

Briefing Paper: 1

HUNGER



Commoning Food Sovereignty Workbook

May 2024

Hunger

9 million die of hunger every year.

828 million people go hungry every day.

2.9 billion people – 29.6% of the world population – do not have adequate access to food.

A food system that provides food to only those who can afford to pay for food can never alleviate hunger but can only deepen it. This briefing paper presents an overview of hunger within our world and community.

Food Security

In 1996, the World Food Summit in Rome defined food security as existing ‘when all people, at all times, have physical, social, and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life’.

The four key dimensions of food security include: availability, access, utilization, and stability.

Food availability means the physical existence of a sufficient quantity of food of appropriate quality, determined by domestic food production, domestic stocks, food imports, and/or food aid.

Food access can be achieved through growing one’s own food, food affordability, or other means of food acquisition of appropriate food products for a nutritious diet

Food utilization refers to the process through which the body utilizes various nutrients in the food. It also requires proper food preparation and hygiene practices, sound eating habits, a diverse diet which necessitates availability of all essential nutrients and proper distribution of food within a household.

Food stability strives to secure the dimensions of food availability, access and utilization over time. For example, access to food should remain unaffected even during sudden shocks such as war, climate events, or economic crises. Ultimately, food security emerges with the simultaneous fulfillment of all four dimensions.

FAO Measurement of Food Security

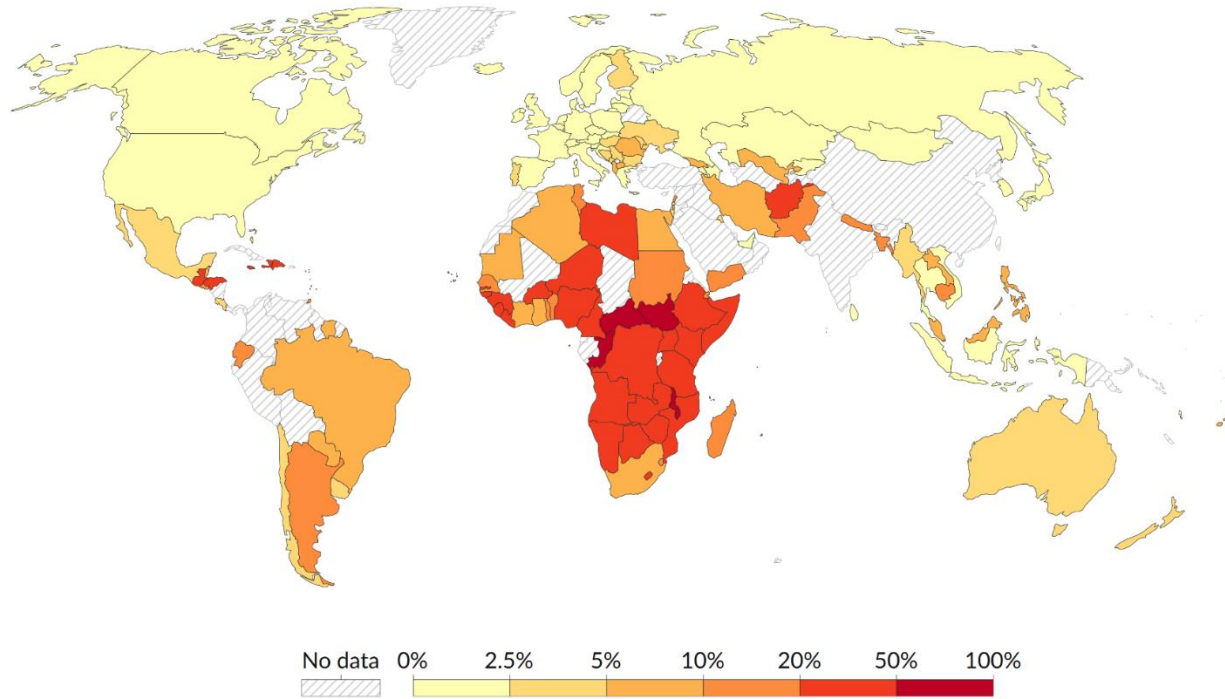
For decades, the Food and Agriculture Organization (FAO) of the UN has estimated the extent of hunger in the world by measuring how many people do not have regular access to enough calories (dietary energy), for an active and healthy life. Most countries in the world have adequate data available to make this calculation.

- Absolute food insecurity is evaluated by estimating the share of the population who cannot afford to reach a caloric threshold of 2100 kilocalories per person per day. (The average American consumes 3500 calories daily.)
- Poor people eat the cheapest food source of calories available to them: corn, rice, and other grains.
- Researchers define the minimum cost of obtaining sufficient calories using the least-cost available starchy staple food in each country.
- The global *average* price for a calorie-sufficient (food secure) diet is \$0.84 daily.
- Researchers define unaffordability of a food secure diet by whether someone spends more than 52% of their income on food. Researcher chose the 52% threshold because it reflects the share of income people at the lowest income levels typically do spend on food.
- We might think of this calorie-sufficient threshold as the nutritional equivalent to the \$1.90 international poverty line. It is the absolute bare minimum. It is a *very* low threshold that allows us to identify those living in the most dire of circumstances.

Share of population with severe food insecurity, 2021

Someone suffering from severe food insecurity¹ has an insufficient quantity of food. They will experience symptoms such as physical hunger.

Our World
in Data



Data source: Food and Agriculture Organization of the United Nations (2023)
OurWorldInData.org/hunger-and-overnourishment | CC BY

In 2021, 0.7 percent of people living in the U.S. could not afford sufficient calories required for survival compared to 42.9% in Haiti.

In the map, undernourishment means people cannot afford or do not have access to the minimum **calorie** consumption required for survival. They are starving.

Forty percent of hungry people face acute levels of hunger. 9 million people die from hunger every year, many of them children under five.

149 million children suffer stunting, another 45 million from wasting. Wasting in children is associated with a higher risk *of death* if not treated properly. Stunting is defined as low height-for-age.

In 2022, the number of people with acute hunger increased 22% due to the conflict in Ukraine.

<https://ourworldindata.org/hunger-and-overnourishment>

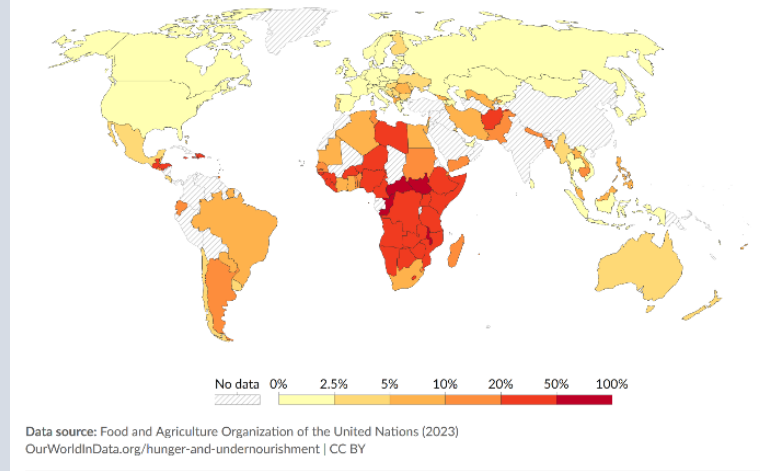
Hannah Ritchie (2021) - "Three billion people cannot afford a healthy diet" Published online at OurWorldInData.org.

World Hunger Facts: <https://concernusa.org/news/world-hunger-facts/>

Jose Luis Vivero Pol, Food as a Commons. SRN Electronic Journal, April 2013.

Share of population with severe food insecurity, 2021

Someone suffering from severe food insecurity¹ has an insufficient quantity of food. They will experience symptoms such as physical hunger.



- People living in Sub-Saharan Africa experience the most severe food insecurity.
- People living in wealthier countries spend less of their income on food.
- In 2022, U.S. households in the lowest income quintile spent an average of \$5,090 on food (representing **31.2 percent** of income), while households in the highest income quintile spent an average of \$15,713 on food (representing 8.0 percent of their average income).

Food and Agriculture Organization of the United Nations - Food Security and Nutrition: Suite of Food Security Indicators (2023).

United States Department of Agriculture Food Security Measurement

Only two high income countries regularly monitor food security: U.S. and Canada.

USDA defines household food **security** as having “access at all times to enough food for an active, healthy life for all household members”.

USDA defines food **insecurity** as “a household-level economic and social condition of limited or uncertain access to adequate food”.

This operational measure of food insecurity does not specifically address whether the household members’ food intake was sufficient for active, healthy lives—the conceptual definition of food security.

Instead, the survey items ask about specific symptoms of hardship, referred to as the U.S. Household Food Security Survey Module (see next page).

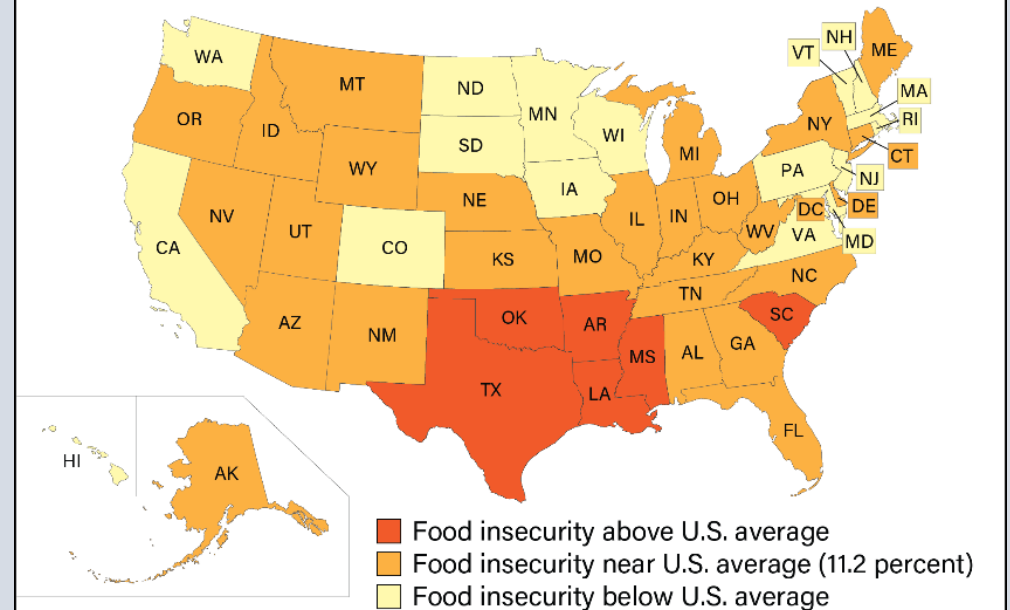
Since 1995, USDA has used Census Bureau survey data to estimate the annual prevalence of household food insecurity, a measure of food-related hardship. It is the standardized instrument to measure food insecurity in the United States and at the state and local levels.

For decades, US policies to address hunger and food insecurity have focused largely on providing sufficient calories or quantities of food. The survey does not include questions about nutrition beyond the two questions that refer to an undefined balanced meal.

USDA largely defines food access to mean access to supermarkets.

Nearly 13% of American households were food insecure in 2022.
That means some 17 million families, or **1 in 8** U.S. households.

Prevalence of food insecurity, average 2020–22



Note: States that are categorized as near U.S. average have prevalence rates not statistically significantly different from the U.S. average.

Source: USDA, Economic Research Service using data from U.S. Department of Commerce, Bureau of the Census, 2020, 2021, and 2022 Current Population Survey Food Security Supplements.

Irma Arteaga, Parke E. Wilde, Measuring Food Security in the United States for More Than 25 years: History, Methods, Findings, and Opportunities, *Journal of the Academy of Nutrition and Dietetics*, Volume 123, Issue 10, Supplement, 2023, Pages S5-S19,

Survey Questions Used by USDA To Assess Household Food Security

1. "We worried whether our food would run out before we got money to buy more." Was that often, sometimes, or never true for you in the last 12 months?
 2. "The food that we bought just didn't last and we didn't have money to get more." Was that often, sometimes, or never true for you in the last 12 months?
 3. "We couldn't afford to eat balanced meals." Was that often, sometimes, or never true for you in the last 12 months?
 4. In the last 12 months, did you or other adults in the household ever cut the size of your meals or skip meals because there wasn't enough money for food? (Yes/No)
 5. (If yes to question 4) How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?
 6. In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money for food? (Yes/No)
 7. In the last 12 months, were you ever hungry, but didn't eat, because there wasn't enough money for food? (Yes/No)
 8. In the last 12 months, did you lose weight because there wasn't enough money for food? (Yes/No)
 9. In the last 12 months did you or other adults in your household ever not eat for a whole day because there wasn't enough money for food? (Yes/No)
 10. (If yes to question 9) How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?
- (Questions 11–18 were asked only if the household included children age 0–17)**
11. "We relied on only a few kinds of low-cost food to feed our children because we were running out of money to buy food." Was that often, sometimes, or never true for you in the last 12 months?
 12. "We couldn't feed our children a balanced meal, because we couldn't afford that." Was that often, sometimes, or never true for you in the last 12 months?
 13. "The children were not eating enough because we just couldn't afford enough food." Was that often, sometimes, or never true for you in the last 12 months?
 14. In the last 12 months, did you ever cut the size of any of the children's meals because there wasn't enough money for food? (Yes/No)
 15. In the last 12 months, were the children ever hungry but you just couldn't afford more food? (Yes/No)
 16. In the last 12 months, did any of the children ever skip a meal because there wasn't enough money for food? (Yes/No)
 17. (If yes to question 16) How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?
 18. In the last 12 months did any of the children ever not eat for a whole day because there wasn't enough money for food? (Yes/No)

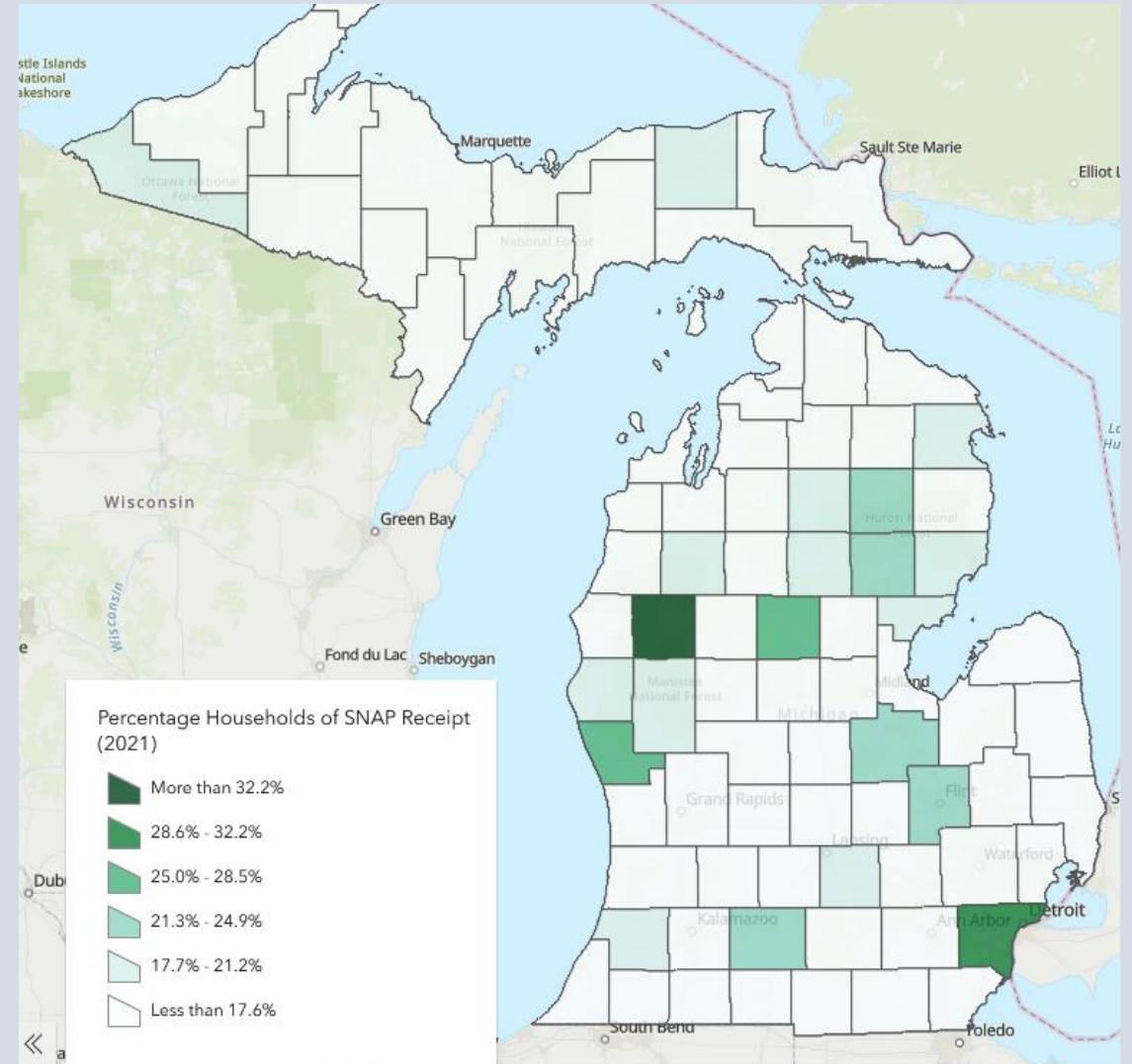
<https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/measurement/>

The USDA does not make available its food insecurity data on the county or census tract level.

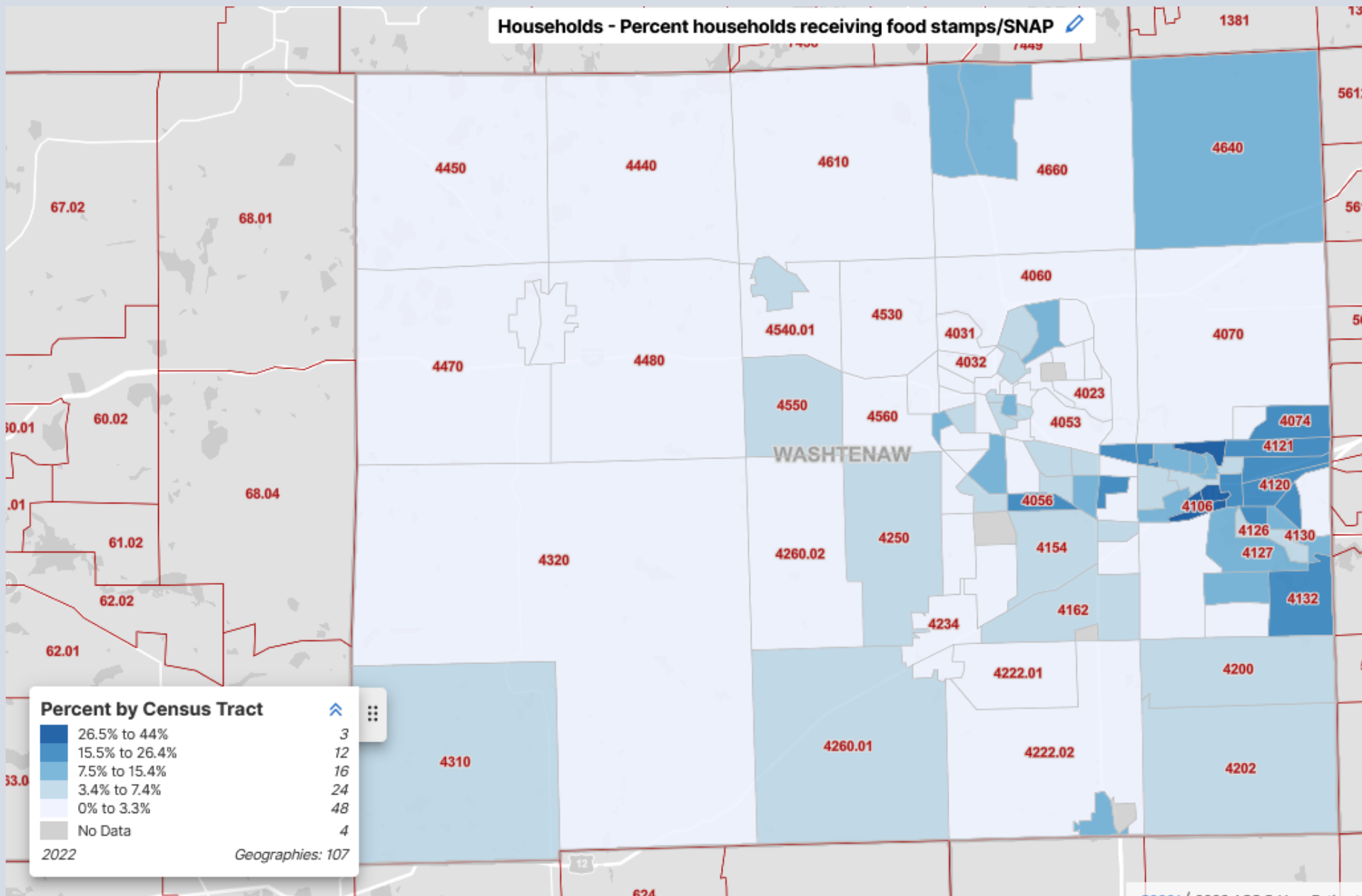
In this presentation, the percentage of households receiving SNAP (Food Stamps) recipients stands in for USDA food insecurity data. SNAP is the largest U.S. government nutrition assistance program

In 2021, 12% of Michigan households met USDA's food insecurity threshold, compared to 10% nationally.

Independent researchers identified the Washtenaw County household food insecurity level at 10%.



Washtenaw Percent of Households Receiving Food Stamps (SNAP)



Independent researchers identified the household food insecurity at the census tract level.

Nutrition Security

UN Definition of Nutrition Security

The need to secure access to an appropriately nutritious diet, comprising all essential nutrients and water, coupled with a sanitary environment and adequate health services and care to ensure a healthy and active life for all household members has been defined by the Food and Agriculture Organization (FAO) of the UN as nutrition security, hence emphasizing the health component and reflecting the nutritional status of the individual or community.

Nutrition Security

The Green Revolution deliberately invested in agricultural technologies to expand yields of specific staple crops such as wheat, maize, and rice to increase available calories. Caloric insufficiency was largely eliminated in the US and greatly reduced globally; yet disparities remained in access to healthy and affordable food, and at the same time the prevalence of obesity in the US increased significantly.

A healthy diet is about much more than calories: we need a wide range of nutrient-dense foods to get all of the vitamins and minerals that are essential for good health. Eating only cereals and starchy foods will leave us deficient in protein, essential fats and the wide range of micronutrients that our bodies need to function optimally.



Mozaffarian D, Fleischhacker S, Andrés JR. Prioritizing Nutrition Security in the US. *JAMA*. 2021;325(16):1605–1606. doi:10.1001/jama.2021.

Hannah Ritchie (2021) - "Three billion people cannot afford a healthy diet" Published online at OurWorldInData.org

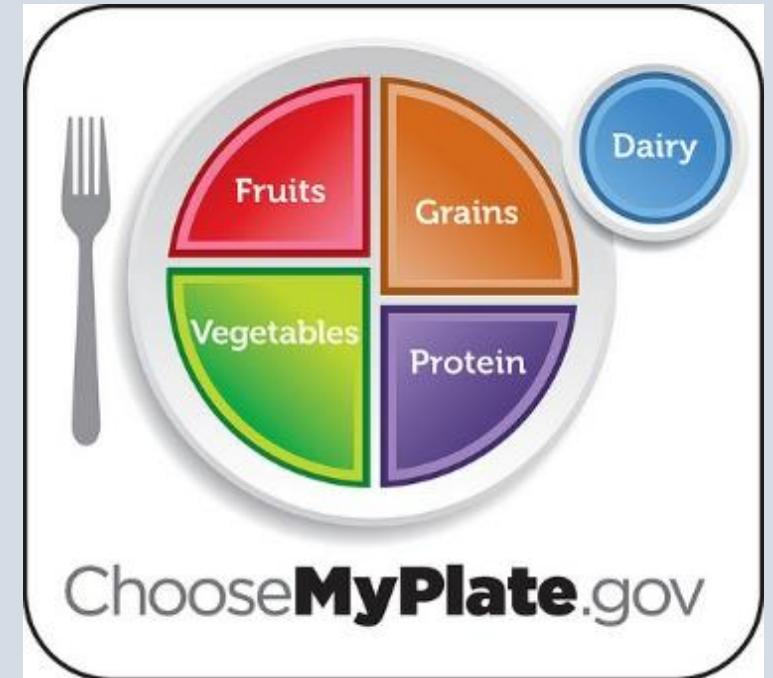
Nutrition Security and Measurement

However, healthy diets are expensive. This is true in every country in the world.

Most countries develop food-based dietary guideline' which provide recommendations on what a healthy diet would look like. This includes guidelines on what balance of foods across the many groups – cereals, fruits, vegetables, legumes, meat and dairy – is considered best for long-term health.

Researchers looked at the lowest-cost options to meet these national food-based dietary guidelines. Of course, there is no universal 'healthy diet', particularly when we consider the strong cultural differences in what people eat. So, the researchers selected dietary guidelines which were regionally representative: this means we're not expecting that people in India or Japan will adopt the national dietary guidelines of the United States, or vice versa.

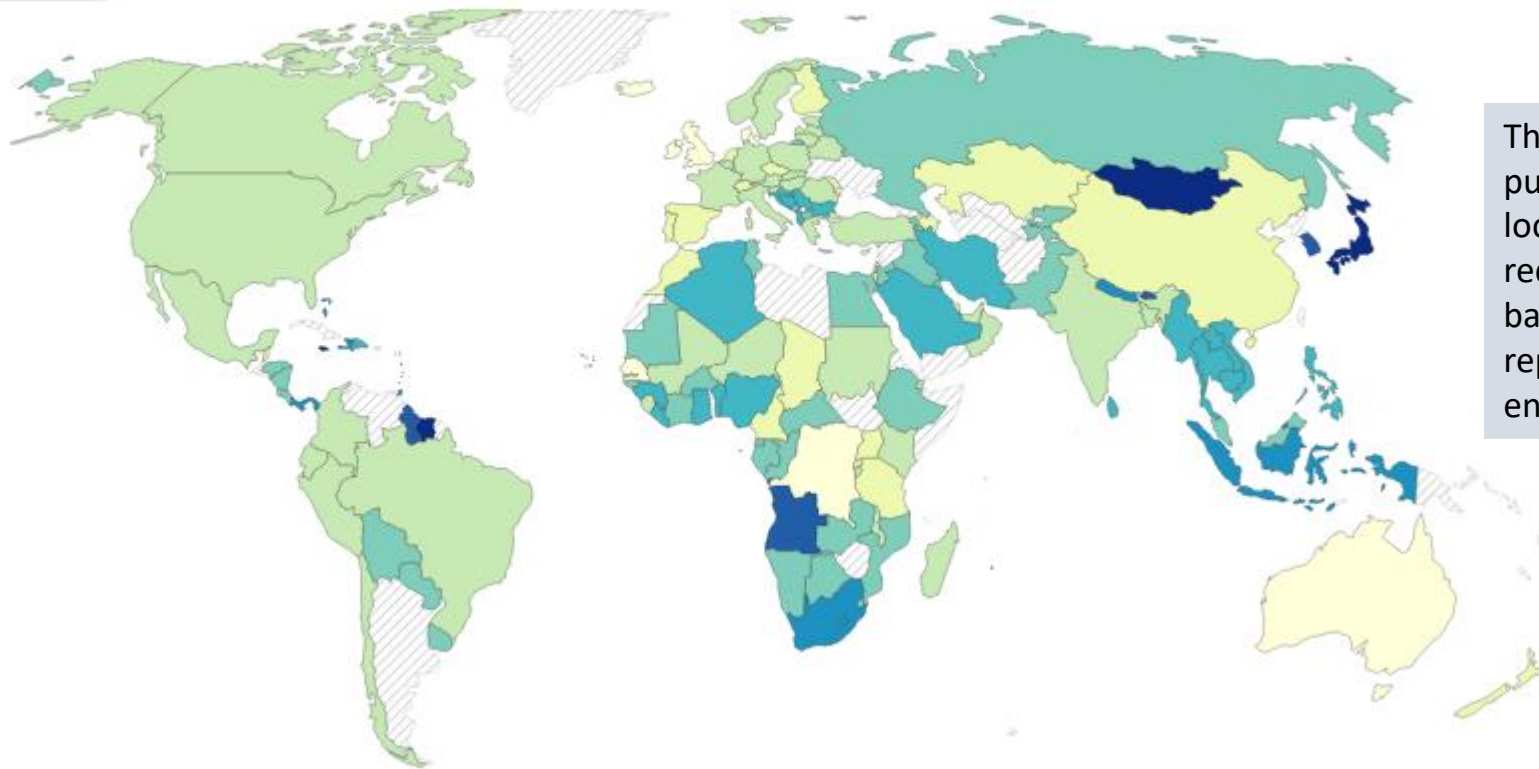
See following map.



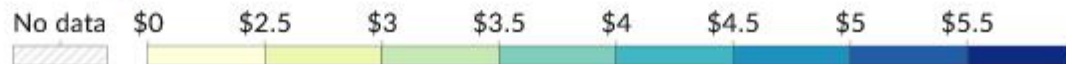
Daily cost of a healthy diet, 2021

The cost of a healthy diet is the lowest-cost set of foods available that would meet daily requirements in dietary guidelines from governments and public health agencies. This data is adjusted for differences in the cost of living between countries, but not for inflation.

Table Map Chart



The map depicts the cost of purchasing the least expensive, locally available foods to meet requirements for energy and food-based dietary guidelines for a representative person within an energy balance of 2330 kcal/day.



Nutrition Security Measurement

Researchers then defined the affordability of a healthy diet as spending less than 52% of income on it. People cannot spend all, or even most, of their income on food as they would not have the nothing left to spend on other essentials such as energy, housing, clothing, education and healthcare.

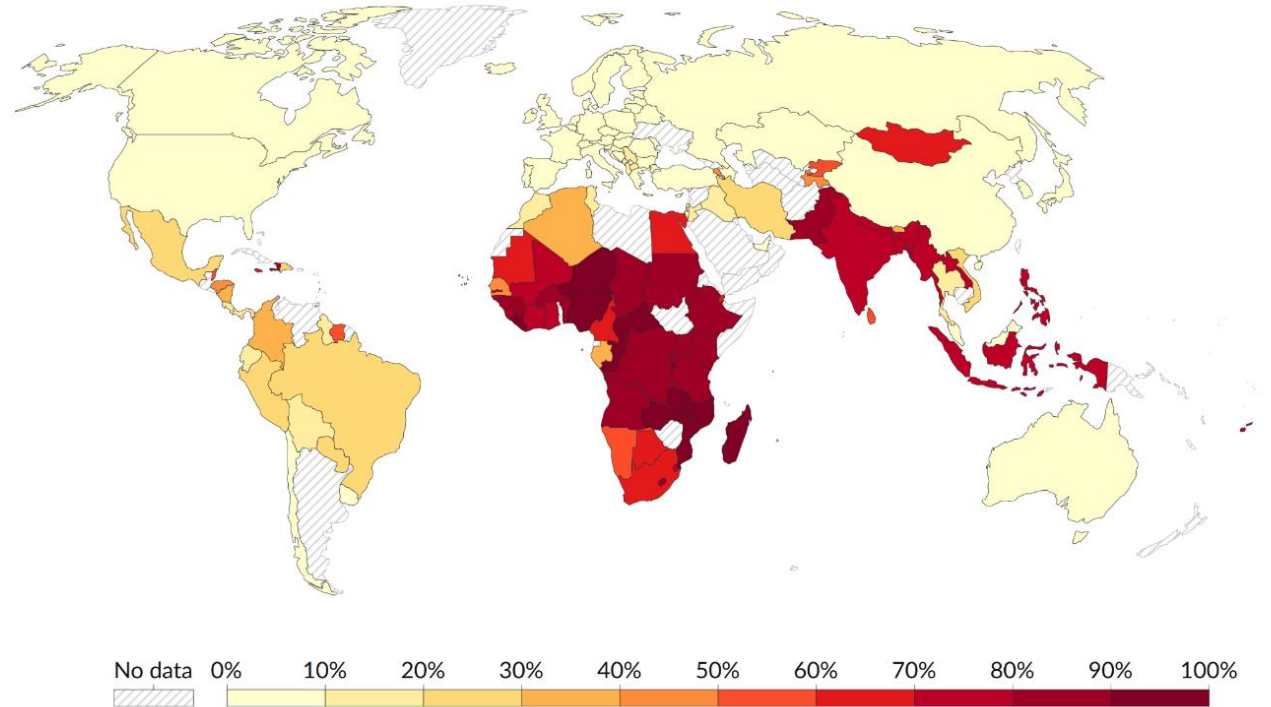
The map depicts this affordability as a percentage of the total population.

- Three billion people cannot afford a healthy diet.
- In some countries, India the largest among them, dietary costs would be roughly equal to the median income. In these countries, people would need to spend all of their income on food to afford a healthy diet.
- In many countries, particularly across Sub-Saharan Africa, a healthy diet is out-of-reach for more than 90%.
- In the U.S, 1% cannot afford a healthy diet.

Share of population that cannot afford a healthy diet, 2021

Our World
in Data

A diet is deemed unaffordable if it costs more than 52% of a household's income. The cost of a healthy diet is the lowest-cost set of foods available that would meet requirements in dietary guidelines from governments and public health agencies.



Data source: Herforth et al. (2022), adapted by World Bank (2023)

OurWorldInData.org/food-prices | CC BY

One third of the world population cannot afford a healthy diet.

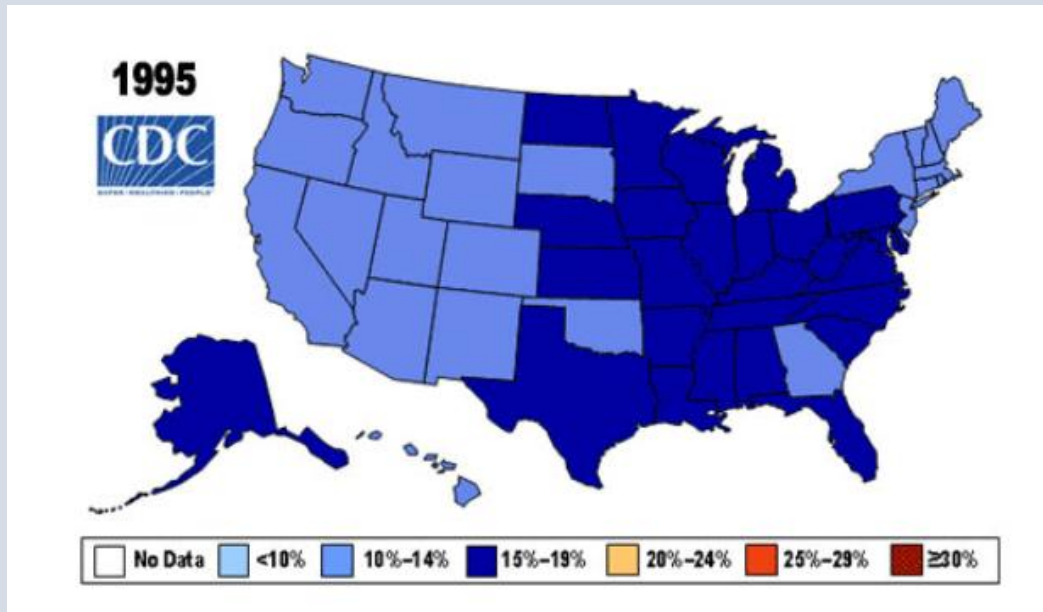
Food security based on nutrition is four times more expensive than a calorie-sufficient diet.

Even when knowing the need for nutrition security, the policies and programs of many nations that address food security continue to place a greater emphasis on access to quantity, rather than quality, of food.

The USDA only makes minor investments in nutrition education, which reaches only 15% of SNAP participants. Its fruit and vegetable incentive program budgets \$1.25 per participant per year.

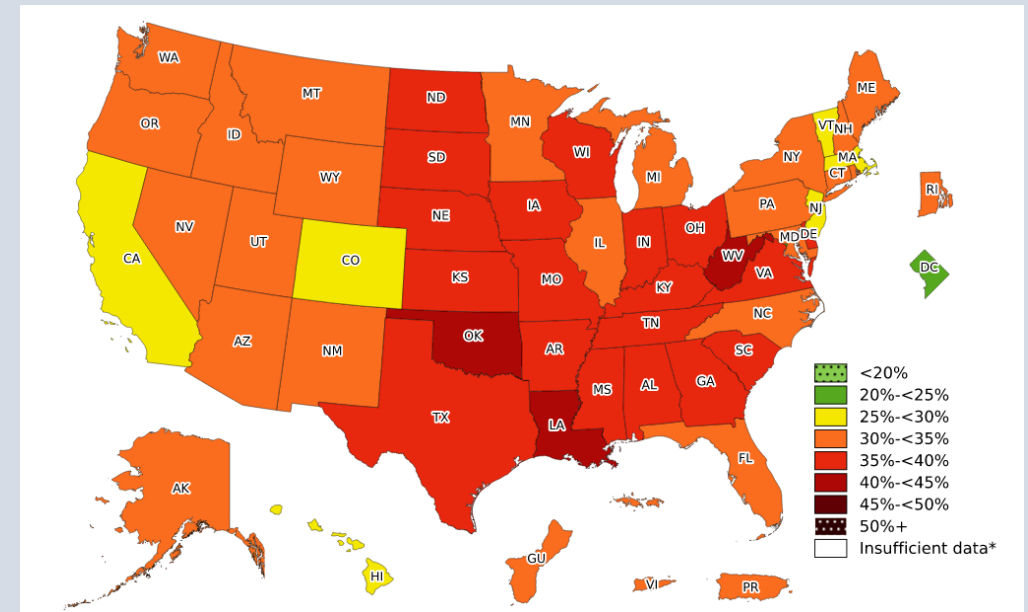
Malnutrition

The prevalence of obesity and diabetes is at an all-time high, with highest risk among individuals who are food insecure. The two maps below show how obesity has increased. This shows the percentages of the U.S. population medically defined as obese, which means a body mass index of 30 or greater. Over the past 30 years, the U.S. obesity rate has nearly tripled.



National obesity rate in 1995: 15.6%

<https://www.theatlantic.com/health/archive/2013/04/look-how-quickly-the-us-got-fat-1985-2010-animated-map/274878/>



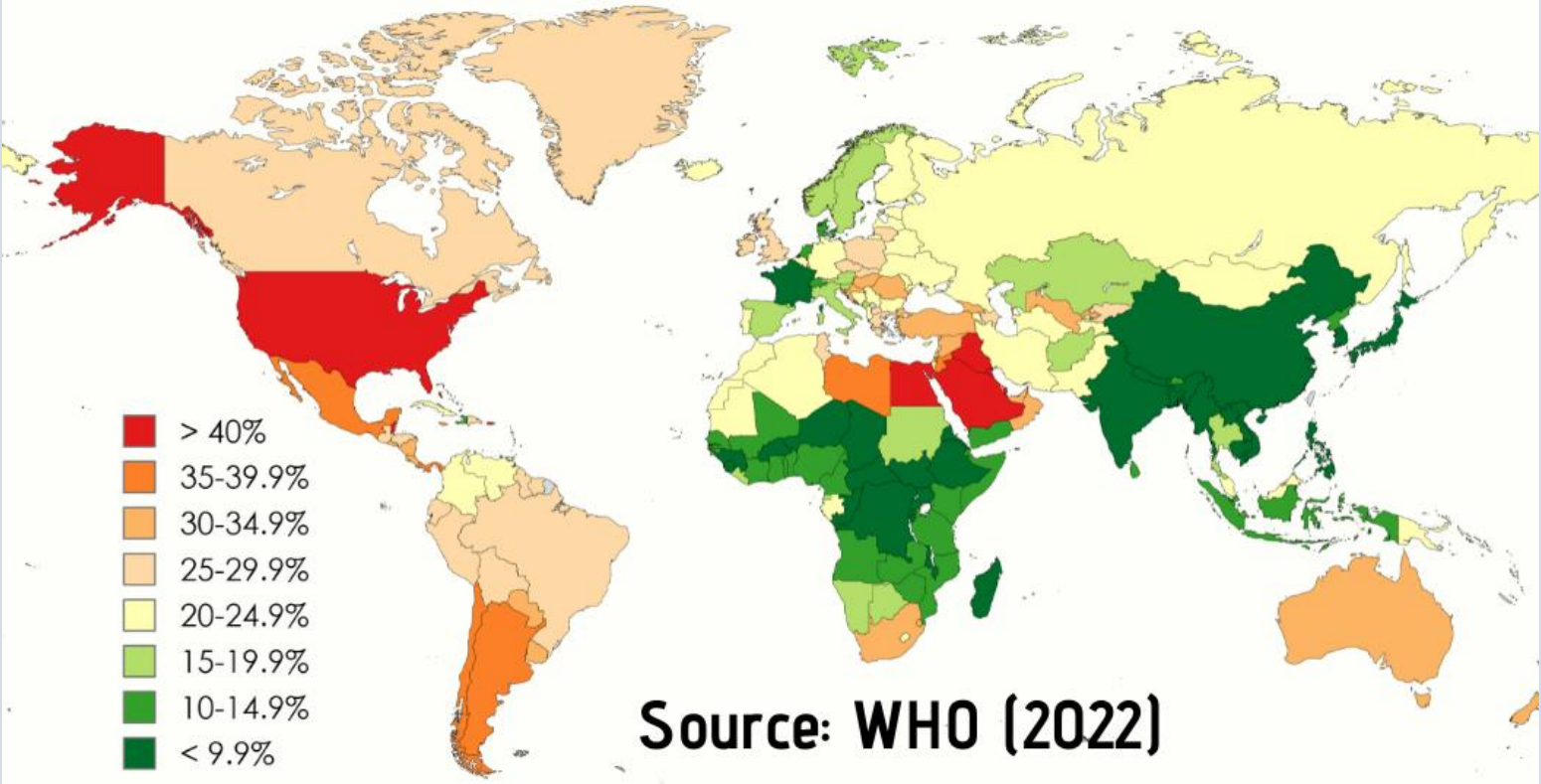
National obesity rate in 2022: 41.9%

<https://www.cdc.gov/obesity/data/prevalence-maps.html>

State of Obesity 2023, Trust for America's Health. Online Resource
<https://www.tfah.org/report-details/state-of-obesity-2023/>

Mozaffarian D, Fleischacker S, Andrés JR. Prioritizing Nutrition Security in the US.
JAMA. 2021;325(16):1605–1606. doi:10.1001/jama.2021.1915

Obesity Rate by Country, 2022

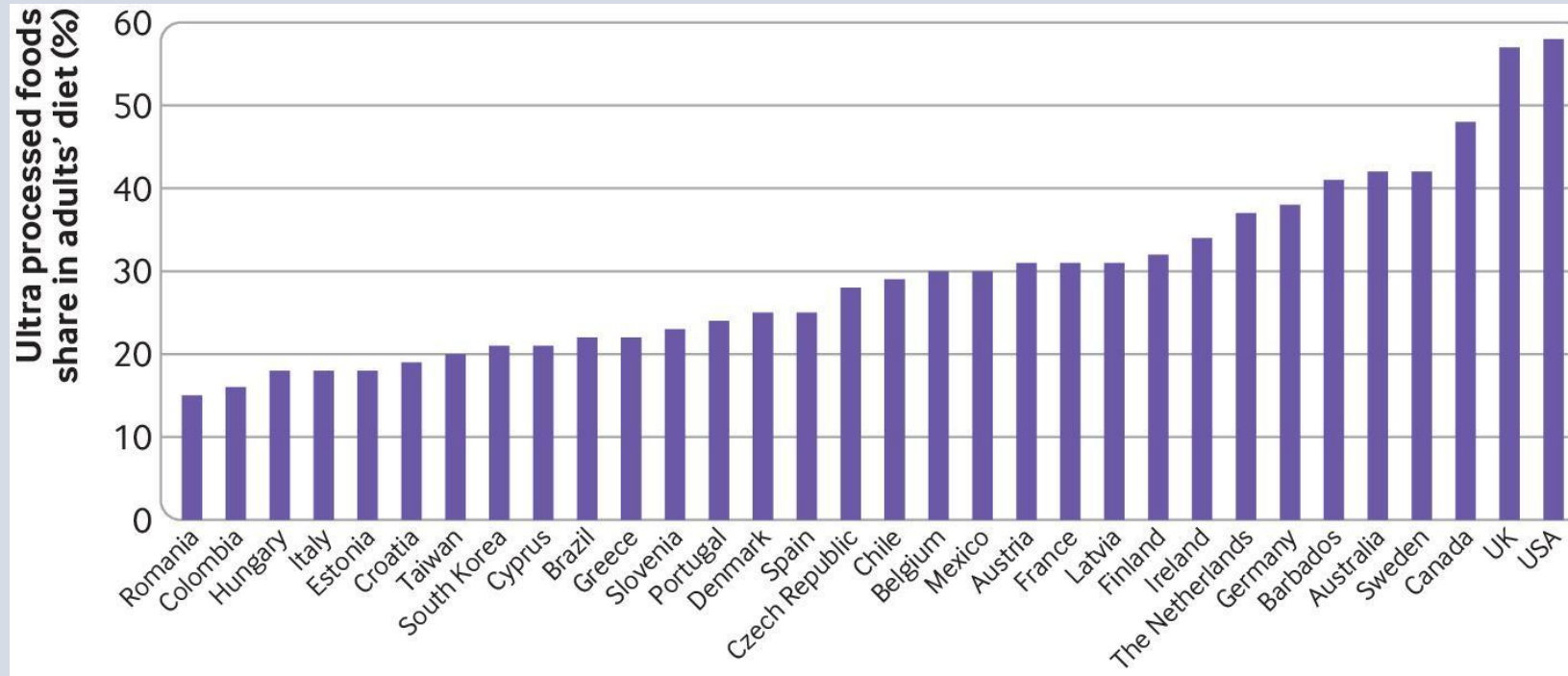


Consistent evidence shows that higher exposure to ultra-processed foods is associated with an increased risk of 32 damaging health outcomes including cancer, major heart and lung conditions, mental health disorders, and early death. (British Medical Journal (2024).

Ultra-processed food exposure and adverse health outcomes: umbrella review of epidemiological meta-analyses
doi: 10.1136/ bmj-2023-077310



Mean proportion of ultra-processed foods in adults' diet across countries (% energy intake) from nationally representative surveys.

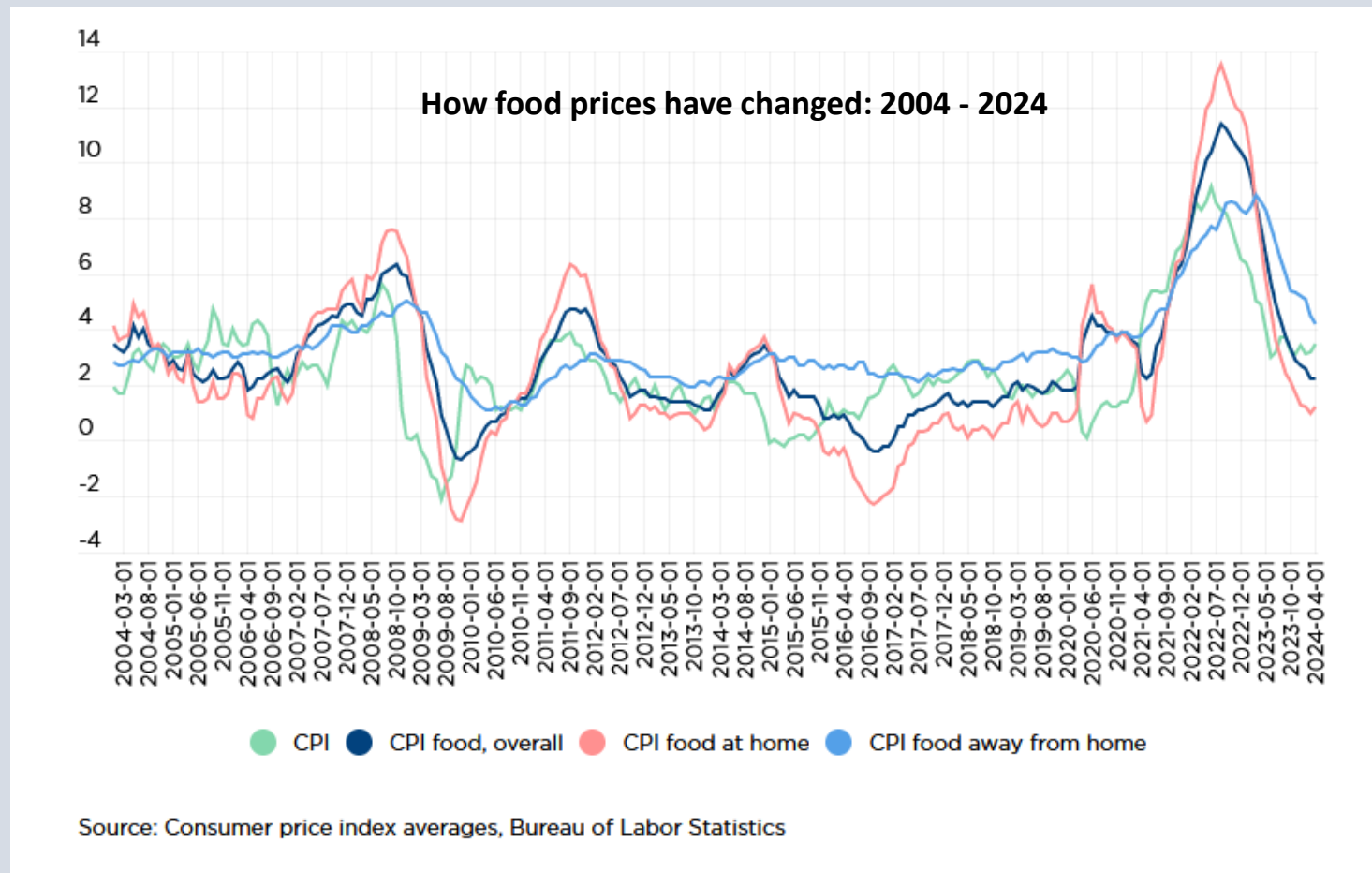


Mathilde Touvier et al. *BMJ* 2023;383:bmj-2023-075294



Increasing Food Prices Increases Food and Nutrition Insecurity

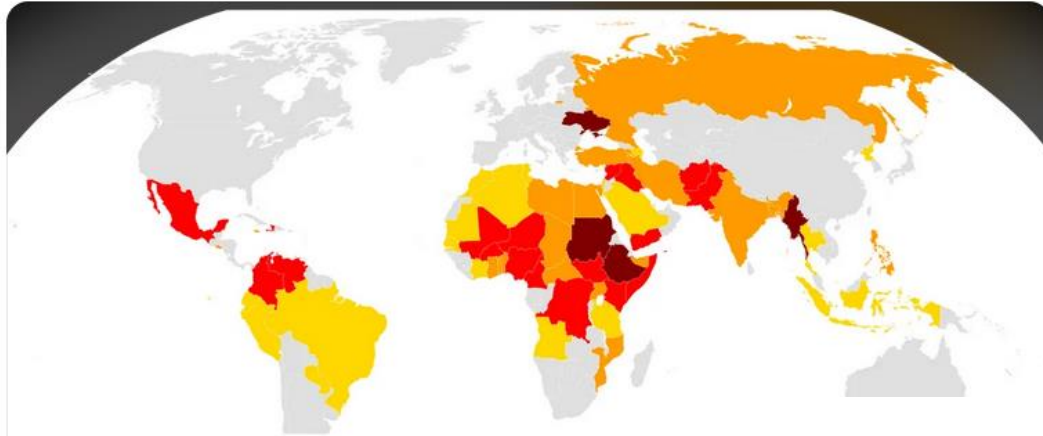
The affordability of food decreases when food prices increase.



Rising prices make food even less affordable.

Major factors affecting the price of food, beyond inflation, include armed conflict, global warming, and corporate greed.

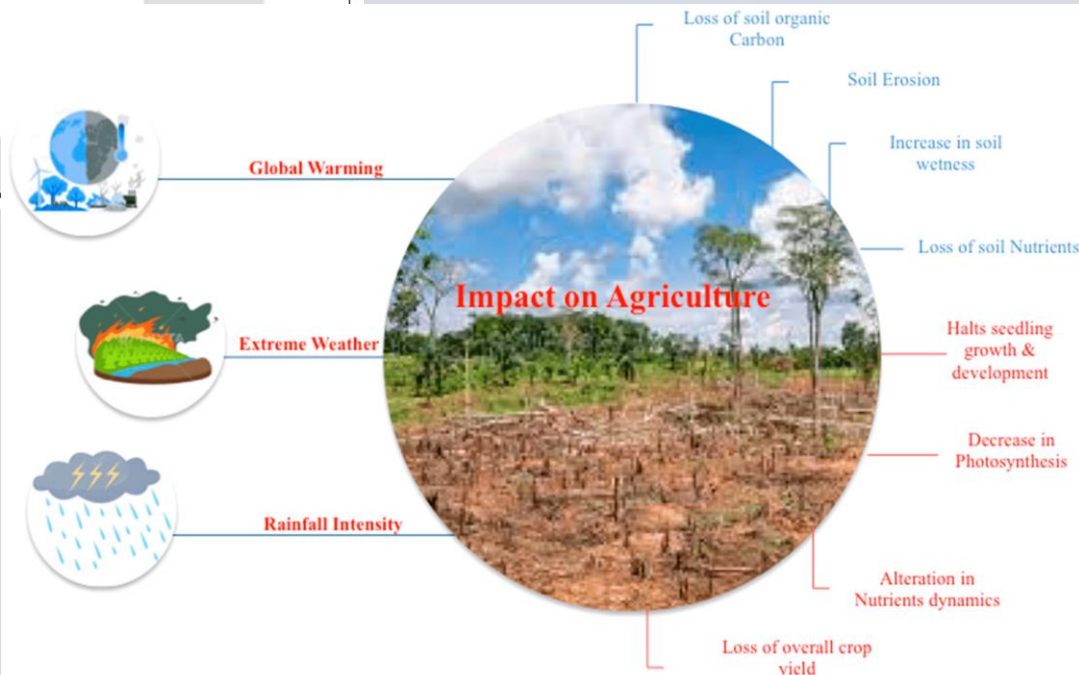
Map of ongoing armed conflicts in the world in 2023 [Wikipedia]



Map of ongoing armed conflicts (number of combat-related deaths in current or past year):

- Major wars (10,000 or more)
- Wars (1,000-9,999)
- Minor conflicts (100-999)
- Skirmishes and clashes (1-99)

75% of world's hungry people live in conflict zones.



Makin' bacon

Notable food companies with massive net income increases over the past year

Cal-Maine Foods

↑ **718%**

\$40 million to \$323 million

INCLUDES EGG-LAND'S, LAND O' LAKES, FARMHOUSE AND 4-GRAIN

Kraft-Heinz

↑ **448%**

\$255 million to \$887 million

INCLUDES KRAFT, HEINZ, OSCAR MAYER, JELL-O, ORE-IDA, LUNCHABLES, SMART ONES, WEIGHT WATCHERS, KOOL AID, CAPRISUN AND PHILADELPHIA

Conagra brands

↑ **56%**

\$219 million to \$342 million

INCLUDES MARIE CALLENDER'S, REDDI-WIR SLIM JIM, DUNCAN HINES, ORVILLE REDENBACHER AND HUNTS

Cal-Maine Foods Feb. 26, 2022 to Feb. 25, 2023
 Kraft-Heinz Dec. 25, 2021 to Dec. 31, 2022
 Conagra Brands Feb. 27, 2022 to Feb. 26, 2023

TIME

Hierarchy of Nutritional Access

Traditionally marginalized minority groups, as well as people living in rural and lower-income counties, are more likely to experience disparities in nutrition quality, food insecurity, and corresponding diet-related diseases. Clearly, the current food system approach may keep most people alive but not healthy.

The hungry and starving need healthful food.