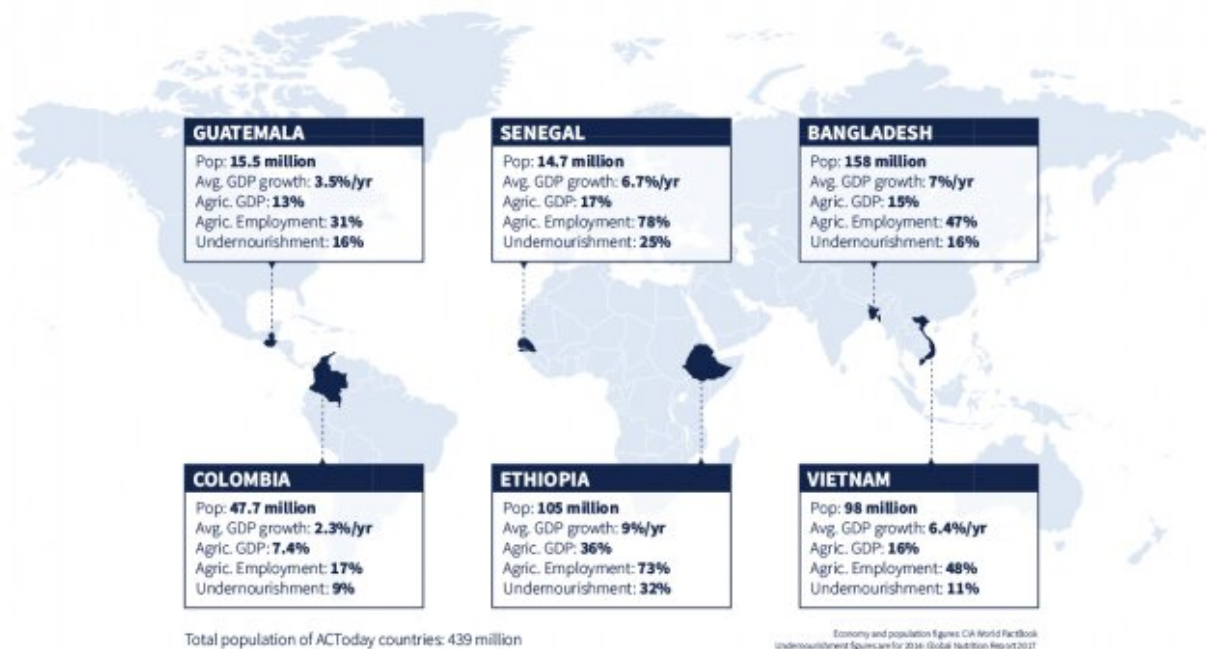


Understanding food security implications of COVID-19

April 22 2020, by Francesco Fiondella



The ACToday project addresses the climate threats to food and nutrition in six countries in Africa, Latin America and South Asia. Credit: ACToday

According to the U.N. Food and Agriculture Organization, the COVID-19 pandemic is [impacting the world's food systems](#) and disrupting regional agricultural trade and value chains. The FAO has warned that [food shortages are a real risk](#) in the coming months.

The rapid global spread of the virus poses a worrisome add-on threat to millions of people living in countries already vulnerable to [food](#) insecurity, malnutrition and natural disasters, including climate-related disasters. This [global health crisis](#) will test our food and trade systems in ways never experienced before.

To help us understand this complex interplay of risks, we spoke with Michael Puma, who is the director of the Center for Climate Systems Research at Columbia University. Puma [studies the susceptibility](#) of the global food trade network to natural disturbances, including climate variability and change, and works on the food-security focused Adapting Agriculture to Climate Today, for Tomorrow ([ACToday](#)) Columbia World Project. He has focused on characterizing the food supply portfolio of the six project countries (Colombia, Guatemala, Vietnam, Ethiopia, Senegal, and Bangladesh) to understand dependencies on trade of major crops and the implied, associated trade of key nutrients.

What does the food supply portfolio of these six countries look like? How do they balance domestic production with import dependencies and how do these decisions affect their climate risk profiles?

Trade is a critical factor for understanding food supply and its vulnerability to climate. In some ACToday countries such as Senegal, imports are essential because they make up almost 60 percent of the country's domestic supply. In contrast, in Ethiopia and Bangladesh, imports make up about 15-17 percent of domestic supply, a value closer to the global average.

Many factors affect how countries balance domestic production and imports as decisions about the agricultural sector are made relative to a country's economic situation. Yet the massive impacts of globalization

are poorly understood, which means that we also don't fully understand the risks associated with global interconnectivity. With the ongoing COVID-19 crisis, we are now beginning to see just how vulnerable countries around the world truly are to global systemic disruptions. Multiple countries, including Russia, Ukraine, Vietnam and Cambodia, have imposed trade restrictions, while Egypt has accelerated purchase of grains. If these heavy-handed trade interventions continue, the crisis could intensify, triggering spikes in global prices as the world experienced in 2008.

Clearly, unanticipated disruptions in the global food system can lead to cascading impacts that affect developing countries. Food supply and accessibility, both pillars of a country's food security, can be negatively impacted. To this end, we have been working to understand where the food supply of each ACToday country comes from, both in terms of amount and nutritional content. We're also working on an assessment of Senegal's food system, in light of its relatively high dependencies on imports to understand what it means for food prices throughout the country.

Food accessibility is a main concern for the ACToday countries. Help us understand how breaks in the food supply chain can translate into hardship for people in these countries.

As the COVID-19 pandemic is demonstrating, food supply chains are complex. They have numerous components, each of which can be vulnerable to climate-related disruptions. Disruptions in production, processing, transportation or even buying behavior can negatively influence food availability and prices. In fact, there is substantial concern at the moment about how the loss of migrant workers will impact food production. Supply chains are also at risk, as they represent

pathways through which the virus can be spread. These risks, if not mitigated, can lead to hardships associated with [food insecurity](#), including malnutrition and even famine. As part of ACToday, we are working to highlight such vulnerabilities and identify ways of de-risking food systems.

Are there different or unique concerns between rural and urban poor households?

Generally, concerns on the food security of both rural and urban poor households are centered on food accessibility, which is affected by a range of factors—from declining household incomes to spikes in local food market prices. New efforts are needed to examine detailed interactions within the food supply chain. My colleagues and I are working to qualitatively characterize risks due to coronavirus in multiple sub-Saharan countries, including Senegal, from smallholder farmers and small shopkeepers all the way up to supermarkets and global retailers and traders. Our goal is to explore various scenarios associated with the current crisis and to then map vulnerabilities at multiple levels, from the global level down to the details of domestic supply chains.

What are the implications for international and national trade and social protection policies and responses?

The Food and Agriculture Organization (FAO), the World Bank and many other institutions have recognized the need to ensure stability and confidence in global food systems. One of the keys is to develop and implement a set of best practices to avoid reactionary and overzealous protectionist measures that could disrupt global trade. To this end, the FAO is compiling past policy responses—including both their advantages and disadvantages—to better inform potential policy

interventions in food systems. (See [this analysis by the FAO](#).)

In the coming weeks and months, what are going to be some indicators you'll be keeping an eye out for?

In the coming weeks, I will be watching key food price indicators, including the International Grain Council's Grains and Oilseeds Index ([GOI](#)) and the FAO's Food Price Index ([FFPI](#)). To track local level concerns, the World Food Programme has developed a [Hunger Analytics Hub](#) which includes a monitor for local market food prices. For crop production, I will be watching [GEOGLAM](#), the crop monitor for G20 Agricultural Market Information System.

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