

# Introducing food systems-based dietary guidelines

## Overview

Global malnutrition – in all its forms – remains one of the world’s most pressing challenges. Unhealthy diets and malnutrition are among the top 10 risk factors contributing to the global burden of disease. More than 10% of the global population is affected by hunger – approximately 735 million people live with food insecurity, hunger and malnutrition due to a lack of access to adequate food, and more than 3 billion people cannot afford a healthy diet – while more than 2 billion people worldwide are overweight or obese.

It’s clear that the world needs to rapidly shift towards adequate, accessible, nutritious and sustainable diets. Sustainable healthy diets as defined by the UN, FAO and WHO are dietary patterns that promote all dimensions of individuals’ health and well-being; have low environmental pressure and impact; are accessible, affordable, safe and equitable; and are culturally acceptable.

Dietary guidelines – implemented at global, national and sub-national levels – are a key policy tool for promoting positive changes among food system actors, including towards the adoption of more sustainable diets among consumers. When it comes to nutrition, people need trustworthy, authoritative guidelines that cut through the often erroneous, conflicting and ever-changing dietary advice in the media and online. Dietary guidelines, such as national-level food-based dietary guidelines, aim to provide evidence-based, context-specific recommendations and can form the basis of public dietary education. These guidelines also serve as a guide to inform policies across the entire food system, including agricultural, distribution, trade, processing, marketing, retail

and taxation policies. Dietary guidelines that promote healthy diets can therefore also advance environmental and climate goals.

## Concrete measures to implement

To effectively introduce food-based dietary guidelines to increase consumption of healthy and sustainable foods, policymakers can consider:

- Reviewing existing dietary guidelines:
  - Raise the ambition of National Dietary Guidelines (NDGs) to establish alignment with global environmental and health goals, place shared responsibility for updating existing NDGs with the Ministries of Health, Agriculture, and Environment, and make certain that an independent scientific body develops the updated NDGs.
  - Assess if these guidelines adequately address all aspects of food systems (including health, environment and socio-economic impacts of diets) and are based on local contexts, and that policymakers across government actually utilise them to inform policy decisions. Policies and programs should incorporate behavioural insights from the target communities.
  - Guidelines should be aligned with reputable, science-based sources, such as:
    - FAO and WHO Guiding Principles of Sustainable Healthy Diets
    - European Food Safety Authority (EFSA) dietary reference values
    - WHO guidelines on macronutrient intake to reduce the risk of unhealthy weight gain and diet-related noncommunicable diseases
    - Codex Alimentarius Commission international food standards.
  - In integrating a food systems approach to existing guidelines, follow the forthcoming FAO stepwise approach.
- Develop and adopt food systems-based dietary guidelines by following the below stepwise approach based on FAO's methodology:
  1. Design and plan national process:
    - Set-up the organisational structure.

- Establish the technical task team and develop a work plan.

2. Analyse the situation and review the evidence:

- Define the scope and modality.
- Conduct a targeted policy and programme review.
- Describe and prioritise major nutrition, health and sustainability issues.
- Review evidence on relationships between diet, health and other sustainability outcomes.
- Describe diets and set preliminary goals and targets.
- Conduct a targeted analysis along the food system and revise goals/targets.
- Review evidence on effective interventions across the food system.
- Draft and review the Situation Analysis and Evidence Report

3. Develop recommended dietary patterns and formulate the technical recommendations:

- Carry out diet modelling and refine diet goals and targets.
- Formulate multi-level technical recommendations covering diets and enabling food systems intervention.
- Validate, revise and finalise the technical recommendations.

4. Develop the national implementation strategy:

- Prepare for the development of the implementation strategy.
- Consult stakeholders for strategy development.
- Validate, revise and finalise the implementation strategy.

5. Design communication and capacity development actions:

- Organise the process.
- Agree on the targets.
- Design communication and capacity development products.
- Develop a workplan for rollout.

6. Implement, monitor and evaluate:

- Endorse and launch.
- Operationalise the national governance structure for implementation.
- Develop and execute sectoral implementation plans.
- Carry out continuous capacity development.
- Monitor, evaluate and improve.

- Include **socioeconomic considerations** (based on principles of ecological economics) and equity when designing guidelines to account for feasibility of their implementation based on the local context, including the following factors:
  - Food prices and diet costs
  - Profitability
  - Wealth/profit distribution and power imbalances across the food system
  - Safe, decent employment opportunities with liveable wages
  - Safety net programs.
- Focus on implementation from inception by considering potential organisational capacities, barriers and enablers for implementing the food system-based dietary guidelines.
- Ensure a participatory process for the development of guidelines while managing any conflicts of interest, as well as power imbalances, among stakeholders. This process should involve consultations and working groups that include representatives of various stakeholder groups, including those listed above. Stakeholder engagement in the policy development process is essential, particularly so that the framework can best be adapted to the local context and to resolve trade-offs between aspects of healthy eating, nutrition and environmental sustainability. This engagement process must be inclusive, transparent and equitable to ensure that stakeholders trust the recommendations, with particular emphasis on ensuring the participation of low income, marginalised and food insecure groups.
- Use food labels, advertising campaigns and other means to widely communicate accurate, standardised and easy-to-understand information

about dietary choices. For food and nutrition labelling, consider schemes for diverse science and evidence-based Front of Package (FOPL) labelling that could include informative and interpretive labelling, while considering the [Codex Alimentarius Commission](#) guidelines, standards and recommendations and other relevant standards to inform consumer choices about food. For more information, see [Regulating advertising of unhealthy and unsustainable food](#) and [Regulating food quality and safety](#).

- Expand guidelines' target audiences. In addition to consumers, nutritionists and health practitioners, guidelines should also target [other actors relevant to food systems](#), such as policymakers, program designers/implementers, teachers, social workers, food service organisations, manufacturers, the media and agricultural extension workers.
- [Align all the national food systems-related policies and programs with food-based dietary guidelines](#). Identify policy instruments that can be expanded in terms of coverage, strengthened in terms of capacity and funding, and better aligned with the goal of promoting equitable, healthy, sustainable diets for all. Particular emphasis should be placed on supporting low income, marginalised and food insecure populations. Examples of instruments include income transfer programmes (e.g., social protection schemes, cash transfers via safety nets and employment guarantee schemes), business promotion initiatives (e.g., extending rural finance, tax incentives for small and medium enterprises (SMEs) in the food sector and enhanced canteen meal projects) or agricultural extension programmes which also support community-level health messaging and public food procurement policies. See also [Improving physical and economic access to healthy and sustainable foods](#), [Strengthening inclusive multi-stakeholder approaches in food governance](#), and [Integrate healthy and sustainable diets in public procurement](#).

## Enabling governance measures

- [Link dietary guidelines to broader food system policies and interventions](#) related to food production, supply chains, health and nutrition, food culture, food marketing/advertising and other food systems components. Similar synergies can be realised with other interventions such as those included in [Regulating advertising of unhealthy and unsustainable food](#).

- Design fair food environments – from exposition to consumption and disposal – to enable consumers to more easily implement sustainable, healthy diets.
- Diversify food production to improve diets. Simultaneously, invest in undervalued crops and cropping systems, notably underproduced crops that underpin dietary health and Indigenous cropping and knowledge systems. See *Implementing nature positive food production practices*.
- Repurpose public and private financing to support farmers that produce or support public goods, including the production of healthy foods, clean water and habitats for biodiversity.
- See other enabling conditions under *Accessible and sustainable food environment*.



## Tools and MRV systems to monitor progress

Frameworks developed to inform the evaluation and modification of dietary guidelines:

## Policy Analysis Framework

Examining sustainable diet elements of food policy and evaluated Nepalese food policies. It can be applied to different geographic contexts but may need to be adapted for the context.

Link: <https://www.sciencedirect.com/science/article/pii/S0306919217303846?via%3Dihub>

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## Sustainability Framework Scoring Tool

Comprised of four key dimensions and 32 sub-dimensions of sustainable food systems for the analysis and modification of national dietary guidelines.

Link: <https://www.frontiersin.org/articles/10.3389/fsufs.2019.00076/full>

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## FAO Nutrition-sensitive Agriculture and Food Systems Toolkit

Consists of a set of manuals that provide guidance on how to design, implement, monitor and evaluate nutrition-sensitive food and agriculture policies and programs. The toolkit is complemented by a series of e-learning courses fit for a diversity of contexts.

Link: <https://www.fao.org/policy-support/tools-and-publications/resources-details/en/c/884011/>

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## Codex Alimentarius Commission Standards

International food guidelines, standards and codes of practice to contribute to food safety, quality and fairness in the international food trade.

Link: <https://www.fao.org/fao-who-codexalimentarius/about-codex/en/>

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# Climate change mitigation benefits

Dietary guidelines, if they increase the number of people consuming healthy and sustainable diets, can in turn reduce emissions associated with food supply chains and production.

# Other environmental benefits

Shifting to healthy and sustainable diets can result in:

- By definition, healthy and sustainable diets “maintain greenhouse gas emissions, water and land use, nitrogen and phosphorus application and chemical pollution within set targets.”

- Reduced risk of **eutrophication** due to reduced agricultural inputs and its associated negative effects on water and air pollution. Eutrophication is the process by which aquatic systems become over-enriched with nutrients such as nitrogen and phosphorus due to the run-off of agricultural inputs (e.g., fertilisers into water systems).
- Reduced **acidification** due to reduced inputs associated with agricultural production (e.g., fertilisers and pesticides).
- Improved soil health and air quality due to reduced use of fertilisers and fossil fuel energy.

## Adaptation benefits

Healthier and more sustainable food consumption encouraged by the introduction of food systems-based dietary guidelines is expected to:

- Lead to healthier and more resilient populations, reducing the risk of malnutrition and non-communicable diseases (e.g., colorectal cancer, coronary heart disease, type 2 diabetes). **Studies** show that dietary improvements could prevent one in every five deaths worldwide.
- Drive the shift to more sustainable food production and consequently:
  - Protect biodiversity and ecosystem services.
  - Reduce water pollution and groundwater protection.
  - Reduce pressure on water and land resources.
  - Reduced land-use change and land degradation.
  - Reduce fossil fuel energy use.

See more information in *Implementing nature-positive food production practices*.

## Other sustainable development benefits

- SDG 2 (zero hunger)
- SDG 3 (good health and well-being)
- SDG 12 (responsible/sustainable consumption and production)
- SDG 14 (life below water)

- SDG 15 (life on land)

## Main implementation challenges and potential negative externalities and trade-offs

Food consumption is a sensitive, personal topic which means that individuals may be highly resistant to change their consumption habits. There are three main dimensions of sensitivities that often hinder dietary shifts:

- Socio-economic sensitivities: Accessibility and affordability of healthy and sustainable foods, and livelihoods tied to production of foods with high environmental impact.
- Political sensitivities: Political interests and leverage of producers of foods with high environmental impact (e.g., the meat industry).
- Cultural sensitivities: Cultural values and identities attached to certain foods with high environmental impact (e.g., beef and dairy products).

## Measures to minimize challenges and address potential negative externalities and trade-offs:

Dietary guidelines can address these challenges and increase their effectiveness if adopted dietary guidelines are:

- Linked to other food-related policies (e.g., repurposing of food-related subsidies, public food procurement, food-related social security spending, livelihood support, recipe reformulation, food marketing and advertising regulations and/or policies for healthier food environments).
- Specific to different target groups to account for sensitivities, equity, accessibility and context-specific differences in: dietary needs (e.g., children, senior citizens, pregnant women); social factors (e.g., cultural norms/tastes, languages); economic factors (e.g., income levels); and geographic factors (e.g., rural vs. urban, food deserts).
- Invest in, establish and promote universal access to social protection programs that directly enhance nutrition and food security. This requires analysis to determine the barriers to social protection system access and address them. It also requires ensuring participation from community-

based, local organisations and stakeholders in the design, implementation and monitoring processes for policies and programs.

- Develop social programmes (e.g., direct cash assistance, job training) to protect producers and other supply chain actors whose livelihoods depend on food products that are not recommended.
- Assist negatively affected actors with transitioning into other sectors or producing healthy foods.

#### Implementation costs:

Data not available.

## Intervention in practice

Worldwide, more than 100 countries have developed food system-based dietary guidelines and 38 countries' guidelines explicitly mention environmental sustainability components. Dietary guidelines with sustainability considerations also exist at regional levels:

- The Nordic nutrition recommendations is based on the latest scientific evidence and constitutes the basis for national dietary guidelines and nutrient recommendations in the Nordic and Baltic countries. The latest edition of the guidelines (published in 2023) incorporates recommendations on foods that are beneficial for the environment. The guidelines recommend a predominantly plant-based diet with a moderate intake of low-fat dairy products and limited intake of red meat and poultry.
- Denmark's 2021 dietary guidelines were developed on the basis of a Danish scientific study and with the dual objective to encourage healthier but also more climate-friendly diets. Additionally, the implementation plan includes a wide range of communication activities and engagement with a large variety of stakeholders.

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