The United Kingdom of Great Britain and Northern Ireland's submission to the United Nations Framework Convention on Climate Change on the Joint work on implementation of climate action on agriculture and food security: the approach to the socioeconomic and food security dimensions of climate change in the agricultural sector

provided in line with the mandate given in November 2022[1]

[1] Decision -/CP.27, 'Joint work on implementation of climate action on agriculture and food security'

Introduction

The United Kingdom of Great Britain and Northern Ireland ('the UK') welcomes the opportunity to make this submission in response to the call for views on **Decision -/CP.27[2] '**Joint work on implementation of climate action on agriculture and food security'. This submission is in response to paragraphs 17 and 18.

Agriculture is vital for food security, livelihoods and national incomes; and governments provided over USD 812 billion in 2021 to support it.[3] However, it has been estimated that our current system incurs USD 20 trillion in hidden costs due to the impact on human health, the environment and social and economic systems. It has also been estimated[4] that transforming food systems, so they survive and thrive under climate change, will require approximately USD 1.3 trillion in investment every year until 2050.[5]

Farmers are disproportionately affected by the overall effects of global warming, and it has a significant impact on productivity and global food security. In the last 60 years anthropogenic climate change has reduced agricultural productivity globally by 21%, and higher in warmer regions.[6] Chatham House estimates that by 2040 there is a 50% chance of synchronous crop failure (>10% loss) for maize.[7]

Investment in innovation has fallen and is insufficient to meet the challenge of climate change and environmental degradation. For instance, current technologies and rates of investment in agricultural innovation can – at best – deliver around 40% of the climate change mitigation required to keep the rise in global average temperatures below 2˚C above pre-industrial levels.[8,9] Continuing under business as usual, it is estimated that GHG emissions from production would increase from 5.8 gigatons CO_2 equivalent (Gt CO_2 eq.) to 9.12 Gt CO_2 eq. between 2020 and 2040, an increase of 58 percent.[10] An opportunity to implement consolidated and transformational change through this work is timely and critical.

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[2] https://unfccc.int/documents/624317

[3] OCED, 2022, Agricultural policy monitoring and evaluation 2022. 54 countries monitored.

4 CGIAR, Thornton, P.; Chang, Y.; Loboguerrero, A.M.; Campbell, B. (2022) 'The price tag for transforming food systems under climate change: How transforming food systems under climate change will cost trillions, but inaction will cost more.'

[5] Thornton P, Chang Y, Loboguerrero AM, Campbell B (2022). The price tag for transforming food systems under climate change. Wageningen, the Netherlands: Clim-Eat

[6] Ortiz-Bobea, A., Ault, T.R., Carrillo, C.M. et al. Anthropogenic climate change has slowed global agricultural productivity growth. Nat. Clim. Chang. 11, 306–312 (2021). https://doi.org/10.1038/s41558-021-01000-1

[7] A synchronous >10 per cent yield loss in the top 4 maize producing countries would have devastating impacts on availability/prices. 2021-09-14-climate-change-risk-assessment-summary-quiggin-et-al (chathamhouse.org)

[8] Wollenberg E, Richards M, Smith P, Havlík P, Obersteiner M, Tubiello FN, Herold M, Gerber P, Carter S, Reisinger A, van Vuuren DP, Dickie A, Neufeldt H, Sander BO, Wassmann R, Sommer R, Amonette JE, Falcucci A, Herrero M, Opio C, Roman-Cuesta RM, Stehfest E, Westhoek H, Ortiz-Monasterio I, Sapkota T, Rufino MC, Thornton PK, Verchot L, West PC, Soussana JF, Baedeker T, Sadler M, Vermeulen S, Campbell BM. Reducing emissions from agriculture to meet the 2 °C target. Glob Chang Biol. 2016 Dec;22(12):3859-3864. doi: 10.1111/gcb.13340. Epub 2016 Jul 11. PMID: 27185416.

[9] Rosegrant, M.W., Sulser, T.B., Dunston, S., Cenacchi, N., Wiebe, K., Willenbockel, D. (2021) 'Estimating the global investment gap in research and innovation for sustainable agricultural intensification in the global south', Colombo, Sri Lanka: Commission on Sustainable Agriculture Intensification.

[10] Gautam, Madhur; Laborde, David; Mamun, Abdullah; Martin, Will; Pineiro, Valeria; 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. © World Bank, Washington, DC. https://openknowledge.worldbank.org/entities/publication/a3c86032-523e-5975-b15d-8a5dc44e18b9 License: CC BY 3.0 IGO.

The UK welcomes the recognition that socioeconomic and food security dimensions are critical when dealing with climate change in agriculture and food systems, and the fundamental priority of safeguarding food security and ending hunger by designing sustainable and climate-resilient agricultural systems **(FCCC/SB/2021/L.1)**.

We welcome the role of the joint work in highlighting the need to address challenges in, and exploring opportunities for, sustainable agriculture and food systems by accessing existing means of implementation (paragraph 6). The UK, through its COP26 Presidency and further work since, has prioritised the role of sustainable agriculture and food systems to support food security and help meet our collective ambitions on climate change and nature including through a just rural transition.

Key messages

This submission proposes three topics which should be explored within the June intersessional and modalities for the joint work:

1. **New topics related to agriculture and food security**

   a. Sustainable agriculture is essential in creating a sustainable, resilient food system which addresses issues of climate change, nature and food security

   b. A primary goal for implementation should be the scaling up of better-targeted public and private finance into sustainable agriculture and food systems

   c. Accessible and useable data to assess economic, climate and biodiversity impacts are required for transformational change within the agriculture, food and land use sector

2. **Modalities for the joint work on implementation of climate action on agriculture and food security**

   d. A roadmap highlighting the next four years of activity through this group, with coordination across other platforms in and outside of the UNFCCC process, will be required to meet the ambitions set out at COP27 to scale up action in response to an urgent need to embed climate action and food security within agriculture (paragraphs 8-9). This should include alignment with plurilateral coalitions and initiatives including the Agriculture Breakthrough and the Global Methane Pledge.

1. New topics related to agriculture and food security

a. Sustainable and productive food systems

To meet our biodiversity, climate and sustainable growth objectives we need a transformation to healthier, more sustainable, more resilient, equitable and efficient food systems. The UK recognises the interconnection between people, climate and nature: biodiversity makes food production systems and livelihoods more resilient and efficient, including to the effects of climate change. Our domestic land management schemes ensure our long-term food security by investing in the foundations of food production: healthy soil, water, and biodiverse ecosystems. The UK therefore proposes a topic on **sustainable, just and productive food systems** which will seek to address the following:

- **How to integrate sustainable food systems into country plans.** The SDGs call for major transformations in agriculture and food systems to end hunger, achieve food security and improve nutrition by 2030. A food systems approach can help countries

achieve multiple commitments and implement multiple plans and priorities across the 3 Rio Conventions including the UNFCCC (including in NDCs, National Adaptation Plans (NAPs), National Communications (NCs), Biennial Transparency Reports (BTRs), Adaptation Communications); CBD (including Global Biodiversity Framework goals and targets, NDCs and NBSAPs) and UNCCD (e.g., through land degradation neutrality targets).

- **Sharing knowledge and expertise** on how a food systems approach enables work within the production value chain which can support a long-term and just agricultural transition, support One Health outcomes[11] and enhance food security.

- **Addressing policies** that impact agricultural production such as food loss and waste, for example, can improve food security, lower pressure on water and land resources, and help meet climate goals, all of which contribute towards increased productivity and economic growth. Globally, food production-level measures contribute about 20% of the global mitigation needed in 2050 to deliver on the 1.5°C target.[12] The UK is committed to sharing expertise and supporting this agenda.

b. Scaling up public and private sector finance for sustainable agriculture and food production

Implementation should focus on accessing and scaling up opportunities for finance as a key priority for improving global food security and tackling climate change. The Food and Land Use Coalition estimate doing this could create new business opportunities worth up to USD 4.5 trillion a year from ten critical transitions including healthy diets, more regenerative agriculture and plant-based meat (noting that net benefits depend on the ability of existing producers to take advantage of the opportunities).[13] The current food security crisis has exposed the fragility of our agricultural systems: already climate change is estimated to have wiped out the equivalent of 7 years' worth of productivity gains.[14]

Current net public financial support to agriculture exceeds USD 800 billion a year[15] but has a limited impact on farmer incomes as they receive only 35 cents of every USD spent on support. The OECD estimates 82% of this support is provided through measures that are distorting, unequally distributed, and harmful for the environment and human health, while less than 5% is tied to conservation and other public goods.[16]

Redirecting just USD 70 billion (10%) of annual public support towards climate-smart agriculture research and innovation could deliver net economic gains of USD 2.4 trillion in 2040: increasing productivity, reducing emissions from agriculture by more than 40% over 2020-40, releasing 105 million hectares of agricultural land to natural habitats, and reducing the cost of healthy foods.[17] Repurposing public support and aligning public policies to incentivise sustainable practices can help transform food systems, improve food security and

[11] https://www.who.int/health-topics/one-health
[12] UNEP (2019). Collaborative Framework for Food Systems Transformation.
[13] Food and Land Use Coalition (FOLU), 2019, Growing Better: Ten Critical Transitions to Transform Food and Land Use
[14] Anthropogenic climate change has slowed global agricultural productivity growth | Nature Climate Change
[15] OECD (2022). Agricultural Policy Monitoring and Evaluation 2022: Reforming Agricultural Policies for Climate Change Mitigation.
[16] Ibid.,
[17] World Bank, 2022, Repurposing Current Policies Could Deliver Multiple Benefits for Farmers, Food Security and Climate (worldbank.org)

achieve the SDGs.[18] The UK and World Bank co-convened Policy Dialogue on Accelerating Transition to Sustainable Agriculture, launched in 2021, provides a platform for Government peer exchange and mobilising policy action, including opportunities through repurposing public policies and support to deliver outcomes for people, prosperity and the planet.

The UK is committed to scaling up public and private sector finance for sustainable food systems. Our domestic Environmental Land Management (ELM) schemes pay farmers to produce benefits for the environment, biodiversity, and livestock.

The UK therefore proposes a topic on **scaling up and better targeting finance for sustainable agriculture and food production** which will seek to address the following:

- **Identify opportunities for the scaling up of capital flows to nature**, through food systems investment, to a level that can meet the targets of the three Rio Conventions including on Biodiversity (Target 18), and Climate Change and Desertification.

- Identify opportunities to scale up investments in science and technology **to develop and deploy** new sustainable agriculture innovations and practices that deliver on food security and incorporate resilience whilst seeking to reduce emissions and protect nature and to **strengthen the evidence base, where gaps exist, on what works.**

- **Identify the enabling conditions** that are required to draw in this finance at scale, including policy reform to address harmful incentives. This includes identifying ways to create a demand signal from countries (e.g., through NDCs) that the environment for sustainable finance at scale is there.

c. Data and metrics

Making data accessible and easy-to-use, share and apply is a key component of the agricultural transition. It increases the confidence in measuring climate and nature outcomes for the private sector and in achieving and maintaining strong sustainability performance[19], and it can also strengthen policy decisions and support countries to measure progress against their international commitments. High quality and high-resolution data on soils and nutrients can inform fertilizer usage, crop choice and management, and land development and rehabilitation strategies. Long-term and real-time climate data and modelling at high spatial resolution are required in all major crop-producing regions for appropriate and feasible local recommendations[20] The UK has a headline target to reduce greenhouse gas emissions by 2035 by 78% compared to 1990 levels,[21] which includes agriculture alongside other sectors. The UK Net Zero by 2050 target also includes agriculture in the latest strategy.

Therefore, the UK proposes a topic on **data and metrics** which will seek to address the following:

- **Identify** ways to assess progress against countries' plans and priorities, to ensure we are on track and finance flows to the right places. This ensures a consistent approach in measuring progress against international commitments (e.g., NDCs).

[18] https://www.unep.org/resources/repurposing-agricultural-support-transform-food-systems
[19] World Benchmarking Alliance (2022). Driving impact in food and agriculture supply chains: the role of benchmarking.
[20] Keatinge et al. (2012). Projecting annual air temperature changes to 2025 and beyond: implications for vegetable production worldwide.
[21] https://www.gov.uk/government/news/uk-enshrines-new-target-in-law-to-slash-emissions-by-78-by-2035

- **Share knowledge** and expertise on existing data, datasets and metrics and **identify ways to improve access** to this through funding and collaboration. We need to recognise that data is already in existence at both national and subnational level and there are gaps to be identified. Many data gaps could be filled if existing information and methodologies are better aligned, transparent and available to all.

- **Facilitate** engagement with private sector representatives to understand the challenges and barriers to increasing levels of investment in the sector due to assessing risks and available data.

2. Modalities for the joint work on implementation of climate action on agriculture and food security

The UK supports the establishment of a comprehensive work programme on agriculture and food security which enhances existing action through domestic and international spheres. This includes integrating the recommendations into UNFCCC processes and drawing on existing work through other UN organisations including the FAO. The work programme should identify a four-year roadmap to include:

- Ensuring sustainable food and agriculture is successfully integrated into country NDCs by the 2025 refresh
- Enhancing the level and quality of finance to support sustainable food systems in line with the Global Biodiversity Framework £200bn resource mobilisation target
- Increase knowledge and delivery of a just rural transition

COP28 should be used as an opportunity to demonstrate progress and share the workplan. The UK supports a substantial programme of activities to be decided in June, with steps to understand how implementation will be delivered on the ground.