from farmers and growers for technologies and tools that will shift the dial on-farm and ensure the primary sector can reach its emissions reductions targets. The partnership has also highlighted that bringing the whole sector along for the journey is vital to successfully reaching our targets.

In May 2022, New Zealand announced its intention to establish a new **Centre for Climate Action on Agricultural Emissions**, designed to help develop and accelerate access to smart new tools to reduce agricultural emissions. The Centre for Climate Action on Agricultural Emissions will see government partnering with key businesses, to pool expertise and resources, and play to the diverse strengths of the primary sector. Once established, the centre will play a strategic role in accelerating applied research to drive product development of high-impact technologies and practices to reduce agricultural greenhouse gas emissions.

This will include strategic investment and action to:

- Unite efforts to accelerate research and development
- Get new tools, technology and practices to lower on-farm emissions to farmers faster
- Complement the work being done through the He Waka Eke Noa partnership
- Support Māori farmers and agribusinesses with climate change mitigation.

While pricing agricultural emissions is necessary, it will have its challenges. To smooth the transition, we are expanding accessibility of extension services to help empower farmers and growers to reduce on-farm emissions.

A boost to New Zealand's existing specialized climate-focused extension services will help to enhance the on-the-ground support available to farmers and growers. It will also support them to adapt their practices and adopt new technologies as they become available. Workshops, field days and other on-farm activities will help to foster innovation and ensure the sector has access to the most up-to-date information on low emissions practices.

Supporting Māori agribusinesses leading the transition

Toitū te marae o Tāne
Toitū te marae o Tangaroa
Toitū te iwi

The land endures
The sea endures
We, the people, endure

Māori are the *tangata whenua* of New Zealand; the indigenous people of the land. This term reflects the importance of the environment (*te taiao*) to Māori identity, culture and custom. Māori agribusinesses are a central part of New Zealand's agriculture sector, and agriculture is in turn central to the Māori economy. This makes it vital for our approach to sustainability to both support and learn from Māori agribusinesses.

There are important lessons we can learn from the Māori approach to stewardship of natural resources and *Mātauranga Māori* – a body of knowledge, experience, values and philosophy of Māori, which includes the unique knowledge and understanding Māori have of *te taiao*, the environment.

As we move forward in our transition, we are focused on ensuring Māori farmers, growers and landowners have access to the right information to make informed decisions on reducing emissions. New Zealand's climate-focused extension services will have a strong focus on funding programmes based on Māori procedure, practices and customs (*tikanga*) to develop and support long-term, low emissions profiles.

We are also enhancing our Māori Agribusiness Extension programme, launched in 2019, to partner with Māori agribusiness clusters and provide tools, support and information to explore ways to sustainably lift their productivity.

On top of this, a Māori Climate Action platform will be established, to ensure the work underway on climate change mitigation and adaption across the economy is done in partnership with Māori.

Driving international ambition

We recognise that climate change is a global challenge requiring a global response. New Zealand's international policy actions support the increased flow of public and private investment into climate positive agriculture. New Zealand engages in initiatives such as The Agriculture Innovation Mission for Climate, which is increasing political commitments towards agricultural climate action, and mobilizing existing commitments through Innovation Sprints to drive action. Many of the research projects New Zealand is involved in through the Global Research Alliance on Agricultural Greenhouse Gases have been adopted as Innovation Sprints.

As well as this, New Zealand's Climate Finance commitment of NZ\$1.3 billion is also significant in supporting developing countries to build resilience as the world works collectively to ensure global warming stays within 1.5 degrees. This funding includes supporting developing countries to adopt emissions-reducing technologies and improved agricultural practices.



Please contact jrt@merid.org with any questions about the compendium.

For more information on the Just Rural Transition visit justruraltransition.org