



## Celebrating a legacy, envisioning a food secure future

Participants at recent Borlaug Symposium ask “Are we on track?”

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Source: [The World Food Prize Foundation](#)

The image of a female smallholder farmer eking out a living on a postage stamp-sized parcel of degraded land with a baby on her back and barely enough to feed her family may belong in the history books, but more work is needed to get to that point.

That’s one reason why farmers, scientists, economists, policymakers, donors, private sector and NGO leaders, and others gathered in Des Moines, Iowa this week for a series of lectures, debates, and celebrations around the awarding of the [World Food Prize](#). It is an annual event honoring the legacy of Norman Borlaug, a plant breeder whose discovery of high-yielding wheat seed varieties in the late 1960s is [credited for saving up to a billion people from starvation during the green revolution](#). Yet in spite of such efforts, an estimated 805 million people continue to suffer from hunger, nearly half of whom are smallholder farmers and their families living in developing countries.

There was a sense of urgency in Des Moines to find solutions to what the symposium called “the greatest challenge in human history:” safely and sustainably producing the food we all need to not only survive, but flourish in a world of nine billion people by the year 2050.

But there also was a feeling of determination. We know what needs to be done, and we know who we need to help. Now let’s do it.

The challenge ahead is indeed a daunting one. The steady growth in crop yields that the world has enjoyed since the green revolution is leveling out. This is happening just as an avalanche of shocks and stresses sets in, including rising and highly volatile global food prices, widespread deforestation and uncontrolled expansion of land used for farming, increasing carbon emissions despite international efforts to curb them, and rapid population growth, particularly in Africa south of the Sahara.

At the opening panel sessions, University of Nebraska professor Kenneth Cassman concluded that we are not on the right course – not yet anyway. Noting that climate change has altered

how we look at landscapes, the World Bank's Marc Sadler posed the question of whether or not we even know where we're headed. "We're at a tipping point," he said.

We have the keys to getting back on track, however. They lie in innovation, technology, knowledge from publicly accessible data, partnerships, and focusing on women and girls.

As IFPRI Director General [Shenggen Fan](#) and Environment Production and Technology Division Director [Mark Rosegrant](#) pointed out, tools for the next green revolution already exist: [IFPRI has analyzed 11 agricultural technologies that produce more with less](#), including drip irrigation, no-till agriculture, increased nitrogen-use efficiency, and integrated soil fertility management, in addition to climate change resilient seed varieties. Research has shown that such technologies can reduce food prices by 40 to 50 percent, cut hunger by 40 percent, and actually return up to 20 percent of the most fragile farmland back to non-farm uses.

In addition to those agricultural technologies mentioned above, governments need to enact policy innovations. According to Fan, governments and policymakers must protect land rights, provide access to markets and social protection during crises, and create incentives for farmers to diversify production to include nutritious fruits, vegetables, and small livestock, thereby improving the overall nutrition content of the food supply for all. Lastly, farmers must come together to learn from one another and raise a collective voice for bargaining with other actors in the agricultural value chain.

But innovation is only the beginning. Technologies, knowledge, new seeds, modern practices, and enabling policies must all reach the farmer.

During his keynote address, the chair of the Alliance for a Green Revolution in Africa, Strive Masiyiwa added yet another important tool for reaching farmers: communications technology. In 20 years, the African continent has gone from 1.4 to 70 percent cell phone ownership, he told the audience. "We want to take technology to scale with seeds, like we did with mobile phones."

What many called the 4 Ps—public-private-producer partnerships—are another vehicle to reach the farmer. "Turning science into action requires partnership," H.E. Gerardine Mukeshimana, Rwanda's minister of agriculture and animal resources, said. "We have to work together." Voices from small farmers brought the debate to a personal level, highlighting the struggle of all family farmers and their universal concerns for land, community, and the environment.

"We run nonstop, more than 15 hours a day," said Ellen Walsh-Rosmann, who runs a small organic farm with her husband in rural Iowa. "It's intense." Access to capital and labor are among her biggest constraints, as well as adapting to the changing climate and weather. A hail storm destroyed 30 percent of her crop in three minutes. "It's heartbreaking, and we're seeing it more and more," she said. She's also concerned about environmental degradation, which she said farmers are among the first to witness firsthand. "I'm scared for my son," she said.

Birtukan Dagnachew, a farmer from Ethiopia, raised four children on her own following the death of her husband 14 years ago. Thanks to knowledge and inputs such as fertilizer, new seed varieties, and compost through extension services, she now produces a wide variety of nutritious fruits and vegetables, from mangos to avocados, and has the means to educate her children. Although her struggles continue, including a lack of basic infrastructure in her village and little access to capital, credit, and technology, she is grateful. "I'm a role model now," she said, for other women. "I use my story as a lesson: they will overcome."

Dadi Buta, also from Ethiopia, saw his yield increase more than five times when he heeded extension advice and started growing a diverse variety of crops. His land now supports avocados, bananas, melons, coffee, and dairy cows along with a greenhouse and staples such as wheat and maize. He even raises honeybees.

“Modern equipment, technology, and a little inputs could change the life of farmers,” he told attendees. They also can go a long way toward making the image of the small subsistence farmer eking out a living a thing of the past—finally.