

**SESSION IV: THE WORLD FOOD PRIZE LAUREATES' RESPONSE**

October 14, 2005 - 2:00 p.m. to 3:30 p.m.  
Laureates' Roundtable

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So let me use the few minutes that I have to try to give you some feel as to what this World Food Prize Foundation and the Youth Institute has done or is doing to improve the possibilities of better food and nutrition, better health, better education for the people of the world. I'm a product of the worst of the economic Depression of the 1930s. That left deep scars on me, and it was a depressing situation here in rural Iowa.

My first experience in Minneapolis in 1933 was horrifying to me. This was before the emergency programs that came into being with President Roosevelt, and many of the ideas behind that were those of Henry Wallace, the Vice President of the then ministry of the Secretary of Agriculture from this state. My first experience in a large city, a country boy from northern Iowa, hundreds of people in the street in October, asking for a nickel to buy bread, sleeping on the ground – Was that a developed nation? Was that an affluent nation? That's the state we were in.

And it wasn't just me that had those feelings. About a year ago in a similar meeting to this in Uganda, Robert McNamara, the former head of the World Bank who is just a few months younger than I am, was present. And from the podium when he was speaking the question and answer period, I said, "Mr. McNamara, what were your reactions in the worst of the Depression?" I had talked to him about this a little earlier. And he said, "They were like yours. I wasn't sure this country could survive."

Now we have looked for this past many generations, especially since World War II as the affluency of the industrialized nations has changed the standard of living of the masses of their people to a level that was unthinkable, unimaginable by our grandfathers and great-grandfathers. And yet in much of the world we have this horrible problem of human misery based on lack of food, lack of sanitation and public health and ignorance because of a lack of education.

But it isn't all that. As I look back, and I think it was these things of the thirties that made me leave a good, promising opportunity in industry to join the first foreign technical assistance program, namely that of the Rockefeller Foundation and the Mexican government in 1944. I've been affiliated ever since in one way or another with international agriculture, trying to mitigate some of the curses of lack of food and nutrition and indirectly other handicaps of the masses of people.

And yet look what happened in the last four or five generations. In the sixties there were many that said, India is hopeless. Pakistan, maybe you can help them, maybe food can beat... Indonesia, maybe something. That was before the bamboo curtain opened so you could see

China. But subsequently we've learned that the situation in China was much worse than in India. There were all kinds of predictions of disaster, and yet when all the pieces of technology came together, first in the wheat and rice, it wasn't a magic variety. It was all of the integrated crop management practices that went with it: restoring soil fertility, controlling the weeds, the competition, trying to conserve and utilize the moisture a bit better.

You can talk 'til you're blue in the face to political leaders, and I've worked in all kinds of governments – from the extreme Communist governments on the left to the many military governments on the right – and you can't talk to them about policy unless there is heat from the grassroots up and especially in the developing nations, if the grassroots are on fire because hundreds of thousands and yes, maybe millions of these little farmers, where this package of new technology has been demonstrated on their land, that's when you talk to the political dealers, leaders about prices, availability of inputs – at the right time in the right place with credit for the little farmer.

And remember that the situation in the Third World – and this is hard for most people in affluent nations who never lived or worked or even visited the Third World countries to appreciate the limitations of that little farmer who has three or four or five acres, very often marginal because of worn-out, depleted nutrients and limited rainfall – all of these things together, and yet when he sees, he wouldn't think of taking a new technology – like the U.S. farmer, if you could show him he could increase productivity 10%, they'll jump at it – if you tried to demonstrate 10% increase in productivity in the Third World, the farmer would walk away from you. I would too. They've lived for decades close to hunger and famine. Maybe that 10% is the difference between weather one year to another.

But if you show them a hundred, two hundred, three hundred, four hundred percent increase, he, as Dr. F. F. Hill, the Ford Foundation economist and vice president in the sixties, originally from Cornell University, Frosty always used to say, "They might be ignorant, illiterate, but they can figure. And when they see those big differences, they're ready. And that's when economic policies can be implemented and put to work."

Now, I'm not talking against all of the things we're doing. I'm trying to simply set the stage to see how these things did change – and many of you in the room were part of it. I see Nile Brady there, and I'm sure there are others present that were in the fight at that time. And what happened? In India, for example, wheat production went from where it had been stagnant at 11 million tons per year over the last 6 years to double in less than 15 years, went to 75 million tons by the turn of the century. China started much later. It became the largest wheat producer in the world. The same is true of rice. I happened to use wheat because I'm more familiar with that crop.

The same type of thing could have happened in Africa had it not been handicapped by many things. First of all by diseases, not just human diseases with the malaria and all of those viruses that periodically come out of the wildlife and the jungles, but also and more recently of course with HIV. Many of these diseases affect livestock. The oxen doesn't exist, never did, in many areas of West Africa, and hence there were no plows. It was a hoe and machete, and it's still that way.

So they were handicapped and continue to be by lack of infrastructure, and even now when we have technology... And just to show you how difficult it is to predict many things that happen – The most important basic food crop in all of the countries south of the Sahara is corn, maize, American maize. Sorghum is the native crop, better drought resistance. But the preference of the people today is maize. Why didn't maize move into Africa during the time when wheat and rice were moving into Asia? Diseases and virus. Diseases that we don't have in America where most of that work was done. And it wasn't until much later when Dr. Ernie Sprague and his group had regional tests very similar to the shuttle breeding that we had in wheat, that they began to identify lines and, consequently, to correct those things.

So there's been great progress. I heard someone say that in the last half decade especially there's been more progress in expanding food production than in the previous 10,000 years since the beginning of agriculture. But we've got big problems ahead.

I said in 1970 when I received the Nobel Prize that if our policies ring correct and our proper allocation, what's given to support research, we could stay ahead of the population monster at least 'til the end of the century. We did that and continued to improve the situation globally, not forgetting all of those that are still in misery. I look forward, and I say with the technology that's present now and what's in the research pipeline, if it's developed, including wise use of transgenics or biotechnology, call it what you will, which enables us to make crosses between taxonomically different crops or species, animal, into plants. And I'm sure the other way around will happen too.

So there are these new, wonderful tools, but it's going to require a concerted effort and the right allocation of funds. And also funds don't mean everything. To me, it's the individual group of scientists out there on the battle line and whether they're ready to hook together to form teams across disciplines. That's what's needed in the Third World. Back in privileged countries like the USA and Western European countries, we can have more separation of disciplines. And who puts it together? The farmers are generally well educated themselves in these countries. But that isn't so in the Third World countries, so we've got an entirely different situations there.

One of the most disgusting things to me is to see neo-environmentalists who live in affluent countries... And let me qualify first of all, my first profession was forestry, wildlife, back country; I love those things deeply. But when I hear some of these come to the Third World country and recommend to political leaders that they should do things like they do back home, this is ridiculous. You make it more difficult by that kind of person coming, meddling into policies or into issues and problems that they have no concept of what it takes to solve. That's the way the world is today.

We think we've got problems on funding today. The budgets for the International Research Institute have been going down. Now they've begun to turn upward in the last year or two. But it takes more than money. It takes real, dedication, organizations that are not too bureaucratic.

One of the last things Frosty Hill told me, Dr. Hill from the Ford Foundation, when we were looking at what was happening in Pakistan, he said, "Norm, this happens once in a lifetime. Enjoy it, keep your team together as best you can – but unless you're killed in an accident (I think you're too mean to die too early), otherwise you will see that the same organizations become fossilized. They lose their drive." And what's happening to some of these? I used to say,

“You have to revive that.” He said, “In the banking industry – I lived this, I saw the collapse. We built the Federal Land Bank. It did well for some time, decades.” And he said, “Now it’s so tangled up in bureaucracy. You have to build new institutions and they can function 25 or 30 years, and then they become bureaucratized.” That’s a horrible picture. I didn’t believe it. But I see these symptoms going on all around about me as it relates to international health for developing nations.

And I hope that all of you will prevent this from happening. And just to show you how this goes – We haven’t had a stem rust epidemic in the world, of any size, for 50 years. Previously when you would put out new varieties of wheat and they would become popular, every ten or twelve years you’d have a big epidemic and there would be hundreds of thousands and, yes, sometimes millions of acres of crop destroyed. It’s worse today because with the high investments in fertilizer, there’s more investment in that crop. And we get those kinds of epidemics like we had all across the U.S. and Canada in 1950, ’51, ’52, ’53 and ’54, we would have tragic impacts on world markets. And we have now it came into being in Uganda in ’99 – it spread to Ethiopia and Kenya two years later – there’s a strain of this rust that’s probably capable of knocking out 60% of all the commercial wheat area in Asia, especially the high-yield areas of Egypt, Turkey, Iraq or Pakistan, India and China, and I suspect vast parts of the Great Plains, wheats of the USA and Canada.

So these problems don’t go away. Mother Nature works at transforming micro-organism to keep us all busy and on our toes. The organizations that were set up for the international testing in many parts of the world, what happened to them? Most of those people that were trained in the early sixties have retired. Some of them have died, and there are very few left. The training has been neglected for the last two or three decades, two decades. We have to rebuild. We have to keep them viable. This is the whole problem with science and technology – we get new things, but the underpinnings for many of the new things have to be carried forward also.

To take a gene and put it into any old variety would have no meaning. It has to be put into the best available variety, or if it’s the case of an animal, the best breed, the best individual if it’s going to have any real significance.

So I’m going to stop there except to say that I’m still afraid of the population monster. I don’t think those projections are right, that population is going to suddenly slow up in the middle of this century. I think it’s going to continue. And if we’re serious about reducing population growth in those countries that are having difficulty, then let’s have universal primary education and as soon as possible, universal secondary education. It’s the best hedge against explosive population growth and our ability or inability to cope with this, whether on the food or on the nutritional or medical or educational front.