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Changing Course to Feed the World in 2050

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Was Thomas Malthus right after all? In 1798, Malthus postulated that exponential population growth would outstrip our ability to feed ourselves, dooming civilization. This early attempt at global economic modeling has since been widely discredited. But if you've been listening to policy-makers and pundits since food prices spiked in 2008, you've likely heard the eerie echoes of Malthusian thinking.

“With almost 80 million more people to feed each year, agriculture can't keep up with the escalating food demand,” warned Frank Rijsberman, head of the Consultative Group on International Agricultural Research (CGIAR). “FAO estimates that we have to double food production by 2050 to feed the expected 9 billion people, knowing that one billion people are already going to bed hungry every day.”

Well, not so fast. Yes, resource constraints, exacerbated by uncertainties over climate change and the unsustainable consumption of non-renewable resources have introduced new threats to our ability to feed a growing population. The issues are indeed serious, but the specter of looming food shortages is a bit overblown.

The policy prescriptions that follow these dire forecasts typically call for the expansion of industrial-scale agricultural development while ignoring the obvious threats to our global food supply: biofuels expansion, inadequate investment in climate-resilient agriculture, lagging support for small-scale and women food producers, and the massive loss of food to spoilage and waste.

Add to those the need for more equitable distribution of the food we currently produce, and there is no doubt we can feed the world in 2050 – if we change course.

Our new report, [“Rising to the Challenge: Changing Course to Feed the World in 2050,”](#) shows that many of the public pronouncements calling for a doubling of global food production by 2050 are based on outdated or flawed economic forecasting and misleading characterizations of this research. [Recent research at Tufts University's Global Development and Environment Institute](#), makes it clear that reliable estimates of current supply, productivity, and demand trends – assuming business-as-usual policies – instead suggest the need and the capacity to increase agricultural production by just 60% over 2005-7 levels by 2050.

The distinction between food and agricultural production in the statistics cited above is both essential and frequently overlooked. In fact, the failure to distinguish food production from agricultural production obscures the largest single contributor to recent food price spikes: the massive expansion of agricultural biofuel production. This dramatic increase in food, feed, land, and water use for non-food products is a relatively recent phenomenon that has been poorly captured by most economic modeling to date. Few models adequately account for current trends. Even fewer offer policymakers the information they need to understand the food-security impacts of policies such as the US Renewable Fuel Standard, which contains national mandates that drive biofuels expansion.

Those policies are a major cause of rising and volatile food prices, with up to 40% of recent price increases in agricultural commodities attributable to biofuels expansion. Looking ahead, such policies are projected to divert as much 13% of cereal production from needed food production by 2030.

[As our report points out](#), recent economic forecasting and analysis fails to adequately reflect several other key variables:

- **Inadequate and poorly targeted agricultural investment** – Agricultural investment is critical to increasing food production. Whereas many projections stress the importance of agricultural productivity growth, few models assess the range of possible priorities for agricultural research and investment. A growing consensus supports increased investment in climate-resilient food production, focusing on small-scale producers in food-insecure parts of the world. Yet most research, private and public, focuses on large-scale, input-intensive agricultural development. So too does most investment, driven by private sector-led projects, such as the “[New Alliance for Food Security and Nutrition](#),” initiated by the [G8](#).
- **Food waste and spoilage** – One-third of global food production fails to nourish anyone. In industrialized countries, wasteful consumption patterns result in tremendous losses, while in developing countries poor infrastructure means high rates of spoilage before food makes it to market. Most current forecasts ignore the possibility that measures could be taken to address this problem, assuming continued waste of food at current rates.
- **Climate change** – We are only just beginning to understand the implications of climate change for agriculture and food security. These impacts, plagued by multiple layers of uncertainty, are poorly incorporated into most economic forecasts. With the outcome of international climate negotiations uncertain, urgent attention is needed to mitigate industrial agriculture’s tremendous contribution to global warming and help developing country food producers adapt to a changing climate.

A growing body of experience at the local and regional levels demonstrates the lasting value of investments in smallholder farming and sustainable agricultural methods. Strategic policy changes and investments in this area can scale-up successful approaches and expand them to

regions where they are most appropriate and most needed, especially in regions where food security is tenuous despite high agricultural potential.

While policymakers talk about how global agriculture will feed the world, we must remember that food insecurity is local and that 70% of the world's hungry are small-scale farmers or agricultural workers. In the end, there is no "we" who feeds "the world."

As our report makes clear: hunger, now and in the future, is less a matter of inadequate production than inequitable access to food and food-producing resources. The developed world's myopic focus on increasing production is obviously misguided as we simultaneously waste one-third of the food that is produced and pursue a course to devote another 13% of cereals to feeding our cars instead of our people.

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ActionAid USA has developed an [interactive game](#) demonstrating the impact of our policy choices. Can you prevent the next global food crisis? Find out at [presidentforaday.com](#).