

Increasing demand for healthy and sustainable diets

Overview

The world has seen a global shift from more diverse, plant-based diets towards diets high in sugar and fat, and highly processed and animal-sourced foods. This shift comes with dire health and environmental consequences, including by exacerbating climate change and numerous environmental stressors.

As global consumption of highly processed food products and those high in refined carbohydrates, saturated fat and sodium rises, so do rates of obesity and diet-related non-communicable diseases – including type 2 diabetes, cardiovascular disease, hypertension and some cancers. Moreover, industrial livestock farming, habitat destruction, and wildlife use and trade all contribute to the emergence of infectious diseases.

Not only are highly processed foods and excessive levels of animal-sourced foods typically unhealthier than fresh food, but these foods are also more resource-intensive i.e. in the amounts of energy, water, packaging and plastic their production requires. Animal agriculture is among the leading users of land and water, a significant source of greenhouse gas emissions, and a driver of biodiversity loss globally.

Shifting to healthier, more sustainable diets can positively impact public health and provide climate mitigation and other environmental benefits. Diets low in processed foods and animal protein – especially ruminant meat – promote human health, improve animal welfare and result in a smaller ecological footprint on climate, soils, water and other resources. Dietary guidelines that promote diverse healthy diets can therefore help reduce greenhouse gas emissions and support positive environmental outcomes.

The UN Food and Agriculture Organization and the World Health Organization define Healthy and Sustainable Diets as dietary patterns that promote all dimensions of individuals' health and wellbeing; have low environmental pressure and impact; are accessible, affordable, safe and equitable; and are culturally acceptable. Such diets aim to achieve individuals' optimal growth and development and support their lifelong physical, mental and social wellbeing for present and future generations; contribute to preventing all forms of malnutrition (i.e. undernutrition, micronutrient deficiency and overweight and obesity); reduce the risk of diet related diseases; and support the preservation of biodiversity and planetary health. Healthy and sustainable diets must combine all the dimensions of sustainability to avoid unintended consequences.

Concrete measures to implement

A wide range of implementation measures can help increase demand for the nutritious foods that are part of healthy and sustainable diets. In some cases, combining measures can mutually increase their impacts, such as if food pricing schemes are paired with targeted information campaigns. Crucially, measures must be locally tailored to be effective. Measures include:

- Promote traditional foods and diets, including non-threatened species that are neglected or underutilised:
 - Carrying out public awareness campaigns to raise consumer awareness of traditional foods, dishes and diets, and of good nutrition associated with traditional food cultures. Such campaigns should be developed in an inclusive, participatory, and culturally-sensitive process with holders of the cultural traditions. Traditional foods and diets are local and often more biologically diverse and nutrient dense. This can shift demand to fresher and more diverse foods from local and regional food systems.
- Design specific financial incentives and taxes:
 - Financial incentives for producers such as subsidies for farmers can improve the affordability of nutritious foods. This support may increase affordability at various levels including production, retail and catering. At the consumption level, measures such as vouchers for

fresh foods make healthy foods easily and directly accessible for consumers.

- Financial disincentives like taxes that decrease the affordability of foods and beverages high in fats, sugar and salt, have shown to be effective and are needed to complement policies targeting consumers.
- Fiscal measures (e.g., progressive taxation) should prioritise basic public services, using available resources to equitably support the populations that are most affected by malnutrition and food insecurity, while also addressing the root causes of inequality.
- Implement changes in retailing and food service practices:
 - Promote Corporate Social Responsibility (CSR).
 - Common marketing strategies, such as the “four P’s” of marketing – product, placement, price, and promotion – can be applied within food service and retail to increase the sale of nutritious and sustainable food items in stores, for example by:
 - Placing nutritious food items at prime locations (e.g. checkout aisles or end-of aisle displays) and/or at eye level.
 - Promoting nutritious food items through in-store marketing strategies and in-store nutrition education programmes (e.g. coupon or loyalty programmes or cooking demonstrations).
 - Using differential pricing for healthy food at retail level, which can incentivize increased consumption of healthy foods.
 - Government or community-based subsidies can incentivize retailers to carry more diverse and nutritious foods, especially in underserved areas where access might be limited, such as neighborhoods with limited access to nutritious foods and high rates of obesity.
 - Government subsidies can incentivise retailers to carry foods that are produced under sustainable animal welfare guidance.
 - Using zoning ordinances to limit proximity of retail outlets that sell low-nutrient, high-calorie foods (i.e. fast food restaurants and other establishments) close to schools, parks or youth centres.
 - Replace low-nutrient, high-calorie foods and beverages with healthy alternatives in public institutions like schools, retirement homes and

hospitals.

- Create incentives and rules to reduce trans fat and salt in food service outlets.
- Market and increase access to locally grown foods. Grocery stores and supermarkets can tap into this demand by selling and marketing products from local growers, wholesalers and food hubs in their region. See *Developing and improving agriculture in urban and peri-urban areas and enhancing local food markets*.
- Market and increase access to foods produced under sustainable animal welfare guidelines (e.g., minimum space requirements for livestock).
- Partnerships with existing efforts on healthy diets (e.g. academic institutes, marketing firms, nonprofit organisations and public health departments) to develop strategies to enhance consumer awareness through the promotion of sustainable, healthy habits at retailer level (e.g. in-store signage, cooking demos or collaborations with local nutritionists). Moreover, support initiatives that bring fresh produce directly to communities, such as community gardens or farmers' markets, which directly connect producers with consumers.
- Improve food and nutrition education through:
 - Investing in and implementing policies that expand the scope, reach and sustainability of quality food and nutrition education, as well as education about sustainable animal welfare in food production.
 - Developing nutritionists' and health practitioners' capacities to plan, conduct, monitor and evaluate high-quality and behaviourally-focused food and nutrition education.
 - Implementing information campaigns on nutritious diets (e.g. "five-a-day" campaign for increasing daily consumption of fruits and vegetables) and sustainable animal welfare.
 - The integration of nutrition education and equitable, sustainable production practices into university curricula to strengthen the national human resources, into national development programmes including focusing on agriculture, food storage, processing, fortification, micronutrient supplementation and social protection.
- Use the public health system, practices and policies to promote healthy diets as part of a preventative approach to health-care provision.

- Provide equitable, nutrition-sensitive social protection. Measures should be designed to include an analysis of the specific barriers to access, and also promote participation from local groups, community organisations and other relevant stakeholders in the design, enactment, and monitoring of the policy or program. Specific measures could include:
 - In-kind transfers: distribute nutritious and fresh foods under social assistance schemes.
 - Quasi in-kind transfers: vouchers for accessing goods (e.g. certain nutritious food items).
 - Conditional and unconditional cash transfers.
 - Transfers of productive assets (e.g. dairy cows, small ruminants, poultry or nutrient-rich seeds) aligned with dietary recommendations, nutrition situation and context.
 - Free healthy and sustainable school meals.
- Adopt food systems-based dietary guidelines – which include recommendations based on the nutrition, health, environmental sustainability, and animal welfare in food systems – which can steer consumers towards dietary patterns that are better for human and environmental health. See Introducing food-based dietary guidelines.
- The hospitality and food service sector can take a lead in communicating the calories and carbon footprint of meals and seek ways to reduce both, in line with guidance on healthy eating. Restaurant meals often contain more calories than the amount recommended by health professionals.
- Institute policies to regulate food product labeling and claims – including nutrition fact panels or front-of-package labels that indicate the nutritional content, health impacts, sustainability, or animal welfare conditions for food products – which can influence consumer behaviour and nutrient intake. See Regulating advertising of unhealthy and unsustainable food.
- Regulate food marketing, such as limiting the marketing of foods high in salt, sugar and saturated fat, and highly processed foods, especially advertisements targeted at children, can reduce the demand for these foods. Additionally, marketing restrictions can consider the environmental footprint and animal welfare aspects of food items. See Regulating advertising of unhealthy and unsustainable food.
- Implement food procurement programmes. Nutrition-sensitive and equitable food procurement programmes can reliably provide nutritious

and sustainable food to populations through schools, hospitals, retirement homes and other venues, increasing overall demand for these products. Additionally, school meal programmes can improve children's diets, shift food preferences and enhance nutritional knowledge, thereby helping to promote the consumption of nutritious foods. See *Integrate healthy and sustainable diets in public procurement*.



WWF marine turtle conservation volunteer, Said, shares a meal with his family.
Mkokoni, Lamu seascape, Kenya

Enabling governance measures

In addition to these concrete measures, several FAO reports (2015, 2023) emphasize the importance of the following governance measures for increasing consumption of diverse, nutritious and whole foods:

- Creating multi-sectoral plans, policies and strategies to improve nutrition within national, regional and local government structures. Ensuring the nutrition-sensitive plans, policies and strategies are aligned in terms of indicators, objectives and that responsibilities are clearly defined.
- Using the food systems pathways/roadmap to identify gaps in the latter and define further nutrition-sensitive investments from government or

partners.

- Promoting diversified production and increased production of nutrient-rich crops and small-scale livestock (e.g. horticultural products, legumes, livestock and fish at small scale, underutilized crops and biofortified crops)
- Expanding markets and market access for vulnerable groups. Increase responsible investment in infrastructure, technologies, logistics, services, and supply chains, particularly with a focus on areas with high multidimensional poverty, by using territorial approaches and bolstering market connectivity and trade at the local, regional, national and international levels.
- Increasing availability of nutritious food outlets through land-use planning and zoning regulations, tax credits or exemptions, and licensing agreements.
- Providing livelihood support.
- Providing capacity building in nutrition to health and agriculture agents to link both support packages at decentralized levels.
- Monitoring dietary consumption and access to diverse, nutritious and safe foods.
- Strengthening health systems.
- Protecting and empowering historically marginalised groups, women and the poor
 - Research suggests that households headed by women or where women play a strong role allocate greater household resources to food and feature a higher dietary diversity.
- Including local stakeholders in policy design, implementation, monitoring and evaluation
 - So-called food policy councils that serve as advisory bodies to local or sub-national governments can be a helpful mechanism.
- Aligning policies, subsidies, research and extension programmes for production and consumption of healthy and sustainable foods.

Tools and MRV systems to monitor progress

- FAO has a comprehensive toolkit on nutrition-sensitive agriculture and food systems: the toolkit is an integrated package of guidance on how to design, implement, monitor and evaluate nutrition-sensitive food and agriculture policies and programmes. The toolkit includes:
 - Key recommendations for improving nutrition through agriculture and food systems
 - Checklist and guidance for designing nutrition-sensitive agricultural programmes
 - Compendium of indicators for monitoring and evaluating nutritional impacts of agricultural programmes
 - Options for practical interventions to improve nutrition, including many resources related to influencing consumption of and demand for healthy foods through interventions such as marketing, pricing, education or using existing social programmes.
 - Guidelines for integrated planning across sectors
- FAO e-learning modules on nutrition-sensitive agriculture and food systems: it assists professionals from any food and agriculture field in the design, implementation, monitoring and evaluation of nutrition-sensitive programmes, investments, and policies. There are modules on: basic concepts of nutrition, food security and livelihoods; improving nutrition through agriculture and food systems; nutrition situation analysis; design and monitoring of nutrition-sensitive agriculture and food systems programmes; and malnutrition.
- The BASIC Toolkit by the OECD provides practitioners and policymakers with a step-by-step process for analyzing policy problems, building response strategies and developing interventions informed by behavioural and social sciences. Using insights from behavioural sciences can be a highly effective tool in influencing consumer behaviour and incentivizing increased demand for healthy diets.
- The Global Panel on Agriculture and Food Systems for Nutrition (GLOPAN) offers a policy framework on agriculture and food systems that is informed by behavioural insights. Policy actions are based on the four behavioural pillars: availability; accessibility; affordability; desirability.

Climate change mitigation benefits

- Measures to stimulate demand for diverse, nutritious and whole foods can reduce greenhouse gas emissions related to food production and consumption, but the effects and their scale depend on the extent of consumption of nutritious foods with small carbon footprints (e.g. plant-based, unprocessed or minimally-processed foods).
- Demand for diverse foods can drive the diversification of food production which, in turn, can increase agrobiodiversity and carbon sequestration capacity at the field level.

Other environmental benefits

- Measures to increase demand for foods with low carbon footprints can have additional benefits, including improving air quality, water resources and soil health.

Adaptation benefits

- Measures that lead to diversified production systems may increase food system resilience.
- Healthier populations are more resilient to the impacts of climate change.
- Promoting traditional foods can reduce dependency on food imports, thereby expanding domestic production and increasing the resilience of local communities. However, unless well-managed, overreliance on domestic production has the potential to raise the average cost of food, which is an important trade-off to consider with regard to food accessibility.

Other sustainable development benefits

Increased consumption of diverse, nutritious, and whole foods has significant benefits for global nutrition and health (FAO, [2018,2023](#); Global Alliance for the Future of Food, [2021, 2023](#); WWF, [2022](#)), including supporting:

- SDG 2 (Zero hunger): reduction (and elimination) of all forms of malnutrition; reduced child stunting and wasting; reduced undernutrition; reduced rates of overweight and obesity in adults and children; agricultural biodiversity conservation; and improved dietary diversity at the household level.
- SDG 3 (Good health and well-being): consumer well-being and health; decreased prevalence of diet-related non-communicable diseases and premature mortality.
- SDG 12 (Responsible consumption and production): protection from food production-related occupational hazards and environmental contamination (air and water pollution and pesticide contamination).

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

- Low willingness of consumers to implement behavioural change.
- The necessary global scale shift to healthy and sustainable diets is significant: More than 42% of the global population were unable to afford a healthy diet in 2021. High costs and limited access to healthy diet for many consumers persist worldwide.
- Increased food loss and waste of fresh and unprocessed foods: Fresh foods are more prone to damage or decay in the supply chain compared to highly-processed, unhealthier food products.
- Further, the impacts vary significantly by region due to diverging limiting constraints (i.e. water and availability).

Measures to minimize challenges and potential negative externalities and trade-offs

- Avoid disconnected and disparate policy approaches by implementing aligned, cohesive measures at all levels (individual, organizational and enabling environment) to motivate and strengthen capacities for behavioural change.
- See *Improving physical and economic access to healthy and sustainable diets*.
- Measures to address food loss and waste. See guidance *Reducing food waste in gastronomy sector, retail and at household level* and *Reducing post-harvest food loss at storage, transport and processing levels*.
- Measures to address other potential source of emissions throughout the supply chain. See *Reducing emissions from food storage, cold chains, transport and processing*.
- Measures to conserve or increase carbon storage and natural carbon sinks. See *Reduce land-use change and conversion of natural ecosystems for food production* and *Sequestering carbon in soil and enhancing soil health in crop systems*.
- Invest in additional knowledge, skills, data and tools needed to identify, prioritize and manage trade-offs and competing priorities.
- A shift in diets must be context-appropriate and accompanied with other food systems interventions including reducing food waste and shifting to agroecological practices, to ensure improvements across all environmental metrics.

Implementation costs:

FAO (2023) report gives an estimate of the costs and affordability of healthy diets:

- Average global costs of healthy diet in 2021: 3.66 PPP dollars per person per day
 - Costs vary and are higher in Latin America and the Caribbean (4.08 PPP dollars) compared to Asia (3.90 PPP dollars), Africa (3.57 PPP

dollars), Northern America and Europe (3.22 PPP dollars), and Oceania (3.20 PPP dollars).

- In 2021, the costs of a healthy diet rose globally by 4.3% compared to 2020, and by 6.7% compared to pre-pandemic levels in 2019. Low and middle-income countries were more affected than high-income countries.

Intervention in practice:

- Junk food tax in Hungary:
 - Hungary introduced a Public Health Product Tax or “junk food tax” in 2011 with the aim of improving the health of the population. The tax applied to packaged foods and drinks containing high levels of sugar and salt such as soft drinks and certain alcoholic drinks, candy, salty snacks, condiments and fruit jams.
 - Evaluations of the effects of the tax have found that consumption of processed foods decreased while consumption of unprocessed foods increased.
 - Consumers bought cheaper and often healthier products or consumed less unhealthy products altogether. The effects were particularly high among low-income households and frequent consumers of junk foods.
 - In addition, many junk food manufacturers changed their recipes to make products healthier.
 - Consumption patterns changed not only because of the price increase but also because of educational campaigns around the tax. This supports the combining of measures to increase their overall effectiveness.
 - Revenue from the junk food tax was earmarked. During the first four years, the tax generated about USD 219 million for public health spending.
 - While environmental aspects were not the focus of the junk food tax, the measure may still have positive side effects if the tax increases consumption of foods with lower environmental or climate footprints.

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