Address to Purdue University: “Feeding the World – Overcoming Political Obstacles to Reach our Agricultural Potential”

By Senator Richard G. Lugar (Ret.)
Purdue University
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It is a great pleasure to join you this afternoon and to be with so many good friends who are devoting their talents to improving agricultural science and practice.

I thank President Mitch Daniels for his leadership of Purdue University. I also thank Dean Jay Akridge and Dr. Gebisa Ejeta for their hospitality today and their leadership on issues of global food security. I appreciate the many occasions during my career when I have been able to intersect with Purdue University’s College of Agriculture, and I look forward to future collaborations.

I am especially grateful, that earlier today the Purdue University Forestry Farm was named in my honor. This facility provides vital support to foresters in Indiana and beyond and it accommodates cutting edge research that will continue to perfect the science of forestry.

As many of you know, my own interest in food security began on a 604-acre farm in Indiana, that I still manage. My father, Marvin Lugar, a Purdue graduate, bought the land in the 1930s. Each year we plant roughly 200 acres of corn and 200 acres of soybeans to go with our acreage planted in Black Walnut and other hardwood trees.

Our chances of a bumper crop year-to-year are excellent, given the astounding array of technologies that our farm and most of American agriculture uses to maximize yield and protect the environment. The Lugar farm is benefitting from genetically engineered seed, advancements in soil analysis, GPS mapping of the land, sophisticated weather forecasting, and numerous other technologies. In 2013, we set a record for corn yield at 192 bushels per acre. This is roughly a fourfold increase from the yields we experienced on the same land when I was a boy. At that time, my dad was pleased when we achieved even 50 bushels an acre.

I relate this personal experience, to underscore that agricultural science is capable of delivering miraculous results. Having witnessed such amazing productivity growth in the span of my lifetime, I have always believed that we can develop the technology necessary to grow, store, distribute, and market a safe and nutritious supply of food, even for the more than 9 billion people who are expected
to inhabit our planet by 2050.

Unfortunately technological ingenuity may be the simplest part of the equation. Feeding the world has become, first and foremost, a political and social problem. Too many governments have erected protectionist barriers to agriculture trade. Too little public money is being devoted to agriculture research and rural development. Too many regimes in the developing world manipulate food production and distribution for political gain. Too few elected leaders across the globe prioritize the long-range security of their nation’s food supplies. And too many societies have rejected the benefits of biotechnology in food production, despite overwhelming scientific evidence that it can be used safely to improve yields and plant characteristics.

Looming over all our hopes for eliminating hunger is the threat of climate change, because it has the potential to alter the basic assumptions upon which both global and regional agriculture function. All of us understand the rancor that has developed in the climate change debate. It is beyond the powers of those of us here to construct a political consensus on climate change. But if we care about feeding the world, we need to be advocates for practical steps to prepare global agriculture for changing climate and weather patterns. Just as the U.S. military has incorporated climate change into its planning, we must do the same.

Nothing is more elemental to human experience and development than having access to reliable sources of nutritious food. We live in a world where nearly a billion people suffer from chronic food insecurity. Tens of thousands of people die each day from causes related to malnutrition. Chronic hunger leads to decreased child survival, impaired cognitive and physical development, and weaker immune system function, including resistance to HIV/AIDS.

By 2050, the increase in global population and improving diets in newly middle class countries are likely to require a two-thirds increase in global food production. Bringing new land into production is not an answer to the problem, given the environmental costs, the strains on water resources, and the complications of climate change. Therefore, we have to become much more productive on the land that is available now.

Without sustained progress in improving yields and strengthening global agricultural networks we will not keep up with the demand for food. The world will experience recurring price volatility and food shortages will contribute to political instability as witnessed by food riots and related events since 2008. We almost certainly will have to contend with mass migration and intensifying health issues stemming from malnutrition. Our diplomatic efforts to maintain peace will be far more difficult wherever food shortages contribute to extremism and conflict. Our hopes for economic development in poor countries will continually be frustrated if populations are unable to feed themselves.

Coming to a place like Purdue, where so much innovation is occurring strengthens my resolve and confidence that we can avoid these grim scenarios. But the work of overcoming political and social obstacles to food security must be pursued with the same vigor as we pursue scientific and
technological breakthroughs.

There is no shortage of good ideas about how we might improve the capacity of less developed areas of the world to grow more food. Any strategy that has a chance to succeed will employ a wide variety of techniques and reforms. To name just a few, we must facilitate the flow of agricultural knowledge, modernize global regulatory institutions around scientific advances, improve rural infrastructure, create more robust extension networks in the developing world, strengthen crop diversity, put more meat on the bone of public-private partnerships, and ensure that smallholders - especially women - have greater access to technology, credit, land tenure rights, advanced seeds and other components that large-scale farmers take for granted.

At the forestry ceremony earlier today, for example, I was reminded of how many food security benefits could be derived from improved forestry practices. Broader understanding of the science of agroforestry could be extremely beneficial in the developing world, where water resources are less secure, unsustainable farming practices have degraded soil quality, and the use of unimproved inputs has lowered yields.

Attention to agroforestry could provide poor farmers with a resilient adaptability to environmental stresses and periods of low productivity. Planting trees that produce fruit, nuts, and fiber could augment farm income and diversify family diets that often are highly dependent on starches. A recent study of 21 African countries found that children living closer to forested areas had better diets than those who lacked access to forested areas.

Trees provide cover for crops that require some shade for higher yields. And, research has shown that some trees replenish the soil with nitrogen thereby improving soil quality and reducing the need for inorganic fertilizers. Trees reduce soil erosion, help to maintain soil moisture, and increase the rate of water infiltration, thereby reducing the effects of drought.

But identifying remedies for what ails agriculture in the developing world won’t get us far without the political cooperation needed to facilitate their implementation. There are many good organizations and people who are focused on the food problem, ranging from foundations and universities, to individual scientists and development professionals. But in my experience few governments or voting publics, especially in food-secure countries, understand what is at stake.

This is evidenced most profoundly by the global failure to make significant progress on trade liberalization and by public resistance in many countries to the use of genetic modification in food production.

Biotechnology, including genetically engineered seed, will be absolutely indispensable over the long run to feeding 9 billion people in the conditions of a changing climate. Skeptics of GM technology -- even many who do not reject it outright -- often begin their critique by saying that biotechnology alone cannot solve the world’s food problems. That is true. But rejection of cutting edge biotechnology
would be especially destructive to our quest for planetary food security. As the Green Revolution
demonstrated, biotechnology has the capacity to change the basic math governing feeding the world.
And it is likely to be essential to overcoming unexpected challenges -- such as increased drought,
new pests, and other consequences of a changing climate.

Genetically modified crops have the potential to improve agriculture production in the poorest regions
of the world. Yet many developing countries, especially in Africa, worry that if they adopt GM crops,
they will not be able to export to markets in Europe. They also are deeply influenced by the direct
advocacy of European government agencies and NGOs that are hostile to GMOs. The ironic result has
been that many African nations have developed stifling, European-inspired regulations on GM
technology, even as they struggle to ensure adequate food supplies.

The individual decision of a single consumer in Europe or the United States to avoid products
containing GMOs has negligible impact on whether people in Africa will be hungry. But uninformed
public fears of GM technology are being translated into broad public policies designed to close off
markets to GM products. Even if donor countries expand conventional agriculture assistance to Africa,
as I and others have advocated, African nations are likely to fall far short of satisfying long-term food
demands without sensible GM regulatory frameworks that facilitate the use of safe biotechnology. And
opposition to GM technology virtually ensures that these poor countries will lack the tools necessary
to adapt their agriculture to changing climatic conditions.

As a wealthy continent with a relatively secure food supply, Europe has the luxury to reject the
benefits of GM technology without immediate concern that its domestic populations will suffer from
hunger. But most African countries have no such luxury. They need every scientific tool in the global
arsenal if they are to escape chronic hunger and poverty. Rather than encouraging African countries to
avoid GMOs, interested groups should be probing how promising GM technologies can be brought to
bear more equitably and affordably in Africa.

While it is no secret that some European countries oppose GM products, trade barriers to
biotechnology increasingly are inhibiting agriculture trade. Regulatory processes requiring approval of
new seeds on a country-by-country basis add to the complexity of the situation.

A current, glaring example is China’s announcement last year that it would not accept U.S. corn that
exhibited any traces of Syngenta’s GMO corn trait, MIR162. Despite the fact that China has been pro-
GMO, it has not yet approved this specific trait. Cargill recently announced that China has turned
away 1.4 billion tons of U.S. corn shipments.

In July 2013 the United States and the European Union began negotiations on a new trade pact, the
Transatlantic Trade and Investment Partnership. The comprehensive agreement has gone through
seven rounds of negotiation, and among the major sticking points is the U.S. requirement that food
safety standards be science-based. This position is a challenge to European political and cultural
opposition to GMOs. Bridging the gap is one of the most difficult elements in concluding the multi-
sector agreement.

Yet when it comes to these issues, we cannot succumb to exasperation. As a planet, we should be focusing intently on what global agriculture should look like twenty years from now and how we can get there. This will require us to increase investments in agricultural research and rural development.

The Obama Administration’s Feed the Future Initiative is a positive and substantial commitment of our nation’s resources and attention to the problem. But I would assert that we should be much bolder.

My view of the importance of global food security to the United States is motivated not solely by the problems we can solve, but also by the economic and foreign policy opportunities available to us. We produce more abundantly than any other country, and we are on the cutting edge of research and farming techniques that could literally save hundreds of millions of people in the coming decades. Our farmers, agricultural businesses, NGOs, and research universities should be at the center of global efforts to meet burgeoning food demand. I believe that we should have a global food security program that is unrivaled in the world. It should be of a size and scope that, regardless of what other nations and peoples may think of us, they must acknowledge the United States’ altruistic role in feeding people.

In the context of domestic politics, further thought must be given to improving Congressional support for the Feed the Future program and for global food security efforts, in general. Feed the Future has not been authorized in law. Rather, it is an Obama Administration creation. As such it is vulnerable to political changes. The position of the United States as the leader of the global food security effort would be vastly strengthened if Congress would authorize a long-term food security program.

I applaud the commitment that many of you have made to improving the productivity of American farmers and strengthening global food security. I admire your dedication to the ultimate goal of eliminating hunger and malnutrition. I wish you the best and look forward to witnessing your achievements in the coming years.