

www.foodmonitor.org

An early warning system for risks to food security



Strong fluctuations of staple food prices have severe impacts, especially on poor people. Timely, accurate and transparent information is crucial to assess and address emerging food price risks and implications for consumers and producers.



Food Monitor provides close to real-time information on global and local market developments, the global food supply situation, international commodity price volatility and its transmission to local markets.



Global and local food security indicators are visualized through a simple traffic light system, providing information on the main staple commodities, namely wheat, maize, rice and soybeans.



Food Monitor contributes to the provision of early warning information that can help trigger early interventions to mitigate potential risks to food security.



Thanks to the integrated Twitter functionality, information and potential warnings are made available immediately.



Food Monitor is an important extension to existing food security early warning systems due to its ability to provide close to real-time assessments using both global and local indicators. Although Food Monitor does not currently provide sufficient information on food crises caused by war and conflict, the aim is to include this feature in the future.

FOUR KEY INDICATORS OF FOOD INSECURITY

Foodmonitor.org uses four key indicators to monitor risks to food security:

Local indicators:

- Price Transmission
- Food Security News Hotspots

Global indicators:

- Global Supply
- Excessive Price Volatility

They form the basis for the traffic light system to highlight the level of risk, which is then used for the purposes of early warning. A high risk is marked as red, a medium risk is indicated by yellow, and a low risk is shown as green. The current focus of the website is on the most globally important staple crops, namely rice, wheat, maize and soybeans.

Figure 1 demonstrates the visualization of the four indicators via the traffic light system on Foodmonitor.org.



FIGURE 1: Four key food insecurity indicators displayed via the traffic light system.

PRICE TRANSMISSION

The Price Transmission Indicator provides daily updated information on how international price movements are transmitted to local markets. It indicates in which countries prices can be expected to rise when global prices rise. Prices in most countries respond to global price movements, but the extent of this greatly depends on the country's policy and infrastructure, the specific crop and the degree of the price change at the international level.

Figure 2 demonstrates the visualization of the Price Transmission Indicator on a world map using the traffic light system to highlight countries' risks.

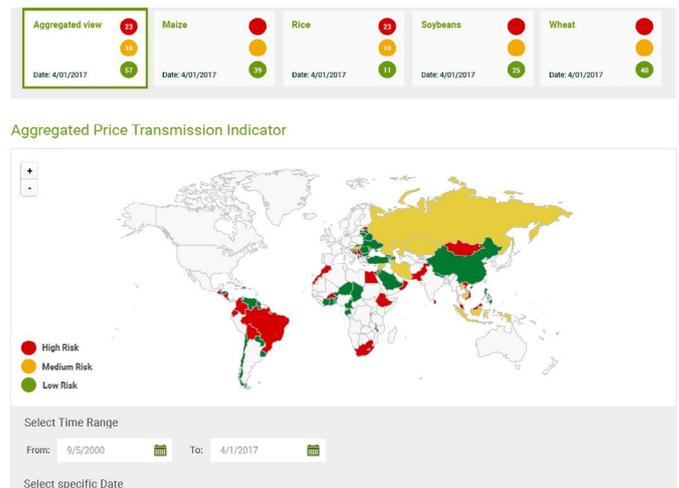


FIGURE 2: Price Transmission Indicator (results shown for 21 April 2008).

Advantages of using this indicator:

- The indicator provides daily information.
- Depending on the relevance of the specific food item in the national food basket, the indicator reveals the dependence of a country to global markets.
- Because domestic prices usually react to global price changes with a time lag, this indicator can forecast local price movements which are yet to happen.
- It is an opportunity for policy-makers and NGOs to take a country into focus before a food price crisis unfolds.

FOOD SECURITY NEWS HOTSPOTS

Food security is not only a matter of market disruptions and extreme prices. Other types of shocks can equally affect food insecurity. The **Food Security News Hotspots Indicator** reflects the media activity related to global and regional price developments and food security. Google news feeds are used to collect relevant news on a daily basis. This indicator is based on the assumption that more news coverage can indicate a more problematic situation. The individual news articles which are collected can be seen and reviewed at foodsecurityportal.org.

Figure 3 demonstrates the visualization of the Food Security News Hotspots Indicator on a world map using the traffic light system to highlight countries' risk levels.

Food Security News Hotspots



FIGURE 3: Food Security News Hotspots Indicator (results shown for 29 Sep 2016).

Advantages of using this indicator:

- This indicator shows the degree to which food prices and food security are discussed in the public sphere.
- This indicator provides daily updates.
- The news is country-specific and therefore contains more nuanced national information than the global indicators.

EXCESSIVE PRICE VOLATILITY

The **Excessive Price Volatility Indicator** was developed by the International Food Policy Research Institute (IFPRI) and the data collated on Food Monitor is available at foodsecurityportal.org. It provides a daily volatility status as well as a representation of historical periods of excessive global price volatility from 2000-present. Based on sophisticated statistical modelling, the tool provides daily price variability ratings for four major crops: hard wheat, soft wheat, maize, rice and soybeans. This indicator provides information on price fluctuations at international exchange markets, which is important as evidence shows that price increases and volatility transmits to domestic markets. Such transmission was exemplified during the 2007/08 food price crisis that affected a large number of countries.

Figure 4 demonstrates the visualization of the Excessive Price Volatility Indicator for Hard Wheat.



FIGURE 4: Excessive Price Volatility Indicator (results shown for Jan 2002 – Nov 2016).

Advantages of using this indicator:

- It provides timely, accurate and transparent market information.
- It reduces inconsistent information on price variability at the global level.
- Policy-makers and other stakeholders can make better informed plans and decisions to mitigate the impacts of volatility on both producers and consumers; for example, whether or when to release stocks from emergency reserves and whether and when to increase support to the poor.

GLOBAL SUPPLY

The **Global Supply Indicator** assesses whether forecasted production is sufficient to meet forecasted demand. The indicator takes into account changes on both sides of the global food equation:

- Production and storage from the supply side
- Changes in population and income from the demand side

Existing supply forecasts do not account for changes in demand due to population growth and income, nor do they provide an easily understandable assessment of the severity of potential shortages. The Global Supply Indicator translates these factors to highlight the severity of risk via the traffic light system.

Figure 5 demonstrates the visualization of the Global Supply Indicator for Maize.



FIGURE 5: Global Supply Indicator for Maize.

Advantage of using this indicator:

- The risk is better understood by considering both the supply and demand side of the global food equation.

OUTREACH WITH SOCIAL MEDIA

The website provides data that is easy to access and to interpret for a wide-range of stakeholders including policy-makers, NGOs, UN organizations, researchers, journalists and the interested public.

The integration of social media to the website ensures that users remain up-to-date on the most crucial information. Food Monitor has a built-in automated 'tweet' functionality to achieve this. By linking the data on the website to the automated tweet function, it disseminates tweets immediately in the event of an increase or decrease in the levels of risk.



Follow us on Twitter: [@_foodmonitor](https://twitter.com/foodmonitor)

WHO WE ARE

The Center for Development Research (ZEF) is an institute of the University of Bonn, Germany (www.zef.de). It conducts inter- and transdisciplinary research in, for and with emerging economies and on global issues with research partners around the world. Related to Foodmonitor.org, ZEF analyzes the drivers of food prices and price volatility, its impacts on food security, nutrition, and food production, as well as policy and risk management strategies to reduce price volatility and its adverse effects.

COOPERATION

ZEF has developed Food Monitor in cooperation with the International Food Policy Research Institute (IFPRI), a leading international research institute in the field of food policy research. Food Monitor is open to further partnerships with international organizations, NGOs and research organizations. We continue to cooperate with local research institutes in Africa and Asia for quality management and content control



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