

WHO Policy Brief

Koronivia Joint Work on Agriculture

Synopsis

Global food and climate change policy are linked by the UN Framework Convention on Climate Change (UNFCCC) whose central Objective states that ambition to reduce emissions should “ensure that food production is not threatened.” This anchors the role of the UNFCCC in successful food system transformation, and to the global food security, nutrition, and health agenda. Moreover, food systems — the way we grow, harvest, process, transport, market, consume and dispose of food — are both vulnerable to climate change and many also contribute to it. However, despite its prominent placement in the Convention itself, intergovernmental discussion on food systems lacks a dedicated workstream under the UNFCCC decision-making process. The Koronivia Joint Work on Agriculture – a temporary 2017-2020 UNFCCC space for workshops and dialogues on this topic – should be succeeded by a *permanent* comprehensive agenda item on food systems, mandated to encompass climate actions beyond agriculture and across the food system value chain and to address mitigation, adaptation, and loss and damage for the food sector. Food systems are fundamentally connected to health and well-being. Policy coherence on food is critical across decision-making forums.



Science

The global cost of malnutrition is estimated to be US\$4.5 trillion per year. (1) The annual hidden costs to society from the health, socio-economic and environmental impacts of the global food system are an estimated **US\$12 trillion**, which is **US\$2 trillion** above the estimated annual net value of food and land use systems. (1) According to the World Bank, malnutrition is “one of the world’s most serious but least-addressed development challenges”. (2) Recent estimates indicate approximately **3 billion people living with a form of malnutrition**. (3)

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Climate change is a risk for malnutrition, in all its forms¹, worldwide. (4) According to the Intergovernmental Panel on Climate Change (IPCC), climate change impacts on the food system “will affect everyone”. (4) IPCC evidence shows increased risks of food insecurity and to food safety across different types of food systems, including agriculture and fisheries. The IPCC also emphasizes the significant role that lost agricultural productivity (due to natural hazards, changing weather, and other events) will continue to play in economic and non-economic loss and damage. (4) Among others, the IPCC future projections include (5):

- increases in food insecurity
- increases in undernutrition and diet-related mortality and risks
- increases in undernutrition, stunting and related childhood mortality, particularly in Africa and Asia
- 10% increase in disability-adjusted life years (DALYs) by 2050 for undernutrition and micronutrient deficiencies
- increases in malnutrition through reduced nutritional quality, reduced access to balanced food, and inequality
- increases in diet-related risk factors and related noncommunicable diseases globally
- food safety compromised by toxigenic fungi, bioaccumulation of contaminants, algal blooms, biomagnification of persistent organic pollutants (POPs) and methyl mercury, and increases in *Campylobacter*, *Escherichia coli* and *Salmonella*.

¹ Malnutrition refers to deficiencies, excesses, or imbalances in a person’s intake of energy and/or nutrients: ‘undernutrition’- stunting (low height for age), wasting (low weight for height), **underweight** (low weight for age); **micronutrient deficiencies or insufficiencies** (a lack of important vitamins and minerals); and **overweight**, obesity and diet-related noncommunicable diseases (such as heart disease, stroke, diabetes, and cancer).

Table 1: Key global statistics on food security and malnutrition*

Could not afford a healthy diet in 2020	Overnutrition adults, adolescents, & children	Undernutrition adults & children	Diabetes adults	Anaemia women & girls 15-49 years
3.2 billion (6)	2.3 billion (7) + (17)	727 million (6)	537 million (9)	613 million (10)
	adults 1.9 billion overweight (7) of these 671 million obese (8)	children & adolescents 377 million overweight under 5 -19 years sum (7) + (17)** of these 174 million obese 5-19 years (8)	adults 462 million underweight (7)	children 149 million stunted 45 million wasted (7)

*This table is intended to be indicative, as reflected in approximate totals for overnutrition and undernutrition based on available age-related data.

**Of these, 38.9 million are under 5 years (7), 131 million are 5-19 years and 207 million are adolescents (17)

The role of food systems in driving climate change - and in increasing vulnerability of other ecosystems to climate change - needs to be addressed as a public health concern.

Approximately 21-37% of global GHG emissions arise from the food sector. (11)(12) Of those emissions, 6% are from food loss and waste. (13)

Food system design contributes to large-scale biodiversity loss, and the degradation, pollution, and depletion of soil, land and water resources, decreasing the resilience of the natural environment at a large-scale. (14) Water systems and biodiversity are particularly threatened by both climate change and food systems. Climate change leads to an increasingly unpredictable hydrologic cycle while agriculture is the largest source of freshwater pollution and is responsible for 72% of all water withdrawals. (15) This has compounding impacts on, for instance, adequate water, sanitation, and hygiene (WASH) which depends on reliable, sufficient clean water supply, and when inadequate is an important contributor to undernutrition. (16) Both climate change and food systems lead to declining biodiversity in food landscapes and seascapes compounding impacts on nutrition, health and well-being in a wide range of ways, including reduced: access to nutrients; available food and wild species; diversity of the intestinal microbiome; and access to traditional medicines; as well as by eroding biocultural diversity and food identity. (17)

Approximately **21 – 37%** of global GHG emissions arise from the food sector

“The intersection between climate and food is profound - if we do not address food systems-driven climate emissions, we simply cannot make our 1.5 C target; and if we don't, food systems will suffer the most”

- UN Secretary-General's Special Envoy for the 2021 Food Systems Summit. (18)

² See more on interlinked planetary boundaries (i.e., biosphere integrity, land-system change, freshwater use, nitrogen flows), Gerten, D., Heck, V., Jägermeyr, J. et al. (2020). Feeding ten billion people is possible within four terrestrial planetary boundaries. Nature Sustainability. 3: 200-208. <https://www.nature.com/articles/s41893-019-0465-1>

³ SDG 3 (health and well-being)



Policies that contribute to food system transformation and nature-positive food production, and protect ecosystem services, contribute to health and well-being in multiple dimensions. (19)(20) If current food production and consumption trends continue, Sustainable Development Goals (SDGs), Paris Agreement goals, and other global commitments and targets relating to food security, public health and environment will not be met and multiple planetary boundaries² will be transgressed. (21)

Nutrition and food safety is an essential component to the global health work of WHO, including for:

- **health-related SDGs**, specifically targets on stunting (2.2.1) and malnutrition (2.2.2) under 5 years, anaemia in women (2.2.3), and mortality from noncommunicable disease (NCD) (3.4.1), mortality from unsafe WASH (3.9.2), use of safely managed drinking water services (6.1.1), and use of safely managed sanitation (6.2.1)
- **WHO's 'triple billion' General Programme of Work**, specifically the global goal to improve the health and well-being of 1 billion people by focusing on disease prevention and addressing determinants of health
- **SDG³ Global Action Plan (SDG3 GAP)** proposals for joint action on determinants of health, namely to "leverage global platforms to prioritize and jointly act on determinants of health relating to climate change, communicable diseases and NCDs" (22)
- **UN General Assembly (UNGA) resolution 73/2**, which called on the WHO to "promote healthy communities by addressing the impact of environmental determinants on noncommunicable diseases, including air, water and soil pollution, exposure to chemicals, climate change and extreme weather events, as well as the ways in which cities and human settlements are planned and developed." (23)
- its role to inform a range of inter-agency coordination initiatives such as **UN Nutrition** and the **UN Food Systems Coordination Hub** as well as multistakeholder initiatives such as the **Coalition of Action on Healthy Diets from Sustainable Food Systems for Children and All**
- fulfilling its leadership role in implementing the **UN Decade of Action on Nutrition (2016 – 2025)**

The 2021 UN Food Systems Summit emphasized climate resilient development pathways for food system transformation. Unsustainable food systems are vulnerable and lack the capacity to cope with sudden shocks. In line with the Summit approach to resilience, a workstream on food systems under the UNFCCC must have a mandate to comprehensively manage diverse risks and reduce multidimensional threats to the climate, our environment and human health and well-being. The work under a UNFCCC workstream on food systems can advance the implementation of national food system pathways.

A permanent workstream for food systems under the UNFCCC is an opportunity to align climate policy with guidance of the UN Committee on World Food Security (CFS). The 50th session of the CFS addressed climate change as a "critical, enduring, and emerging issue for food security and nutrition". (14) The CFS Secretariat describes a pillar of food system resilience as "context-appropriate transition pathways, towards sustainable agriculture and food systems that **i**) are inclusive and equitable, enhancing the livelihoods of farmers and food system workers, and respect human rights; **ii**) provide healthy, accessible diets and nutrition for all; **iii**) are resilient, diversified, support climate change adaptation and mitigation, conserve biodiversity, ensuring the sustainable management and use of ecosystems, natural resources, water and biodiversity, and minimizing food loss and waste, including through agroecological and other innovative approaches". (24)

The UNFCCC and the Paris Agreement must be viewed through a food security, nutrition and health lens. Actions on food system transformation, including for climate-resilient development pathways for food systems and global health strategies to address malnutrition and other health impacts of food systems, will fall within the following elements:

- **UNFCCC Objective (Article 2):** "ensuring food production is not threatened and to enable economic development to proceed in a sustainable manner"
- **UNFCCC Commitments (Article 4.1e):** to prepare "for adaptation to the impacts of climate change, develop and elaborate appropriate and integrated plans" for water resources and agriculture and for the protection and rehabilitation of areas affected by drought and desertification and floods
- **Paris Agreement (Preamble):** "recognizing the fundamental priority of safeguarding food security and ending hunger, and the particular vulnerabilities of food production systems to the adverse impacts of climate change"
- **Paris Agreement (Article 1): (b)** "increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production; and **(c)** making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development"

A workstream on food systems under the UNFCCC provides an “unprecedented opportunity” to address synergies and trade-offs between global climate and food policy (25), biodiversity policies, and an environmentally comprehensive One Health approach. The workshops held under the KJWA – on livestock, socioeconomics and food security, nutrient use, soil, and adaptation – should be used as a platform for expanding future discussion on food system production and supply under the UNFCCC. (26) A future workstream could also address and mobilize action towards scaling up supportive policy architecture and technologies needed to create consumer demand-shift, as outlined by the IPCC (“choice architecture”) (4).

Key Messages to the UNFCCC on Koronivia Joint Work on Agriculture:

The WHO encourages UNFCCC Parties to recognize that the stabilization and reduction of atmospheric greenhouse gas concentrations as well as reduction of all anthropogenic sources of emissions promotes health and well-being. Climate change policies should **promote healthy, sustainable, and resilient food systems (from production to consumption) delivering affordable, safe, healthy diets for all.** Both mitigation and adaptation strategies are needed to increase the resilience and sustainability of food systems and ensure food and nutrition security, leaving no one behind.

In discussions on the KJWA, COP 26 *recognized* (27):

- that soil and nutrient management practices are at the core of climate-resilient, sustainable food production systems, and can contribute to global food security
- that sustainably managed livestock systems play a broad role in safeguarding food and nutrition security, livelihoods, nutrient cycling and carbon management
- that safeguarding food security and ending hunger by designing sustainable and climate-resilient agricultural systems with a systems approach is a fundamental priority, and that long-term investment in socioeconomic and food security dimensions is important
- the importance of scaling up support to enhance action on safeguarding food and nutrition security and ending hunger, aiming for inclusive, sustainable and climate-resilient agricultural systems
- the enabling environment for mobilizing resources for implementation for safeguarding food and nutrition security and for inclusive sustainable and climate-resilient agricultural systems needs to be improved

At COP27, the KJWA is an agenda item for discussion. **Parties should move to establish a permanent, comprehensive, inclusive workstream on food systems under the UNFCCC.** The health sector must be informed on, and also *inform*, food policy under the UNFCCC, ensuring that climate change policy decisions comprehensively align with global health objectives. The workstream should jointly report to the subsidiary bodies on scientific and technological advice (SBSTA) and for implementation (SBI), have a mandate to propose actions and advise, and encompass the following overarching elements to protect and promote public and global health.

Modalities of a permanent, comprehensive workstream on food system transformation under the UNFCCC that protect and promote public and global health, ensuring policy coherence:

Principles:

- takes a **holistic** approach⁴
- aims to **avoid malnutrition in all its forms and other negative health outcomes**

⁴ “food and agriculture (including crops, livestock, fisheries and aquaculture) systems need to be addressed holistically by public policies, including the resources, investment, environment, people, institutions and processes with which food is produced, processed, stored, distributed, prepared and consumed”; See 2014 Rome Declaration on Nutrition.

- aims to **improve sustainability of agricultural practices**, reduce food loss and waste from sustainable food systems, **use agroecology as a principle for resilient food systems, conserve and restore ecosystems**, and ensure sustainable, healthy, safe, diverse, and secure diets for all
- shapes agrifood systems to be efficient, inclusive, resilient, sustainable, *and healthy*

Scope:

- interpret “ensuring food production is not threatened” (UNFCCC Article 2) through the CFS High Level Panel of Experts **vision of food security** as “multiple manifestations of hunger, malnutrition and food-related diseases through coordinated, multisectoral policies and actions” (28)
- equally consider food production from the perspective of **mitigation, adaptation, tradeoffs, and synergies and co-benefits**, as well as on the basis of vulnerability and resilience
- consider the role of **terrestrial, aquatic, and marine ecosystems** in climate action for food systems (29)(30)
- take an integrated approach, with attention to the **water-food-energy nexus**, and ensuring that integrated water resource management includes consideration of WASH, as well as incorporating findings from the forthcoming **Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) biodiversity-food-water-health nexus** report and relevant reports of the Warsaw International Mechanism **Expert Group on Non-Economic Loss and Damage**
- **incorporate natural processes** to support food security, nutrition, health and well-being, livelihoods and biodiversity, sustainability and ecosystem services (5)
- **consider intrinsic values of food** and biodiversity conservation, including cultural identities linked to food, dietary diversity and its relationships to environmental health and stewardship (31)

Reflect and be informed by:

- the **FAO-WHO Sustainable Healthy Diets Guiding Principles**,
- policy guidance of the **Committee on World Food Security**, including the **CFS Voluntary Guidelines on Food Systems and Nutrition**⁵
- guidance on healthy food environments from the **WHO Food Systems for Health** package
- the commitments of the **Rome Declaration on Nutrition** and its **Framework for Action**

Composition:

The membership of and participation in this workstream must be **multistakeholder** and **multidisciplinary**. A steering committee for this workstream should include representatives of **health, nutrition, and food-related UN agencies** including the One Health **Quadripartite, youth, and Indigenous Peoples**, and reflect **gender balance**. To ensure policy coherence on food systems, health, and nutrition, the committee should also invite representation from the **secretariats of other multilateral environmental agreements**, including in particular, the Convention on Biological Diversity, UN Convention to Combat Desertification, the Ramsar Convention on Wetlands, the Basel, Rotterdam, and Stockholm Conventions on hazardous chemicals and wastes, as well as a representative of the **Multidisciplinary Expert Panel of IPBES**. Representatives of **UN Water, UN Nutrition, the UN Committee on World Food Security**, and the **UN Office for Disaster Risk Reduction**, should also be core stakeholders.

Take a rights-based approach:

This workstream should actively support a **rights-based approach to food systems**, recognizing the linkages and interdependencies of the right to health, right to a clean, healthy, sustainable environment, right to water, and right to food. It should include a strong focus on resilient, healthy, sustainable food systems for future generations.

⁵ an inter-governmental and multi-stakeholder negotiated policy tool for use by governments and their partners to develop appropriate policies, investments and institutional arrangements to address the causes of hunger and malnutrition in all its forms.



Practice

Public health practice can reinforce implementation of the UNFCCC and climate-resilient development. At the same time, stronger climate policy and action on food systems at global and national levels supports public health.

At the national level governments should **support policies and technologies that lead to shifts in consumer demand**, lower material footprint, and to facilitate dietary choices to make affordable, safe, healthy and sustainable diets more accessible. There is room to expand on a holistic approach, and comprehensive analyses, to **improve inclusion of food systems in national reporting** on adaptation (National Adaptation Plans) (32) and mitigation ambition (nationally determined contributions) (33). More comprehensive analyses and assessment of food-related and climate-sensitive disease are also needed in health national adaptation plans (HNAPs) led by ministries of health, particularly for those that are slow-onset and chronic.

Healthy and sustainable food is “one of the six substantive elements of the right to a healthy environment, as recognized by regional tribunals, national human rights institutions, laws and jurisprudence.”(30) As recommended by the UN Special Rapporteur on Human Rights and the Environment, countries can **draw on the Framework Principles on Human Rights and the Environment to accelerate food systems transformation and implementation of the UNFCCC and Paris Agreement objectives** by (34):

- Providing the public with accessible information about healthy and sustainable food, including nutritional content, the environmental footprint and dietary guidelines based on human and environmental health
- Incorporating information about healthy and sustainable food throughout the educational curriculum;
- Ensuring an inclusive, equitable and gender-based approach to public participation in all food system planning, policymaking, budgeting and other actions
- Enabling affordable and timely access to justice and effective remedies for all
- Assessing the potential environmental, social, health, cultural and human rights impacts of all plans, policies, projects and proposals related to food systems
- Integrating gender equality into all plans and actions related to food systems, increasing women's access to land, credit, inputs, information and technology and empowering women to play leadership roles at all levels
- Providing strong protection for environmental human rights defenders working on food-related issues.

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