

**Forum:** Environmental Committee

**Issue #EV-02:** Transforming food systems to foster environmental and socio-economic sustainability

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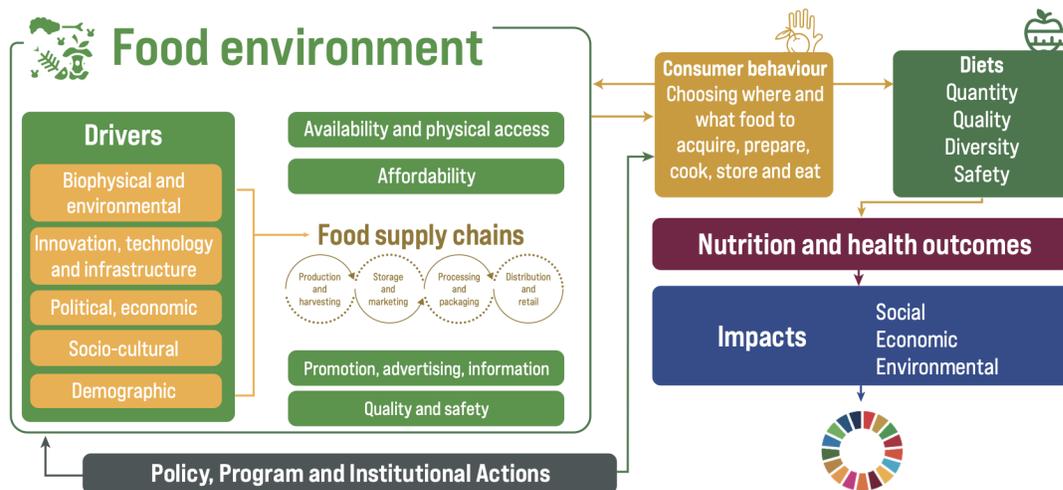
## Introduction

According to the UN Hunger Report, estimates demonstrate that hunger has been rising once more after a decade of decline. It currently affects 9.9% of the world, equivalent to 690 million people. The number of undernourished people grew massively due to worldwide crises such as climate change and the COVID-19 pandemic. (World Hunger, 2021)

On the other hand, obesity has become a worrying issue arising in most regions as a cause of an unstable food system. Escalation in both hunger and obesity is directly correlated with our food system. Other factors mentioned by the UN regional policy brief of “Transforming food systems” affecting this same issue are “poverty, political instability and economic crisis, along with limited societal awareness regarding healthy diets.” (insert in-text citation) As mentioned before, the current pandemic is also an issue, highlighting the systems fragilities. It can be clearly seen on the access to natural resources of nourishing food with a reasonable price. The complex nature of solving problems related to the food system comes to light when delegates understand the intertwining aspect behind it. It combines socio-cultural, political, economic, environmental, biophysical all together to supply results for the world population.

The diagrams below offers a more graphic understanding of the key elements of the food chain and their relationship within each other.

**Figure 1.** The food system

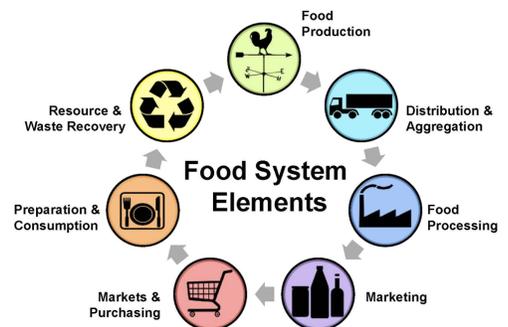


(DESA,2020)

## Definition of Key Terms

### Food system

A food system is a combination of systems and processes that control and provide nutrition, health, and food for all. It starts from the harvest of crops, livestock and others, to shipment, retailing and distribution which later can be disposed off correctly.



The image to the right clearly shows the food chain process (Wilkins. J, 2013)

### Biophysical characteristics

The word biophysical merges together two sciences: physics and biology. When using this term, we are talking about characteristics that combine simultaneously both sciences, for example: vegetation, hydrography, relief, and climate.

### Sustainable Consumption

It involves choosing products that use fewer natural resources in their production, that guarantee decent employment to those who produced them, and that will be easily reused or recycled. For example: Recycling household waste, saving electricity, opting for organic fruits and vegetables and upcycling with worn out and used objects are other ways to practice sustainable consumption.

**Food Security:** It's the condition of having well funded entry to an adequate quantity within a feasible price range of food. Meaning, food security can be only achieved when individuals have physical, social and economic continuous entry of healthy and nutritious food that satisfy their dietary needs and preferences. For example: Selective school lunch programs that offer food for children in need without any type of return or meal centers that provide that same service.

### **Transparency (food systems)**

Transparency guarantees that customers have access to precise information about a product's creation. Labeling on products disclose this type of information.

### **Traceability (food systems)**

Is the ability to trace all components of a food manufacturing and sales chain back to their source, whether processed or unprocessed (e.g., livestock, vegies)

## **Issue Overview**

### **Global Warming**

According to the IPCC Special Report on Climate Change and Land, the current global food system faces major food security risks as a result of climate change, such as changing local weather conditions, socioeconomic effects of climate change, vulnerability of certain types of agriculture and alimentary changes due to availability.

The food system is one of the most significant sources of greenhouse gas emissions, accounting for 21 to 37 percent of world emissions (Simon Maxwell and Rachel Slater, 2003). In 2020, an evidence review for the European Union's Scientific Advice Mechanism deduced that, without a substantial shift, emissions might rise by 30–40% by 2050 due to rapid population growth and shifting consumer habits, and that "the combined environmental cost of food

production is estimated to be around \$12 trillion per year, increasing to \$16 trillion by 2050." (SAPEA, 2020)

Research released in 2020 found that lowering emissions from the food supply chain is critical to meeting the Paris Agreement's climate targets (Raynolds.L, 2000). According to the I.P.C.C. and E.U. assessments, adapting the food system to minimize greenhouse gas emissions and food security problems while transitioning to a sustainable diet is doable.

### **Public Clarity**

Transparency in food systems refers to the complete release of information concerning regulations, methods, and methods at all stages of the food chain production and distribution. Disturbs about transparency and traceability have been intensified by food poisoning such as Escherichia Coli, but aren't directly correlated to food safety. As explained before "safety" is considered the availability of food but not its nutrition facts which is a type of information a label discloses that succeeds public clarity.

### **Historical Background**

Food systems started with the rise of civilization once agriculture and animal domestication started to build permanent settlements. This contributed to the development of ancient civilizations, notably those in the Middle East, by allowing for the growth of populated regions. East Asia, North America, South America, and Sub-Saharan Africa all developed trading systems based on the interchange of foodstuffs, with common exchange commodities like salt, spices, fish, wheat, and so on. Journeys, exploration, and colonization of the Americas by Europeans led to the introduction and redistribution of new foods to the globe at large, and food systems began to intermingle on a global scale. Following WWII, the introduction of industrialized agriculture and a stable global trade mechanisms shaped the paradigms of food production, display, distribution, and disposal that define today's conventional food systems. (Welch. R, 1998)

## Latest Events

### **29 NOV 2021 - Independent Dialogues Public Forum<sup>1</sup>**

The virtual gathering gave the opportunity for Convenors and main actors in the Food Systems Summit Dialogues Programme to reflect on past actions and celebrate achievements made by the Summit.

### **06 DEC 2021 - Transforming food systems for better nutrition, health, and prosperity for all: A virtual event in support of the Tokyo Nutrition for Growth Summit<sup>2</sup>**

The Tokyo Nutrition for Growth Summit 2021 the UNFSS Secretariat hosted this event to highlight the connection between nutrition and food systems, and to emphasize the need to conclude the the UN Decade of Action Nutrition.

### **07 DEC 2021 - Tokyo nutrition for Growth Summit<sup>3</sup>**

This was an important event to redirect the world into accomplishing the Sustainable Development Goals (SDG) goals, with the intent on ending malnutrition by 2030 and nourishing the relationship between diet, food system and health.

## Major Parties Involved

### **European Union**

Policies regarding sustainable food systems have been published by the European Union's (EU) Scientific Advice Mechanism. Improvements to the food systems were also made at the nucleus of the European Green Deal, with the overall purpose of making the EU climate neutral. The "Farm to Fork strategy for a sustainable food system" provided a EU biodiversity strategy for 2030 driven by a complete nature restoration plan<sup>4</sup>.

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<sup>1</sup> <https://www.un.org/food-systems-summit/events/independent-dialogues-public-forums>

<sup>2</sup> [https://nutritionforgrowth.org/wp-content/uploads/2021/09/N4G\\_UN\\_FoodSysSummit\\_9.23.pdf](https://nutritionforgrowth.org/wp-content/uploads/2021/09/N4G_UN_FoodSysSummit_9.23.pdf)

<sup>3</sup> <https://nutritionforgrowth.org/events/>

<sup>4</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1590574123338&uri=CELEX:52020DC0380>

## **China**

China is one of the most powerful actors in the global food market. It contributes about 20% of the world's food production. China has one of the biggest agricultural economies in the world, producing 18% of the world's cereal, 29% of meat and 50% of its vegetables. (A. Lapehn, 2020)

## **India**

India's transition of its food system from a severely shortage one in the mid 1960s to one that is self-sufficient and moderately surplus currently is a success story with implications for many comparatively tiny economies in Africa and south and southeast Asia. India has emerged as the greatest producer of milk, spices, cotton, and pulses; second largest producer of wheat, rice, fruits and vegetables; third largest producer of eggs; and fifth largest producer of chicken meat. It is also the world's greatest exporter of rice, spices, and beef. All of this was made feasible by the introduction of new technology, creative institutional engineering, and the appropriate incentives.

## **The United States of America**

The American food system leads the world when it comes to efficiency, resilience, and innovation. It supplies a plentiful supply of safe and inexpensive food to people all across the world, not only Americans. Plans have been encouraged to construct a national food policy, a nationally centralized plan for the food system, from agricultural production to what people buy and eat, to accomplish their preferred food system.

## **Brazil**

Brazil has one of the least carbon-intensive energy grids among industrialised nations, with renewable energy accounting for 48.4% of national energy supply. Biomass from sugarcane accounts for 19,1 percent of the country's renewable energy production (M.D.C.O. Pavan,2021). Biodiesel, wind, solar, and other renewable energy sources are growing in popularity, accounting for 7.7% of the total. Sugar cane, soy, maize, lipids, and biomass all contribute to the creation of energy and biofuels in Brazil's food systems (R. Bhandari, 2021).

## **Timeline of Events**

<b>Date</b>	<b>Description of Event</b>
1960's	Green Revolution: Biotechnology and Chemical Fertilizers were introduced to the agricultural area, enabling the increase of food production
January,1992	British Retail Consortium (BRC) formed
March 25th,1994	International HACCP Alliance formed
1994	Safe and Quality Foods (SQF) formed
May,2000	Global Food Safety Initiative (GFSI) formed
2003	International Food Standard (IFS) formed
September,2005	ISO 22000 Food safety management formed
May,2008	G8 launch new Alliance of Food and Security and Nutrition
2008	G8 launch Land Transparency Initiative
November 19th,2014	Second International Conference of Nutrition, Member States pledge to eliminate malnutrition with a voluntary Framework of Action
2015	Member States agree to a 2030 agenda for SDGs, putting as a priority SDG 2 "End Hunger, achieve food security and improved nutrition and promote sustainable agriculture"

## **Relevant UN treaties and Events**

UN Decade of Action Nutrition: This action is a dedication by the United Nations Member States to undertake 10 years of persistent and reasonable policies, schemes and funding growth with the sole purpose to exterminate malnutrition completely.

The Second International Conference on Nutrition by the World Health Organization and the Food and Agriculture of the United Nations proposed a framework of action<sup>5</sup>.

Secretary-General's Chair Summary and statement of action on the UN Food Systems Summit<sup>6</sup>

## Past Action

### IFPRI

Conducts research and offers policy support on a range of food system issues from farm-level productivity to development of inclusive food value chains to nutrition education—providing evidence for the design of food systems that provide people equitable access to nutritious, sustainable diets and contribute more broadly to development and well-being. They are closely aligned with the SDG goals.

### UN Food System Summit

This organization established five action tracks to achieve their main goal. Below each action track there is detailed information on how the FSS has been solving these objectives.

“Action Track 1: Ensure access to safe and nutritious food for all”: Synthesis Report: Game-Changing and Systemic Solutions - Wave 1

“Actions track 2: Shift to sustainable consumption patterns”: Synthesis Report: Game-Changing and Systemic Solutions - Wave 1

“Actions track 3: Boost Nature-positive production”: Synthesis Report: Game-Changing and Systemic Solutions - Wave 1

“Action track 4: Advance equitable life holds”: Synthesis Report: Game-Changing and Systemic Solutions - Wave 1

“Action track 5: Build Resilience to vulnerabilities, shocks and stress”: Synthesis Report: Game-Changing and Systemic Solutions - Wave 1 (UN,2000)

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<sup>5</sup> <https://www.fao.org/3/mm215e/mm215e.pdf>

<sup>6</sup> <https://www.un.org/en/food-systems-summit/news/making-food-systems-work-people-planet-and-prosperity>

## Possible Solutions

Implementing juvenile economic empowerment projects in neglected regions, especially rural locations should be a priority. This could be possible by assisting agricultural organizations on a technical and economic level to help them grow their markets, embrace new technology, and promote rural agriculture. Providing innovative public financing methods could help boost agricultural and rural development investments and provide access to financial services. Improving small farmers' ability to employ relevant and cheap green technology on the farm. The implementation of creative laws and policies supporting small-scale farmers and their communities, as well as securing land and water rights and access should be considered. Delegates should focus on tenures and rights to promote fairness and disparity among producers and food system participants, as well as to improve the livelihoods of disadvantaged and vulnerable people.

Raising nutritional knowledge among children, pregnant and nursing mothers, and the elderly, as well as correcting misleading and inaccurate nutritional information. Encouraging the consumption of healthy and nutritious foods is essential because it limits access to bad food, and discourage unhealthy consumption behaviors. Improving food handling, storage, processing, and preservation would improve supply chain efficiency. Raise awareness and encourage activities on product reuse and recycling, particularly amongst children.

Farm-focused technology that helps blend indigenous and modern knowledge for more efficient and responsive results is a creative idea to include and protect isolated tribes. Data collection should not be disregarded. Strengthening regulations and policies targeted at decreasing food losses and waste, as well as promoting market and consumer-level programs and activities that decrease food waste.

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