

### Creating Sustainable Food Systems

#### Topic Background for the General Assembly on Sustainable Food Systems

*“Delaying action on food systems is no longer an option. It is an **imperative** to transform our food systems to improve the health of people, the health of the planet, and the health of our economies.”*

*- Geeta Sethi, Advisor and Global Lead for Food Systems at the World Bank*

#### What are Sustainable Food Systems?

Food is one of the most basic human needs. A lack of adequate access to nutritious foods prevents people from living healthy, productive lives, and threatens the prosperity of entire countries. In fact, the right to adequate food and the right to be free from **hunger**, is recognized as a **human right** in the **Universal Declaration of Human Rights (UDHR)**, adopted by the **United Nations** in 1948. When someone is hungry or **malnourished**, they may not grow and develop properly, both physically and mentally. A malnourished person also faces a greater risk of developing long-term health issues and contracting diseases, may have trouble attending school or performing well in school, and are less likely to lead healthy, productive lives. In 2020, between 720 and 811 million people worldwide faced hunger and almost 1 in 3 people (about 2.37 billion) did not have adequate access to nutritious food. Considering these facts, it is clear that the world is facing a major crisis in regards to providing everyone with adequate access to healthy food.

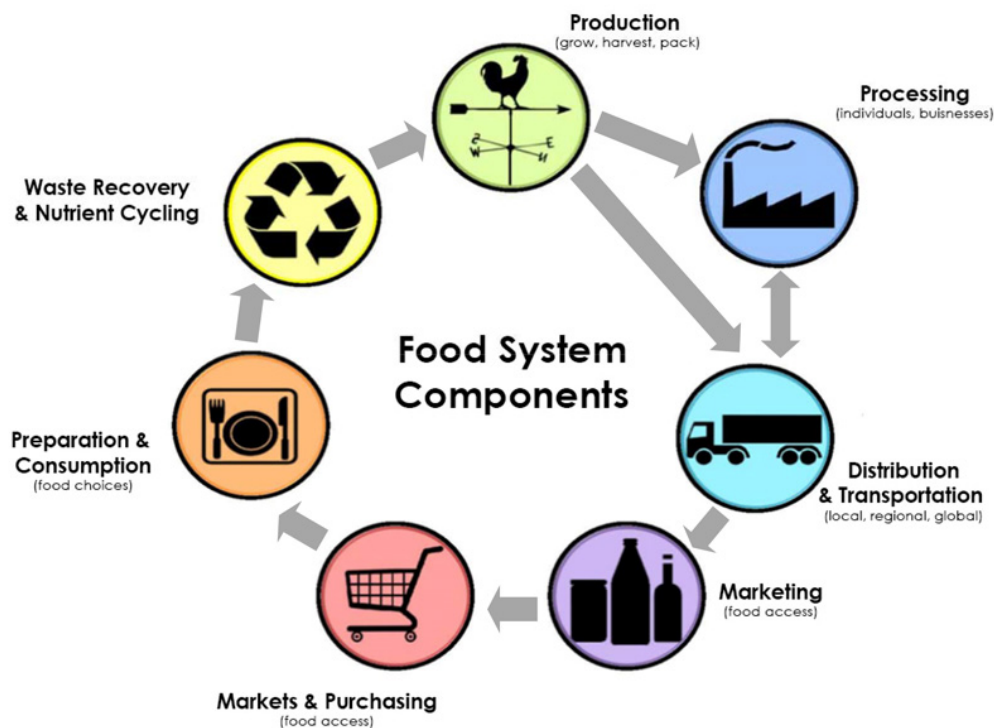


A United Nations nutritional development and elementary education program for children in rural India. (Photo: Amitava Chandra, UN)

In order to solve hunger, we must examine the world's **food systems**. All of the food that is produced and **consumed**, no matter where someone lives in the world, is part of a food system. Food systems are the interconnected systems of people and businesses that are involved in producing, processing, distributing, consuming, and disposing of food. An example of a global food system can be found in the bowl of rice you might find on your kitchen table: (1) a farmer in India, plants, grows, and harvests the rice; (2) the rice is stored at the farm or taken to a facility where it can be properly stored so it does not

spoil before it can be eaten; (3) the rice is packaged and shipped to the United States; (4) a grocery store buys the rice because the store management knows consumers will buy that particular type or brand of rice; (5) consumers buy the rice, prepare it at home, and eat it; and (6) any leftover rice that is not stored or eaten, along with its packaging, is thrown away and brought to a landfill or other waste management systems.

This example focuses on a global food system, or **supply chain**, but these systems also exist on local and national levels. Often, due to weather, climate or natural disaster, some countries around the world cannot produce enough food for their own people. This forces many countries to rely on the global food system to feed their citizens. Unfortunately, the global food system has many unsustainable practices, which wastes almost one third of all food that gets produced, **exacerbates** economic and social **inequalities**, contributes to **climate change**, and struggles to produce enough healthy food for everyone. The solution to these issues lies in the creation and promotion of **sustainable food systems**. A food system is sustainable when it delivers food security and nutrition for all people without compromising the economic, social, and environmental factors that will generate **food security** and adequate nutrition for future generations. Although sustainable food systems directly relate to all 17 of the United Nations' **Sustainable Development Goals (SDGs)**, it most closely ties into **SDG #2, "Zero hunger."**



An example of the food system cycle. (Image: University of Idaho)

Promoting sustainability in food systems is good for both people and the environment. Working to make food systems more sustainable can be useful in not only securing continued access to healthy food for more people around the world, but also in creating new jobs, promoting economic security, decreasing

conflicts, decreasing healthcare needs and costs, **mitigating** the effects of climate change, promoting gender equality, increasing educational attainment, and improving the overall quality of people's lives. Due to the complex nature of the world's interconnected food systems, solutions to making food systems more sustainable must be enacted by individuals, businesses, local and national governments, and the global community in order to create truly impactful and lasting change and promote a more sustainable future for the planet overall.

### Why are Sustainable Food Systems Important?

As stated by the current United Nations Secretary-General António Guterres, the production and consumption of food, "touches us all, and underpins our cultures, our economies, and our relationship with the natural world." Food systems are critically important because food affects every aspect of people's livelihoods and is tied directly to the well-being of the earth. The issues created by the world's inefficient and unsustainable food systems ultimately affect all people, whether they live in **developed countries** or **developing countries** and regardless of their **socioeconomic status**. However, certain people, especially those experiencing poverty, often cannot afford healthy food or do not have continued access to healthy foods, thereby perpetuating inequalities that exist within certain populations.



A woman in Mali takes care of a community garden which is part of the World Food Programme's capacity building project. (Photo: Simon Pierre Diouf/WFP)

Food systems are also important because they are deeply connected to the issue of climate change. Unsustainable food systems contribute to climate change while also suffering from the impacts of climate change. For example, the current global **demand** for certain crops such as palm oil, rice, corn, and wheat mean that more and more land is being cleared for farming by cutting down forests and destroying critical ecosystems. Such unsustainable **agricultural**

practices and the increased globalization of food processes mean that global food systems are currently contributing up to one-third of total global **greenhouse gas emissions** and are responsible for up to 80% of global **biodiversity** loss. It is also estimated that global food systems use up about 70% of the world's fresh water.

On the other hand, food systems also suffer from the effects of climate change like droughts, floods, shifting weather patterns, and more extreme weather and storms. If current unsustainable agricultural practices and human activities that fuel climate change continue, it is expected that future global **crop yields** will be cut by 25%. Furthermore, the United Nations predicts that the world will need to produce at least 50% more food to feed the 9 billion people that are expected to live on the planet by 2050.

Therefore, food systems not only need to be improved to produce and distribute enough food to the current world population, but also in order to fight the effects of climate change and ensure that there will be enough healthy food for future generations to thrive.

### International Efforts on Sustainable Food Systems

The United Nations, through a system of programs and specialized agencies, continues to work towards eradicating hunger and malnutrition and creating sustainable food systems as part of its worldwide sustainable development efforts. Since the topic of sustainable food systems is so complex and so interconnected with each SDG, different UN programs and agencies tackle different aspects of the sustainable food systems issue.

The UN's **World Food Programme (WFP)** is the world's largest **humanitarian organization**. The WFP works in over 80 countries to bring food to people who suffer from hunger and malnutrition and who lack access to adequate nutritious food after being displaced by conflict, natural disasters, or shifting weather patterns because of climate change. Awarded the Nobel Peace Prize in 2020, the WFP works to support small farmers, enhance nutrition in women and children, create school food programs, bring food to people in conflict situations, and help people find solutions to improve local food access and food systems. One example of the WFP's work is the Home Grown School Meals program. This program creates a new food supply chain in communities by connecting schools with local small farmers that help to provide the nutritious food that children need to thrive. The program also encourages farmers to produce more **diverse crops** and helps the community become involved in a more localized food system.

The **Food and Agriculture Organization of the United Nations (FAO)** also works to promote sustainable food systems and eradicate hunger and malnutrition. The FAO is a specialized agency of the United Nations that leads international efforts to defeat hunger and achieve food security for all. Founded in 1945 during the first session of the newly-created United Nations, the FAO now has over 194 member states and works in over 130 countries to make sure that people have regular access to enough high-quality food to lead active, healthy lives. The FAO also works to build an international **network** of people who come from a wide variety of expertises and backgrounds to come up with **innovative** solutions to re-creating our current food systems. Another example of the FAO's work is the adoption of the Urban Food Agenda in 2019, which provides a framework for countries and communities to ensure food systems are more sustainable, with a focus on those living in or around **urban** areas.





The United Nations also promotes special initiatives that facilitate cooperation among its **member states** and encourages shared solutions to promote sustainable food systems. One example is the **Zero Hunger Challenge**, launched by former Secretary-General Ban Ki-moon in 2012. The Zero Hunger Challenge provides a framework for national governments to end global hunger and make food systems more sustainable through five key concepts: (1) making all food systems more sustainable from production to consumption, (2) ending **rural** poverty, (3) adapting all food systems to eliminate wasted food, (4) ensuring access to adequate food and healthy diets for all people all year round, and (5) ending malnutrition in all its forms.

### Challenges and Solutions in Creating Sustainable Food Systems

Even though food is a basic human necessity, many countries cannot produce the amount of food necessary, or the diversity of foods necessary to feed their populations. Therefore, most countries rely on **globalization** and the **importing** and **exporting** of food to feed their citizens. For example, rather than producing food that will primarily be consumed by their local communities, like fruits and vegetables, farmers around the world are increasingly forced to produce a single crop or crops that are in high demand, like almonds or sugar cane.

Such **cash crops** often lead to the loss of biodiversity, and eventually, the excess use of **fertilizers** that pollute the soil, the inefficient use of freshwater, and the depletion of nutrients from the soil. Over time, this forces farmers to clear more land in search of better soil. Governments often offer **subsidies** to farmers to produce these crops that are profitable on a national and/or international scale, even if they are not an efficient use of land and water and are less environmentally friendly to produce than other foods. The globalization of food systems also means that food has to be transported longer distances, usually through modes of transportation that use **non-renewable energy sources** that contribute to greenhouse gas emissions and climate change.



Mass soybean harvesting in Brazil. (Photo: Shutterstock/Alf Ribeiro)

An example of positive change can be taken from the country of Uzbekistan, which has been working with the **World Bank** to transition to a more diversified farming system that is also more resilient to climate shocks. Before, the country was primarily farming cotton and wheat, which are profitable for global trade but used 72% of the country's total **arable land** and 90% of its **irrigation water**, while only generating 23% of its agricultural **output**. Now, the country is working to promote a wider variety of crops that would be a more efficient use of land and water, and can provide increased nutrition for consumers while also creating more jobs for its citizens.

Both governments and individuals are responsible for making food systems more sustainable and more efficient. Consumer demand plays a large part in determining what food is produced. For example, the global demand for beef has drastically increased in the last few decades, creating a need for more livestock, and forcing farmers to produce more corn to feed those animals. Instead of using land to grow diverse, nutritious crops for people, farmers are incentivised to clear out large areas of land to plant corn and raise cattle. Livestock also produces a significant amount of methane (a greenhouse gas) that contributes to climate change. Educating consumers about sustainable food practices, such as buying food from local farmers and producers, and healthier eating habits, such as consuming less meat and eating more fruits and vegetables that are in season, is critical in creating more sustainable food systems. A challenge that arises in this solution is promoting these sustainable practices and habits while remaining culturally sensitive to different populations' food traditions and habits.

The COVID-19 pandemic has caused issues for the globalized world and has exposed weaknesses in food systems at all levels. Foods that many have grown to expect to be available year-round, such as bananas, a tropical fruit grown thousands of miles away from the United States, may have reduced stock or not be available at all due to disruptions at different stages of the globalized food system. In some places of the world, entire grocery stores or markets have closed because of the pandemic. A lot of agriculture relies on human labor, and much of the agricultural workforce needed to harvest, process, package, and transport food has been disrupted as people have been forced to stay home or have gotten sick due to COVID-19.



A seaweed farmer in the Philippines. Seaweed farming provides sustainable, healthy food for local communities and helps mitigate climate change. (Photo: Anthony Into, UN)

Despite these challenges, the pandemic has also provided the opportunity to reexamine our food systems and rebuild them as more **resilient** to future global shocks such as other pandemics, major **economic downturns**, or extreme weather caused by climate change. For example, food is often wasted in developing countries during the harvest or storage part of the food systems process because they lack the proper **infrastructure**, transportation, and storage technology. In other places, farmers have used the same techniques for hundreds of years, but are

now suffering from increased droughts or floods that threaten their crops or livestock. In response, countries can invest in modern technologies and farming techniques that are more adaptable and resilient, such as a recent collaboration between Colombia, Germany, France, Philippines, and the United States in developing a strain of rice that is resistant to disease. These are just two small examples of how the world can work to find ways to better produce, harvest, transport, consume, and dispose of the food

that we need to survive, while also including those people who are often excluded from benefiting from the food systems process, like small farmers or those living in poverty who do not have consistently reliable sources of food.

## Conclusion

Nearly all food systems, even the small example of getting rice onto your kitchen table, are extremely complex. Therefore, considering all of the world's food systems and finding ways to make them all more sustainable is an immense challenge. Solutions to addressing the inequalities and inefficiencies present in today's food systems will require action at all levels, individual, local, national, and global. There is no "one size fits all" solution for creating these sustainable food systems, although any lasting and impactful solution will be sure to consider how to get more healthy food to a greater number of people while ensuring each step of the food systems process is more environmentally friendly and inclusive of vulnerable populations.

Creating sustainable food systems is related to all of the UN's SDGs and therefore sustainable development as a whole, giving any work on this issue the potential to greatly reduce global poverty and inequalities. Those taking action must consider how food systems affect the environment, in addition to the political and economic factors that shape what food is produced, who that food is made available to, what price the food is being sold at, and where it is disposed of. Solutions must respond to the immediate needs of the world, while also taking into consideration the long-term restructuring of food systems that will sustain future global shocks and factors such as climate change, population growth, and urbanization.

Students participating in the 2021-2022 Jr. Model United Nations - Student Diplomat program will be tasked with crafting solutions to some of the challenges surrounding sustainable food systems discussed in this briefing paper. Student delegates will come together to diplomatically debate and discuss these issues and propose actions that UN member countries can take to ultimately find global solutions and promote sustainable food systems worldwide.

## Quick Facts

*Find at least three "quick facts" from this briefing paper that provide useful information on the topic of Sustainable Food Systems. Hint: Look for information that includes facts and figures (ex. "In 2020, between 720 and 811 million people worldwide faced hunger").*

- 1.
- 2.
- 3.

## Questions to Consider

*Utilizing the information provided in this briefing paper and any research you have already conducted on your assigned country, answer the questions below to the best of your ability.*

1. Why is it important that all people have adequate access to nutritious food all year round? What role does this play in their lives? How does hunger and malnutrition affect an entire community? An entire country?
2. What is a food system? What makes a food system sustainable?

3. What are some of the biggest issues in regards to the world's food systems? What are some of your assigned country's biggest issues in relation to food systems? Why is it important to promote the creation of sustainable food systems on a local, national, and global level?
4. How has the COVID-19 pandemic affected global food systems? What about the food systems within your assigned country?
4. Based on your answers to the questions above and after learning more about food production and consumption in your assigned country, what are some steps that your country could take in creating sustainable food systems both nationally and internationally?
5. After reading this briefing paper, what would you like to learn more about in regards to sustainable food systems? This briefing paper is just the start of your research! Here are some tips for how to continue your research:
  - a. Learn more about SDG 2 and the SDG 2 targets, which can help outline some of the more detailed aspects of the topic of sustainable food systems.
  - b. Explore the Additional Recommended Resources listed on this committee's resource page on the Council's website, linked [here](#).

## **Glossary**

<b>Term</b>	<b>Description</b>
<b>Agriculture</b>	The science and practice of cultivating land, producing crops, and raising livestock.
<b>Arable land</b>	Land that is suitable for farming and growing crops.
<b>Biodiversity</b>	The variety of life (plants, animals, and other living organisms) that exist within a certain ecosystem or habitat.
<b>Cash crops</b>	A crop that is grown to sell for profit and commercial use, rather than for use by the grower (farmer).
<b>Climate change</b>	A change in global or regional climate patterns, in particular a change apparent from the mid to late 20th century onwards and attributed largely to the increased levels of atmospheric carbon dioxide produced by the human use of fossil fuels.
<b>Consumption</b>	The use of goods or services.
<b>Crop yields</b>	The amount of the weight of the food that a farm produces per each unit of land.
<b>Demand</b>	The amount of a good or service that consumers (people) are willing and able to purchase.
<b>Developed countries</b>	Often referred to as an industrialized country, a developed country is one with a complex economy and advanced technological infrastructure.
<b>Developing countries</b>	Countries that do not have complex economic systems, often relying on agricultural, mining, or other natural resources for economic activity. Often these countries are poorer and seek to grow their country by advancing their economic systems and infrastructure.
<b>Diversified crops</b>	Growing more than one crop in an area and/or switching the crops grown in an area over time.
<b>Economic downturn</b>	A general slowdown in economic activity over a period of time. During this period a country's economy may stop growing, people may face higher levels of unemployment, and people spend less on goods and services.
<b>Exacerbate</b>	To make something worse; to increase the intensity or violence of something.
<b>Exports</b>	The process of one country sending goods or services to another country for sale.



<b>Fertilizers</b>	A natural or chemical substance use to improve the growth of crops and fertility of the soil.
<b>Food and Agriculture Organization of the United Nations (FAO)</b>	A specialized, intergovernmental agency of the United Nations that leads international efforts to defeat hunger. Their goal is to achieve food security for all and make sure that people receive regular access to enough high-quality food to lead active, healthy lives.
<b>Food security</b>	The state of having reliable access to a sufficient quantity of affordable, nutritious food.
<b>Food system</b>	The interconnected systems of people and businesses that are involved in producing, processing, distributing, consuming, and disposing of food.
<b>Globalization</b>	The process of the world becoming more interconnected through business, technology, politics, economics, culture, and human migration. The worldwide process in which individuals have more and more interactions with people in other countries through trade, investment, and culture.
<b>Greenhouse gas emissions</b>	Greenhouse gasses trap heat in the Earth's atmosphere, which is what causes global warming. Greenhouse gas emissions, mainly from carbon dioxide, are a result of burning fossil fuels (coal, oil, and natural gas).
<b>Human rights</b>	The rights and freedoms that all people have simply by existing; Examples include the right to life, food, education, work, health, and liberty.
<b>Humanitarian organization</b>	Groups that provide aid and assistance to people that need help due to conflicts, displacement, natural disasters, or other environmental factors.
<b>Hunger</b>	An uncomfortable or painful physical sensation caused by an insufficient consumption of food. When a person does not consume a sufficient amount of calories and/or nutritious food on a regular basis to lead a normal, active, and healthy life.
<b>Imperative</b>	An unavoidable obligation or requirement.
<b>Imports</b>	The process of one country bringing in goods or services from another country for sale.
<b>Inequality</b>	A situation in which certain individuals or groups of people have more opportunities, money, or rights than others.
<b>Infrastructure</b>	The basic physical systems of an entity (e.g. nation, region, or city) that allow it to function, such as transportation systems like roads and bridges, communication networks, and sewage, water, and electric systems.
<b>Innovation</b>	Putting ideas into practice that either bring about new goods or services or improve existing goods or services.
<b>Irrigation water</b>	Water that is applied to the land in a controlled way to assist in the production of crops and may be transported through pipes, canals, sprinklers, or other methods.
<b>Malnutrition</b>	Deficiencies or excesses in nutrient intake, imbalance of essential nutrients or impaired nutrient utilization. Can be undernutrition or overweight and obesity, as well as diet-related noncommunicable diseases.
<b>Member states</b>	The term used for a country that is a member of an international organization, such as the United Nations.
<b>Mitigate</b>	To make something less severe.
<b>Network</b>	A group or system of interconnected people or things.
<b>Non-renewable energy sources</b>	A natural resource that cannot be replaced and will run out or not be replenished for a long period of time. Examples include oil, natural gas, and coal.
<b>Output</b>	The amount of something produced by a person, machine, or industry.

<b>Resilient</b>	Refers to cities which are able to prepare for and recover from future economic, environmental, and/or social crises.
<b>Rural</b>	A geographical area that is located outside cities. Rural areas are made up of open country and settlements of less than 2,500 residents.
<b>Socioeconomic status</b>	The social standing or class of an individual or group, taking into consideration income levels, education, and occupation.
<b>Subsidies</b>	An amount of money provided by the government to individuals or businesses to help promote the sale or a certain good or service.
<b>Supply chain</b>	The sequence of processes involved in the production and distribution of an item/good. The supply chain for a pineapple would include the grower (farmer), the transportation (truck driver, boat, or plane), the seller (supermarket), and the consumer (you!).
<b>Sustainable food systems</b>	A food system that delivers food security and nutrition for all people without compromising the economic, social, and environmental factors that will generate food security and nutrition for future generations.
<b>Sustainable Development Goals (SDG)</b>	Also known as Global Goals, these build on the success of the Millennium Development Goals (MDGs) and aim to go further to end all forms of poverty. The new Goals are unique in that they call for action by all countries, poor, rich and middle-income to promote prosperity while protecting the planet.
<b>Sustainable Development Goal (SDG) #2</b>	The goal to end hunger, achieve food security and nutrition, and promote sustainable agriculture.
<b>United Nations (UN)</b>	An international organization, composed of over 190 sovereign countries, dedicated to enhancing global peace and security, and promoting health and well-being.
<b>Universal Declaration of Human Rights (UDHR)</b>	The first legal document, adopted by the UN General Assembly in 1948, to set out the fundamental human rights to be protected by all countries and people of the world.
<b>Urban</b>	A settlement with a high population density and infrastructure. Urban areas have a core of 1,000 people per square mile and may have neighboring territory (such as suburbs) of 500 people per square mile.
<b>World Bank</b>	A UN specialized agency that provides funding for developing countries and works to implement sustainable solutions that reduce poverty and build shared prosperity.
<b>World Food Programme (WFP)</b>	The leading international humanitarian organization fighting hunger worldwide, delivering emergency food assistance, and working with communities to improve nutrition.
<b>Zero Hunger Challenge</b>	An initiative launched by the UN Secretary-General Ban Ki-moon in 2012 that works to end hunger, eliminate all forms of malnutrition, and build inclusive and sustainable food systems by bringing together governments, civil society, private sector, and other bodies in the UN system.

## Works Cited

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