

**KEYNOTE: THE GATES INITIATIVE TEN YEARS LATER**

**Fireside Chat – Rodger Voorhies and Gebisa Ejeta**

October 17, 2019 – 2:05-2:25 p.m.

*Introduction*

**Meghna Ravishankar**

Director of Planning, World Food Prize Foundation

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Good afternoon, everybody. Please take your seats. We're going to get started with our program right now. So thank you to all of you who joined us this morning for our panels that we started bright and early. We hope you learned a lot. For those that went to the luncheon, we hope that the keynote address was insightful and you came out with some good ideas and some great connections.

So this afternoon we have a fantastic lineup for you that we're really excited about. I will introduce our first session, which is a fireside chat with two wonderful individuals that I will introduce as they walk up to the stage. We have Mr. Rodger Voorhies, the President of Global Group & Opportunity Division at the Bill & Melinda Gates Foundation. And we have Dr. Gebisa Ejeta, Director of the Center of Global Food Security at Purdue University and a World Food Prize laureate. They will be talking to you about the Gates initiative that was launched on the World Food Prize stage just ten years ago and reflecting on all the progress since then and what is to come.

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*Fireside Chat Participants:*

**Dr. Gebisa Ejeta Director**

Director, Center for Global Food Security

**Mr. Rodger Voorhies**

President, Global Growth & Opportunity Division, The Bill & Melinda Gates Foundation

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Ejeta        Good afternoon. I just said to the group back there—I used to hate microphones, and now I need them. And so I was testing the microphone, actually. I'm gladly honored to share with this time with Rodger, and thank you for allowing me. I appreciate that very much.

In 2009 that was the time when I received the World Food Prize, and every laureate in here, particularly Mr. Groot, will tell you this week is a blur for the laureate. Mine was really a blur. But what I did to my bewilderment that week was on Wednesday

evening, Bill Gates wanted to give me an audience in this room, that I had an hour and a half of conversation with him. And then in the morning, I leave in the morning on Thursday morning. I was told that I'm going to have a fireside chat with Mr. Gates.

And remember that until 2009 I was a lowly sorghum breeder. I was working out in the fields, and I never had seen the limelight a lot. And so this was an extraordinary opportunity for me to meet Mr. Gates and to have a conversation with him. And that conversation really laid the foundation for a lot of the things that I've been working on since. And so I was wondering what I was going to say early in the morning, so I scribbled a note just like this, my note, and said I'm going to say a couple of things to him at breakfast.

And so there were two things I would say to him that morning, Rodger. I said, "I have just come back from serving on a sabbatical year that I spent in Nairobi, working actually for the Gates Foundation and Rockefeller Foundation, working with four dynamic individuals there, and some of them may be here – Ron Steiner, Akin Adesina, Joe DeVries and Peter Matlin, under the direction of Rajiv Shah at Gates and Gary Toenniessen of Rockefeller, putting together the first agricultural program that the Gates Foundation was putting together, and that was the Alliance for a Green Revolution for Africa.

And the background that I think that this audience needs to know was that by 2006 when the program started, in 2009 when I received the World Food Prize, support for agriculture research was declining and particularly support for research development programs was declining to the extent that we were extremely concerned. So there were a couple of emerging signs, positive signs, otherwise it was a very gloomy year in 2009 because, particularly, that was the year Dr. Borlaug passed, adding to the gloom because we were losing our leader in the field.

And the only bright sides that were emerging as I think President Obama was elected at the end of 2008, and in 2009 he had made a speech in Cairo. And it was in his speech in Cairo that he quoted a new beginning. And in that he made a statement that we're going to have your fields green and your waters, rivers flow. And so we were really designing a community, we're looking for opportunities, and so we took that at a bright spot. And then the beginning of programs at Gates Foundation was indeed wonderful. But when he came over here and he said that he was doubling his investment in agricultural development, that was truly a bright sign, so that was a hope that we had in thinking that things are going to be better. And as I indicated, after a year there and working with this hopeful program at AGRA, establishing with AGRA, I came back to my university after a year, at the end of 2007, believing that the Gates Foundation is going to be really the game changer that it turned out to be.

And so my first question to start up a conversation for you, Rodger, is – How would you assess the state of the Foundation's work in the last ten years, beginning from that hopeful signal that we had received from the Foundation?

Voorhies Yeah, things could be said. It's great to share the platform with you today, and you got cheated a little bit since you got me instead of Bill. But he remembers things for a

long time. After an hour and a half with you, he had four or five more questions he wanted me to ask you about what was going to happen.

But where did we go? So I would think a couple things. So one of the things that you know about the Foundation but maybe not everyone knows here, is that the Foundation's focus is really about – *All lives have equal value, but not all lives have equal opportunity*. And in that, there are certain constraints that leave low-income people behind – the system just doesn't work for them. And how do we build an inclusive ag system that actually drives productivity?

And so in the last decade agriculture has become one of the most important things we do, next to health. And next to polio as an individual program, it's our second biggest strategy. So we put out somewhere north of \$400 million a year in grants, really focused on agricultural development. And what we believe of why that's important is that almost no country has come out of poverty without having an ag transformation journey.

And as we look in the last decade, things that we would say have been big successes, I would say on the success side, the refocus on research and development and I think the focus on crops that were oftentimes orphaned from the big, commercial crops that existed around the world. So there's been innovation in things like cassava, bananas, teff that we all think is extremely important.

I think secondarily we've seen some countries and some systems that have really transformed, and we have seen good growth and poverty reduction in places like Rwanda, Ethiopia, more recently Ghana. And we think those are some of the successes that have existed.

And the third thing is – and this where something that we announced at the U.N. General Assembly – the connection between the role of agriculture and resilience and adaptation, we think, is taking a great focus. Because we see agriculture not as a standalone problem that needs to be solved in climate change, but rather smallholder farmers and what needs to happen in agriculture are absolutely essential to driving productivity that is going to help low-income people adapt and have resilience related to climate change.

So we actually think the fact that all of you are here and the refocus on global focus on agriculture is a really positive thing. But I think there's a long way to go still.

Ejeta And to follow up with that comment I made to Gates when I said the two things that I said to him that morning was – On behalf of myself and everyone working in the field of agricultural development, as well as the millions of people who can benefit from the contributions that his Foundation would make, I wanted to thank him.

But the second point I made to him was that in addition to the resource support that they provided, they committed, I asked... I made an audacious request. And that is that in addition to that, you have another capital that you need to invest. And I said, and that, in my opinion, was "your voice and the voice of both Melinda and Bill, as important as that is, particularly working with the governments of developing countries."

And the background for that question was for me, anyone that understands agricultural development will tell you, and particularly Norman Borlaug believed in this, and he knew what the essentials were. The essentials were you need to have human capacity built up, the institutions strengthened to be functional in many of these places, and then you need to have a government that is supportive and committed to agricultural development.

And as I look back, at least from my own observation, your investment that really advanced technologies and the marketplace as a driver, there are two known levers of change that we know that we all advance. In addition to that, what we saw was in the countries where we saw significant change in the last ten years. And I would use examples of Rwanda, Ethiopia, Ghana where there is significant support and commitment. And even in Nigeria in a country with a lot of the resources where things were not working. The dynamic leader, Akin Adesina, became a minister of agriculture, and President Obasanjo was his background support and so on. And then Bill supporting Akin and President Obasanjo made a huge difference.

So in addition to this as my observation, does that make sense, or there some additional signals that you have received? The development has been uneven, but in these particular countries there has been significant change, in my opinion.

Voorhies I would agree those are some of the most significant changes in countries on the Continent. And I also think there are some states within India where we're seeing real change, whether it's Odisha, AP or Bihar where productivity is increased. And we can talk about why those states were left behind in Borlaug's first Green Revolution and what would have to happen to move them ahead.

I would say a couple things. When we go around and his voice and our voice, I think, does make a difference, but nothing substitutes for leadership on the Continent. And I think if we look at the last decade of work, I think it's really clear what drivers ag productivity. Right? We know that the right kinds of policies in place that help smallholder farmers get the resources they need, the right kinds of extension services where the returns on extension services can be a multiple of the input cost, and access to new varieties and appropriate agronomics around those varieties. And if you look at just the investments in research and development in the CG system, they can range from 2 times to 17 times; I think the average is around 6 times multiple. And almost anything that we would get 6 times multiple, you would think the world would invest in it at huge rates.

So we know it's the right inputs, the right policies, the right extension, and then eventually the right markets that need to exist. And what's surprising to us and to me is you have a huge youth and bold population problem that needs to be created in jobs. We have a GDP that's being left on the shelf that could drive greater GDP if we would invest in the right things in agriculture. And yet there still is struggling in some countries to actually put in place these fundamentals that Borlaug was already talking about decades ago.

So I think those are countries that have made progress. I think there are other countries where that progress looks like it's beginning to start out again, and we're hopeful around a few of those. And I was even encouraged by Buhari in Nigeria

actually placing security as his number one priority and then agriculture as his second priority. And I think the work that AGRA has done has begun to try and change those places in the marketplace. So I think we're seeing meaningful progress in Burkina Faso, and I think that's an interesting place within the Sahel. And I think that AGRA has had a good influence in a number of countries where we're seeing greater political commitment. So I think some of the work you and your colleagues did to set up AGRA has provided a platform to help drive that on the Continent.

I guess the last thing I would say is the focus on the CG system that I talked about yesterday... We just came out of the Global Commission on Adaptation, and we made a commitment to the CG system, but actually a number of other donors did – the Netherlands, the UK, Switzerland, Sweden, the World Bank. And I think that actually shows that the world is beginning to wake up to some of these issues, and I think the CG's reform of itself to a One CG that we heard Elwyn talk about yesterday, is absolutely essential to make donors comfortable to go that way.

Ejeta Switching gears a little bit, with Mr. Gates' appointment as Co-Chair of the Climate Adaptation Committee, and you work really very closely in your thoughts, actions, and plans there, could you share with us what lessons have come up out of that?

Voorhies Yeah, so that actually grew out of... I mean, we heard the last couple days a lot about climate change and the role of agriculture. And when we began to look at Bill's investments in climate change, what we saw really quickly was the vast majority of resources were going into mitigation, and almost nothing was going into adaptation. And the first people that were going to suffer the effects of climate change, low-income farmers in sub-Saharan Africa and South Asia had almost nothing to do with the rise in global greenhouse gases, and yet they were going to be the first to suffer, they were going to suffer more intensely, and they were going to bear the first fruits of what the industrial world has reaped in terms of greenhouse gases. And what we actually said was – Well, what could we do as a society to begin to move not just from mitigation but adaptation to build resilience?

And so the Global Commission on Adaptation got set up with a lot of support from the Dutch, the Chinese, the Indians, the Germans, Chile, and a number of other countries with the WRI, the World Resources Institute, as the secretariat. And what they came up with was kind of seven tracks and the biggest being agricultural adaptation. And that's going to focus on new research and development for crops that actually build resiliency; secondarily, around digital farmer services and so better climate prediction, better weather prediction; looking at new ways of water resources; as well as digital extension and other services to help actually adapt to the new varieties to go out faster.

And I think that what we're seeing around that is the World Bank and others have made significant commitments into adaptation. The World Bank is actually saying it's going to devote..., try and get to a place where you have equal investment in mitigation and adaptation. But also that this year of action we've gone into, you have a wide variety of countries who are going to actually focus on this kind of resiliency.

And why does it matter? Well, I think even the growth in your own homeland of Ethiopia over the last three years in some of the droughts, the actual increase in

productivity has built resiliency so that the impact of those droughts have been less than we would have expected historically. So I think we have good evidence on the ground of why it matters.

Ejeta Your recent commitment... Let me premise by saying that I am a friend of the CGIAR. I broke my professional teeth in...

Rodger At ICRISAT – right?

Ejeta At ICRISAT, yeah, fresh out of graduate school, and I have worked with the CGIAR throughout my professional career. But I couldn't help but ask why only the CGIAR? And the reason is that from where I sit as someone working in U.S. universities and the great interest that we have in agriculture development and so on, I thought maybe I'd ask that question.

Voorhies Yeah, sure. So first of all, I think the Land Grant System universities—especially being in Iowa I should say this—are some of the greatest investments in the United States history. And the productivity that's come out of the scientists created by the land grant universities has been tremendous. And over the time since you met Bill on stage, the Foundation has made investments over \$300 million to scientists in land grant universities. And we continue to be big champions of those, as well as universities in Europe and Asia where we also provide a lot of funding.

And some of the exciting research on that side that we have been supportive of and have worked with many in the room on are things like out of the University of Illinois and Louisiana State University and Berkeley and others around improvements in photosynthetic efficiency of crops. And there have been a couple articles in *Science Magazine* that have come out in the last few years where we think that the plant's evolution has much more capacity of what the theoretical limit would be in photosynthetic efficiency. And I think that even a 1% increase in something like soy has tens of billions of dollars of impact. And we're seeing in model crops like tobacco somewhere north of 20, 30, 40%. And we all know that in seed development there's a long way of what actually gets into the ground in productivity efficiency, but we think that's one area. Another area we're working on is around nitrogen fixation and other things that are important.

So it's not just only the CGIAR, but I would think if the world didn't have a CGIAR, we would all be sitting here at the World Food Prize trying to figure out how we create one. And as a public good, it is probably one of the best investments we've made for public goods. And so Bill has called for—and I'll call for again today... It is to me outrageous that of all the things we fund in global development, that it is only, what, less than a billion dollars a year. And we're calling for it to be doubled, and that doubling of commitments to the CG system, I think we're somewhere now close to a billion dollars. We still have another billion to go or a little less. But to get there actually also is where we've seen great growth in the governance structure of the CG system to reform itself. And this kind of One CG where they're preparing for what it needs to do in the future and not just resting on what it's done in the past has shown me the great commitment that leadership from—whether it's ICRISAT or CIMMYT or ILRI or IRRI, to be part of that.

So I think it's not just the CG system, but it's part of the whole ecosystem of how we drive new innovation.

Ejeta Should we be concerned with this focus on climate change adaptation, as important as that is, there might be a significant shift away from agriculture in terms of innovations that you would encourage?

Voorhies I mean I would say that overall the level of investment in the public sector for ag R&D is far lower than it has been historically. And yet some of the big impacts, we reap the rewards today of a decade or 20 or 30 years of work back when there were larger investments in the public sector whether... I mean, the laureate two or three years ago was about sweet potato innovation and improving the orange flesh sweet potato, and that actually was an innovation that had a long history of building on earlier work in other areas.

And so I think the fact that, whether it's the USDA's focus on public sector financing of early R&D or whether it's other countries in Europe, I think the rewards we get are huge. And so I don't know if we need to be worried, but I think we actually need to revive that partnership, because it's essential.

And I think where we get most worried... If you look at the last few decades, the greatest reduction in poverty the world has ever seen has happened in the last 30 or 40 years – an incredible number of people have come out of poverty. And there's been kind of two big waves of that. There was the North Asia and the China wave, which brought down poverty dramatically. And then there was the South Asian wave, which actually in the Indian subcontinent brought down poverty dramatically. And yet Africa remains as the place where we need to have that third wave of poverty reduction – and we haven't seen it. And yet, in the next... By 2050 I think it's somewhere around 80 to 90% of all the world's poor are going to live in Africa. And three countries, DRC, Ethiopia and Nigeria, are going to concentrate that.

So what are we going to do to actually see that kind of poverty revolution in Africa that we've already seen. And, Gebisa, you know this from your history around the CG system and around agriculture. We need to have agriculture drive that, and we need to see it, because we need Africa to actually prosper. And I think it has more potential than I've ever seen. I raised my kids there. We lived there for a long time. I moved there in the midst of a famine in Malawi. We all in this room know what that looks like and don't want to see that again. And I want to move beyond food security to see smallholder farmers as an engine of economic development.

Gebisa But have the programs in climate change, adaptation programming advanced? What are the likely impacts of that, even as with progress in the agricultural area on whether that would affect that.

Voorhies So I think we see two things, all the modeling that IFPRI and others have done that we work on together. One is that seasons may get shorter, and therefore the time for planting and maturation of crops is going to grow shorter – some have estimated up to 20%. That's like these are huge models that are actually hard to predict. Two, the level of water and heat are not going to be as predictable, and so you're going to

have to have temperature swings and moisture swings that are bigger than we're used to. And thirdly, we're going to see the introduction of new pests and diseases. And as our friends in East Africa can tell you, the introduction of fall armyworm has been recent and has had significant effect of crop productivity, losses up to 20 to 30% in some places.

And yet today there is already availability of seeds and protection that actually help protect against those crops. And yet we need to get in place... What are the right policies, biosafety policies, that would help put that in place? Two, how do extension services drive the new adoption of the right varieties. Some of the work you've done in sorghum. What's the average age of variety of the crop that's out there? How do we get that down? And then thirdly, how do we get governments to see food security as actually not a cost to them but actually an investment in an engine of growth, whether we're leaving GDP on the table, we're leaving jobs on the table.

Ejeta I just thought to roll out programs in the adaptation area, what are your thoughts on integrating adaptation investments in the broader framework.

Voorhies I think they actually fit really nicely, and I think they relate, whether that is to... Let's take cassava, for example, a hugely important crop in West Africa, right, and in Nigeria especially. There's brown streak, mosaic virus, and so that's going to actually, it looks like, suffer worst as climate changes. We have stress on rice, and how long does it need to be submergible? I think there's a two-billion-dollar a year loss to smallholder farmers, simply because rains come too heavily and rice stays submerged too long. And so I think there's an overlap between what's necessary to do now and what equips for the future. And as most of the people in the room know, it can take us 10 to 20 years to get us a new variety from the very beginning with a brand-new trait, into the marketplace.

So I feel really optimistic, but I also feel the time is just like it was a decade ago and you guys rose to the challenge. I'm excited to see—are we going to be able to rise to the challenge and help create this third wave of poverty reduction that will be led by our African friends who I have found committed, energized, and actually super smart about what needs to be done.

Ejeta Just as a practicing scientist advocating for a whole, more integrated engagement to address some of these complex issues, one of the concerns is—Most of the scientific community is used to advancing specific problem-solving agendas and creating to be innovative in bringing out solutions in a more deductive way has been challenged into being very integrative in terms of our approaches. So this may be the trade-off between investment in roads and these integrated programs, whether or not they may come out at the expense of support for a lot more traditional innovative agricultural sciences, is what I was just concerned about.

Voorhies So I think that both conventional breeding and new biotechnology techniques are important, and gene editing makes that important. We certainly support both. And I know we're at time, so we'll probably need to finish up. But what I would say is I think that we try and have a really balanced approach to it. And I think that what we're seeing in countries is they're trying to figure out what works best in their



environment, and I really trust that they understand those complexities better than I will ever understand them.

At the same time we're trying to actually make sure the science leads, so that low-income people get what they need to be as productive, whether that's conventional, whether that's with new technology. And at the same time the nutrients and bolts of just getting the right kinds of agronomy and extension and data.

Ejeta Maybe one question to ask would be what gives you hope, you know, in terms of, as we began and the creation of AGRA and identifying countries where we are going to work, we ambitiously started with about 13 countries. And then we immediately realized for focus and investment and so, and we needed to focus on a focus on a few countries. Now even with greater investments that have been made possible, that the pace of progress continues to be uneven, and with a layer of huge problems like climate change adaptation coming on top of that, what gives you hope that we would reach the targets of making it happen?

Voorhies There are three things that give me a lot of hope right now. One is that I travel around and I get to see a lot of ministers of ag and heads of state. And the number of times that agriculture comes up as a component of their economic engine is remarkable. I think the second thing that gives me hope is – When I travel I try and always meet a bunch of young entrepreneurs in a country, and I am just absolutely impressed with the level of entrepreneurship and creativity from young people that I'm getting to see around the world. And the third thing that gives me hope is that groups like the World Food Prize, groups like AGRA, commitments of donors, that people are not getting tired of trying to do the right thing in the right way. And I would just encourage us to keep that up.

And the last are people like you give me hope, because you have a history that we get to share and even backstage you're like – Don't forget to do this, and don't forget to do that, and that's where it gives me hope as well. So I have four or five pages of notes from Gebisa's breakfast and mine yesterday that I'll make sure I follow up on.

Ejeta We've got a few minutes left. Would you mind if we open it up for a couple of questions?

Voorhies Sure. I think we're actually out of time, they're telling me.

Ejeta All right, okay. I thought we have that many minutes left.

Voorhies Yeah, we're actually over. Everyone's like – get them off stage. No. Thank you.

Ejeta I thank you very, very much for your willingness to be here.

Voorhies Thank you.