

Fruit and Vegetables

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Fruit and Vegetables Essential for healthy lives

Green, yellow, orange, red or purple: fruit and vegetables keep us healthy and add variety, taste and texture to our diets. Even if you eat rice or bread every day, you probably vary the types of fruit and vegetables you consume. A monotonous diet is not only unhealthy for humans: it is also unhealthy for the planet because it can result in monocultures and a loss of biodiversity.



Yet most of us do not eat enough fruit and vegetables. The World Health Organization (WHO) recommends consuming at least 400 g each day to reap their health and nutrition benefits. In 2017, some 3.9 million deaths worldwide were attributable to not eating enough fruit and vegetables (WHO, 2019). Insufficient intake of fruit and vegetables is estimated to cause around 14 percent of deaths from gastro-intestinal cancer worldwide, about 11 percent of those due to ischemic heart disease, and about 9 percent of those caused by stroke (Afshin *et al.*, 2019).

2021 is the International Year of Fruits and Vegetables

In declaring 2021 as the International Year of Fruits and Vegetables, the United Nations (UN) General Assembly aims to raise awareness of the nutritional and health benefits of fruit and vegetables and their contribution to a balanced and healthy diet and lifestyle. It also hopes to draw attention to the need to reduce losses and waste in the fruit and vegetable sector (UN, 2020) while delivering better on environmental outcomes. Action is needed at the country level to increase the production and consumption of fruit and vegetables and make them more economically accessible to consumers, while generating economic, social and environmental benefits in line with the Sustainable Development Goals.



The International Year of Fruits and Vegetables complements several other international initiatives that also support the Sustainable Development Goals that address nutrition, consumption, health as well as small-scale family farmer issues:

- The Rome Declaration on Nutrition and the Framework for Action (FAO and WHO, 2014).
- The UN Decade of Action on Nutrition (2016–2025) (UN, 2016).

- The UN Declaration on Rights of Peasants and Other People Working in Rural Areas (UNHRC, 2018).
- The UN Decade of Family Farming 2019–2028 (UN, 2018).
- WHO's Global Strategy on Diet, Physical Activity and Health (WHO, 2004).

The diverse range and characteristics of fresh fruit and vegetables and their inherently perishable nature warrants specific attention to their conditions of production, agronomic management, pest and disease control, harvesting techniques and postharvest handling systems. The UN General Assembly's resolution also highlights various cross-cutting issues and factors to be addressed during the International Year of Fruits and Vegetables.

Small-scale producers. Fruit and vegetables are grown by small-scale producers around the world, either for their own use or for sale. Small-scale producers supply the fruit and vegetable requirements of mass markets in most developing countries. Such farmers each produce relatively low volumes, leading to problems with reliability and quality. Nevertheless, there are clear opportunities for improvements in these areas.

Technologies. Technology and innovation are required at all stages in the fruit and vegetable supply chain, from production to consumption, to improve both quality and output. Improvements can range from simple farm-level technologies and practices to more sophisticated digital innovations that help assure the safety and quality of fresh produce as it moves along the supply chain. Innovative approaches such as public–private partnerships can help generate growth and development in the sector.

Income and employment. Fruit and vegetables tend to be worth more per kilogram than other types of food (animal products are an exception). However, they may also require more labour than for many other types of food. This offers opportunities for actors throughout the chain to generate employment and income.

Gender and youth. Women produce much of the world's fresh produce, and they are often responsible for the harvesting, marketing and processing. As consumers, they often choose what items to buy and how to cook them. But women face disadvantages at all stages in the chain – as producers in their ability to access land, inputs and advice, as entrepreneurs in getting finance to develop their businesses, as workers in terms of fair payment for their work, and as consumers in terms of education about food and nutrition. The high value of fruit and vegetables and the potential for innovation open exciting opportunities for young people to become involved in production and other aspects of the value chain.

Policy. Food policies tend to be tailored to the needs of staple crops. Fruit and vegetables have been relatively neglected in terms of policy attention, funding, research and extension, and support for agribusinesses.

What are fruit and vegetables?

There is no widely accepted definition for either fruit or vegetables. The definition agreed to for the International Year of Fruits and Vegetables is as follows.

Fruit and vegetables are considered edible parts of plants (e.g., seed-bearing structures, flowers, buds, leaves, stems, shoots and roots), either cultivated or harvested wild, in their raw state or in a minimally processed form. Excluded are the following:

- Starchy roots and tubers such as cassava, potato, sweet potato and yams (although leaves of these plants are consumed as vegetables).
- Dry grain legumes (pulses) unless harvested when immature.
- Cereals including maize (corn), unless harvested when immature.



- Nuts, seeds and oilseeds such as coconuts, walnuts and sunflower seeds.
- Medicinal or herbal plants and spices, unless used as vegetables.
- Stimulants such as tea, cacao and coffee.
- Processed and ultra-processed products made from fruit and vegetables such as alcoholic beverages (e.g. wine, spirits), plant-based meat substitutes, or fruit and vegetable products with added ingredients (e.g., packed fruit juices, ketchup).

Minimally processed fruit and vegetables have undergone procedures such as washing, sorting, trimming, peeling, slicing or chopping that do not affect their fresh-like quality (Gil and Kader, 2008). Minimally processed food retains most of its inherent physical, chemical, sensory and nutritional properties. Many such foods are as nutritious as the food in its unprocessed form (Parrish, 2014). Examples include sliced fruit, bagged fruit, vegetable salads, and frozen and dried fruit and vegetables.

Fresh versus processed

Unlike most other categories of food, fruit are normally eaten raw (uncooked form): either whole (berries) or after peeling them (oranges, bananas, papayas and mangosteens). Many types of vegetables are also often eaten uncooked, as in salads. Some (such as green beans) must be cooked before they are eaten.

The International Year of Fruits and Vegetables focuses on fresh produce or minimally processed products. It nonetheless recognizes that the processed forms of fruit and vegetables are important for farmers' livelihoods and incomes, trade, food security and nutrition. Some varieties are grown specifically to be sold as fresh produce; others are destined from the start for the processing plant. Still others may go either way: they are sorted and graded before sale: the best items are sold fresh (which typically fetches the highest prices), while the rest goes for processing.

Many types of fruit and vegetables are processed to increase their shelf-life, year-round availability, or to increase their value. Minimal processing (see above) retains the inherent properties of the produce. Full processing, on the other hand, may include juicing, fermentation, pickling, or canning in brine, juices or syrups.



Sustainable Development Goals

Fruit and vegetable production is central to the livelihoods of many small-scale farmers. But it can damage the environment, including the soil, water and biodiversity. Chemicals used to ensure productivity and protect the crop from pests may pollute the environment. High levels of

food loss and waste result from poor handling and the perishability of fresh produce, reducing the efficiency and sustainability of the system with potentially negative impacts on the environment and the natural resource base. Ensuring that fruit and vegetables contribute more to nutrition and health requires more comprehensive and holistic approaches. The supply of fresh produce must be made more efficient, inclusive and resilient ([Box 1](#)).

Box 1. Sustainable Development Goals related to fruit and vegetables

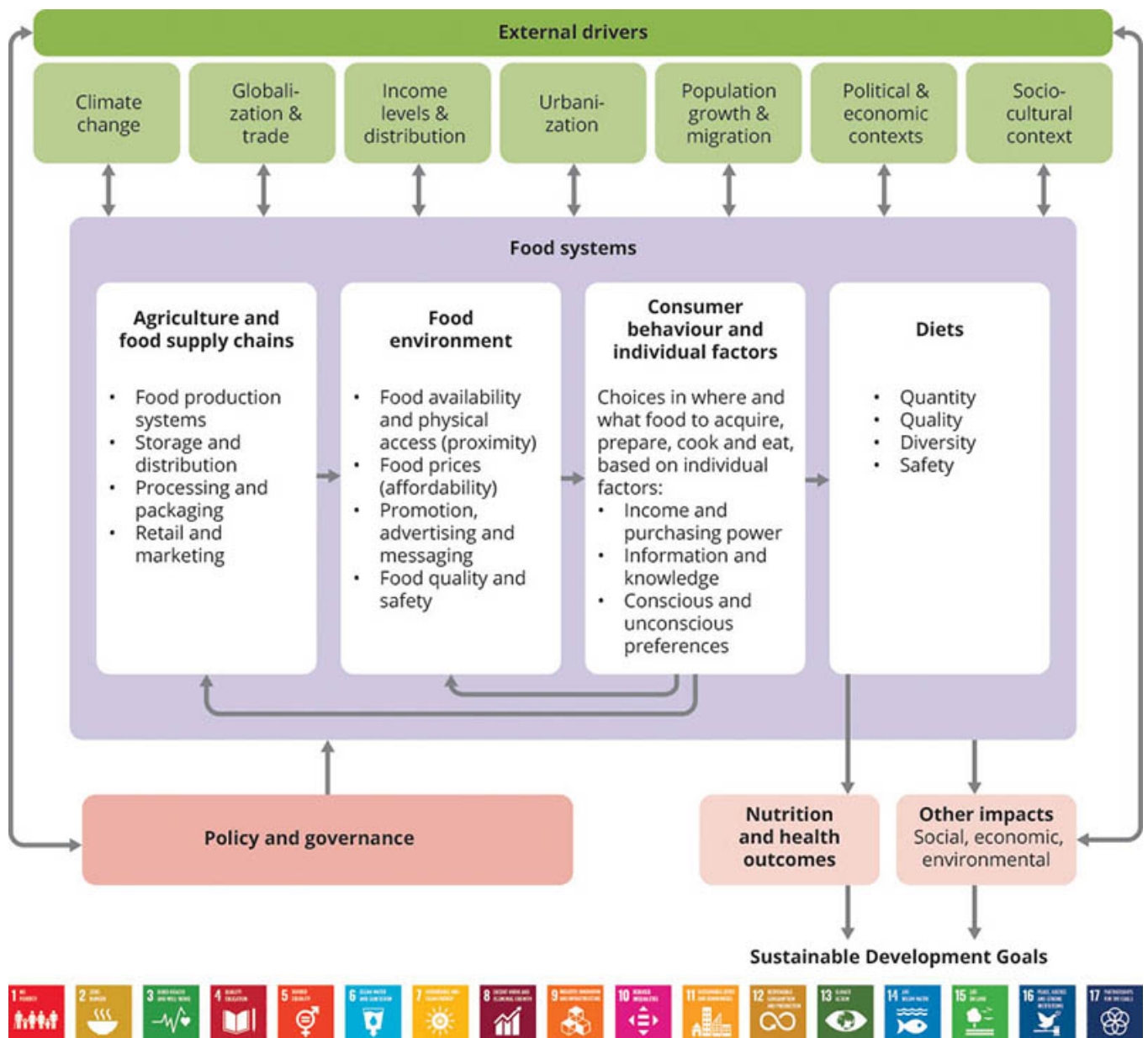


Transforming the sector: Adopting a food systems approach

It is widely accepted that our food systems are increasingly detrimental to both human and planetary health. Food systems are not delivering the healthy diets needed for nourishment. They result in the increasing prevalence of all forms of malnutrition (stunting, wasting, overweight, and obesity), all of which are exacerbated by the current COVID-19 pandemic. Other issues include rising populations and consumption, increasing urbanization, higher rates of non-communicable disease (WHO, 2019), decreasing arable land and water resources for agriculture, the effects of climate change and possible food shortages.

The Sustainable Development Goals support making the food system more productive, environmentally sustainable and resilient ([Box 1](#)). The elements of food systems – agriculture and food supply chains, food environments and consumer behaviour – require concerted action to ensure healthy diets are available, affordable, accessible, safe, culturally acceptable and appealing to all. Opportunities are needed throughout food systems to improve diet and nutrition outcomes (HLPE, 2017). This food-systems approach to better nutrition considers the food systems in its totality, taking into account all the elements, their relationships and related effects ([Figure 1](#)).

Figure 1. Food systems for healthy diets



Beyond their relevance to diets and nutrition, food systems play an important role in promoting environmental sustainability (climate change adaptation and mitigation, biodiversity, soil and water degradation), inclusivity (viability for smallholder farmers, indigenous peoples, gender equity) and productivity (increased production of nutritious foods, economic development).

Transforming the fruit and vegetable sector requires a holistic and comprehensive approach that looks at the interconnectivity between demand, supply, socio-economic development and fruit and vegetable prices – a major determinant of consumer behaviour. Stronger linkages among the various actors and stakeholders across the system are needed to integrate sustainable practices in production, harvesting, postharvest handling, processing and consumption. Factors to consider toward delivering on better nutrition while also creating a better environment, better production and better livelihoods include facilitating access by small-

scale producers and agricultural enterprises to viable markets, assuring the safety and quality of fruit and vegetables along supply chains, applying innovation, reducing loss and waste, and reducing the energy intensity and ecological footprint of supply chains.