

## Food challenges require ‘thinking big’

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Humanity is in a “race against time” to produce enough food to feed itself, hampered by a false sense of comfort that set in over the last few decades when food supplies generally outpaced demand, said a University of Nebraska-Lincoln agronomist who’s one of the world’s leading experts on feeding the world.

Ken Cassman was one of several who reflected Friday on the final day of the fourth annual global Water for Food Conference, hosted by the Robert B. Daugherty Foundation at the University of Nebraska and the Bill & Melinda Gates Foundation.

“We really are in a race against time ... and humanity doesn’t realize it,” said Cassman, Robert B. Daugherty Professor of Agronomy at the University of Nebraska-Lincoln.

Cassman said the last 40 years or so have been a historical anomaly in much of the world, with food production so great that scientists like him were looking for other ways to use food crops. With the world’s population projected to increase from 7 billion to 9 billion by 2050, and with limited land and water available, attention now is focused on how to increase food production.

The next 5-10 years are critical to grasp the scope of the crisis and develop the tools to address it, Cassman said. Among other things, scientists must get a handle on how much each existing hectare of farmland can produce. A global yield gap atlas, which Cassman is helping develop, is one tool to gather that information. It will determine and make public the gap between existing and potential yield on any piece of cropland in the world.

“We need to think big,” urged Prem Paul, UNL vice chancellor for research and economic development. Research will be critical and two new NU entities—the Water for Food Institute and the Nebraska Innovation Campus, a public-private partnership at UNL—can play major roles.

The 9 billion population number is only a projection, several speakers during the conference noted. Many expect population growth to slow significantly at that point, and others note that societal changes could change the 2050 estimate. One such change could be empowerment of women in developing countries, said Simi Kamal, chief executive officer of the Pakistan-based

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Kamal, who led a Thursday panel discussion on Women, Water and Food, noted that women provide much of the agricultural labor in the world but are not involved in leadership. Educated, empowered women have more choices in life, may not marry as young or have as many children as poor women do.

Cassman's, Paul's and Kamal's comments came in a closing panel discussion moderated by Roberto Lenton, founding executive director of the Daugherty Institute.

More than 550 people from 28 nations registered for the conference to discuss the research, education and policy implications of feeding the growing population.

Earlier Friday, the 40th anniversary of Nebraska's unique system of natural resources districts was noted in a celebration led by Ronnie Green, NU vice president and Harlan vice chancellor of the university's Institute of Agriculture and Natural Resources.

Nebraska's 23 NRDs are governed by locally elected boards and have local taxing authority, making them attuned and responsive to local needs and challenges, said Ann Bleed, retired director of the Nebraska Department of Natural Resources. That's important in a state where the challenges of managing water are magnified by extreme variabilities in precipitation amounts, soil conditions and other factors from border to border, added Bleed, who moderated panel discussions covering water governance in Nebraska and Brazil.