

2013 THE "BORLAUG DIALOGUE"

October 16, 2013 - 1:15 p.m.

Panel: *Ellen Kullman, Moderator*

PANEL:

FORWARD THINKING: ENGAGING FUTURE LEADERS TO END WORLD HUNGER

Introduction:

Ambassador Kenneth M. Quinn

President - The World Food Prize Foundation

It is my privilege and pleasure to introduce for the third time at the World Food Prize Ellen Kullman, who you know is the Chair and CEO of DuPont, the 19th executive to lead that company, a company at which Norman Borlaug worked at one time. I think of generally about DuPont as Pioneer because they live here in our town. But I got to be a speaker to the DuPont Technical Conference, and I found the amazing range of things that DuPont does and all of the various technologies that are involved so incredibly impressive.

She is Co-chair of the National Academy of Engineering Committee, changing the conversation from research to action. But let me tell you why I'm so thrilled that she's here, and that relates to Norm's interests and to ours. She has been a leader in two of the most important themes that have been at the World Food Prize and indeed taking words and putting them into action.

One of them is about the role of women in development, and that is an issue that has gained such incredible momentum and it has become so clear that the countries that are going to succeed are the ones that make the use of all of their citizens and of women and in science. And related to that is the leadership that she is providing and her company is providing through her direction in STEM: Science, Technology, Engineering and Math.

But here we in Iowa think that STEM is missing a letter. It needs to be STEAM - it needs the letter "A." So it's Science, Technology, Agriculture, Engineering and Math. So with that, let me introduce the person who I think is putting a lot of steam into STEM, Ellen Kullman.

PANEL:

FORWARD THINKING: ENGAGING FUTURE LEADERS TO END WORLD HUNGER

Panel Moderator:

Ellen Kullman

Chair and CEO, DuPont

Panel Members:

Eve Ntseane

Smallholder Farmer

Julie Borlaug

Associate Director of External Relations, Borlaug Institute for International Agriculture at Texas A&M

Mpule Kwelagobe

Founder and CEO, MPULE Institute for Endogenous Development

Ellen Kullman

You know, the one thing that never ceases to amaze me is that every Ken introduces me, it's a surprise, and quite a warm surprise. So thank you very much, Ambassador Quinn.

In 1970 a dedicated agronomist accepted the Nobel Peace Prize for his work in a high-yielding, disease-resistant variety that literally saved lives. That revolution in agriculture, heralded by Dr. Norman Borlaug's achievement, continues in many ways. And all of us are here today because we're part of it.

No one in this room underestimates the challenges we face. Countless children around the world suffer from malnourishment. Megacities in parts of Asia and Africa continue to grow without sustainable farming communities to support them. And political and social unrest occur in part because people are willing to take any risk in order to feed their families. And we must hold ourselves accountable for addressing these challenges, but we can only address them through action.

So as we kick off the next Borlaug century during this week's symposium, I hope each of us will consider what we can do to achieve this together. Because there isn't an individual, a company, an NGO or a government that can achieve our global food security needs alone. It's going to take all of us to succeed, and we have to work together in collaboration, even as we work locally with farmers around the world.

So we've committed to this at DuPont. Since 1926 our Pioneer business has worked side by side with growers. As we've expanded and grown globally, innovation and collaboration have been DuPont's brand of agriculture. Together with others across the industry and with many nontraditional partners, we've worked to enable communities literally from the ground up through productivity gains, improved farming practices, and, to me the most important part, education.

Food security is a complex issue that requires continued action as well as dialogue. So in 2012 DuPont established food security goals to hold ourselves accountable to specific and measurable actions that could lead to real change. To create our goals, we spent many hours listening to internationally renowned food and agricultural thought leaders as well as farmers.

In the first year of our food security goals, we allocated resources and intention to bring new innovations to the market to engage the next generation of food leaders and to help build up the communities that are home to the world's farmers. Now, these goals are a catalyst for collaboration, for innovation, and, most importantly, action. Because in my world, what gets measured gets done.

Our first goal is to continue innovating to feed the world. In 2012, DuPont invested \$1.2 billion in research and development and introduced more than 1,000 new products. And it's exciting to imagine the innovations we can develop to enhance nutrition, improve food safety by increasing shelf life and packaging options, to help reduce agricultural and food waste. By 2020, DuPont will invest \$10 billion in research and development and introduce 4,000 new products.

We also recognize the critical role youth play in food security. Ensuring people have enough food to eat around the world also depends on tomorrow's innovators. DuPont set a specific goal to help young people address food security. In 2012, we engaged more than 360,000 youth globally with a special emphasis on young people in Africa. By 2020, our goal is to engage 2,000,000. One way of doing this is through the work between DuPont and 4-H to engage youth in five African countries to build the skill and the will to contribute to addressing the food security challenge. Programs include the Leadership Institute for Adult 4-H Leaders, and Enterprise Gardens for building hands-on farming and business training for youth. And this has had an impact on 14,000 youth in 2012.

Our final goal focuses on helping to improve the livelihood of smallholder farmers. In 2012, we directly touched more than 160,000 smallholders and their communities. We did this through targeted collaboration and investment that strengthens agricultural systems and makes food more available, nutritious and culturally relevant. This metric does not account for the work already being done to enhance the lives of hundreds of millions of farmers through DuPont's normal business practices. It illustrates the focused effort to reach 3,000 smallholder farmers by 2020.

Now, I've spent a lot of time, since I've become CEO to get to understand and know Pioneer's business and our agricultural business. I've walked the field with local farmers on five continents, and this is the only way I really felt I could firsthand understand their concerns, their hopes for their families, and their needs in their communities. We believe that our food security goals will help guide our efforts to address these concerns with measurable results each year from 2012 to 2020.

And we recognize that we can't work in isolation, and that's why I'm especially pleased today that we have a trio of panelists with rich and diverse experiences that we can hear from. I'm joined by three noted leaders in agriculture who collectively represent a broad spectrum of organizations, leaders and knowledge needed to address global food security.

So first is Eve Ntseane, President of South African Women in Cooperatives and a smallholder maize and cattle farmer in South Africa. Now, I've read Eve, and I've seen what she's done, and she and I absolutely share a passion for being goal-driven. So I'm looking forward to hearing more about her and how we can increase women farmers' access to information and tools needed to increase productivity on farms.

Second is Mpule Kwelagobe, and I apologize, by the way, to Mpule in advance. She is an Executive Director of the Network of Women Investing in Leadership Program. It's a multi-stakeholder initiative to mobilize the next generation of African female leaders. Now, from the age of 19 Mpule's entrepreneurial spirit and courage created new opportunities for women of her homeland in Botswana. Mpule has a natural ability to bring people together to address challenges ranging from HIV-AIDS to poverty to gender equality.

And last but not least is Julie Borlaug, Associate Director of the Borlaug Institute for International Agriculture at Texas A&M University and a granddaughter of the late Dr. Norman Borlaug. Julie has devoted her career to engaging the next generation of scientists, agronomists and nutritionists. Her work at the University helps ensure that we have a solid pipeline of talent to address global food security.

So thank each of you for being here today. Thank you for your passion. Come on up, and let's get the dialogue started.

PANEL DISCUSSION

Ellen Kullman So let's start with a question to each of you, and I'm going to start here with Julie who I just had the pleasure of meeting today. You know, I've read so much about your grandfather, and he has inspired so many of us. And as you talk to the next generation, scientists, agronomists and farmers around the world, I mean, your grandfather's legacy is inspirational to them. So what would Dr. Borlaug want those of us gathered today to do to support this next generation of farmers?

Julie Borlaug First, I want to thank you for having me here today. I think my grandfather probably didn't think another Borlaug would be up on stage, so this is a big event for me, so thank you. I think he'd first and foremost say - less rhetoric and more action. He would also want us to diversify. When we talk to agriculture, we talk to ourselves half the time, and we know the answers. He would want us to diversify who we're reaching out to, to diversify the base. It's going to take all different sectors, people from different educational backgrounds to actually solve hunger. So I think first and foremost he'd want us to come together in a collaborative way across all sectors and address everything along the value chain but to do this in an integrated system.

Ellen Kullman And I think it's interesting, because I think collaboration with youth is key in making sure that education gets there. And next I'll start with

Mpule. So you've done a tremendous amount, dedicated the last 13 years of really focusing on innovation and women entrepreneurs at the local level. So what opportunities do you see to give additional support to women at the local level?

Mpule Kwelagobe I think one of the key things is first to identify the constraints that women are facing within agriculture, even before we get to the agriculture itself. And so one of the things that we're very passionate about is really addressing women's time poverty in agriculture. And so looking at two very critical sectors, and that is water and energy. You know, women in Africa can spend anywhere from one hour to four hours a day just to fetch water and firewood for their families. So I think we need to think about the nexus. What are the critical sectors that cross-cut with agriculture that are very critical for women, in order for us to be able to unleash their productivity?

But despite all of that, women are still doing the work. They're still responsible for 80% of the agricultural production. Imagine just how much more dynamic they could be if we address the constraints they are facing, especially their time poverty.

Ellen Kullman And, Eve, you actually run a farm, and you have a farming cooperative. You've got women you work with. You face every day the challenges around productivity. So, based on your personal experiences and the experiences of the women you work with, those challenges, so how do you see them, and how does it manifest itself in your area?

Eve Ntseoane Maybe I should start by saying women have been in the forefront of farming, and this is realized again in the beginning of life where Eve in the Garden of Eden was a co-manager to Adam. So women are encouraged actually by that. And also that women have to be taught that a farm is not a factory but an ecosystem. I agree with my fellow colleagues that, yes, women experience challenges. And the first challenge would be land tenure, land availability. Most women use tribal land or communal land; they do not own land. So it is difficult for women to access credit to work the land, due to lack of land ownership.

Also, as I said that women need to be taught an ecosystem, the tools, the technology, you know, modern technology that is used. Women have to be taught crop rotation. Women have to be taught that land has to be taken care of; we have to look after our environment. And that could be done actually through covering your crop to avoid or prevent it from soil erosion, soil degradation. So all those are very, very important.

Also women still believe in labor-intensive practice. They do not know mechanization, and that if you practice labor, you know, that takes time. So it is critical that all of us in here have to ensure that women have access to mechanization. Climate change, for instance, is here, and

women, we need to engage, we need to have dialogue over climate change – how do we keep climate change against food production?

Ellen Kullman There are so many different organizations who are focused on really trying to make a difference here, but when you think about it very practically, how can private-public partnerships really help enhance the needs of women and bringing them the tools and or education and creating women scientists to help?

Mpule Kwelagobe I think if we're talking just about rural, smallholder farmers, gender mainstreaming is very key. We must begin to understand how policies affect women and men differently. So, for example, you look at extension services. It's one of the most critical areas for farmers, and yet women rarely have access to extension work as extension services, but that's also because only 7% of extension workers across Sub-Saharan Africa are women. And when you get communities, for example, where men cannot necessarily serve as extension workers for female farmers, it becomes an issue. So all the way from seeds to things like water and new technologies, women are still only getting about 1% of all agricultural investment.

So I think the types of partnerships that we need to see are the types of partnerships that address constraints all the way from seeds to land to water to new technologies to how we can use things like mobile technology, for example, as a way of imparting information to female smallholder farmers. Credit is another issue. So we need to be able to understand all these different variables and create interventions by gender mainstreaming. Beginning from really wanting to close the gender gap in agricultural development is going to be very key.

And when you look at all these interventions, a part of it has to be that we must view female smallholder farmers as businesses. They're microbusinesses, but they're still businesses, and so they need the same services that other businesses would need. And we need to tailor these services specifically for women.

Julie Borlaug I would say that we also need to address the fact that women have families or are going to have children at some point. And in order to help them excel and succeed, we need to have a culture that nurtures this, that accepts that and makes this possible so we can keep women at the high academic level and the high leadership level.

Ellen Kullman Eve, anything to add from the public-private partnership you've seen?

Eve Ntseane I think we really need that. We need everyone. We need scientists; we need geologists; we need those who are in engineering; we need farmers. It's a whole package. It is a value chain. We need to employ a very effective value chain so that we can produce food because the world is

dependent on us. We have to produce, whether we're using technology, but the world is waiting out there for food.

Ellen Kullman So it's just not this generation, it's the next generation. So how do we bring or keep more of our young people today - either bring them into agriculture or keep them in agriculture in order to create the sustainability of the progress we're making?

Mpule Kwelagobe One of the things I talk about is we need to make agriculture sexy, honestly, and especially for Africa. It's honestly a very, very unattractive and very depressing sector for young people. We engage extensively with youth, and they are not interested in agriculture because of the image that they're getting from agriculture. Africa is sitting on top of the biggest youth population in the world. We have 200 million young people just between the ages of 15 and 24 and 600 million people in total under the age of 35. So agriculture should be a sector or opportunity for our youth. But it's not competitive; it's not dynamic; and it's not profitable. And the image that young people are getting of that rural woman with a baby on her back, a hoe in her hand, and soil and land that looks just really depressing - that's why we're going to see a lot of migration of young people going into urban parts of Africa, rather preferring to be part of the urban poor and living in slums and settlements and getting piece jobs in the formal sector than for them to stay in rural parts of Africa and go into farming.

The way to really get young people is through things like science, technology, innovation, engineering. Young people are embracing technologies. It's an opportunity for us to engage them. So education, very innovative education systems is something that Eve and I have been talking about, the need for just innovation within our education systems, the need for us to go even younger. But we can't expect to get young people into agriculture when they're in college if we're not doing it at the elementary or primary school levels. It must start early. I mean, even in the United States.

Julie Borlaug I would say there are some key programs that I think are out there that are really doing an amazing job. The problem is, we need to scale them up, and I'd like to highlight a few of them.

I believe we have 40 to 50 USDA Borlaug Fellows here. We have USAID Borlaug LEAP fellows. Those are students from developing countries who come to our U.S. land grants, spend 12 weeks, and create a lasting mentorship. We need to have more opportunities for students like that.

The Beachell Borlaug program, which is supported by Monsanto, provides phenomenal scholarships. It's PhDs. It's a fully funded program, and they study wheat and rice, and it's based on production. And we've had 54 fellows come through that, and there are actually 24 that are girls.

So again we need more of those availing to people from developing countries.

We also have a neat program that a lot of people don't know about, but it's supported by Syngenta, and it's called, "The Thought for Food Challenge." The 2013 program just wrapped up. The 2014 will be announced in a few months, but it's a program that asks a multidisciplinary approach to come up with disruptive new technologies and new thought processes of youth – so actually it's more on the university side – of teams to come up with new ideas of how we're going to feed nine billion by 2050. And that's a really great program because it gets people from outside of agriculture to think of ways they can contribute.

I also think that the World Food Prize Youth Institute is one of the most phenomenal programs we have. At A&M we support the Texas program, and we also support the Mexico program. These students - it changes their lives when they come here for this week. And then if they have the opportunity to participate in a Borlaug Ruan fellowship, which provides a high school student an eight- to ten-week international internship, which changes their lives and changes the direction of where they're going to go in college.

So I think we have answers of how to engage youth. We just need to scale them up more. We need to get them to see that there's so many more opportunities. Everyone thinks, when you think of agriculture, it's the image that was coming up and that you were talking about, but it's much more vast than that. And we have to have a collective group in the next generation who are solving the problems – not just agricultural scientists, not just farmers. We need engineers; we need computer scientists; we need those in the health sector. So it needs to be an inclusive answer.

Ellen Kullman You know, it's interesting. You talk about it being a business, you talk about the kinds of education and the kinds of technology that's needed. How do you get people to think about it as entrepreneurship as opposed to farming, I mean, of really creating a business and something that's sustainable and can continue on for a long, long time? How do you create that? What's needed to create that sense of entrepreneurship?

Eve Ntseoane In fact, I thought I'm looking sexier and better today to attract agriculture.

Ellen Kullman We need her to do a what, a music video in farming in a very positive sense.

Eve Ntseoane It is true – agriculture is business, and we need to attract youth. And why should we attract youth? Because youth are the future, and youth would bring energy, they would bring skills; they would bring that technology, knowledge. They'll also bring the theory that they have learned. It is up

to us to enhance that theory and turn it into practice. It is important, very, very important as farmers to transfer skills to our family. One cannot really separate farm and family, so it is important to have a generational mix so that we can transfer skills, we can work as families, we can employ more youth into the agricultural sector.

And that can be done through influencing the school systems. And agriculture has to be started in the primary level. We have to encourage our government to start food gardens, for instance, in schools, so that when these kids grow, they grow in agriculture in themselves. And also for secondary level students or those who fall out at secondary level, we need to create enterprises in agriculture that would attract the youth that is not employable, not doing anything. We need to attract them and skill them with leadership skills, with business finance skills, with business planning skills.

And the issue of mentorship also, coaching, is very, very critical in agriculture. And we need to profile women out there or even men that are successful in agriculture so that youth can see that agriculture is cool, agriculture is sexy.

Mpule Kwelagobe

I think another thing, Ellen, is that we need to really also bring value chain development into the picture. A lot of times when we're talking about agriculture in Africa, young people are getting the farming side of things. How about we really then also talk about value chain development? How about we bring agribusiness into it? How about we talk about agro-processing? We need to be comfortable with multiple conversations existing in one space, which is that maybe we're going to have different food systems. Maybe we can have the smallholder farmers, but we can also have agribusiness. Maybe some young people don't want to be smallholder farmers. They would rather take advantage of economies of scale and be into agribusiness. We must be comfortable with these conversations. So I think value chain development for young people in terms of now the science, the business of things, is to talk about value chain development and the opportunities that exist as doing it as a business and as an entrepreneur. It's going to come from value chain development.

Ellen Kullman

So we talk about this many times. It all feels very overwhelming. You know, there are many different issues, a lot of great ideas. But scalability really is part of the issue. You know, we see success in one area – how do we get that leverage? How do we get to connect it together? You've been working on that for a while, and have you seen some great examples of how we can do that?

Mpule Kwelagobe

It really takes a lot of innovative public-private partnerships. And to some degree it also takes patience when you are developing these types

of partnerships, because each stakeholder obviously wants their sort of values represented within the partnership.

We were successful in being able to mobilize just very unique partnerships for some of the earlier work that I did about ten years ago. And we're beginning to see sort of some of the same kind of voices rising about the need for different kinds of partnerships.

One, for example, really being able to bring together the research side of things, academic, the universities in Africa, for example. The agricultural universities need to come together with the private sector. At the end of the day, whatever it is, if we're talking about a tertiary education, whatever we're teaching our younger people in Africa must also be better within what's happening within the private sector. So the private sector to some degree should be encouraged to co-develop curriculum along with the universities when it comes to agriculture and agribusiness.

But obviously governments, public policy – we need to see not just the ministers of agriculture, but they need to have representatives within the ministry of finance, the ministry of infrastructure, because all these ministries are very key to agricultural development. So policy is going to be very, very key in Africa, and that's why it's so wonderful to be able to see ministers of agriculture from Africa here, because policy is going to be a very critical aspect of enabling the public-private partnerships but also because bringing smallholders into the picture as well – they must be central to any type of partnerships that come out of Africa.

Ellen Kullman

So we've talked about a lot of things here today, the dialogue's going to continue this week. So if you could have one thing, one thing you could get done that could really have an impact on not only our generation but subsequent generations of creating the sustainability we need in agriculture, what would it be? Julie?

Julie Borlaug

I think I would start with being the kind of mentor to the next generation, to find a student at any level, whether it's in elementary, high school or at the university, and really believe in them and build them. If it hadn't been for Dr. Stakman and his role in my grandfather's life, my grandfather probably would have been fired from CIMMYT multiple times without the intervention of Dr. Stakman. But it was his role as a mentor that really cemented my grandfather and who he was.

So I think if we had the opportunity to really encourage the next generation, to tell them it's okay to make mistakes but to take risks as well. I don't think we do that enough. And my grandfather talked to me about that, about having someone truly believe in you and push you, and I think that's what we need for this next generation.

Ellen Kullman

Great. Mpule?

Mpule Kwelagobe I would say that, let's put more resources in the hands of women. I know a lot of people sort of get very, especially men - I've had emails before - they say, "Well, if you're talking about putting resources in women's hands, what about men?" Obviously, women are not doing agricultural work in silos. Obviously, a lot of them are working on farms that are owned by men. But we really need to put more resources in women's hands. Women are really the secret weapon to poverty reduction, to food security, to nutrition. Women reinvest 90% of their incomes in their children, in their children's education and health. And I don't just speak about this just as statistics. It even applies to me. My mother is a rural woman. She was born and raised in a village. She migrated to the urban parts of Botswana when she was in her twenties, and she raised us as a single parent. I saw her give up everything she had, hold on a full-time job, while running five or six other businesses on the side, to put my siblings and me in the best schools in Botswana. So let's put more resources in women's hands. Let's invest in women, let's close the gender gap in agriculture, because that's what's going to be key to food security and nutrition in Africa.

Eve Ntseane In my opinion, I think we cannot depend on nature anymore, for nature changes. We have to get up there and employ technology and employ tools and do food production. Thank you.

Ellen Kullman That's interesting. I think I want to thank our panelists today. I think they've done a tremendous job at shaping not only some of the success but many of the challenges we have in front of us.

And I think what this week is about is really having each of us think about what is that one step we could take, that one focus area, whether it's mentoring, whether it's technology, whether it's empowering or resourcing, as you say, the people who are doing 80% of the work in agriculture from your country. And so what part do we as individuals play? What part can we play collectively, whether with our governments or with other companies or NGOs or universities? Because it's going to be through hundreds of thousands and even millions of small steps that we're going to make progress in this area.

So I want to thank you all very much for sharing your thoughts and ideas. And think of this as just the beginning of a dialogue, and we'll hopefully see more progress being made every year. Thank you.