



Global Food Security Index: Measuring food affordability, availability, quality and safety across 105 countries

Food security is defined as the state in which people at all times have physical, social, and economic access to sufficient and nutritious food that meets their dietary needs for a healthy and active life.

In an effort to increase global food security, DuPont, a global science company, commissioned the Economist Intelligence Unit to create an index aimed at addressing the underlying factors of food insecurity and pointing to areas for improvement and reforms.

The Global Food Security Index (GFSI), launched in June 2012, is based on a quantitative and qualitative scoring model that measures levels of food security across 105 countries by addressing the central issue of how consumers can easily access sufficient amounts of affordable, high-quality and safe food.

The index builds upon and complements existing research on food security, including the Food and Agriculture Organization's annual State of Food Insecurity in the World report, the Global Hunger Index of the International Food Policy Research Institute and the Maplecroft Food Security Risk Index, among others.



Methodology

The index considers the following core issues across a set of 105 countries, with each of the three categories being further divided into a series of indicators that evaluate programs, policies or practices that influence food security:

- Affordability** – Measures the ability of consumers to purchase food, their vulnerability to price shocks, and the presence of programs and policies to support consumers when shocks occur. The following indicators are used: food consumption as a proportion of total household expenditure; proportion of population living under or close to the global poverty line; gross domestic product per capita (at purchasing power parity exchange rates); agricultural import tariffs; presence of food safety net programs; and access to financing for farmers.



- **Availability** – Measures the sufficiency of the national food supply, the risk of supply disruption, national capacity to disseminate food, and research efforts to expand agricultural output. The following indicators are used: sufficiency of supply; public expenditure on agricultural research and development; agricultural infrastructure; volatility of agricultural production; and political stability risk.
- **Quality** – Measures the variety and nutritional quality of average diets, as well as the safety of food. The following indicators are used: diet diversification; government commitment to increasing nutritional standards; micronutrient availability; protein quality; and food safety.



The GSFI's approach is distinct for a number of reasons:

- It is the first to examine food security comprehensively across the three internationally established dimensions of affordability, availability, and quality and safety.
- It looks beyond hunger to the underlying factors affecting food insecurity. To increase the ongoing relevance of the study, the index will employ a quarterly adjustment factor for food price fluctuations to examine the risk countries face throughout the course of the year.
- It contains a number of unique qualitative indicators, many of which relate to government policy, to capture drivers of food security which are not currently measured in any international dataset.

Key findings

The application of the tool across 105 countries worldwide revealed the following:

1. **The US, Denmark, Norway and France are the most food-secure countries.** This is due to a combination of ample food supplies, high incomes, low spending on food relative to other outlays and significant investment in agricultural research and development.
2. **The food supply in advanced countries averages 1,200 calories more per person, per day than in low-income economies.** The average individual needs 2,300 calories per day to live a healthy and active life. Among wealthy nations, there is enough food for each person to eat 1,100 calories above that benchmark; in low-income countries, national food supplies fall, on average, 100 calories short of it.
3. **Several of the sub-Saharan African countries that finished in the bottom third of the index, including Mozambique, Ethiopia, Rwanda and Nigeria, will be among the world's faster growing economies during the next two years.** Although still poor in absolute terms, rising incomes suggest that these countries may be in a position to address food insecurity more forcefully in coming years.

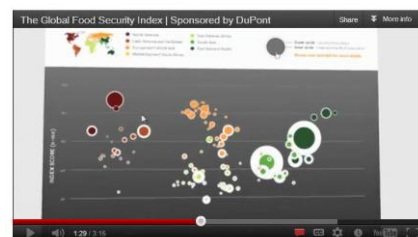
4. **Several policy- and nutrition-related indicators, including access to financing for farmers, the presence of food safety net programs, protein quality and diet diversification, are highly correlated with overall food security.** Business and governments may be better able to influence improvements in these areas than in more structural indicators, such as per-capita income.
5. **China experienced the least volatility of agricultural production during the last 20 years, and three North African countries—Morocco, Tunisia and Algeria —among the most.** Countries with wide variances in annual farm output were considered less food secure and scored less well in the index.
6. **The most food secure nations score less well for micronutrient availability.** Of the top 10 countries in the index overall, only France ranks in the top 10 for this indicator. For many advanced economies this indicator yields their weakest scores. Germany, for example, ranks 10th overall but 43rd for micronutrients. The low ranks are primarily owing to limited availability of vegetal iron in national food supplies.
7. **Landlocked countries fared nearly as well as those with a coastline.** The 22 landlocked countries in the index on average scored only seven points lower than those that are not landlocked. This suggests that although small countries without seaports may be particularly vulnerable to food shocks, being landlocked in itself does not translate into a significantly greater degree of food insecurity.

More information

- The interactive Global Food Security Index is available online at foodsecurityindex.eiu.com
- View the two short introductory videos posted below by clicking on the images

The Global Food Security Index

Source: <http://youtu.be/-xHkk-z81U>



Food security. Thoughts from the field

Source: <http://bcove.me/d6ncj411>

