



## **Fuel for the Future: Eating with Sustainability in Mind**

First International Affiliate of the Academy of Nutrition and Dietetics (IAAND) - Pontificia Universidad Javeriana (PUJ)  
COLLOQUIUM

March 30, 2023

**Christine McCullum-Gómez, PhD, RDN**

Food and Nutrition Consultant, Speaker, and Writer

[www.sustainablerdn.com](http://www.sustainablerdn.com), [www.sustainable-rdn.com](http://www.sustainable-rdn.com)

Email: [chris\\_mccullum@hotmail.com](mailto:chris_mccullum@hotmail.com)

Instagram: [@cmccullumgomez](https://www.instagram.com/cmccullumgomez)

# Content

- Introduction to sustainable food systems
- Why are current food systems unsustainable?
- Colombian food system
- Diets that are good for health and the planet
- Strategies to support the sustainability of the food system
  - Eat more plant-based meals and snacks made from native plants
  - Support urban agriculture/community gardens
  - Reduce food and food packaging waste

# Food system sustainability: Introduction



## *What is a Food System?*

“A food system is made up of all the components (environment, population, resources, processes, institutions and infrastructure) and activities involved in the production, processing, distribution, preparation and consumption of food. It also includes the impact of these activities on nutrition and health, socioeconomic growth, equity, and environmental sustainability.”

(PAHO, 2018)

# What is a sustainable food system?



- A sustainable food system is one that ensures food security and nutrition for all in such a way that economic, social and environmental conditions are not compromised for future generations.
- Actions must be taken to transform food systems and make them sustainable, fair and inclusive through standards that allow the population to access nutritious, safe, varied products at a fair price and produced in an environmentally responsible manner.
- This starts with protecting and promoting breastfeeding and appropriate complementary feeding, developing dietary guidelines, and regulating the food environment (e.g. front of package labeling, taxation, advertising).
- It is only possible with the collaboration and participation of the government and non-governmental organizations as well as the productive [private] sector.

## Why is food system sustainability important for nutrition and dietetics?

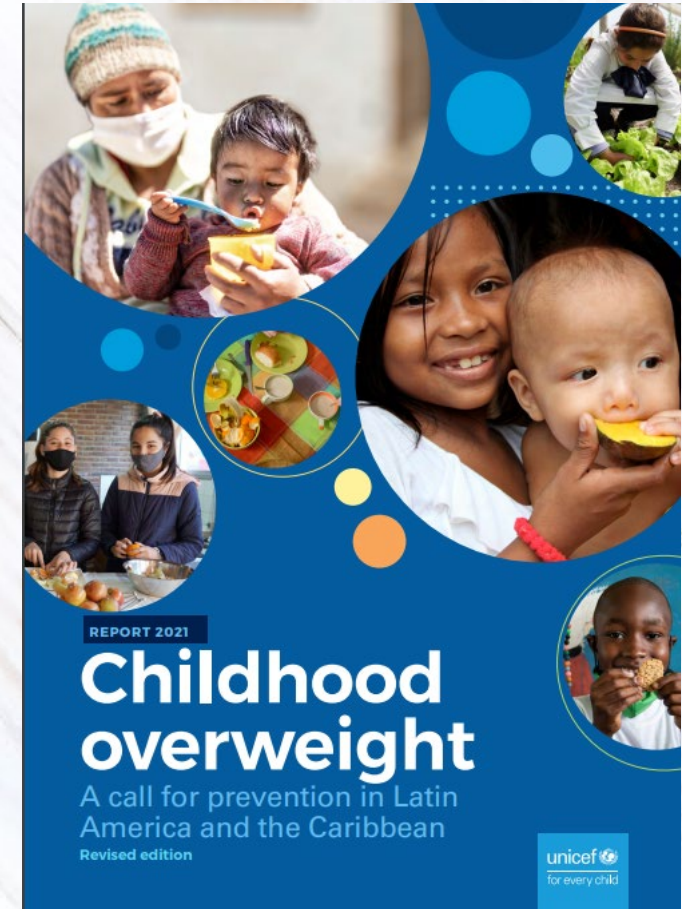
- An adequate diet is essential for the health, well-being and development of people. We all have the right to a safe and varied diet that provides the necessary nutrients for a healthy and active life and that is consistent with our cultural preferences.
- Just a few decades ago, efforts focused on combating acute and chronic malnutrition and micronutrient deficiencies. These problems still exist, especially in vulnerable populations, but today undernutrition and micronutrient-related malnutrition are accompanied by overweight and obesity. At the household level, there may be an undernourished child and an overweight mother, or a child who is undernourished and overweight and suffers from micronutrient malnutrition.

➤ To **combat malnutrition in all its forms**, we need to **transform food systems**.

(PAHO, 2018)

- The prolonged COVID-19 pandemic, the growing impact of the climate crisis and the war in Ukraine have contributed to the deterioration of global food security and nutrition.

(FAO & UNEP, 2022)



<https://www.unicef.org/lac/en/reports/childhood-overweight>

(UNICEF, 2022)

# SUSTAINABLE FOOD SYSTEMS FOR HEALTHY EATING

Healthy eating is a right and responsibility of everyone. It is necessary that actions be taken to transform Food Systems and make them sustainable, fair and inclusive through regulations that allow the population access to nutritious, safe, varied products at a fair price and produced in an environmentally responsible manner. This starts by protecting and promoting breastfeeding and adequate complementary feeding, developing food-based dietary guidelines, as well as regulating the school environment and food environment (front of package labeling, taxes, advertising). This will only be possible with collaboration and participation from the government and non-governmental organizations, including the productive sector.

## 1. Production

Promote **CROP DIVERSIFICATION** while maintaining soil health and adequate rotation.



## 2. Storage and Distribution

**GOOD** postharvest, storage, transport and distribution **PRACTICES.**



Food **FORTIFICATION** only when necessary.

## REGULATION

**TAXES ON FOODS HIGH IN SALT, SUGAR AND FAT**



**A SANITARY REGISTER**



**MARKETING**



**SUBSIDIES FOR HEALTHY FOODS**



**FRONT OF PACKAGE LABELING**

## 3. Processing and Retailing

**REGULATE THE CONTENT** of sodium, sugar, fats, additives and preservatives.



Availability of **FRESH PRODUCTS** in markets, farmers markets and stores.



## 4. Consumption

**COOK AND SHARE** more family meals, choosing appropriate portion sizes and avoiding excess salt, sugar and fats.



**TAKE ADVANTAGE OF ALL FOOD PARTS** to minimize food waste



**APPROPRIATE FOOD HYGIENE** practices using safe water.



# Content

- Introduction to sustainable food systems
- **Why are food systems unsustainable?**
- The Colombian food system
- Diets that are good for health and the planet
- Strategies to support the sustainability of the food system
  - Eat more plant-based meals and snacks made from native plants
  - Support urban agriculture/community gardens
  - Reduce food and food packaging waste

# Why are food systems unsustainable?

## 1. Climate change, biodiversity loss and deforestation

- The food system is one of the primary drivers of climate change globally, being responsible for more than a third of greenhouse gas emissions. It is also the main driver of biodiversity loss (UN, 2021; Crippa et al., 2021; Xu et al., 2021; Harwatt et al., 2022).
- Cattle production is the single largest direct cause of deforestation (Harwatt et al., 2022). In Colombia, “Extensive cattle ranching accounts for almost 60% of deforestation” (Silva Parra et al., 2023).
- The production of animal feed is one of the main indirect causes. 77% of soy production is used for animal feed (e.g. pigs, chickens) and is the third largest driver of deforestation (Harwatt et al., 2022).
- Deforestation driven by diets high in animal products, particularly beef, causes loss of biodiversity (Pathak & McKinney, 2021).



\*Silvopastoral systems – a type of agroforestry that integrates livestock, forage, and trees - can lower the carbon footprint of livestock per live weight. (Silva Parra et al., 2023)



# Why are food systems unsustainable?

## 2. Food insecurity

### Global:

Between 702 and 828 million people were affected by hunger in 2021. The number has grown by about 150 million since the outbreak of the COVID-19 pandemic: 103 million more people between 2019 and 2020 and 46 million more in 2021 (FAO, 2022).

### Colombia:

Between June and November 2022, an estimated 15.5 million Colombians experienced food insecurity. Of these, 2.1 million live in severe conditions of food insecurity and 13.4 million in moderate conditions.

Approximately half of the Colombian population has marginal food security, which means that their situation could deteriorate if there is no improvement in conjunctural factors (for example, inflation) in the short term.

Due to a combination of structural and conjunctural factors, food insecurity can present different dynamics in each of the country's departments. Some areas have multiple effects (natural disasters and climatic effects, violence and conflict, socioeconomic impact of the crisis in Ukraine).



<https://reliefweb.int/report/colombia/evaluacion-de-seguridad-alimentaria-para-poblacion-colombiana-resumen-ejecutivo-febrero-2023>

(World Food Programme, 2023)

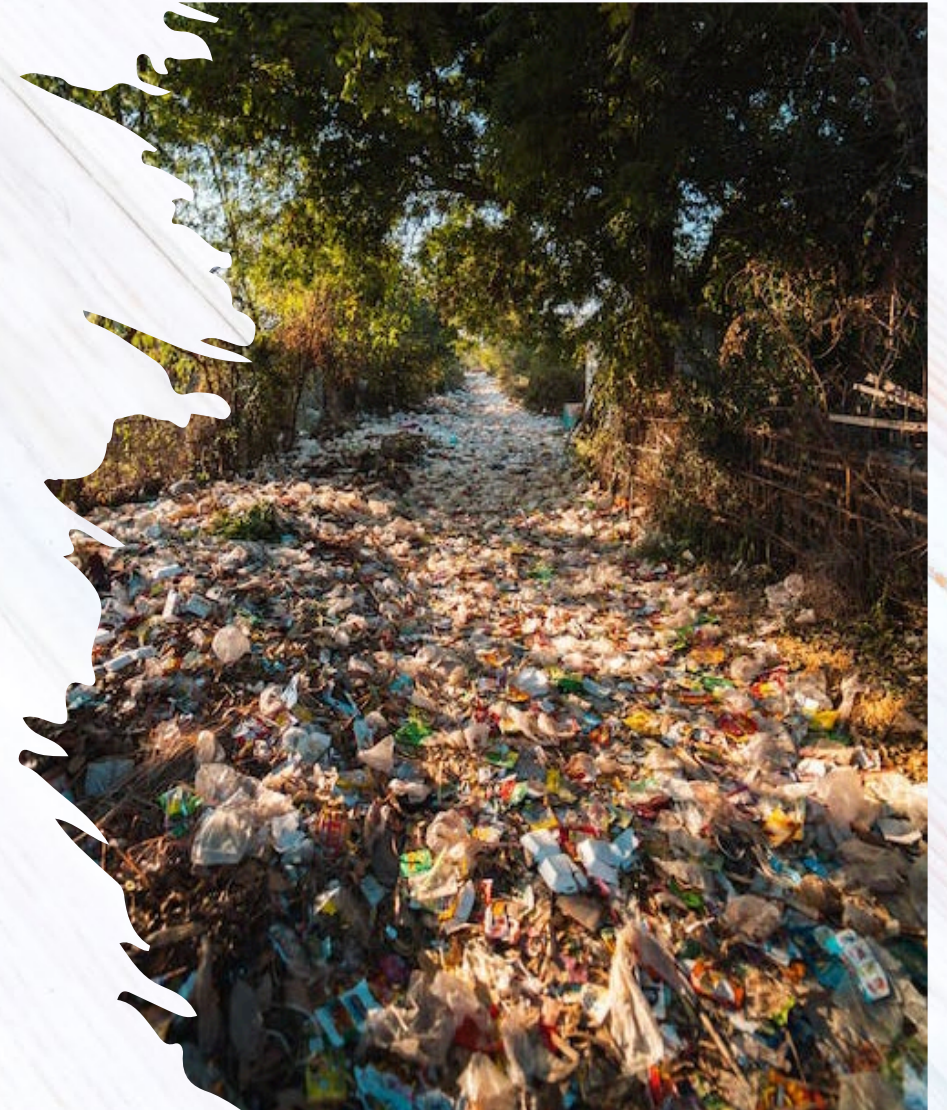
# Why are food systems unsustainable?

## 3. Food loss and waste

*More than a third of the food produced today is lost or wasted.*

- **Food loss** refers to the decrease in the mass of edible foods at the production, post-harvest, and processing stages of the food chain.
- **Food waste** refers to the discarding of edible food at the retail and consumer levels. This food waste represents a missed opportunity to improve food security and comes at a high environmental price.

(International Day of Awareness of Food Loss and Waste, 2022;  
FAO, 2019)



# Why are current food systems unsustainable?

## Wasting food is harmful to people and the planet

- The global food system emits about a third of total annual greenhouse gas emissions. Food loss and waste generates about half of these greenhouse gas emissions (Zhu et al., 2023).
- When food is lost or wasted, all the resources used to produce it, including water, land, energy, labor, and capital, are wasted. It also has a negative impact on food security and contributes to increasing the cost of food (International Day of Awareness of Food Loss and Waste, 2022).
- Addressing food loss and waste represents a win-win opportunity – for the climate, for food security and for the sustainability of our agri-food systems – and it cannot be put on the back burner at a time of rising global hunger and rising of food prices (FAO & UNEP, 2022).



**Naciones Unidas**

**Día Internacional de Cero Desechos  
30 de marzo**



<https://www.un.org/es/observances/zero-waste-day>

# Food Loss and Waste: Colombia



- In Colombia, the amount of food that is lost or wasted each year is enough to feed the population of Bogotá in the same period.
- Of every 3 tons of food produced, 1 ton ends up in the trash. The annual cost per ton of these losses and waste amounts to \$45.37 million Colombian pesos (UNEP, 2021).
- **34% of food in Colombia is lost and wasted (WWF, 2023).**

UNEP (United Nations Environment Programme (UNEP). October 2021. Available at: *USING GREEN AND DIGITAL TECHNOLOGIES TO REDUCE FOOD WASTE AT THE CONSUMER LEVEL*. Available at: <https://www.unep.org/resources/case-study/case-study-bogota-colombia-using-technologies-reduce-food-waste>

WWF, Colombia. 2023. <https://www.wwf-scp.org/lets-talk-about-food-waste-but-how/>

# Food Waste Reduction: Colombia



- Food waste has been recognized as a pressing problem by national and local authorities. In 2019, Colombia adopted Law 1990, which established a policy to prevent and reduce food loss and waste.
- The law promotes food donation as an important solution for food and nutrition insecurity, and also introduced measures to reduce food loss and waste at all levels of the supply chain. A measurement system is being supervised by the National Administrative Department of Statistics (DANE) (UNEP, 2021).

UNEP. *USING GREEN AND DIGITAL TECHNOLOGIES TO REDUCE FOOD WASTE AT THE CONSUMER LEVEL: CASE STUDY: BOGOTA, COLOMBIA*. October 2021.

<https://wedocs.unep.org/bitstream/handle/20.500.11822/37320/CtyCl.pdf>

# Food Waste Reduction: Colombia



- The targeted sectors are agriculture, industry, food service and commerce, as well as households. The National Circular Economy Strategy in Colombia also supports the goal of achieving sustainable waste management. DANE has been reporting progress through a set of indicators. Among the indicators, those related to organic waste can support food waste measurement throughout the country.
- At the local level, through Agreement 753 of 2019,5 the Bogota Council created guidelines to prevent food loss and waste. According to the agreement, the city will promote awareness-raising, training and civic responsibility; establish institutional collaboration mechanisms; and promote strategies allowing the reuse of potentially edible food for animal consumption, composting or energy production.

UNEP. *USING GREEN AND DIGITAL TECHNOLOGIES TO REDUCE FOOD WASTE AT THE CONSUMER LEVEL: CASE STUDY: BOGOTA, COLOMBIA*. October 2021.

<https://wedocs.unep.org/bitstream/handle/20.500.11822/37320/CtyCl.pdf><sub>14</sub>

# Content

- Introduction to sustainable food systems
- Why are food systems unsustainable?
- **Colombian food system**
- Diets that are good for health and the planet
- Strategies to support the sustainability of the food system
  - Eating more plant-based meals and snacks made from native plants
  - Support urban agriculture/community gardens
  - Reduce food and food packaging waste

# Colombian Food System



- Colombian agriculture is currently characterized by a mix of large-scale agribusiness and small-scale agriculture, but agribusiness is on the rise.
- Colombian agriculture has the potential to satisfy the internal demand for food. At the same time, the country exports bananas, coffee and flowers, and is the fourth largest producer of palm oil in the world.
- The per capita impacts of Colombian diets on biodiversity are among the top five in the world and per capita GHG emissions are above what is required to meet the 1.5°C targets [of the Paris Agreement on Climate Change].
- At the same time, Colombia faces persistent hunger with up to 11% of its population suffering from chronic malnutrition.



# Colombian Food System



- In Colombia, one in three people does not consume fruits, five out of seven do not consume vegetables, one in four consumes fast food and one in five consumes sugary drinks every week.
- In homes, the role of women is fundamental, since many times they are the ones who make the decisions about what to eat.
- However, food should not represent an additional burden to the multiple gender inequities that already exist, but rather an opportunity to improve the health and integration of families around food.

Solving the Great Food Puzzle: Scaling Food Systems Transformation in Colombia. WWF (2022)

# Colombian Food System



Eating with the planet in mind should translate into a triple bet in Colombia:

**"Eat more variety**, where the dish represents the country's biodiversity,

**Eating more local**, favoring the best productive practices with agroecology as the engine of transformation, and

**Reduce food loss and waste**, to achieve a more efficient and equitable system."

Solving the Great Food Puzzle: Scaling Food Systems Transformation in Colombia.  
WWF (2022)

# Sustainable Sourcing Guide for businesses in Colombia



WWF has developed guides to help the private sector transition to more sustainable practices covering **palm oil, livestock, milk, cocoa** and **fisheries**. The guides include sections on knowledge, compliance and disclosure of commitments, verifications and certifications for each of the products and a detailed list for businesses to verify that their sources of supply follow sustainability principles.

<https://www.wwf-scp.org/sustainable-sourcing-guidelines-colombia/>

WWF Colombia. **Sustainable Sourcing Guide**. WWF Colombia; 2022.

[https://www.wwf-scp.org/wp-content/uploads/2022/09/Guia-de-abastecimiento-sostenible\\_B14S\\_C5\\_web.pdf](https://www.wwf-scp.org/wp-content/uploads/2022/09/Guia-de-abastecimiento-sostenible_B14S_C5_web.pdf)

# Content

- Introduction to sustainable food systems
- Why are food systems unsustainable?
- Colombian food system
- **Diets that are good for health and the planet**
- Strategies to support the sustainability of the food system
  - Eating more plant-based meals and snacks made from native plants
  - Support urban agriculture/community gardens
  - Reduce food and food packaging waste

## Healthfulness and carbon footprints of popular diets

**Vegan:** <0.5 oz-total equivalent of meat, poultry, shellfish, eggs; <0.25 cup dairy equivalent

**Vegetarian:** <0.5 oz-equivalent of meat, poultry, and seafood

**Pescatarian:** <0.5 oz-meat and poultry equivalent; fish and shellfish consumed

**Paleo:** ≤50 g net carbs (total carbs-total fiber)

**Keto:** <0.5 oz-total grain and legume equivalent; <0.25 cup dairy equivalent

**Omnivore:** anyone outside of the above categories (meat eaters)



O'Malley K, Willits-Smith A, Rose D. Popular diets as selected by adults in the United States show wide variation in carbon footprints and diet quality. *The American Journal of Clinical Nutrition*. 2023. <https://doi.org/10.1016/j.ajcnut.2023.01.009>

## Healthfulness and carbon footprints of popular diets

**The nutrition scores of diets (out of 100)  
– measured by the Healthy Eating Index  
(HEI)**

**Pescatarian (58.76)**

**Vegetarian (51.89)**

**Vegan (51.65)**

**Omnivore (48.92)**

**Paleo Diet (45.03)**

**Keto Diet (43.69)**



O'Malley K, Willits-Smith A, Rose D. Popular diets as selected by adults in the United States show wide variation in carbon footprints and diet quality. *The American Journal of Clinical Nutrition*. 2023. <https://doi.org/10.1016/j.ajcnut.2023.01.009>

**carbon footprints of diets for every  
1,000 calories consumed**

**Vegan (1.5lbs of CO<sub>2</sub>)**

**Vegetarian (2.6lbs of CO<sub>2</sub>)**

**Pescatarian (3.7 lbs of CO<sub>2</sub>)**

**Omnivore (4.9 libras of CO<sub>2</sub>)**

**Paleo Diet (5.8 libras of CO<sub>2</sub>)**

**Keto Diet (6.4 lbs of CO<sub>2</sub>)**



## WWF launches "Planet-Based Diets" for human health and the future of the planet

### What is the Diet for Planetary Health?

- In 2020, the World Wild Fund (WWF) launched the idea of [planet-based diets](#) noting that plant-based diets are beneficial eating patterns for all, which can reduce globally greenhouse gas emissions from food sources by at least 30%, the loss of wildlife by up to 46%, land use for agriculture by at least 40% and premature deaths by 20%.

<https://wwf.panda.org/es/?971366/dietas-basadas-en-el-planeta#:~:text=Las%20dietas%20basadas%20en%20el,un%2040%25%20y%20las%20muertes>

# What is the Diet for Planetary Health?

- In 2019, the International EAT Lancet Commission, an association of 37 leading scientists from 16 countries, launched the Planetary Health Diet.
- Commission members represent disciplines such as health, sustainability, economics, politics, and agriculture.
- The researchers answered the question: **"Can we feed a future population of ten billion people in a healthy way, without destroying our planet?"**
- The result is the Planetary Health Diet. Its main objective is to pave the way to create a **sustainable global food system**, providing healthy food for a growing world population.



<https://eatforum.org/eat-lancet-commission/>

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(18\)31788-4/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)31788-4/fulltext)



# Eat-Lancet Planetary Health Diet

- Experts from the EAT Lancet Commission estimate that to feed ten billion people without warming the planet or depleting natural resources, it is necessary to **halve the consumption of red meat and sugar**.
- **The proportion of vegetables in our diet must be greatly increased. Fruits, nuts and legumes** should also be consumed in quantities much higher than the currently consumed.
- The expertly developed menu **reflects a "flexitarian" diet, which is largely plant-based** and only sparingly includes animal products.
- The model **can be adapted by anyone**, anywhere in the world, regardless of previous diet, individual preferences, and cultural traditions. Whether you are a flexitarian, a pescatarian, a vegetarian or a vegan, you can follow the guidance of the Planetary Diet Health.



<https://eatforum.org/eat-lancet-commission/>

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(18\)31788-4/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)31788-4/fulltext)

# Eat-Lancet Planetary Health Diet Plate



# Can changing diets reduce the impacts of agriculture on biodiversity?



- If the United States were to adopt a vegetarian diet or the Planetary Health Diet [EAT-Lancet], there would be 30% fewer global extinctions, largely due to reduced grazing land to raise beef cattle.
- Combining any of the biodiversity-friendly diets with less waste [50% waste reduction] would result in an even more dramatic effect on conservation, effectively preventing the extinction of dozens of species.

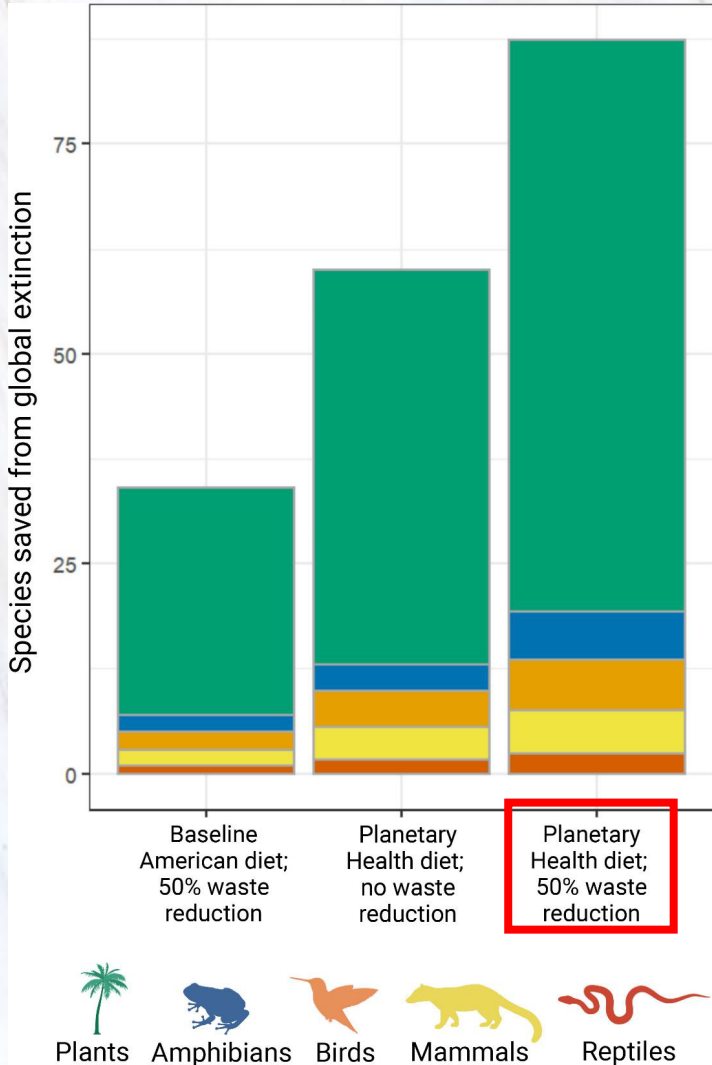
Read, Q.D. et al. Biodiversity effects of food system sustainability actions from farm to fork. *Proceedings of the National Academy of Sciences (PNAS)* 2022;119 (15) e2113884119.

<https://www.pnas.org/doi/epdf/10.1073/pnas.2113884119>

Keesing F. Diet for a small footprint. *Proceedings of the National Academy of Sciences (PNAS)* 2022;119 (17) e2204241119. <https://www.pnas.org/doi/10.1073/pnas.2204241119>

# Can changing diets reduce the impacts of agriculture on biodiversity?

Numbers of plant, amphibian, bird, mammal, and reptile species saved from global extinction under three diet and food waste scenarios.



- The Planetary Health Diet combined with a 50% reduction in waste contributes towards the greater preservation of plant and animal species.
- The Planetary Health diet includes fruits, vegetables, vegetable proteins, and some meat and fish. The 50% waste reduction includes reducing food waste before and after consumption.

Read, Q.D. et al. Biodiversity effects of food system sustainability actions from farm to fork. *Proceedings of the National Academy of Sciences (PNAS)* 2022;119 (15) e2113884119.

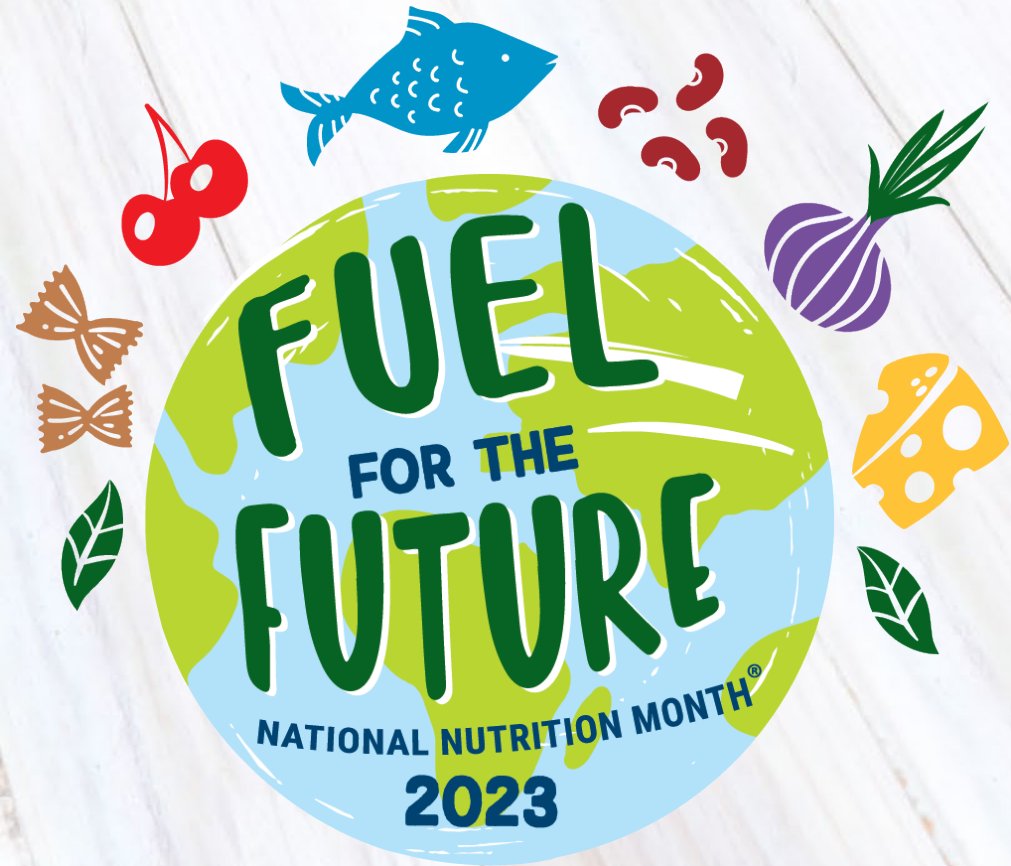
<https://www.pnas.org/doi/epdf/10.1073/pnas.2113884119>

Keesing F. Diet for a small footprint. *Proceedings of the National Academy of Sciences (PNAS)* 2022;119 (17) e2204241119. <https://www.pnas.org/doi/10.1073/pnas.2204241119>

# Content

- Introduction to sustainable food systems
- Why are food systems unsustainable?
- Colombian food system
- Diets that are good for health and the planet
- **Strategies to support the sustainability of the food system**
  - Eat more plant-based meals and snacks made from native plants
  - Support urban agriculture/community gardens
  - Reduce food and food packaging waste

# Strategies to support the sustainability of the food system



- Eat more plant-based meals and snacks made from native plants.
- Support local farmers and food production and get involved in urban agriculture, support a community garden or grow a home garden.
- Reduce both food and packaging waste.

# Content

- Introduction to sustainable food systems
- Why are food systems unsustainable?
- Colombian food system
- Diets that are good for health and the planet
- **Strategies to support the sustainability of the food system**
  - **Eating more plant-based meals and snacks made from native plants**
  - Support urban agriculture/community gardens
  - Reduce food and food packaging waste

## Strategy 1: Enjoy more plant-based meals and snacks made from native plants

### How:

**1. Start small.** Commit to one meat-free day per week, such as “Meatless Monday,” or two meatless days per week. Adjust your diet over time. Also, focus on making meals with smaller portions of meat.

**2. Make plant-based substitutions. Replace meat in your meals with a plant-based protein source,** such as lentils and beans. Make a Bolognese sauce with lentils, or prepare stews with beans or lentils instead of meat.

**Alternatively, use a 50/50 approach** by substituting half of a recipe's meat content with a plant-based food item.



**Mushroom-Quinoa Veggie Burgers**

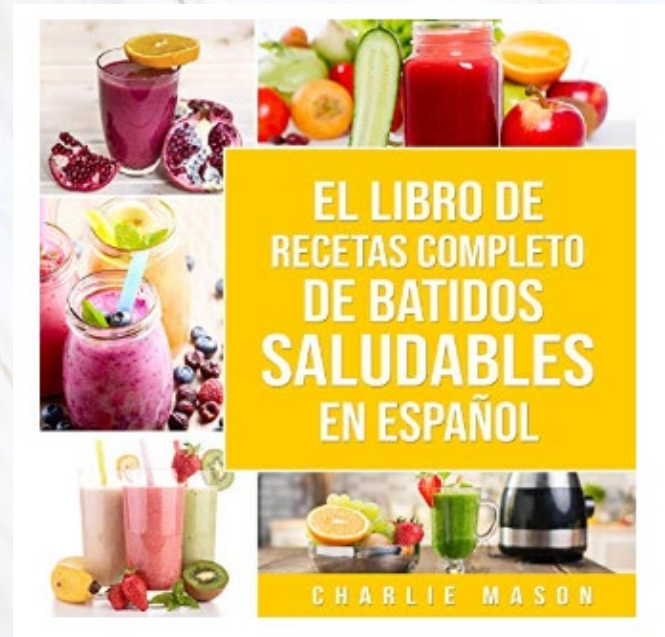
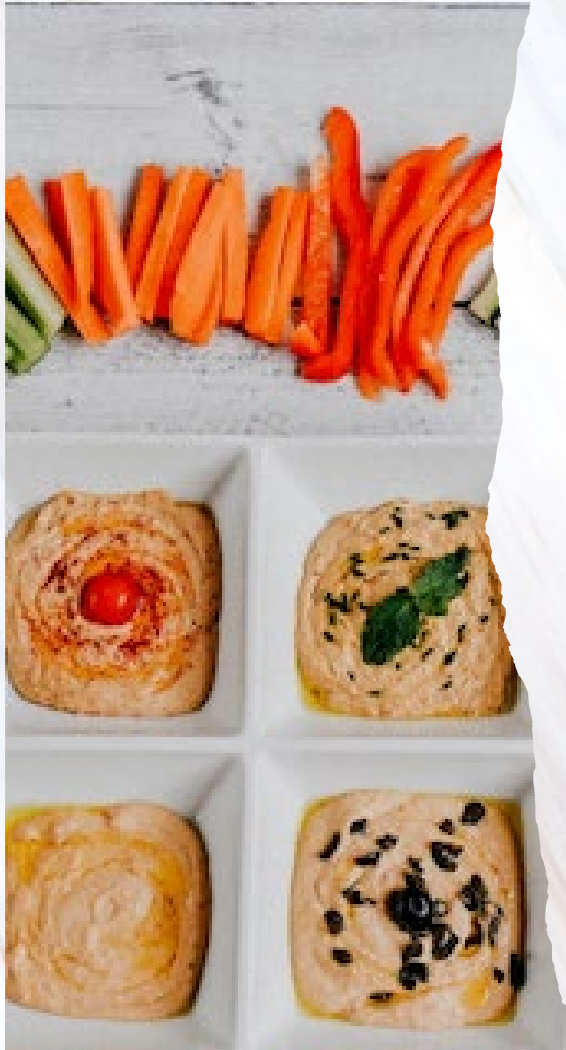
<https://www.eatingwell.com/recipe/273896/mushroom-quinoa-veggie-burgers-with-special-sauce/>



# Strategy 1: Eat more plant-based meals made from native plants

## How:

**3. Prepare plant-based snacks.** For example, Hummus with vegetables, fruits and whole grain crackers with nut butter, smoothies with plant-based milks e.g., almond milk, oat milk



# Strategy 1: Eat more plant-based meals and snacks from native plants

## How:

**4. Make the most of plant-based meat alternatives** such as beans (e.g., garbanzo beans) and tofu.

Colombian Chickpea Stew

<https://vecinavegetariana.com/colombian-chickpea-stew/>

**5. Take inspiration from cuisines that traditionally use lentils and beans**, and enhance their flavor with herbs and spices.

Colombian Beans

<https://vecinavegetariana.com/frijoles-colombian-beans/>

Vegan Colombian Lentil Soup

<https://vecinavegetariana.com/vegan-colombian-lentil-stew/>



# Strategy 1: Eat more plant-based meals and snacks from native plants

## How:

6. Buy plant-based food products that are grown using agroecological practices (e.g., agroforestry\*) that support sustainable livelihoods for farmers.

e.j. CorpoCampo

<https://www.amapuri.com/>



<https://www.businesscalltoaction.org/member/corpocampo>

\* Agroforestry: Integrating beneficial trees and other perennial woody species on farms: Agroforestry is a key strategy for diversifying farms to increase resilience to climate change while generating income and food for farmers.



Pulpa de Açai  
100% orgánica

Learn more



# Strategy 1: Eat more plant-based meals and snacks from native plants

## How:

7. **Make big batches of your favorite plant-based recipes.** Freeze leftovers or save for lunch the next day.

8. **If you don't have sufficient culinary skills, take a plant-based cooking class (online or in person).** Doing so will boost your culinary confidence and your ability to prepare plant-based recipes.

9. **Plan meals for the next week.** This minimizes food waste and saves time and money.

Adapted from: McCullum-Gomez, 2022. Healthy people: healthy planet: A flexitarian approach to sustainable healthy diets. Self-study course. *Today's Dietitian*. March 2022. Available at: <https://sustainable-rdn.com/2022/04/06/healthy-people-healthy-planet-a-flexitarian-approach-to-sustainable-healthy-diets-self-study-course/>



# Content

- Introduction to sustainable food systems
- Why are food systems unsustainable?
- Colombian food system
- Diets that are good for health and the planet
- **Strategies to support the sustainability of the food system**
  - Eating more plant-based meals and snacks made from native plants
  - **Support urban agriculture/community gardens**
  - Reduce food and food packaging waste

## Strategy 2: Support urban agriculture/community gardens

### Bogota's World-Class Botanical Garden: [Bogotá es Mi Huerta](https://bogotamihuerta.jbb.gov.co/)

- The purpose is to restore Bogota's food-growing traditions, improve food security, build climate resilience, and strengthen local communities in the process.
- The Botanical Garden has established urban gardens both in public spaces and in private and community spaces, to later connect them with routes that will function as commercial and tourist corridors to explore urban agriculture in Bogotá.
- The initiative connects, strengthens and expands these oases of local food production in an urban agroecology network aimed at transforming the city into a sustainable metropolis ready to thrive in an uncertain future.



## Strategy 2: Support urban agriculture/community gardens

### [Bogotá es Mi Huerta](#) #BogotaEsMiHuerta



“This project was really born during the pandemic, when we realized that urban gardens in Bogotá had great potential. Not only as food production projects to prevent hunger and malnutrition, but also as spaces where families and residents can have power within their own communities and have some kind of sovereignty that is not completely dependent on the outside world.”

*Martha Liliana Perdomo, Directora del Jardín Botánico de Bogotá*

<https://jbb.gov.co/portfolio/martha-perdomo-directora-del-jardin-botanico-de-bogota/>



<https://bogotamihuerta.jbb.gov.co/>

# Bogotá es Mi Huerta

Specific objectives:

1. Increase the productivity and yield of crops in urban and peri-urban orchards.
2. Formulate and implement the district urban and peri-urban agriculture program.
3. Strengthen the processes of social organization for the promotion of urban and peri-urban agriculture.

Examples of initiatives:

Strengthen 20,000 urban and peri-urban gardens with the supply of seeds, inputs and/or basic tools, including the creation of community seed banks for productive improvement.

Provide technical assistance and/or technology transfer to 40,000 people for production in urban and peri-urban gardens.

Prepare guidelines and technical specifications for the design of agro-parks as a territorial intervention strategy for the establishment of urban and peri-urban community gardens.





## Bogotá es Mi Huerta



- The gardens selected to be part of a route meet special criteria.
- The central location of **Doña María Elena Villamil's garden**, exemplary organic farming and permaculture practices, and importance to the local community make it an example of what is possible with urban agroecology in Bogotá.
- Local gardeners like **Doña María Elena** are creating a network of agroecological routes in Bogotá. Doña Elena's orchard in the La Perseverancia neighborhood is one of the six gardens on the downtown-city route.
- In the garden, edibles such as corn, kale, and other leafy green vegetables are grown.

## Strategy 2: Support urban agriculture/community gardens

### RESULTADOS DEL PROCESO DE FORMULACIÓN PARTICIPATIVA DEL PROGRAMA DISTRITAL DE AGRICULTURA URBANA Y PERIURBANA AGROECOLÓGICA

"BOGOTÁ ES MI HUERTA 2023-2031"



## Strategy 2: Support urban agriculture/community gardens



### Health benefits of community gardens:

- The participants in this US-based study were not current gardeners. The researchers gave them a free gardening plot in a community garden, some seeds and seedlings, an introductory gardening course, and monitored their nutritional intake and mental health for 1 year.
- Within 6 months, the new gardeners were visiting the community garden 2-3 times a week, ate an average of 1.4 more grams of fiber per day, increased their moderate-to-vigorous physical activity by approximately 42 minutes per week, and decreased their perceived stress levels and anxiety.

Litt JS, Alamo K, Harrall KK. et al. Effects of a community gardening intervention on diet, physical activity, and anthropometry outcomes in the USA (CAPS): an observer-blind, randomised controlled trial. *The Lancet Planetary Health* 2023; 7(1):E23-E32. DOI: [https://doi.org/10.1016/S2542-5196\(22\)00303-5](https://doi.org/10.1016/S2542-5196(22)00303-5)

## Strategy 2: Support urban agriculture/community gardens

Sowing Trust is a program of the Project Without Borders Foundation (PSF). Since 2012, the program has promoted agroecological practices and environmental education in vulnerable territories in urban, peri-urban and rural areas. This initiative is anchored in the United Nations 2030 Agenda, contributing to 5 of the 17 Sustainable Development Goals (SDGs).

### Our program focuses on 3 strategic lines:



Support for small producers in adopting agroecological practices and creating equipment for clean production.

LEARN MORE



Consolidation of supply chains to connect conscious consumers with a network of certified agroecological producers.

LEARN MORE



Food aid and awareness of sustainable practices for the populations most affected by the crisis derived from COVID-19.

LEARN MORE

<https://sembrandoconfianza.com/>

## Strategy 2: Support urban agriculture/community gardens

### What is Agroecology?

Agroecology is a powerful solution, both scientific and social, that seeks the sustainability and justice of food systems. It boosts the ecological processes of nature to improve productivity and avoid agricultural problems.

These are the 10 interconnected elements of agroecology to guide us towards sustainable food systems:

1. Diversity
2. Co-creation and exchange of knowledge
3. Synergies
4. Efficiency
5. Recycling
6. Resilience
7. Human and social values
8. Culture and gastronomic traditions
9. Responsible governance
10. Circular and solidarity economy

<https://sembrandoconfianza.com/>

<https://sembrandoconfianza.com/lo-que-hacemos/>



# Sembrando Confianza: Current Projects

## ➤ Sowing Trust: Women

<https://sembrandoconfianza.com/sembrando-confianza-mujeres/>

## ➤ Solidarity and Agroecological Chains

<https://sembrandoconfianza.com/cadenas-solidarias-agroecologicas>

## ➤ Solidarity Markets

<https://sembrandoconfianza.com/mercados-solidarios/>

## ➤ Agroecological Markets

<https://sembrandoconfianza.com/mercados-agroecologicos/>



# Strategy 2: Support urban agriculture/community gardens



Nosotros ▾ Proyectos ▾ Blog ▾ Tienda ▾ DONA AQUÍ

Buscar...



## Mercados agroecológicos

¡Del campo a tu mesa!



Justa remuneración al campesino



Locales



Libres de químicos



Saludables



FRUTAS



LÁCTEOS



HORTALIZAS Y TUBÉRCULOS



PANES ARTESANALES



MERCADOS COMPLETOS



PRODUCTOS TRANSFORMADOS



PRODUCTOS PROTEICOS



SNACKS SALUDABLES



GRANOS, HARINA Y SEMILLAS



PRODUCTOS PARA EL HOGAR

### Complete Products

<https://sembrandoconfianza.com/mercados-completos/>

### Protein Products

<https://sembrandoconfianza.com/productos-proteicos/>

### Vegetables and Tubers

<https://sembrandoconfianza.com/hortalizas-y-tuberculos/>

# Content

- Introduction to sustainable food systems
- Why are food systems unsustainable?
- Colombian food system
- Diets that are good for health and the planet
- **Strategies to support the sustainability of the food system**
  - Eating more plant-based meals and snacks made from native plants
  - Support urban agriculture/community gardens
  - **Reduce food and food packaging waste**



## Strategy 3: Reduce food and food packaging waste

### Food Loss and Waste: Colombia

- **"The value of food" is a communication strategy** that consisted of showing citizens that food waste produces a very high cost that our planet pays.
- **WWF Colombia's food waste reduction campaign has reached more than 20 million people**, more than 41 percent of its population.
- **The foods that are most lost and wasted in Colombia are fruits and vegetables**, which generate greenhouse gases in landfills where they end up throughout the country.
- **At the same time, one in three Colombians does not eat fruit and five out of seven do not eat vegetables.** Consuming more fruits and vegetables is key to combat malnutrition in Colombia and reduce environmental impacts.

(WWF, 2023)



<https://www.vivesindesperdicio.com/>

<https://www.wwf-scp.org/lets-talk-about-food-waste-but-how/>

## Strategy 3: Reduce food and food packaging waste

An advertisement for WWF's campaign to reduce food waste. The background is a black rectangle with a white WWF logo in the top left corner. In the center, a wooden bowl filled with white rice sits on a blue cloth, with rice grains falling from it. To the right, the text reads: "A 1,5 MILLONES DE TONELADAS ANUALES EQUIVALE EL DESPERDICIO DE LOS COLOMBIANOS." Below this, a yellow button says "DESCARGA ACÁ" and the text "EL ESTUDIO DE WWF Y DESCUBRE ESTO CÓMO NOS AFECTA A TODOS." is displayed. At the bottom right, the hashtag "#SINDESPERDICIO" is written in yellow. The entire advertisement is framed by a white border with images of fresh produce like lemons, basil, and an apple.

**WWF**

**A 1,5 MILLONES DE TONELADAS ANUALES EQUIVALE EL DESPERDICIO DE LOS COLOMBIANOS.**

**DESCARGA ACÁ** EL ESTUDIO DE WWF Y DESCUBRE ESTO CÓMO NOS AFECTA A TODOS.

**#SINDESPERDICIO**

# GUÍA PARA NO DESPERDICIAMOS

Hundreds of advertisements at bus stops as part of the campaign to reduce food waste, which included a QR code so that any citizen on the street could access information resources on how to reduce food waste.

**WWF-Colombia. *The True Value of Food.***

[https://wwflac.awsassets.panda.org/downloads/wwf\\_el\\_verdadero\\_valor\\_de\\_los\\_alimentos.pdf](https://wwflac.awsassets.panda.org/downloads/wwf_el_verdadero_valor_de_los_alimentos.pdf)

# Tips for Reducing Food Waste:



## Shop Smart:

- **Planning a menu of meals for the week** can also help organize your eating behavior.
- **Buying only the food you really need** is the easiest way to reduce waste. **Before you go shopping, check your refrigerator, freezer, and pantry.**
- **Make a shopping list and avoid impulse purchases.** If you don't want to make a shopping list, **take a picture of what you have in your refrigerator and pantry** to refer to when you're at the store.
- **Consider buying perishable items like meat and fresh vegetables more frequently**, rather than buying large quantities and letting the items go bad. So enjoy fresh products throughout the week.
- **Be careful when buying perishable foods at a discount**, such as fruits, vegetables, and salads. No matter how cheap they are, they are worthless if they end up in the trash.

At home: a “food waste diary” helps you plan and save money

	Alimento	Cantidad	Cómo se desechó?	Razón	Costo
Desayuno	Leche	1/2 botella	Lavaplatos	Agria	\$2000
Almuerzo					
Comida					
Refrigerio/otros					

<https://www.fao.org/3/cb6601en/cb6601en.pdf>

## Strategy 3: Reduce food and food packaging waste

- **Don't judge food by its appearance!** Buy odd-shaped, imperfect, or bruised fruits and vegetables. These foods are often discarded because their size, shape, or color do not meet aesthetic standards. Don't worry; they taste the same and are just as nutritious! For example, ripe fruits can be used for smoothies, juices, and desserts.
- **Support local food.** When you buy from local farmers, you support the community. It also helps fight pollution and reduce impacts on the environment by shortening transportation distances and reducing food storage time.
- **To reduce packaging waste, take your reusable bags to the supermarket and marketplace, reduce single-use plastics, and use biodegradable containers where available.**



## Strategy 3: Reduce food and food packaging waste

### At home, store food wisely:

- Set your refrigerator temperature to 4°C. The door is the warmest part of your refrigerator, so only store foods there that don't spoil easily. The bottom shelf is generally the coldest place; use it to store fish, meat and eggs.
- Once opened, the products must be stored in reusable food containers.
- Store leftovers in a sealed container to prevent them from drying out. When handling food scraps, remember to apply good hygiene practices.
- Store older foods in the front of your pantry or refrigerator and new ones in the back.



FAO. *Your Guide to Living Free of Food Waste*. Budapest. FAO, 2021.  
Available at: <https://www.fao.org/3/cb6601en/cb6601en.pdf>

## Strategy 3: Reduce food and food packaging waste

### At home, how to use leftovers and food scraps:

- The tops of beets and carrots, as well as broccoli stems, are packed with dietary fiber and other nutrients, making them a great addition to salads, soups, and smoothies.
- If you don't eat everything you cook, freeze the leftovers for later as an ingredient in another meal.
- Designate one dinner each week as a meal to use up leftovers. Instead of cooking a new meal, search your pantry and refrigerator for leftovers that are available.(FAO, 2021)



**Recipe: Beet Greens Smoothie**

FAO. *Your Guide to Living Free of Food Waste*. Budapest. FAO, 2021. Available at:  
<https://www.fao.org/3/cb6601en/cb6601en.pdf>

<https://www.forkintheroad.co/beet-greens-smoothie/>

## Strategy 3: Reduce food and food packaging waste

### At home, how to use leftovers and food scraps:

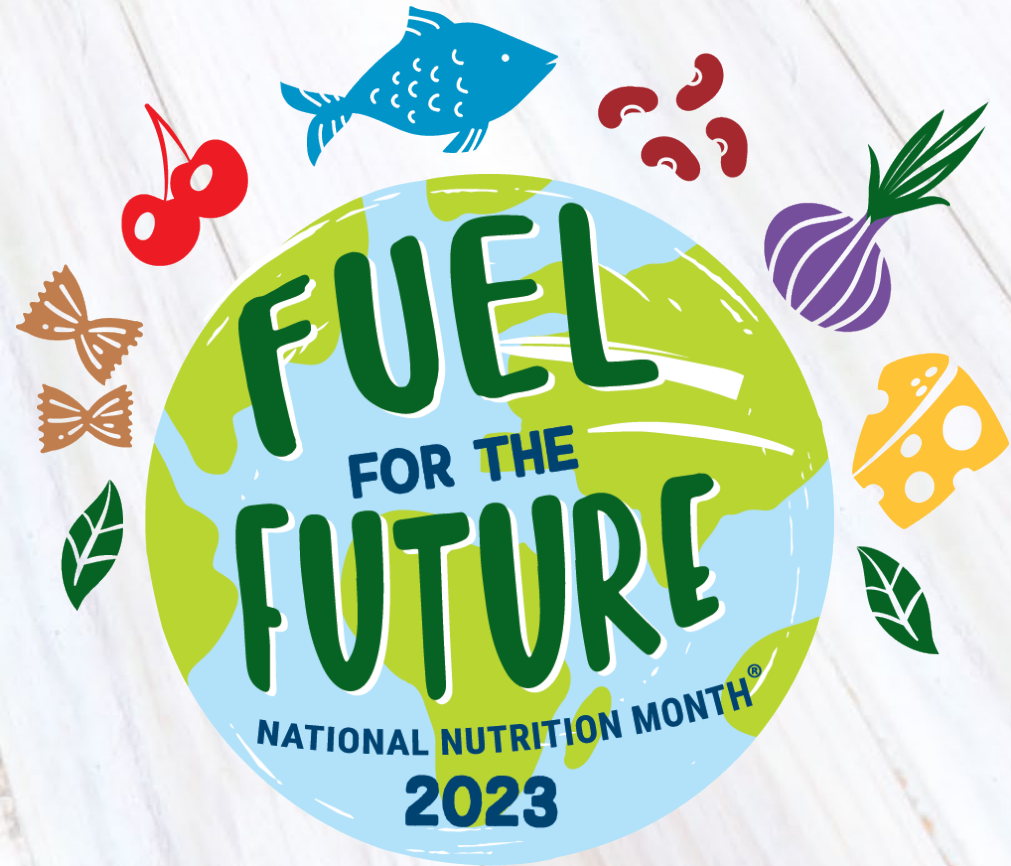
- Learn how to avoid wasting food with an A to Z directory that shows what to do with leftovers and how to store food. There are also videos showing how to make new recipes with leftovers and vegetable skins.

[www.vivesindesperdicio.com](http://www.vivesindesperdicio.com)

- Instead of throwing away food scraps, compost them. Compost is rich in nutrients and is excellent for your garden or even indoor potted plants.



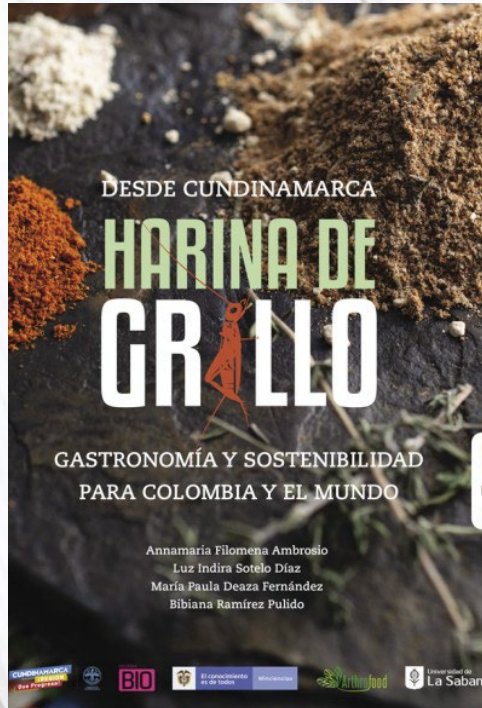
## Take Home Messages: Strategies to support the sustainability of the food system



1. Eat more plant-based meals and snacks made from native plants.
2. Support local farmers and food production and get involved in urban agriculture, support a community garden or grow a home garden.
3. Reduce both food and packaging waste.



## Other Examples: Food Sustainability in Colombia



"This book has an extensive recipe book in which the reader will discover how cricket flour can contribute to the development of a healthy and sustainable diet."

<https://publicaciones.unisabana.edu.co/publicaciones/publicaciones/ciencias-economicas-y-administrativas/desde-cundinamarca-harina-de-grillo/>

Also, see: **Anthrofood**

<https://aim2flourish.com/innovations/the-power-of-insects-to-help-the-planet-and-rural-women>



"Under the jaguar-friendly label, under which farmers can sell their coffee at a premium, farmers allocate one hectare of protected forest as a jaguar corridor for each hectare of coffee they grow."

### **Certified Jaguar-Friendly Coffee**

<https://news.mongabay.com/2021/05/in-colombia-a-successful-jaguar-conservation-program-has-a-whiff-of-coffee/>



**Christine McCullum-Gómez, PhD, RDN**

Food and Nutrition Consultant, Writer and Speaker

[www.sustainable-rdn.com](http://www.sustainable-rdn.com) , [www.sustainerdn.com](http://www.sustainerdn.com)

Email: [chris\\_mccullum@hotmail.com](mailto:chris_mccullum@hotmail.com)

Instagram: [@cmccullumgomez](https://www.instagram.com/cmccullumgomez)

- Column Editor and Editorial Board Member of the *Journal of Hunger & Environmental Nutrition*
- Chair-Elect of the Academy of Nutrition and Dietetics (AND) Global Member Interest Group (GMIG)