



# Nourishing and Sustaining Ourselves and Our World

Lexi Cole, MS, MPH, RD, CCMS

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**Tufts**  
UNIVERSITY

Gerald J. and Dorothy R. Friedman  
School of Nutrition Science and Policy  
**FOOD IS MEDICINE INSTITUTE**



# Disclosures

- Employee of Tufts University
  - Consultant for the Teaching Kitchen Collaborative
  - Co-author of *To Your Taste*
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# **The Impact of Food Choices on Health**

# US Health & Dietary Patterns

Each **week**, poor nutrition...

KILLS 10,000  
AMERICANS

CAUSES 1,500 NEW  
CANCERS

CAUSES 16,000 NEW  
CASES OF DIABETES

**~5 IN 10 HAVE DIABETES  
OR PREDIABETES**

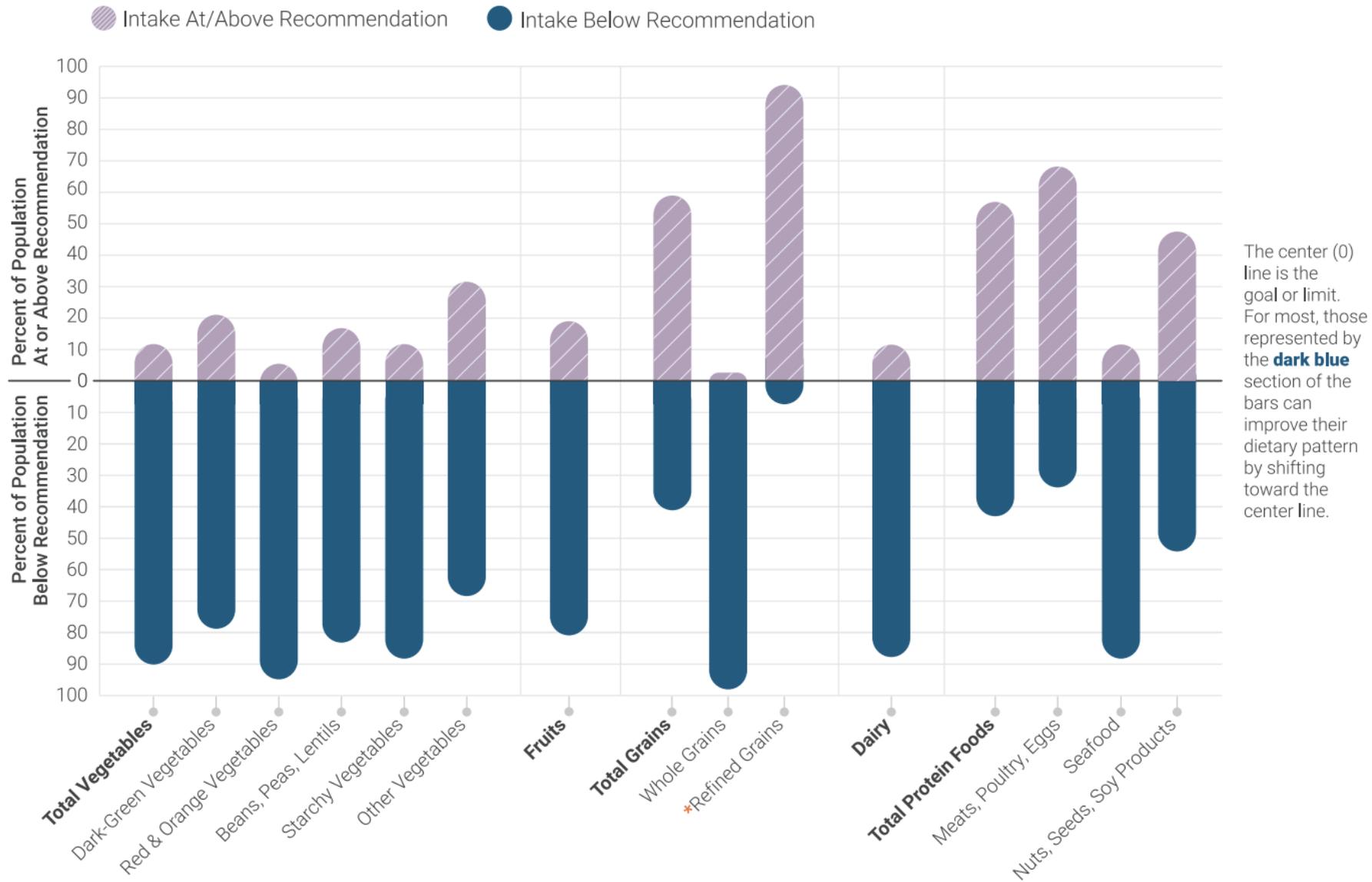


**~7 IN 10 HAVE  
OVERWEIGHT OR OBESITY**



**~9 IN 10 HAVE POOR  
CARDIOMETABOLIC HEALTH**

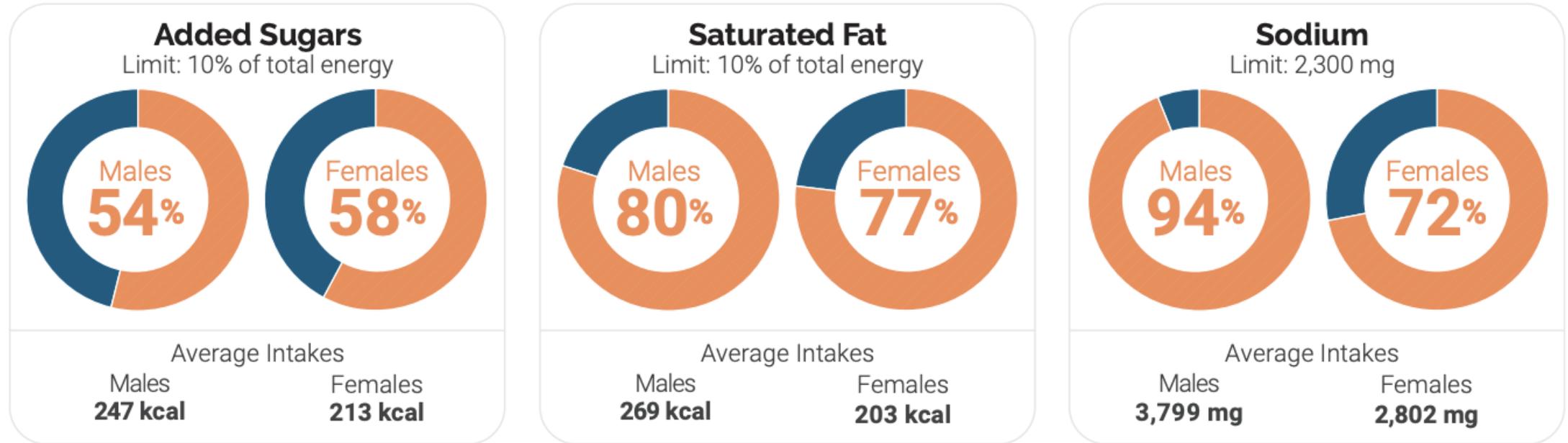




**\*NOTE:** Recommended daily intake of whole grains is to be at least half of total grain consumption, and the limit for refined grains is to be no more than half of total grain consumption.

## Percent Exceeding Limits of Added Sugars, Saturated Fat, and Sodium

● Exceeding Limit ● Within Recommended Limit



**Data Sources:** *Average Intakes and HEI-2015 Scores:* Analysis of What We Eat in America, NHANES 2015-2016, day 1 dietary intake data, weighted. *Recommended Intake Ranges:* Healthy U.S.-Style Dietary Patterns (see [Appendix 3](#)). *Percent Exceeding Limits:* What We Eat in America, NHANES 2013-2016, 2 days dietary intake data, weighted.

## Not Enough

**Fruits**

**Vegetables**

**Nuts & Seeds**

**Beans & Legumes**

**Whole Grains**

**Seafood**

**Healthy Fats**

## Too Much

**High-Sodium Foods**

**Processed Meat**

**Sugar-Sweetened Beverages**

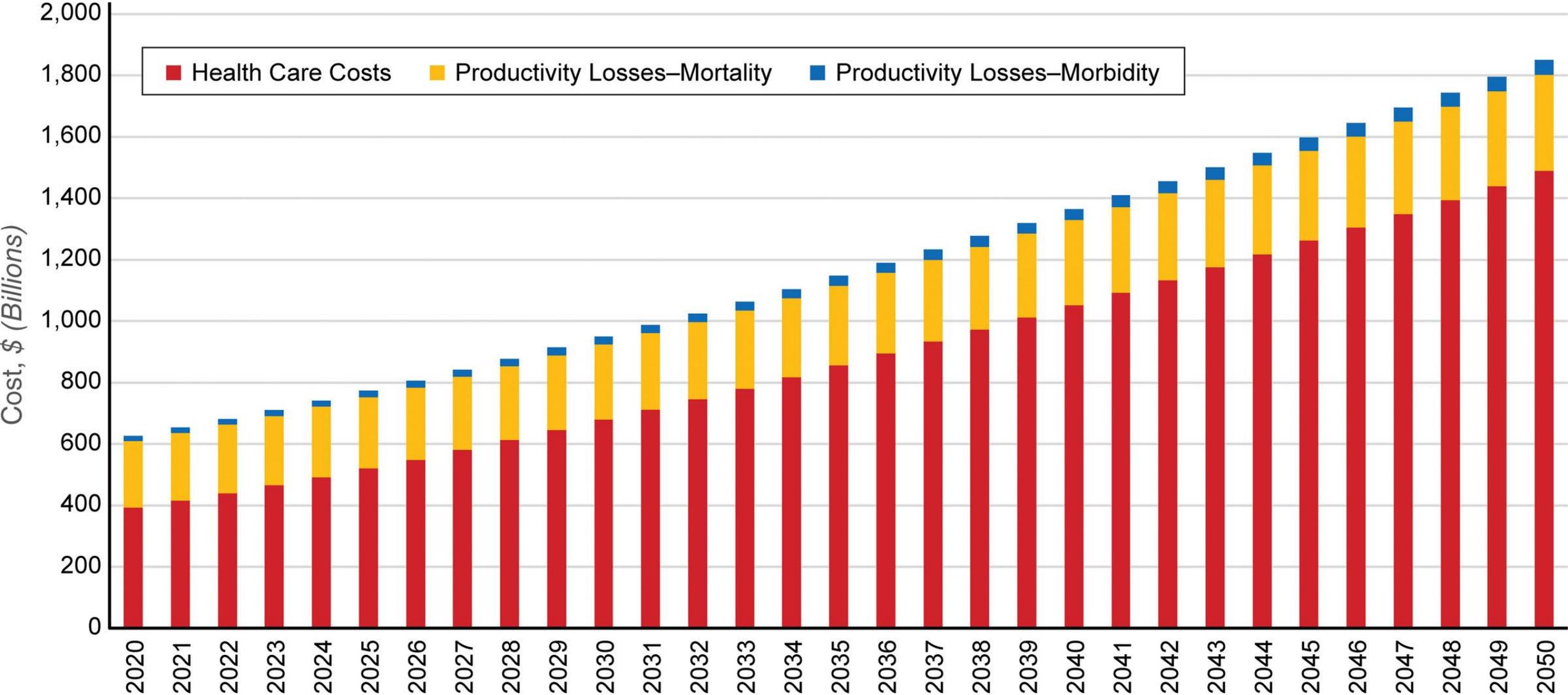
**Refined Grains & Starches**

**Standard American Diet...SAD ☹️**

Nearly 1 in every \$5 in the US goes towards health care spending.

Each **year**, poor nutrition causes more than **\$1.1 trillion** in economic losses from excess healthcare spending and lost productivity.

**Figure 2. Population-level economic burden of cardiovascular disease and stroke in US Adults, 2020 to 2050**



# **Factors that Impact Food Choices**

# Social Determinants of Health

Economic Stability	Neighborhood and Physical Environment	Education	Food	Community and Social Context	Health Care System
<b>Racism and Discrimination</b>					
Employment	Housing	Literacy	Food security	Social integration	Health coverage
Income	Transportation	Language	Access to healthy options	Support systems	Provider availability
Expenses	Safety	Early childhood education		Community engagement	Provider linguistic and cultural competency
Debt	Parks	Vocational training		Stress	
Medical bills	Playgrounds	Higher education		Exposure to violence/trauma	Quality of care
Support	Walkability				
	Zip code / geography				

**Health Outcomes: Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations**



# Other Factors

- Food and Nutrition Security
- Time
- Budget
- Cooking knowledge
- Culture
- Access/availability
- Household dynamics
- Food preferences



**<https://youtu.be/1lv7PddabKw>**

# Cost of Malnutrition to Women and Girls

- >1 billion women and girls suffer from undernutrition or micronutrient deficiencies
- >\$1.6 trillion in lost productivity annually
- >60% of the chronically malnourished

# Women's Roles in Food Systems

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Food producers

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Caregivers and nutrition gatekeepers

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Knowledge holders

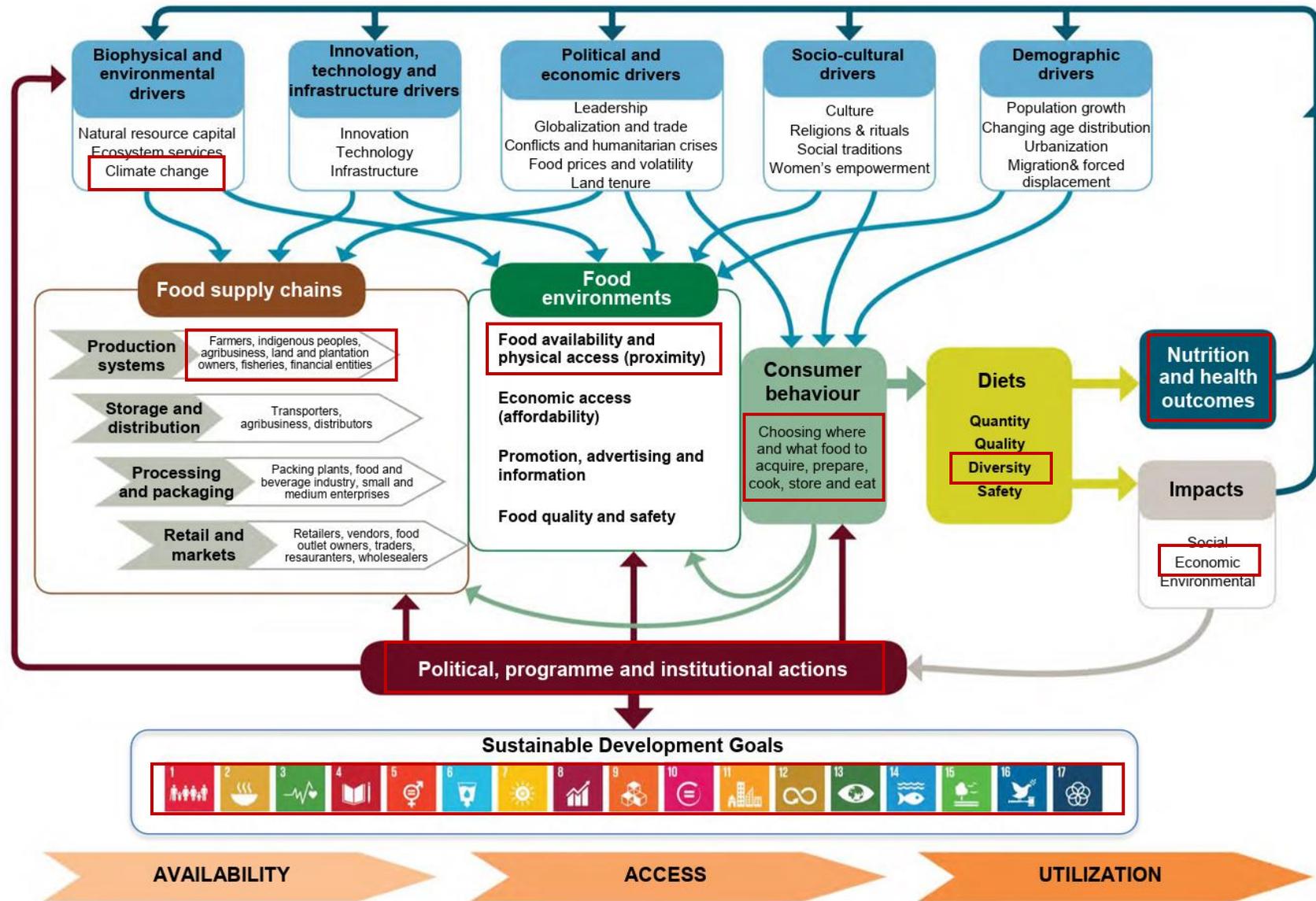
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Entrepreneurs and market participants

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Advocates

Figure 1 Conceptual framework of food systems for diets and nutrition



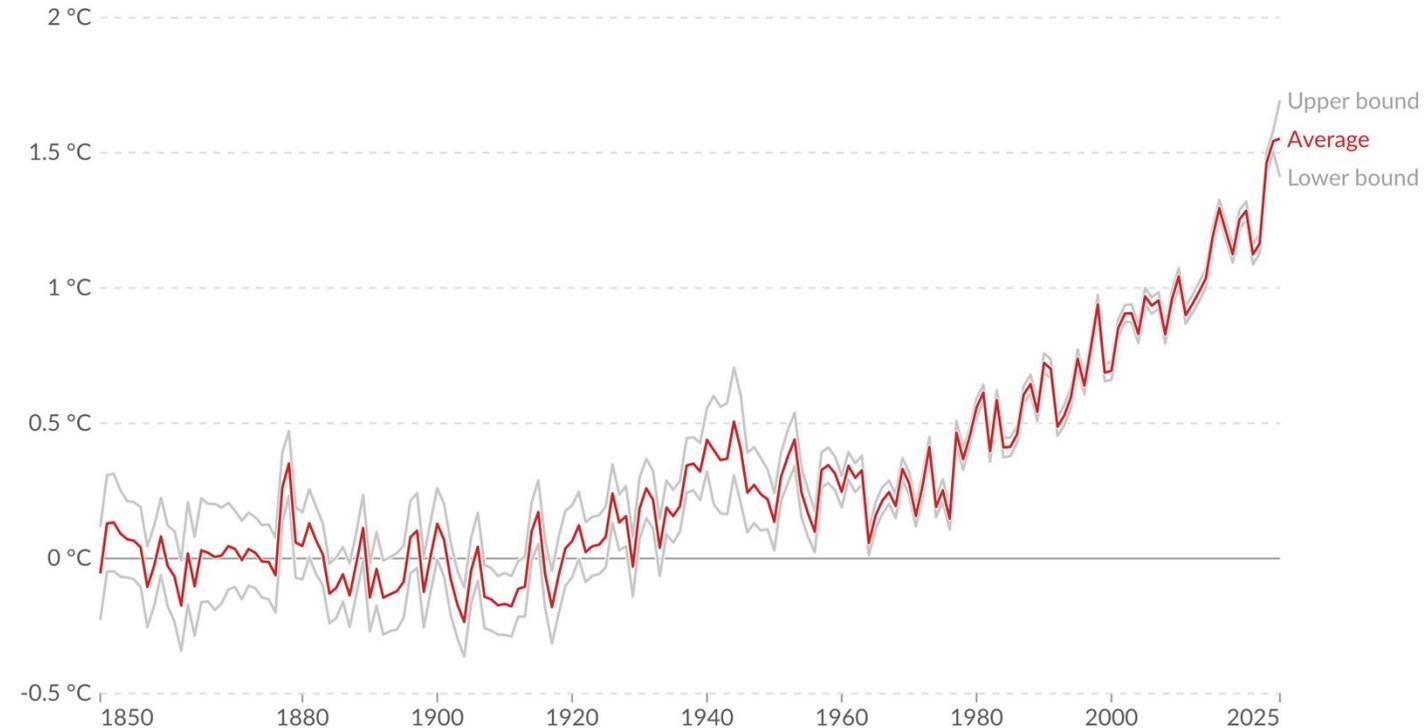
# **The Impact of Food Choices on the Environment**

# Climate change trends

## Annual temperature anomalies relative to the pre-industrial period, World

Our World  
in Data

The difference in average land-sea surface temperature compared to the 1861-1890 mean, in degrees Celsius.



Data source: Met Office Hadley Centre - HadCRUT5 (2025)

OurWorldinData.org/co2-and-greenhouse-gas-emissions | CC BY

Note: The period 1861-1890 is used as the baseline to measure temperature changes relative to pre-industrial times, [as recommended by the source](#).

# Climate change →

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Sea level rise

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Flooding

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Glacial melting

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Drought

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Agricultural effects

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Pest pressures

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Human health effects

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Ocean acidification

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Ecosystem disruption



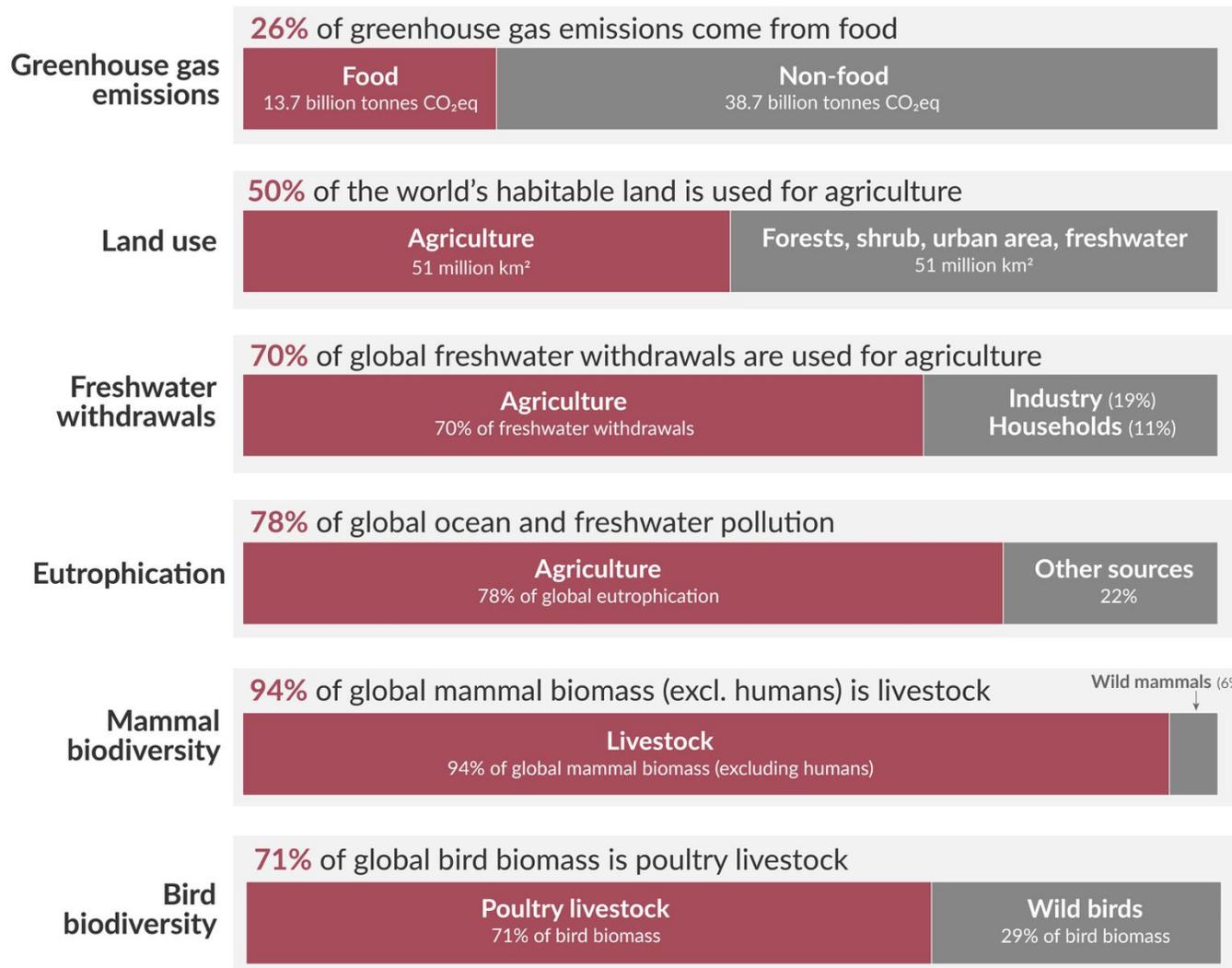
# Food systems & climate

*How do food choices  
impact the **environment**?*

*How does climate change  
impact **food access and  
quality**?*



# The environmental impacts of food and agriculture



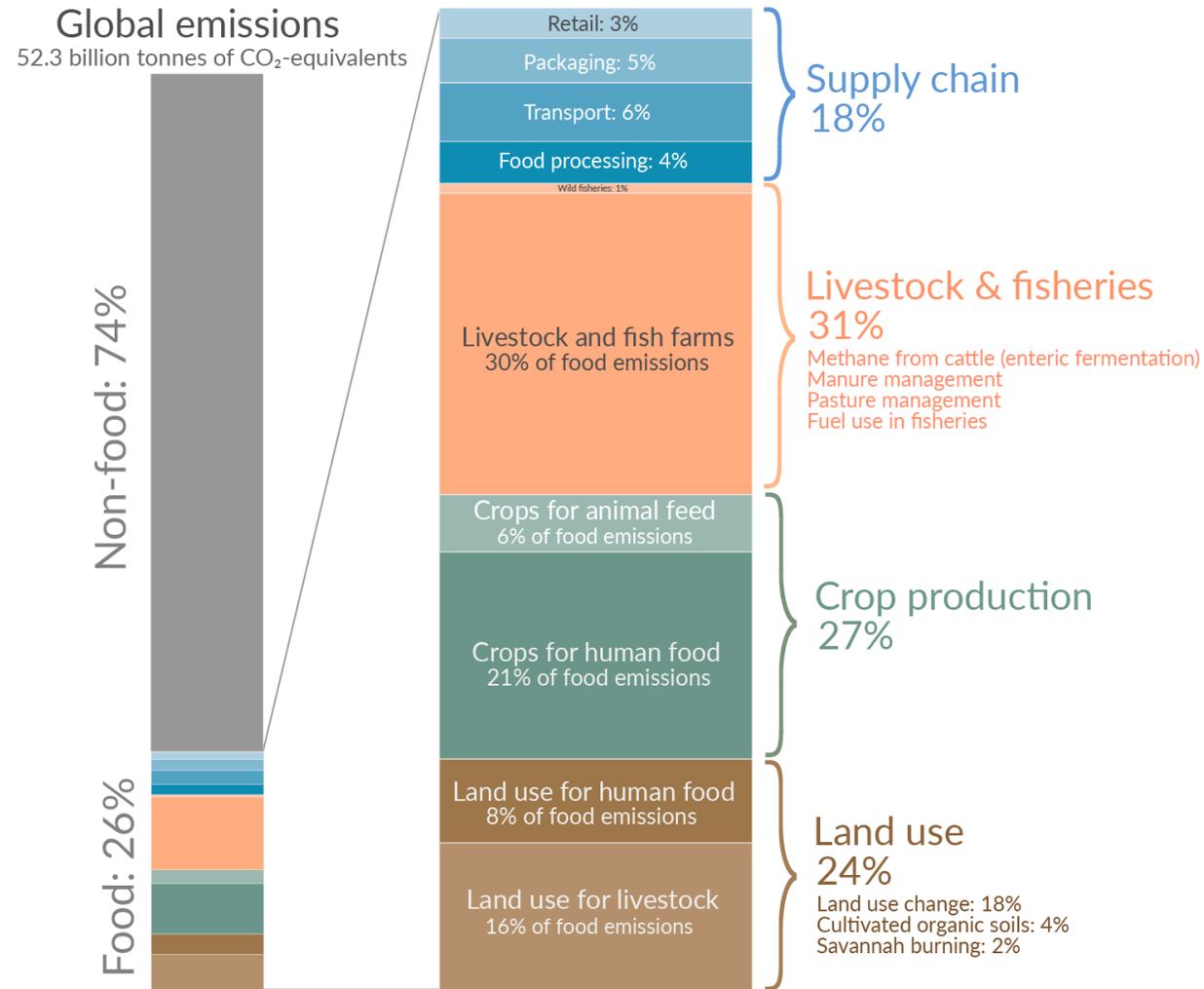
Data sources: Poore & Nemecek (2018); UN FAO; UN AQUASTAT; Bar-On et al. (2018).  
 OurWorldinData.org – Research and data to make progress against the world's largest problems.

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 Date published: November 2022.



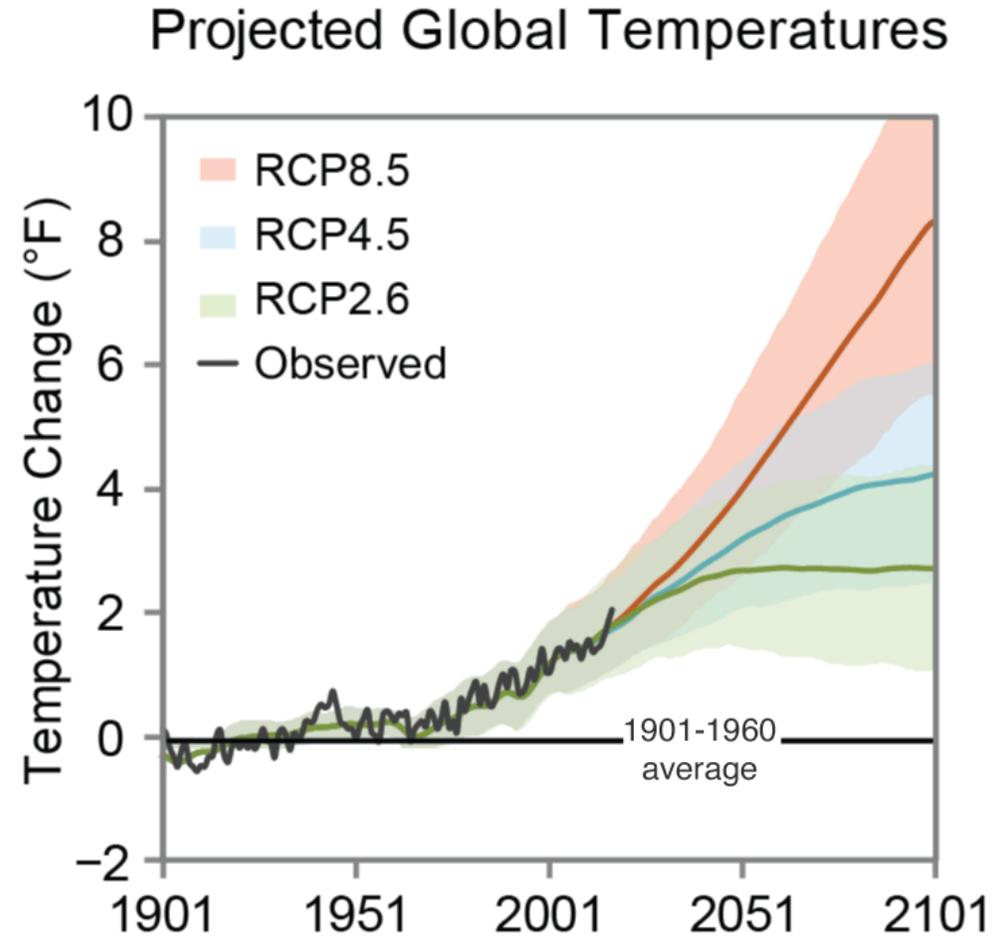
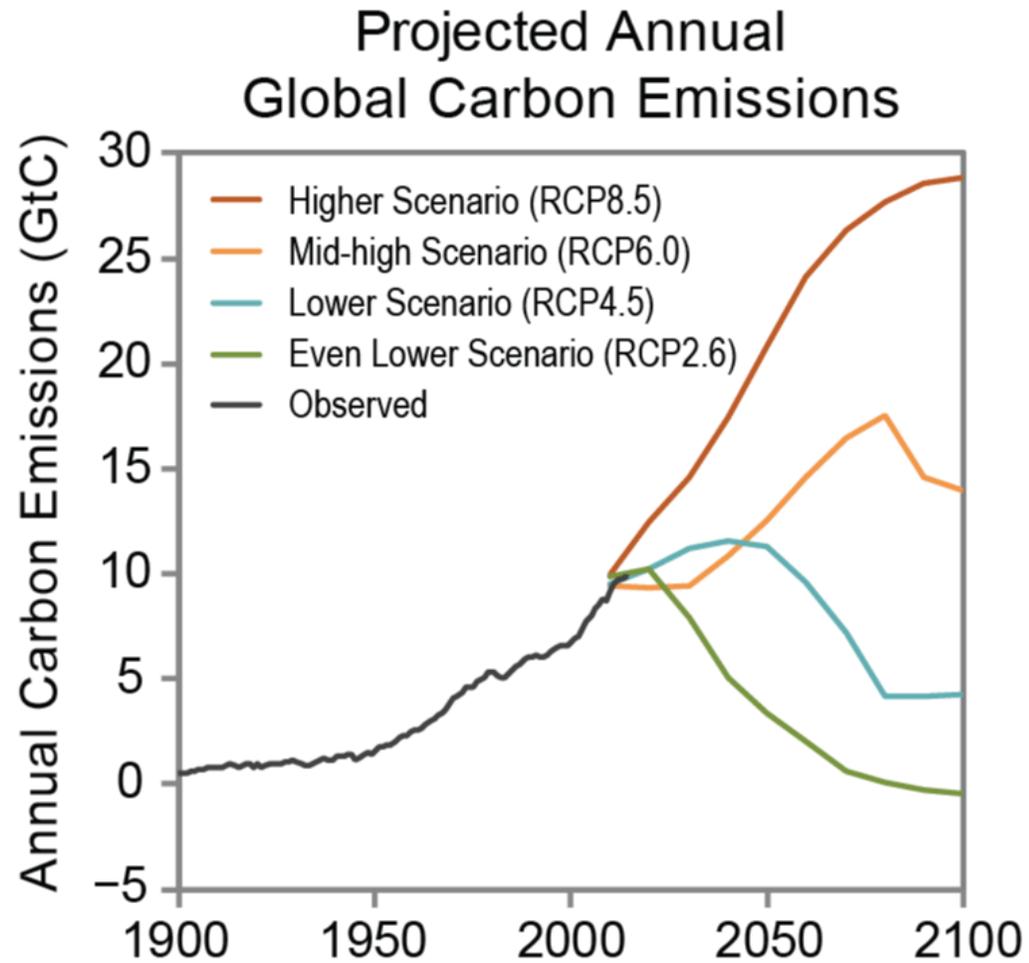
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# Global greenhouse gas emissions from food production



Data source: Joseph Poore & Thomas Nemecek (2018). Reducing food's environmental impacts through producers and consumers. Published in *Science*.  
Licensed under CC-BY by the author Hannah Ritchie (Nov 2022).

# Climate change trends and statistics



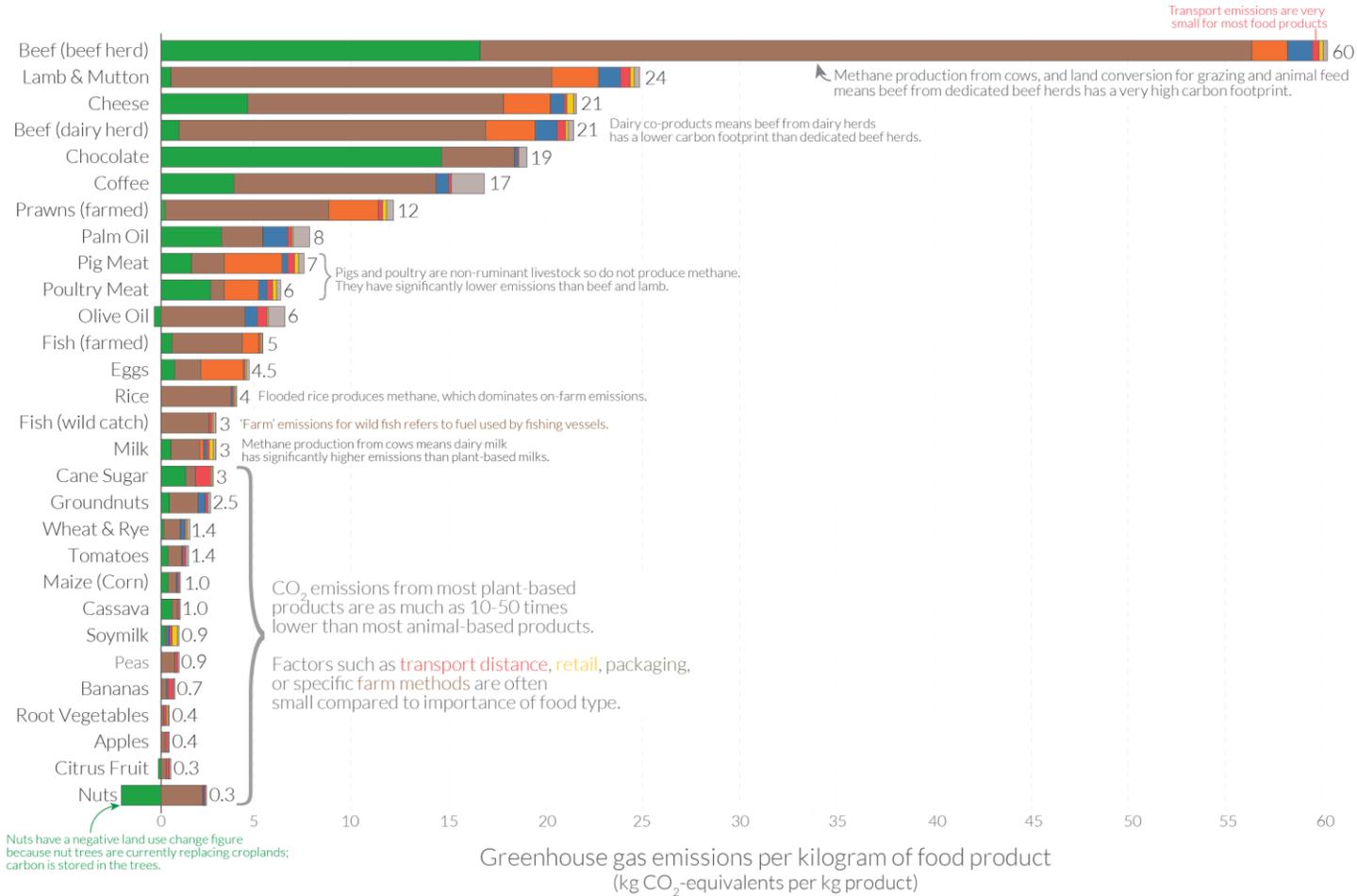
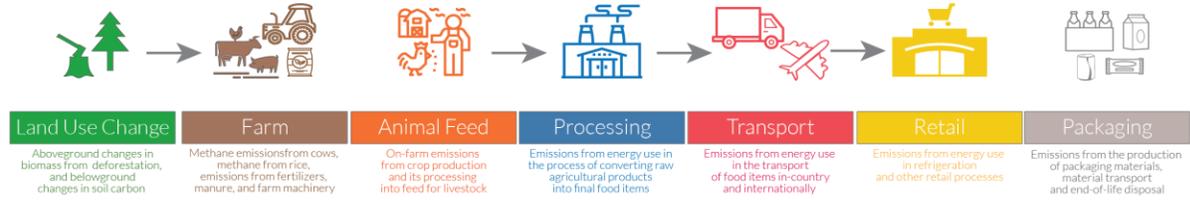
2017 Climate Science Special Report, Figure ES-3

**What can we do?**

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# Nourish & Sustain

# Food: greenhouse gas emissions across the supply chain



Note: Greenhouse gas emissions are given as global average values based on data across 38,700 commercially viable farms in 119 countries.

# Mediterranean Diet

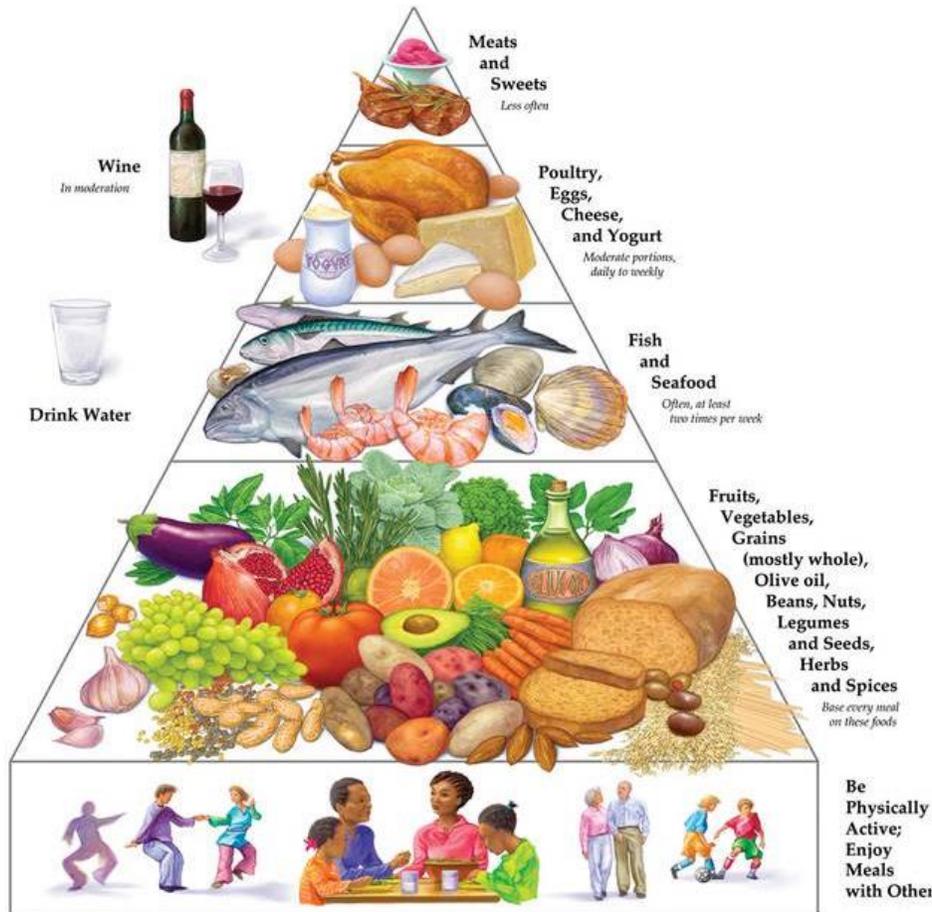


Illustration by George Middleton  
© 2009 Oldways Preservation and Exchange Trust

[www.oldwayspt.org](http://www.oldwayspt.org)

## Enjoy daily

Fruits  
Vegetables  
Whole Grains  
Beans/Legumes  
Nuts/Seeds  
Olive Oil  
Healthy beverages

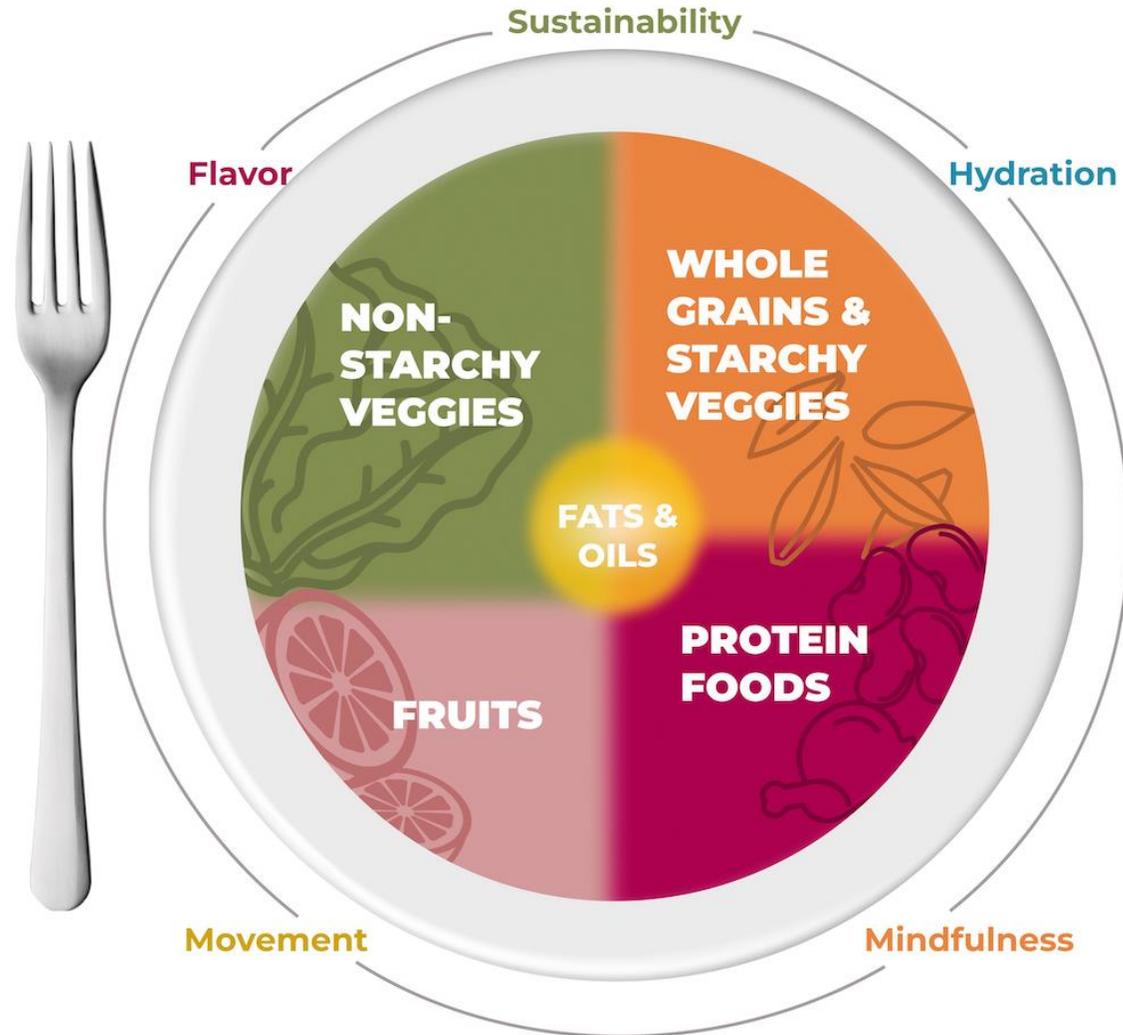
## Enjoy a few times per week

Seafood  
Poultry  
Eggs  
Cheese  
Yogurt

## Enjoy on occasion

Red meat  
Refined grains and sugar

# THE WHOLE LIFE PLATE™



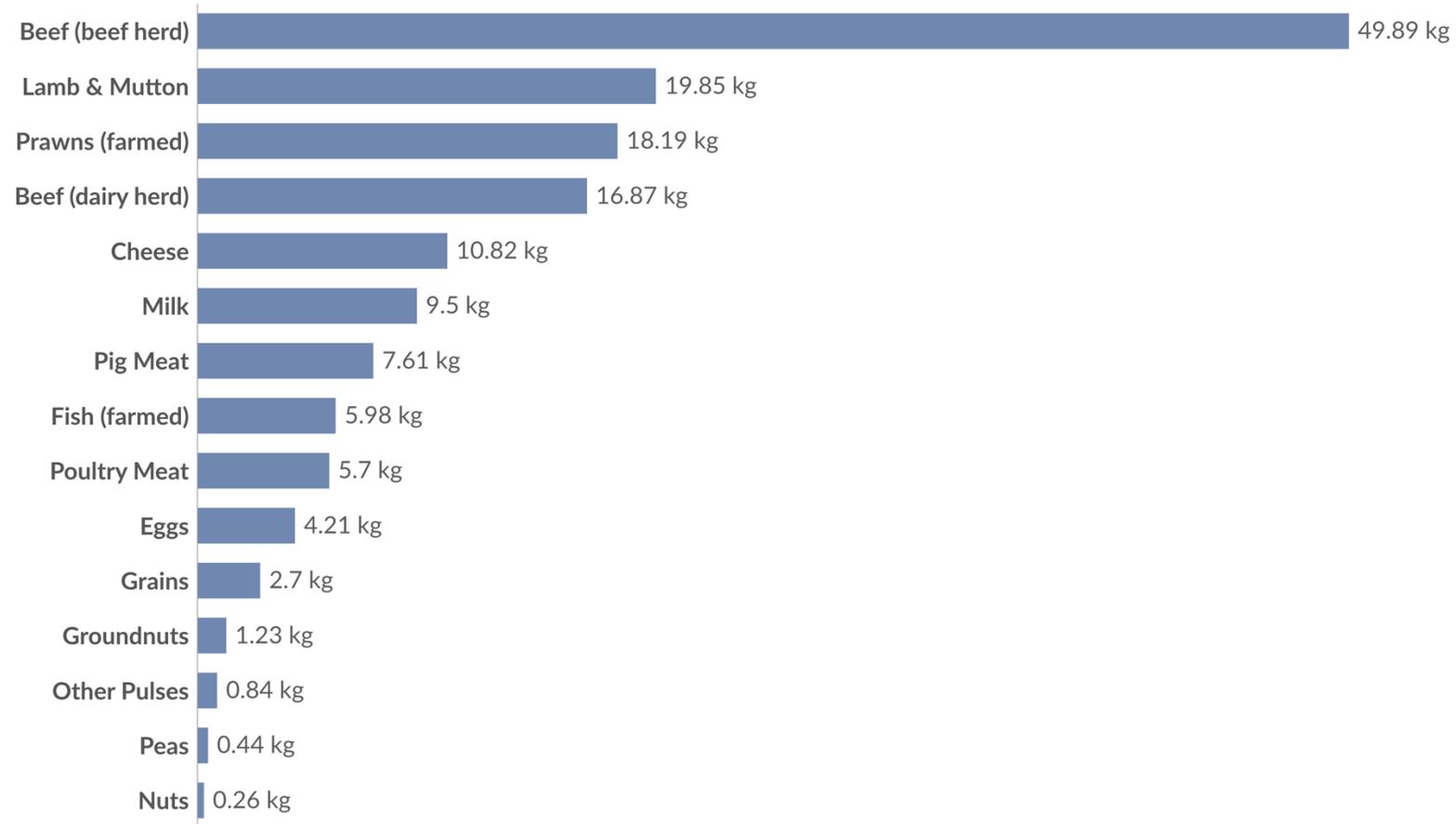
# Plant-forward Dietary Pattern

- Encourages focus of meal to be on plant foods
  - Beans, legumes, nuts, seeds, fruits, vegetables, whole grains, herbs, spices, plant oils
- Animal foods are considered “complements” or “supplements”
  - Dairy, seafood, poultry, eggs, red meat

# Greenhouse gas emissions per 100 grams of protein



Greenhouse gas emissions<sup>1</sup> are measured in kilograms of carbon dioxide-equivalents<sup>2</sup>.



Data source: Poore and Nemecek (2018)

OurWorldinData.org/environmental-impacts-of-food | CC BY





# Women's nutrition across the lifespan



**Calories**  
**Protein**  
**Essential Fatty Acids**  
**Iron**  
**Vitamin A**  
**Calcium**  
**Phytonutrients**

# **Nutrition & Disaster Preparedness**

# Stocking a Healthy Kitchen

## Pantry

- Intact whole grains
- Canned &/or dried beans
- Dried fruit
- Nuts & seeds
- Potatoes & sweet potatoes
- Canned tomatoes
- Broth/stock
- Oils & vinegars
- Spices & herbs
- Baking essentials
- Onions & garlic

## Fridge

- Fresh fruits
- Fresh vegetables
- Eggs
- Milk/milk alternative
- Cheese
- Yogurt/kefir
- Condiments
- Lemon/lime juice

## Freezer

- Corn & whole wheat tortillas
- Whole grain bread
- Cooked beans
- Cooked whole grains
- Frozen vegetables
- Frozen fruit
- Seafood & poultry

# Eating Well During Emergency Travel

- Prepare ahead with grab-and-go freezer snacks and meals
- Choose whole foods
- Balance meals & snacks with carbohydrates, fat, and protein



# Eating Well on a Budget

- Prioritize plants
- Purchase in bulk
- Eat with the seasons
- Plan ahead
- Minimize dining out
- Cook once, eat multiple times
- Reduce waste
- Freeze leftovers



# Budget-Conscious & Disaster-Preparedness Recipe Ideas

- Pantry staple recipes using minimal equipment
  - [Black bean tostadas with salsa](#)
  - [Black bean corn salad](#)
  - [Overnight oats](#)
  - [Tuna chickpea salad](#)
  - [Mediterranean tuna salad](#)
  - [Oat energy bites](#)



# Budget-Conscious & Disaster-Preparedness Recipe Ideas

- Freezer-friendly/pantry staple recipes
  - [Whole wheat pancakes](#)
  - [Whole grain muffins](#)
  - [Whole wheat quesadillas](#)
  - [Oat cups](#)
  - [Lentil curry](#)
  - [Bean burgers](#)
  - [Instant pot beans](#)



# Key Takeaways



# Individual Actions

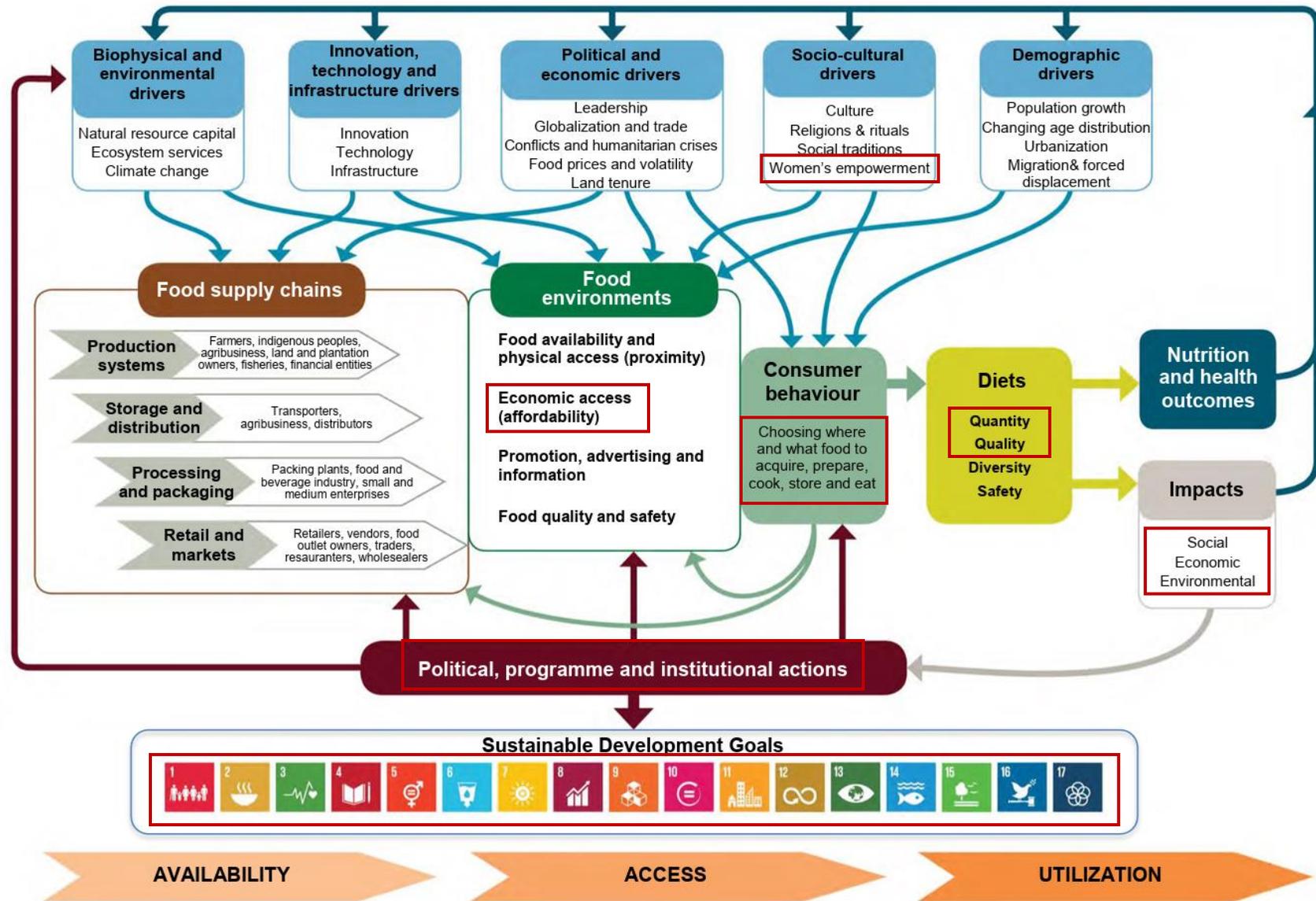
- Eat a whole food, plant-forward diet
- Learn how to cook
- Create a meal plan and pattern that works for you
- Reduce food waste
- Support local farmers/producers
- Donate to mission-aligned organizations
- Prepare your home for emergency scenarios



# Group Actions

- Start a food drive
- Get involved in a community garden
- Support farm-to-school initiatives
- Join an advocacy group
  - Project Bread, Spoonfuls, Feeding America, Slow Food
- Join a food co-op or community-supported agriculture
- Volunteer at a food bank, shelter, or packing facility
  - Community Servings, Food for Free, Food Recovery Network

Figure 1 Conceptual framework of food systems for diets and nutrition



# Women's Education & Food Systems

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Increases agricultural productivity

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Improves household nutrition and health

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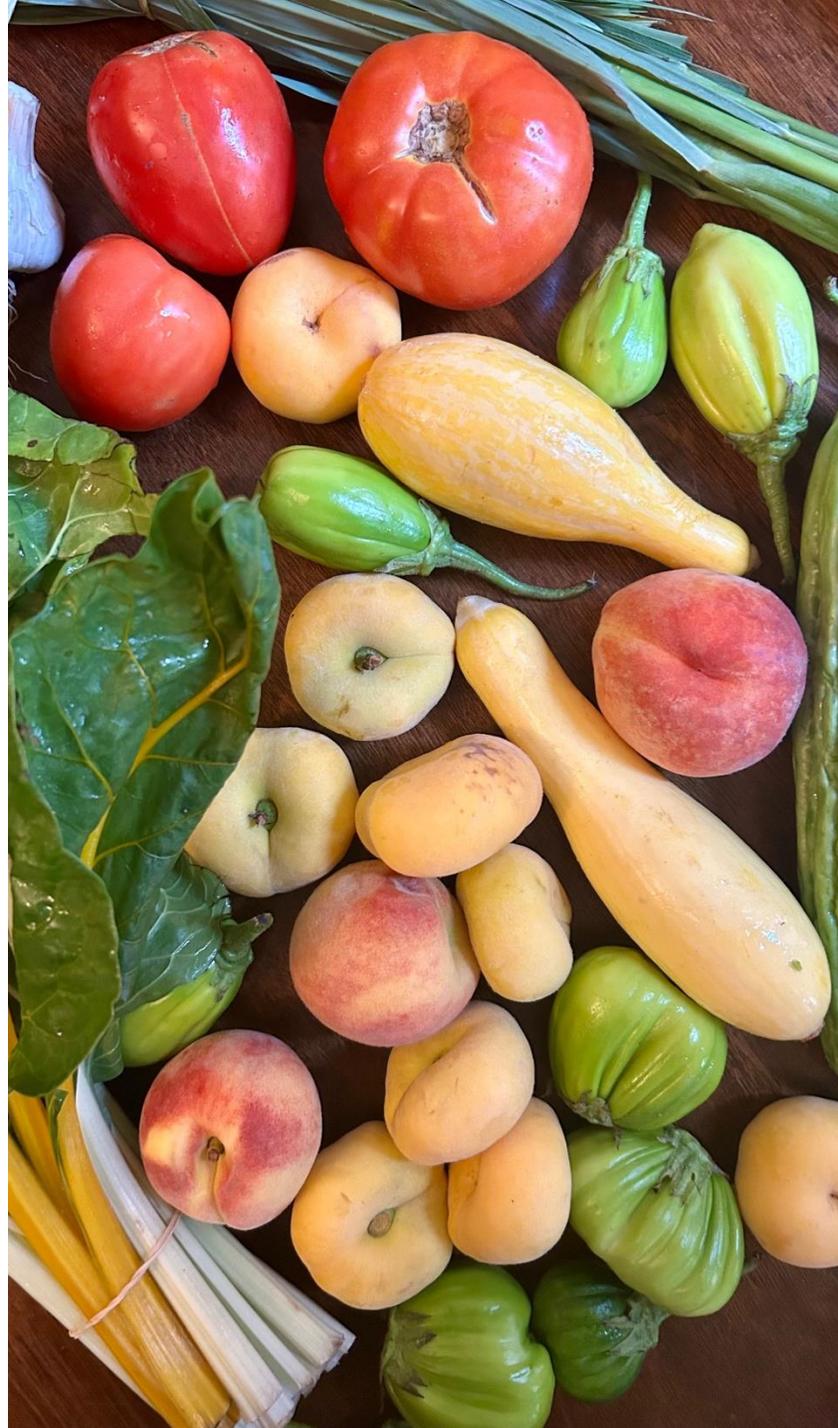
Strengthens economies

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Promotes gender equity

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Enhances climate resilience



# Thank you!

Contact: [lexi.cole@tufts.edu](mailto:lexi.cole@tufts.edu)

