

2007 Norman E. Borlaug/World Food Prize International Symposium
Biofuels and Biofoods: The Global Challenges of Emerging Technologies
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SESSION I. GLOBAL PERSPECTIVES

October 18, 2007 – 11:30 – 11:50 a.m.

Speaker: Norman E. Borlaug

Dr. Norman E. Borlaug

Nobel Peace Prize Laureate

Founder, The World Food Prize

Thanks. Thank you, Ambassador Quinn, President Soglo, and Dr. Catley-Carlson. She seems to have disappeared. Oh, you moved up a chair. Ladies and gentlemen, it's a pleasure for me to have an opportunity to say a few words to you today. Limited by 15 minutes, I can only reminisce on changes that I've seen during these past 63 years that I have been engaged in trying to help in a modest way to improving the food production and distribution of Third World, food-deficit countries.

And at the same time to come back to the USA where I was born and grew up and to see the changes that science and technology have brought to the affluent nations of the world. And then finally to reflect on the new period when energy, or lack of energy, in renewable resource form impacts strongly on what will happen in food production and how we use our land and water resources over the next several decades.

Let me say this, that I was trained originally a forester. I was interested in wildlife and I think, had not the one professor that I came to admire as a freshman moved to Syracuse, New York, in game management, I might well have majored in game management. But it was forestry. And then when I saw the trees dying – chestnuts, American elms – after having worked for three different periods for the U.S. Forest Service, I wanted to take a short course in forest pathology. But my wise counselor, Dr. Stakman, said, "No, there are only three positions in forest pathology that are paying a living wage at this time. I think you'd better take general plant pathology. If there are jobs open in forestry, you will be well qualified because of your background." And so I did. And this opened to me the world stages, eventually, in food production.

I need to mention that I served briefly, when I got my advanced degrees, in the private sector, and I think I would have been happy there. But the chance came to join this first Foreign Technical Assistance Program to help a food-deficit nation, our next-door neighbor to the south, Mexico, in 1944, with the Rockefeller Foundation and Mexican government. Since then, virtually most of my life has been spent in the Third World.

Now, looking at the science and technology and what it has contributed, despite much of the criticism of the new people who look at only one narrow slit of the impact, for the positive, of science and technology. It's science and technology that has made it possible to produce the

food fiber for this 6.6 billion people that inhabit the planet Earth today. Remember that much of this growth in population has taken place in my lifetime. When I was born in 1914, the world population was about 1.4 billion. Here we are, 6.6 billion. Where would we be had we not had improvements in science and technology?

So let's not get carried away by all of these doomsayers that do much to disrupt the rational application of science and technology. They're all around about us. They're present in the affluent nations probably in bigger proportions, because those people, most of them, have never been close to hunger and poverty.

But just to look at the broad picture and how it's changed since the middle 1960s when the revolution in cereal production took place in Pakistan and India and a decade later in China and in many of the other developing nations. Were it not for the improvements in science and technology, we would be required to be cultivating three times more area of land of equal quality – if we even have that land. And here we are feeding the 6.6 billion and doing a better job of it than we were in the middle 1960s.

Defects, we have inadequate equity of distribution. And we have not sacrificed some of the other values. Our forests, which largely would have been demolished without science and technology, are for the most part intact. And today those forest or wood products, if we get our chemistry, are inside the systems functioning properly to reduce the cellulosic mass of woody tissue to supplement the wonderful job that's being done with sugarcane and the use of (inaudible) to propel those plants, as Dr. Rodrigues mentioned in the previous session.

But as I look at all of these advancements, I can't be despondent. I have to be optimistic. And I think that pessimism is a very poor ingredient on which to correct and to expand the needs of the human being to all different parts of the world. Remember that poverty and hunger and the instabilities that it brings to society are very fertile seed grounds for planting all kinds of isms, including terrorism. And let us never forget that.

And I was particularly impressed by what Hugh Grant said this morning when he said that the private sector, his own company, has dedicated this large sum of money for education. To me, the basis of our future progress is education. Many of the Third World countries, many countries of sub-Saharan Africa being a good example, have been left behind in the general education front. I'm not talking about number of advanced degrees of master of science and doctors of science. I'm talking about primary and secondary education, which are the components that change society greater than any other forces for good, in general.

The private sector has assumed more and more of the responsibilities that were present in the public sector until the end of World War II. For example, prior to that period, it was the government that developed the land-grant colleges, which taught agriculture. It was the extension services affiliated with the land-grant colleges that moved the new technology to farmers' fields, whether it was improved varieties or whether it was fertilizer to restore fertility to the soil. And since, the private sector has assumed more and more responsibility. And now, good and well, they are beginning to see that their future hinges in a large part on keeping the land-grant universities viable, producing new technology. And this is not only true in the U.S., but it's true in all of the other affluent countries and developing countries.

And let me just say something about the negative impact of science and technology. You know, we had a song that was more popular than the national anthem in the one-room country school that I attended. Each morning we would sing, “We’re from Ioway!” – Ioway, not Iowa – Ioway, named after the tribal people.

*We’re from Ioway, Ioway,
State of all the land,
Joy on every hand;
We’re from Ioway –
That’s where the tall corn grows.*

Of course, the corn, the geneticists have shortened it. It isn’t tall anymore. This song is obsolete; you’ll never hear it sung very often anymore, even here in the land of Ioway. So this shows how culture also changes with science and technology.

We aren’t on the verge of being pushed into extinction, but we have to improve our science and technology in the years ahead to cope with the needs of the expanding population. And that population, as we all know, slows with better education. A good example is all of Western European countries and many of the countries of the Americas. And we hope that slows in the areas where the pressures are the greatest. And that will be achieved by education – not PhD’s and masters of science, but primary and secondary education.

Thank you all very much, and God bless you.

Margaret Catley-Carlson
Chair, Global Water Partnership
World Food Prize Council of Advisors

So we are counseled against pessimism, we are counseled towards optimism. We are told to watch the negative parts but to have faith that human endeavor, rationally applied, can lead us where we want to go. And above all, the word that he does not use is “patience,” because he’s in a hurry. And so must we all be, because the challenges are so urgent.

And we hope that you will be around for the next 93 years to continue leading us in this effort. We thank you very much indeed.