

2012 THE "BORLAUG DIALOGUE"

October 17, 2012 - 3:00 p.m.

Sandra Peterson

Introduction by:

Ambassador Kenneth M. Quinn

President - World Food Prize Foundation

I'm not sure if there are any members of the press who were here during this panel, because I can sort of see the headline, and I think I'm in big trouble - you know, "World Food Prize Borlaug Dialogue outcome - Let's take all the food in the world and put it together in a big pile and divide it up.: And particularly with the Secretary General of the United Nations coming, I can see the conspiracy theories building already.

I also want to do a couple of advertisements myself. You heard Gordon Conway talking about the issue of the two camps and sustainable agriculture. Tomorrow morning we have a terrific panel based on a report to the Secretary General of the United Nations on sustainable agriculture that talks about green biotechnology, trying to find the nexus between this sustainability and increasing production.

Also want to repeat. Earlier I mentioned tonight our reception over at the Hall of Laureates at 5:30, our ceremony to present our prize to Dr. Aditi Mukherji and be followed by a wonderful reception there. We have the Borlaug Dialogue later tonight. The buses are going to the Hall of Laureate beginning about five o'clock. And also again if you didn't have tickets to our Laureate Ceremony on Thursday evening and you received an invitation, be sure to check with Jan Douglas. If you think you should have received an invitation and you didn't, check with Jan Douglas. If you've received an invitation and you haven't RSVP'd, do so before five o'clock, and do so before getting on the bus to go over to the Hall of Laureates.

Now, continuing with our theme of Partnerships & Priorities - and I want to note there that we also are looking at reaching across various parts of the agenda and with the question of the nexus between health and food. You know, over in our Hall of Laureates, when you go over tonight and you look in the laureates' room, you'll see one of the 21 names inscribed up in the squinches of the room, and one of them is Hippocrates. Why would Hippocrates be in a building about agriculture? Because Hippocrates said, "Let food be your medicine."

And our next speaker is chief executive officer of Bayer CropScience but an individual who has also been on the part of Bayer CropScience that deals with health and has worked in areas of diabetes, of particular interest to me. And "Bayer," synonymous with health and also with crop production has been so ably led by Sandra Peterson.

She has, as I said, been on the Executive Committee of Bayer HealthCare, the former chairman and member of the board of Wildlife Trust, member of the committee of 200, serves as a

member of the board of Dunn & Bradstreet. Bayer CropScience has 240 food chain partnerships – remember “Partnerships & Priorities.” And they’re part of the Grow Africa Partnership of the New Alliance for Food Security and Nutrition.

And while we heard earlier, Peter Brabeck, government has to remain in the leadership position, and that’s entirely right. One of the real changes in the past decade that I’ve seen has been the emergence of CEOs and business leaders who are providing this dynamic, new element of leadership all around the globe. And one of the foremost individuals in that regard is our next speaker to deliver a plenary address. Please join me in welcoming Sandra Peterson.

PLENARY ADDRESS:

HARNESSING GLOBAL POTENTIAL TO FEED A HUNGRY PLANET TODAY

Sandra Peterson

CEO – Bayer CropScience

Thank you, Ambassador Quinn. Good afternoon. It’s a real pleasure for me to be here this afternoon to speak to you about – How do we feed a hungry planet?

Ladies and gentlemen, a few hours from now it will be dawn in Indonesia. Apf Sadoken, a smallholder farmer from West Java, will wake up to tend his one-hectare rice paddy. Apf is one of the world’s half a billion smallholder farmers. We heard recently, the last hour about smallholder farmers in Africa, but there are many around the world, and many of them are actually hungry.

In the context of food security, we are surrounded here in Des Moines with very dedicated leaders, gifted people of intelligence, and a very generous spirit, who are all committed to finding solutions to fight world hunger. The one gift, however, that eludes every single one of us, and especially those who are hungry, is time. Time is racing. The targets are set in stone.

I am sure over the last two days you’ve heard these statistics over and over again. We have to feed nine billion people by 2050. We need to ramp up food production by 70% while conserving resources and preserving the planet – that is really no mean feat. 2050 might be decades away, but if we want to feed the hungry and the parched planet tomorrow, we need to accelerate our sense of urgency today.

Here and now, drought has scorched crops across the globe, sending prices of corn, wheat, soybeans to some all-time highs. Here and now there are almost one billion hungry people on the planet, with a further two billion facing severe health risks from undernourishment, and ironically another one billion from obesity and diabetes.

Here and now we are operating in a very volatile market underpinned by rising food costs, natural disaster, unpredictable weather, armed conflict – which only makes this more difficult – water shortages, as well as very limited arable land.

Amid this challenging landscape, the critical question, I believe, for all of us is: “How to make a sustainable difference to help plug the hunger gap today and tomorrow?” You’ve heard probably many times over the last few days – but I think it’s a very, very important point – that there is no one size fits all solution. In fact, hunger has a very different fingerprint in very many parts of the world.

In Africa, as you all know, extremes of hunger have their root in poor agricultural production, poor agricultural practices, lack of access to technology; and there has been almost no increase in yields since the 1960s.

Meanwhile in Asia where agricultural production is actually quite robust, hunger actually stems from income inequalities and very poor infrastructure in many countries in Asia. And in many other parts of the world a different type of hidden hunger is very prevalent, underscored by severe deficiencies in critical vitamins and minerals and very, very poor nutrition quality. Like I said, there is no one silver bullet.

So today what I would like to do is spend the next few minutes providing you with three aspects which I believe reach across all the regions of the world and where I believe we can collectively make a sustainable difference. These things are namely empowering smallholder farmers to become what I call “agripreneurs,” by providing them with necessary tools, training and access to information.

We need to be enabling progress in both climate mitigation and ag production by ramping up innovation investments. It is not about either/or, it’s about finding a way to do both well.

And lastly we need to enhance efforts to collectively and collaboratively work together in a much more meaningful way than we have in the past. And we need to find the right ways to connect the dots among the multiple constituents who operate in different aspects of agriculture and food production.

So let me begin by spending just a few minutes talking about my perspective on empowering smallholder farmers. Despite the presumption that industrial farming is a major contributor to combatting world hunger, it really is at the end of the day the smallholder farmer who produces most of the food consumed in their own countries where hunger is most prevalent. Even in Brazil, which boasts 200,000 hectare farms, literally farmers the size of the country of Luxembourg. It’s actually the smallholder farmer in Brazil that supplies 70% of that country’s food production that’s consumed locally.

And in Africa, which you’ve heard a lot about already today, where the average farm size is two hectares, 80% of the country’s food is grown, stored and transported by women farmers, farmers like Susan who toil the soil with handheld hoes. That figure is most astounding to me because those women farmers only receive about 10% of the total aid provided for agriculture, forestry and fishing. Hopefully, that’s beginning to change, but I could spend another hour talking to you about that challenge, and we’ll leave that for another day.

Across the world, microscale farmers are not receiving the support, the training, the attention or the technology that they need; and this is not just an issue in Africa. I believe it’s our role to help

transform them into agripreneurs, to empower them to sustainability and independently survive and thrive.

After making this plea for the last few years in my role as head of Bayer CropScience, I was very encouraged to hear Kofi Annan speaking recently at the African Green Revolution Forum. And when he specifically called for, and I quote, “unwavering focus on improving the productivity and profitability of smallholder farmers,” I’m actually quite encouraged that more and more people are talking about what needs to be done to support smallholder farmers.

So who exactly are these individuals? You saw one this afternoon. Many of you, I’m sure, have worked with and interacted with many smallholder farmers around the globe. But because it’s very hard to really put a face to what that means, these half a billion individuals, I’d actually like to return to the farmer, Apf from Indonesia – Indonesia, which is the fourth-largest populated country in the world – it has many, many smallholder farmers.

Apf actually is an agripreneur. He’s keen to adopt technologies that help him boost yields to cut his costs and pave the way for sustainable success. Apf is interesting also because he’s surfing the emerging wave of what I call M-farming. One of the great things is the advent of new information technology allows us to find a way to reach many of these smallholder farmers in a way that even five years ago we could not.

Because they have access to mobile technology and mobile technology devices, people like Apf actually can get real-time information and updates about what’s happening with commodity prices, what’s happening with the weather and what they should be concerned about, how to deal with certain pests that are actually on their fields and what to do about them in real time. And they’re also getting trained through these mobile devices on good agricultural practices. So there are ways to reach them that were much more difficult to do so even five or six years ago.

Crop yields, of course, are not the only metric by which we should evaluate the success of somebody like Apf. We should also help ensure that his efforts do not come at the expense of the environment; and unfortunately, because of the financial constraints that many of these smallholder farmers have had in the past, it has to some degree come at the expense of the environment.

It’s also probably true that climate change is probably not at the top of Apf’s agenda, and that is why I believe it is our responsibility, those of us in governmental institutions, in industry, in NGOs, to actually have that responsibility and help educate individuals like Apf on how to grow crops in a way that mitigates climate damage.

This brings me now to my second topic of today, the topic of: “How do we invest in innovation that creates solutions that not only help feed but, equally importantly, protect the planet?” There is really on my mind a false dichotomy between feeding a hungry planet and protecting that planet. There are still far too many people who believe it’s one or the other and you can’t do both very well.

I believe that we have a huge window of opportunity to further harness the expertise of the world’s scientists to explore synergies that boost agricultural yields, that mitigate climate

damage and enhance nutrition. We must find a way to use our expertise, knowledge, experience to do all three of those things at once.

So let's go back to the example of rice. Millions of people, as you well know, depend on rice for their daily energy and protein. But as you also know, rice growing is not exactly the most climate-friendly thing in the world. But many, many millions and billions of people rely on rice. Growing rice requires much water; and, due to obviously the favorable conditions of anaerobic bacteria in waterlogged soil, it also generates four times the amount of methane emissions as if you were growing wheat or maize. It consumes an immense amount of water, and it produces an immense amount of methane gas.

So let's go back to my friend Apf. We worked with him to find a way to reduce the amount of water he used when he grew his rice, to reduce the amount of methane gas. And we did this, not by taking some silver bullet, but by putting together many pieces and working with him over a couple of years. So using dry seeding techniques saves an immense amount of water, reduces methane gas emissions, using high-yield hybrid rice seeds, which also does the same thing, and the rice varieties are much more hearty, and they can withstand a lot more climactic challenges, making sure that he was using the right chemicals at the right time at the absolute minimum rate and the most environmentally friendly versions of those throughout the growing season – doing all these things from beginning to end of the growing season, and then oh, by the way, during harvest making sure that every grain and kernel of rice actually got used as opposed to ending up on the side of the road because they were using very poor threshing and harvesting materials.

So by using all of these methods, this individual farmer, who only has a hectare of rice to grow, was able to see a 30% increase in his rice yields. He was also able to emit 30% less methane gas on that plot of land. And, oh, by the way, he actually also used 20% less water. So that meant for this individual he had higher rice production at lower cost, and he was able to do so in a much more environmentally sustainable way.

That clearly is one very small example. You've probably heard others over the last couple of days, probably the last few years. But it is an important example in my mind because it combines the goal of increasing food production and protecting the environment. That was one smallholder farmer. But the way to solve this problem is one smallholder farmer at a time, working with each one and expanding it to the next and to the next and making sure that these farmers are sharing best practices among themselves. It's actually not very glamorous; it's not a very sexy way to do this. But quite honestly, it's the best way that all of us collectively can have a positive impact and make a significant difference on reducing the environmental impact while we're increasing the production of food.

There clearly is still much work that needs to be done and much research, especially when we focus our attention on: "How do we do this with less and less water?" Availability, water and less and less ability to use water the way that it has in the past. You all know that the world is increasingly threatened by drought and famine. One glass of water can make a very huge difference between life and death. It's also why the world is turning to the agricultural industry for innovative solutions. But it is at the same time pointing a finger at us because we consume 70% of the world's fresh water – that's a very high percentage – and we need to find a way to produce more with significantly less water.

So in that context I'm actually very thrilled about the award winner for the World Food Prize this year and his pioneering work in micro-irrigation, because I believe that's one important innovation and step forward in helping us find ways to use less water in agriculture.

So while it's critical to research methods to save water, we must also sharpen our focus on helping plants to survive in abiotic stress conditions, like heat, drought and salinity. With this in mind, agricultural scientists both in academia as well as in industry are developing a whole new spectrum of tools and products that are targeting enhanced water efficiency in crops.

And beyond climate critical areas, another branch of research that is also being worked on increasingly is: "How do we enhance the nutrition level of the crops that are being grown?" Indeed, hunger-fighting policymakers are targeting a three-pronged approach that's not only about yield boosting and energy saving but also about nutrition enhancing.

The ag industry is increasingly injecting investments into scientific fields, such as biofortification, to boost a crop's nutrition uptake of vitamins and minerals, like zinc, iron and iodine. Ironically, we go back to our example of Indonesia. The Secretary of Agriculture and the Minister of Health are very concerned about the nutrition quality of all the rice that's now being consumed in Indonesia and is trying to find ways to partner with others to boost the content of the nutrition in the rice that's actually being grown in Indonesia. That's a country that's transitioning from - do we have enough food to keep bellies full, do we have the right kind of food to put in those bellies?

And we all have an important role to play in not only making sure hunger is eradicated but the quality of that hunger is also very, very important.

Ambassador Quinn mentioned that we work with 240 different organizations around the world, from the beginning to the end of the agricultural food process. And part of why we do that is I've been very encouraged to see that many companies like Unilever, Nestlé, even retailers like Walgreen's and Wal-Mart and Metro are trying to find ways to boost the quality of the food that gets produced from the ground and are taking a social responsibility in ensuring that the quality of that food and how it's being produced and under what conditions they are taking a social responsibility for that, to ensure that, once it ultimately gets to the table of the individual that needs to eat it, that there's a supply chain that's sustainable, appropriate and provides for food security as well as food safety.

And this brings to mind my last point that I wanted to mention today - the importance of collaboration and partnerships to leverage our collective potential. I mentioned already that we face this triple challenge of feeding the planet, protecting the planet, and fueling growth in nutrition and health. It's a very, very tall order, and there are very many positive examples of heavily funded programs, initiatives, and legislative committees peppered across the world that are all making their mark on the food security field.

Just two weeks ago, for instance, the U.S. Agency for International Development reached an agreement with the Indonesian Chamber of Commerce in industry to help empower farmers like Apf by providing them with insurance and credit access so that they can further invest and improve their farming equipment. It's a great example of many of the things that are going on today.

But despite these pockets of excellence, we really must also acknowledge that there are huge institutional differences in the quality, strategic scope and sustainability of these initiatives, whether they're driven by nations, states, by development banks, by NGOs and local research institutions. What we need to do is ensure that we're not working across purposes and we're collectively focused on ultimately trying to solve the problem of bringing these smallholder farmers to a level of sustainable production that enables them to have a sustainable livelihood and feed their families as well as their communities.

So I believe ultimately what's missing is some form of a mandate to create a much more comprehensive and aligned set of policies for us to go forward. The United Nations estimates 25,000 people die of hunger or hunger-related causes every single day. It's high time for us to join forces, to develop a common set of objectives, and execute clear action points with very strict timelines.

One of the things I also have been encouraged by – and it was mentioned by Ambassador Quinn – is the work that the World Economic Forum has done in terms of bringing together 30 partners across the spectrum of industry, government, institutions and NGOs. And it is a step in the right direction, but it really is only one step. Their aim, working together, is to increase production by 20%. Their aim is to do it in a sustainable way. But there's much more that we need to do.

Across the world we do have good answers. We have great people, we have great passion, and we do have fantastic potential to reach this looming 2050 objective to feed nine billion bellies. While it's highly encouraging to see that corporate scientists, universities and research institutions are much more united and much less skeptical of each other's motives and are working together in their intellectual capacity to combat hunger, we need to do more. And we need to make sure that we're absolutely not working across purposes. Our ultimate goal should be to feed a hungry planet and find ways for these smallholder farmers to make a sustainable living without detracting the environment.

And I also believe it's time for us to move beyond the discussion about – What's the best solution? Is there one solution to this problem? Whether GMOs are the answer or whether organic is the answer, it is true that all of these things are going to be necessary to find solutions to these problems. And collectively we need to rewire how we tackle world hunger by collectively changing our mindset and deciding that we're going to collaborate in a constructive way and we're going to focus on bite-size goals, we're going to focus on farmers like Susan or my example of Apf, and one farmer at a time, one community at a time, find the ways to build the capacity and to bring many of these people out of poverty and out of hunger, which is ultimately what we need to do.

Ambassador Quinn mentioned that prior to my time as the head of Bayer CropScience, I was in the healthcare industry; and one of the things I did do is I worked on diabetes for a number of years, which is the opposite problem of what I'm talking about today, is people eating too much and too much of the wrong foods in most cases unless it's genetic. And I don't know if you all know, but I am actually going to be returning to the healthcare field shortly. But I wanted say that this time running Bayer CropScience has been highly rewarding to me. It's demonstrated to me the passion and the ability to actually have a meaningful impact on changing the face of hunger in the world and that there really are things that, working collectively, that we can do.

But it also made it even clearer to me the connection between food and health and the importance of making sure that we are working across the agriculture and the healthcare fields to make a big difference in addressing the issues of hunger and malnutrition.

One of the interesting experiences I have had over the last few years in talking to ministers of agriculture in many countries around the world, I've had a similar conversation to the one I did with the minister of agriculture in Indonesia - which is, we need to find a way to have the minister of health and the minister of agriculture in these countries dialoging and creating joint programs to start to solve some of these problems collectively and not have them in some cases actually work in cross purposes.

So I'd like to leave you today with three very simple messages that I hope will make a sustainable difference to how we think about agriculture and hunger around the globe.

First and foremost, we need to collectively spend a lot more time and energy and focus empowering and focusing on smallholder farmers - and they don't just exist in Africa; they exist in every single region around the globe, and we need to focus on them and deal with how to support them.

We need to change the way we think about innovation and investing in innovation and agriculture so that we are finding solutions that simultaneously address the issues of production, increasing production, meaning increasing yields, doing it in a way that mitigates climactic damage, and finding ways of doing it that enhance nutrition. It's not an either/or - there are ways to do this that solve all three of these problems collectively.

And we also need to make sure that we're not working across purposes and that we are collectively harmonizing our efforts and being very, very clear ultimately on the goal. Because it's quite hard to imagine this, but 2050 will be around the corner before we know it, and if we don't start acting now with a sense of urgency, the problems are only going to get worse.

But I'm actually relatively optimistic because there's more and more dialogue around the kinds of things that I've just mentioned to you that I hear in many parts of the world among many different constituents, that I now believe we actually have the ability and the will to start dealing with this and guiding farmers like my friend, Apf, and helping him, making sure that he's at the head of the table and that we continue to strive to sustainability stamp out hunger on a global scale.

So thank you very much for listening to me today. It's been my pleasure to speak with you.

Ambassador Quinn

Sandra Peterson, thank you so very, very much for those wonderful words. I want to say, your discussion of Apf brought back the memories to me of 1970 when I first was in Southeast Asia and I visited Indonesia. And I remember getting on the train in Jakarta and riding out across Java and looking out the windows at those endless fields of verdent green of the IR8 rice that was just being brought to Southeast Asia then and how transformative it was. And now we had

that revolution, that part of the green revolution, and now there is going to be the revolution of how can it be made more nutritious, and the nexus of health and food is so critical.

But just to finish this point, as you're moving to your new position and given your background, seven years ago here on this stage in this room our World Food Prize Symposium, our Borlaug Dialogue Symposium was on the dual global challenges of obesity and malnutrition. And we had doctors from the CDC and from Harvard, along with you and..., who worked on the obesity, and people from the U.N. Committee on Nutrition. And people came up to me and said, "Whoa! This has never been done before." And so I could like to hear that - you know, you have to have good ideas to get people to come to Des Moines. But I hope, I would like to take up the challenge you put out - how do we get the ministers of health and the ministers of agriculture together. And I hope in your new position that we could look to you and see if we couldn't build some part of our dialog and have something like that and take the ideas that you've put forward here today. Because I know just the first... Even though Hippocrates had the idea a long time ago, we sort of forgot it. It's come around now, and I hope we could work together as a way of taking your challenge today and building upon it.