

THE WORLD FOOD PRIZE
2016 Borlaug Dialogue International Symposium
"LET FOOD BE THY MEDICINE"
October 12-14, 2016 - Des Moines, Iowa

FOOD SECURITY IN CRISIS

Panel Moderator: Sir Gordon Conway

October 12, 2016 – 3:30 p.m.

Panel Moderator

Sir Gordon Conway

Professor of International Development, Imperial College

Panel Members

The Honorable Patricia M. Haslach	Principal Deputy Assistant Secretary, Bureau of Economic and Business Affairs, U.S. Department of State
Monica Joshua Maigari	Female Food Hero, Oxfam, Nigeria
Mahmoud Solh	Director General, International Center for Agricultural Research in Dry Areas (ICARDA)

Sir Gordon Conway

We're doing a two-way process here. I'm Gordon Conway, and as you can tell by my accent, I'm a Brit, and I want you to know I'm a good Brit. I voted to remain in the European Union. [audience applause] The first applause of this conference, not at the end but during, and the reason, of course, is quite straightforward. The importance of the European Union is it brings together a range of different nations, the different qualities, the different cultures, the different cultures, different experiences. And the challenge is to get all those people to work together, and that's what we need in the world; we need those kind of associations to go forward.

I always start with this picture. It reminds me of what Schoonover's been doing. We've got all of these crises in the world, and every time I put it up, nearly all the crises are getting worse. Maybe not food security, but maybe all the other crises are getting worse. And more important, they're increasingly interconnected in the ways that we heard about just now. And what is really actually scary is that nobody's in charge. Nobody's overseeing all of this to try and make it work. Well, there may be the national intelligence agencies are trying to do that, which is good.

The way we do it is to start with something like food security and then analyze out to the other crises. So most important to us is global warming. Just in case there's anybody in this audience who doesn't think the world is warming, just look at that. What is interesting is the red bars are all El Niño years, and I expect some of you have heard people say, "Well, it's all last year's heat was just due to El Niño." It wasn't just due to El Niño. It was partly due to El Niño, but there was global warming on top, and that's the nature of climate change. We're getting phenomena which are getting worse because you add to it.

And the other point is land degradation, which we heard about earlier on. This is a surrogate for that—it's soil degradation. These are the areas of soil erosion in the world, serious soil erosion in the world. About a quarter of all Sub-Saharan Africa is seriously degraded.

And then finally, we've got conflict, and we have here three speakers who have experience from different parts of this map. Mahmoud Solh, who you've just heard speak, Director General of the International Center for Agricultural Research in Dry Areas, up in that area in Syria and Iraq but also Egypt, Libya and elsewhere, in dry areas in Pakistan.

And then we have Ambassador Patricia Haslach, who I'm delighted to... I'm very pleased that I've got an ambassador on my panel. These other panels had lots of ambassadors, but I've got a really great ambassador here, who reminded me that we met many years ago. She has had a distinguished career in the State Department. One of her most difficult jobs was being the coordinator of the transition of Iraq, of bringing the U.S. combat forces out. But most recently and why we want to hear her talk particularly is that she's been Ambassador to Ethiopia.

And then we have from Nigeria, we have Monica Maigari, who is a farmer. She farms about five acres of land in Kaduna Province, which is sort of northwest in Nigeria. She is a "Food Hero." I'd like to think of her as a food heroine, actually, but she is called a Food Hero. And she is now running a whole lot of activities with all her neighbors, and we want to hear about her, too.

So we've got in here a director of research, we've got an ambassador, and we've got a farmer. And the idea is to try and get them all to talk and talk to each other so we can go forward.

I want to start with you, Mahmoud, and then the others, I'll talk to them later on. That was a fascinating story. It's a very depressing story in some respects, but it's also got some kind of lessons to be learned. And that's what I want the theme of this session to be—What are the lessons that we learn from all these situations? And I've got a number of questions I want to ask you.

First of all, as you know, I live in Western Europe, and there are great streams of people, many of them coming from Syria and Iraq and Afghanistan and so on. And we tend to see them as people who are fleeing conflict. Is that correct? Is that the right way to say it?

Solh Let me tell you, first of all, lots of those that really are migrating to Europe and other parts of the world are coming from very secure areas, actually probably the majority. The problem, very frankly, is poverty, unemployment, food insecurity. Those people want to feed their children, even if they are not threatened through the conflict. And therefore you have seen them going with their children over the sea, and they are putting themselves in danger. So I want to mention lots of this migration stems from lack of opportunities in their home country. And when we think of who really, who are those that migrate—those who are dynamic, who are willing to take the risk. And if they have opportunities back home, they will not do that—be sure. So I think the problem comes back to the fact that no action has been made on sustainable development, particularly in rural areas, to help those people stick to their land and not really risk themselves and their children and their wives and so forth. So I want really to emphasize this point. Lots of people think it's only a conflict issue. It is not a conflict issue. Lots of it is poverty, lots of it is unemployment and lack of opportunity for those people.

- Conway And I think it's true to say that you would think that food security, achieving food security is a key.
- Solh Is a key, yeah, for sure. And that's why coming back again with the crisis in 2008 about increasing prices, food prices, this is when people start to thinking about food security in our part of the world. Lots of countries, we're not putting agriculture as a priority. And after the prices, and particularly ministers of planning and finance, starting to pay the big bills for the food imports, then they start thinking about investing in agriculture. And it was too late in many of those countries. And this is what I really wanted to say. So agriculture, besides the infrastructure support that is needed, as the World Bank has been always supporting, agriculture is a primary area for investment for sustainable development. And people think it contributes in some countries very little to GDP, but in reality they forget that it triggers many other services, like transport, agribusiness, and you name it. But the problem that we have, they look at the production that I mentioned, without looking at—what is really supporting this production outside the agricultural fields?
- Conway And whose responsibility is it to do a better job? Is it the donors? I mean, is it...
- Solh No, I think government. Clearly, government. I don't want to really... Let me tell you, but at the same time those countries that are supporting those governments should really... — I don't want to say force them, but certainly put a conditional support that they really invest more in agriculture and in rural development and so forth. So I think the primary responsibility lies with the national governments; and of course those countries that support those governments in different ways should certainly look for more sustainable development in the rural areas in particular.
- Conway You gave a very good example of work to reduce salinity damage.
- Solh Yeah.
- Conway I was fascinated by that, because you've done that from the 1990s right away through to 2014.
- Solh This is a very long-term investment. First of all, it is much more difficult to reverse degradation than preventing degradation, you see.
- Conway Right.
- Solh So if you prevent degradation from the very beginning, most of the salinity problem, whether it is in the delta in Egypt or whether it is in Iraq or other parts of the world, it is because of faulty irrigation or faulty practices. If you really from the beginning take that into consideration, you will not really be able to reach that state. The other big problem in the Middle East and North Africa, is the excessive dumping of the water, of the shallow water aquifers. Whereas you really deplete those shallow water aquifers, the water quality deteriorates and brings salinity up. And this is the problem. So we come back to big sustainability that I mentioned, which we talk about intensification of agriculture—if we do not do that in a sustainable manner, we will be really ending up with no production.

- Conway But you did this in regions that were subject to conflict.
- Solh Yeah, we did it.
- Conway But how did you manage to go forward in this way with conflict going on around you?
- Solh Let me tell you. We certainly rely a lot on our national partners. What you really see is not what ICARDA did. What you really see is what our national partners did in support. For example, in Afghanistan, currently, ICARDA has 93 staff members. Only five of those are expatriates; the rest are local people. And what you really see here, I still believe it is so important to enhance the capacity building, because the future is really for the nationals to take responsibility to proceed and implement the development programs themselves, not outsiders to come. And of course they can help, but this is sort of a temporary help. So I think capacity building to me is so critical in those countries.
- Conway And what is happening now in Iraq now...
- Solh What you've seen in Iraq, we have in the last five years about 1200, between scientists and technicians who are trained. And I want here to commend the support coming from ACR in Australia, from USAID and Italy. This is clear here. In Afghanistan also we have support coming from IFAD, SER, from USAID, okay, and we have from FAO, as well as DfID as well. So I think this is where I believe the sustainability that I mentioned comes, from enhancing the capacity of those colleagues and put them... Again, the success of the project is whether this project impact can continue beyond that project. And if it's going to end by the time the project ends, then you fail completely. This is what I wanted really to emphasize. And this is what we, not only ICARDA and the CG, we do—we work together with our national partners in order to bring them up to a level where they can proceed themselves without the, I would say, contribution from us.
- Conway Yeah, you've done a terrific job, and I want to congratulate you on that. Just final question is on climate change. I mean, the beginning of the Arab Spring, in Tunisia, there was some degree of drought, I think, at that time.
- Solh Yeah, let me tell you—the drought started in 2007, 2008 in West Asia. And it continued for the coming, I would say, four, five years consecutively—and this has never happened before. We used to get one year of drought every ten years. So lots of migration took place in Syria and in Iraq and lots of places, from rural areas to the cities. And in the cities, as was mentioned by the earlier panelists, there wasn't enough employment, unfortunately, to support those, and this is where the migration then went away, sorry, overseas. And therefore drought played a very important role. And one thing I want to mention, based on the scenarios for the climate change, the Middle East and North Africa, with Southern Europe will be losing in the coming hundred years 50% of the precipitation, which already we have a scarce situation. So the situation is the worst in the dry areas when it comes to climate change—plus the heat tolerance. The heat is a very big problem, and it shortens the lifecycle, and it will certainly reduce the production drastically.

- Conway Okay. We'll come back and talk about lessons in a moment, but let me move on now to you, Patricia, and give you a chance to say some words.
- Haslach Well, first of all, Gordon, why don't I start off by saying how we met. I was working on the Feed the Future Initiative, and our first group of panelists we sat through, the first group was ambassadors, and then the second group of panelists, everyone's talking about the need to take leadership, the need to recognize issues of the importance of food, the importance of food security. And I do think that under President Obama there has been a very concerted effort to take food security seriously, to put resources behind it. And then in July, I think one of the few things that got bipartisan support in the U.S. Congress was the Global Food Security Act was passed. So these are very, very important. Why is this important?
- When I started my career with the Department of Agriculture working humanitarian food assistance with the PL 480, if you all remember that way back when. And I worked on the Ethiopian drought of the mid-1980s. And in those days hundreds of thousands of people perished because of that drought, and there were many reasons for it—it was a drought, but it was also poor governance and a whole series of actions.
- And so Ethiopia in the 1990s when the current government came into power, decided that they no longer wanted to be connected with Ethiopia equals drought. So they took it very seriously, working with the donor community. And then mainly working through the USAID and our Department of Agriculture through the Feed the Future Initiative and some of our other programs, we really set the stage on trying to improve the situation there.
- We couldn't have done it—I really emphasize this—without a committed partner like Ethiopia, a government very committed to agriculture. I didn't realize they were also housing some of your organization, but the amount of resources, the amount of commitment they put into this. So when the current drought came around, and this is an El Niño affected drought, this is a climate change affected drought. This is not a conflict drought, unlike South Sudan and Yemen. Yemen also has had some drought as well, but it was not conflict-induced. The donor community and the United States taking the lead—at the request, by the way, of the Ethiopian Government that we would take the lead—stepped in very quickly and averted a famine. The estimate was ten million people were at risk of starvation, on top of eight million people every year that still receive support, pastoralists who received support by our government, by the UK and other governments to feed the people, putting in place programs. Over the years... I went there in 2010, programs, irrigation programs, programs addressing pastoralists' livelihoods, addressing women in agriculture, addressing all sorts of issues. They really laid the foundation to deal with the current drought.
- By the way, the drought has of course turned to the flip side, La Niña. That almost always happens—you get the drought, and then these poor areas get afflicted by floods. They are addressing it. Again, they are addressing it in part because of their own actions, but I think because the international community, because the United States Government takes it seriously, we recognize that food security had ramifications. They are a very important ally for us in the Horn of Africa,

surrounded by some pretty unstable countries – Yemen across the waters, Somalia south, South Sudan to the west. So very, very important for our security, very important for global security, and for issues like migration. We could add on top of the migrants already going into Europe many hundreds of thousands of Ethiopians, in fact, if this drought had not been addressed.

But many, many more challenges still face us, because Ethiopia is affected by a severe drought pretty much every six years. And every drought we're now seeing is becoming progressively worse, and the issues that are underlying that really need to be addressed here are issues like land tenure, land ownership. The land is controlled by the government. It is currently in fact leading to some disruption, some regional discontent related to land, land policies, corruption surrounding land. Water issues – these are the challenges that are going to have to be addressed, or else we're going to be in the same situation four years from now, six years from now – issues related to salinity, although they don't really do much by way of irrigation. So I'm saying we've sort of gotten through this one but not just in Ethiopia; then the drought, El Niño droughts spread down to South Africa and to the southern parts of Africa. And this is a continent where it has a lot of rich resources, including human resources like women farmers. These are the issues that we are going to have to address, but we need to have good partnership with the government. You cannot do this without the support of a government that is committed to making those serious changes, to putting their own resources into solving their problems.

Conway But we've got a problem in Ethiopia at the moment.

Haslach Yeah.

Conway There's a state of emergency.

Haslach Yes.

Conway And there's a degree of conflict between two different groups – is that right?

Haslach Well, there's a couple different reasons. The conflict was sort of ignited by issues related to land, farmers' land, around the capital of Adis Ababa being sold off and then resold at much higher prices to businesses and things. And this was the proximate cause for discontent, but it was getting at governance issues, it was getting at lack of job opportunities. They have, like many countries in the world, a very large youth population becoming increasingly better educated but without the job opportunities out there. But I would really say the whole issue surrounding land, land ownership, land tenure. And some of our programs... The U.S., the Germans and others have worked on it, at least getting land certified. People don't even have a piece of paper that says they have a right to be farming on a particular piece of land.

Conway So one of the steps with land, first of all, is to make sure that the boundaries of the land are clearly defined. Another is to... Do you have to use an indigenous system of land tenure, or what kind of the ideal system to have?

- Haslach Well, it is pretty rudimentary, because of course there's not a lot of paper and documents. But first you certify, the second is that the farmer is then able to use the land to take out loans, to buy fertilizer and inputs. But I think the other issue here is just the size of the plots. They're so, so small that it's very, very difficult to really get any kind of economies of scale on tiny, tiny little hectares of land.
- Conway That's a consequence of the inheritance system?
- Haslach That's a consequence of the government policy that's been in place since the time of the emperor.
- Conway One of the lessons, it seems to me, that you've got in this is that you were able to be effective. I mean, when I say "you," I mean the U.S. Government and its work in Ethiopia because you have a genuine partnership with the Ethiopian Government. They asked you to come and help with this—is that right?
- Haslach Well, the partners had already been working there, working with pastoralists, working in the agriculture sector, working on issues of nutrition, so already in place, in fact, helping through the public... They have a public food distribution system, which the donors helped the government set up. So they had already in place a mechanism to feed people. The current drought, it was really bringing in emergency food, so you really had to sort of scale up that whole entire process.
- Conway You have, in Ethiopia there's an Agriculture Transformation Agency, isn't there?
- Haslach Yes, yes, and we've been supporting it through USAID.
- Conway Which, it's about unique. I'm not sure it's entirely unique, but it's unique in the sense that it cuts across all the ministries that have an interest in agriculture. It's chaired by the prime minister—is that right?
- Haslach Well, it's under the Ministry of Agriculture, but the prime minister is directly overseeing the Ag Transformation Agency, which we support, the Gates Foundation supports, and others. What they're doing, though, Gordon, is they're not really focusing on issues of land tenure. They're focusing more on going from cattle to the livestock, slaughtering and exporting meat, honey, coffee, all of the different other crops that Ethiopia produces. But it's not addressing, I think, some of the underlying issues.
- Conway Because I know from my experience in many African countries is that when I go there and I meet the minister of agriculture, the minister usually says to me, "Are you going to meet the president?" And I say, "Yes." And he says, "Can you tell him this? Would you mind passing this message on?"
- Haslach In this case it's the prime minister, yes.
- Conway Well, having the prime minister really involved in agriculture is absolutely crucial, isn't it?

Haslach Yes, it absolutely is. And in fact the deputy prime minister – there are two deputy prime ministers – was charged actually with overseeing the whole drought relief efforts. And we would see him periodically, and sometimes you'd have to say, "You know, we need your help getting..." You know, all the food had to come through the port of Djibouti. Anytime a bottleneck was identified – sometimes a certain area did not want the implementing partners...

By the way, let me just add... I forgot the implementing partners. My goodness, if it weren't for Save the Children and all of our implementing partners, the Irish NGO, GOAL, and others, they are the ones that are actually on the ground feeding people, feeding children. The other was getting in supplementary foods for children that were at real risk of slipping into severe malnutrition.

Conway But it is important that you've got powerful ministers of agriculture. I don't know whether Akin is here.

Haslach That's critical.

Conway No, he's not here.

Haslach But the Ministry of Agriculture in Ethiopia is more important than the Ministry of Energy, so it's one of the exceptions.

Conway Okay, good. Let's move on now. Monica, welcome here. We're delighted you've come all this way from Kaduna in Nigeria. We'd like you to say a little bit about your farm now and what you do, and then we can start to talk about some of the challenges you face.

Maigari Can I stand?

Conway Yes, of course, you can.

Maigari Okay. I thank you, Doctor Conway, for allowing me to speak today in 2016 World Food Prize program. I am Monica Joshua Maigari from Kaduna State, Nigeria – a small-scale farmer. I farm crops like rice, beans, yams, soybeans, and poultry. With the training I have received, I process or I add value chain to some of the crops I produce.

And also I am a leader of the women in our community. I became the Female Food Hero through Oxfam's program. They are trying to encourage females to go into agriculture, so that is why they have introduced this program, Female Food Hero, in Nigeria, so I succeeded. And many women have seen my success and have gone into agriculture, too, because of the encouragement of Oxfam in Nigeria and America are giving.

As a female farmer, we face a lot of challenges. One is the climate change, which my colleagues have discussed about, and I'm happy about it, because in a map I saw Nigeria is seriously affected, I in particular. As you heard, I have up to five hectares of land, but more than one hectare of land, which I cultivated – rice, I cannot harvest even a cup of rice as of today.

The rains came earlier, around March, but at the time it comes not in good time. It's been two weeks. Three weeks before the rain comes, and almost of the crops are bad, so not harvest anything.

Women are the ones in the farm in Nigeria. They are the ones that worked very hard on their farms coupled with their own housework. Because of that, we have a lot of food problems. Many families hardly take a meal, or if they would do one meal in a day. I think my colleagues from Oxfam can bare me witness, I take maybe two meals in a day. I have come here to see that we eat surplus. So I'm also trying to eat much, too, but I cannot because I'm not used to it. And I'm one of those that is even better off, just as I said, many eat, hardly take a meal a day.

That is on the climate change. It started about three years in our region, and I think Kaduna state we have suffered a lot of this climate change. Many of our crops do not grow well. Then, there is another problem again, which is why they have been saying pastoralists conflicts with farmers. We suffer a lot in Kaduna State. I think the whole country you've heard about maybe Boko Haram in the northeast, which they have said. Many of the crops have been destroyed. Farmers are afraid to go to the land because of these terrorists. They attack farmers on their farms, and they hit the pastoralist too in our community. So September... We're in October now. About five communities who have been attacked by this pastoralist, and the people have been displaced. The government of Kaduna State is doing nothing, because we are southern part of Kaduna. They don't say anything about it, and women and children are left widows and orphans. Many of the men have been killed. Anyone that goes to the farm will be killed by this pastoralist. Because they find out that our land is very fertile, they want to use the part of the land to rear their own cattles. So these are some of the challenges.

And another challenge is on these modern techniques of farming we don't have them, especially the women who are still using the local methods metals of farming, holding our hoes to do the farming. And if you want to cultivate it would be tedious that that would be done with the local hand. We don't have these tractors. I think I saw some simple tractors in this place today. If we can have some tractors, I think it would help us to improve in the food cultivation. Just as I said, many women go to the farm. It's the farm produce they get in order to catch up with their children. Pay school fees, medical here and all those things, but they don't have the capacity to cultivate well.

I as a leader have tried, from the training I have been receiving, to try to educate them on how to get maybe improved seeds, apply fertilizer at the right time, do the weeding at the right time. But we have challenges too with the fertilizer. There is no quality fertilizer that is sold in the market. You buy, you spend money to buy the fertilizer, but if you apply on the crop, no change. So the fertilizer is not good at all.

And we also have challenges on like planters. We use the hand or the legs to plant, so we also need such things for improvement in cultivation of crops. So we need to be helped if possible.

Conway That's wonderful. Let me just ask you about the climate change. As I understand it, the problem is that the rains are coming late or not coming at all. And sometimes

there's rain. This year you have rain in March—is that right?—and that destroyed the crop. It was the wrong time?

Maigari No, it didn't. We saw that the rains will continue, but at the time it stopped.

Conway Okay. Now what is the thing you can do to cope with that? What kind of things can you do to cope with that kind of change?

Maigari I think if we can get seeds, improved seeds that are of shorter periods, like the rice maybe we get improved rice that doesn't need much rain. We have another challenge again like this Striga. We need seeds that will be Striga resistance.

Conway But those are available now, aren't they? I mean, it's available. You can get Striga seed, and you can get short-maturing varieties. What's the difficulty for you to get those seeds?

Maigari We cannot. I don't know. We don't have maybe extension workers that will train us or direct us on where to get this improved seed, and Striga resistance seeds.

Conway You told me that if you wanted good fertilizer, you actually had to go to the big factory to get it.

Maigari Yes.

Conway Right?

Maigari Definitely.

Conway I mean, the big factory will sell you a small amount of fertilizer?

Maigari Oh, they don't sell amount. You have to buy about a truck, and the women will not have money to purchase that. You only buy from the is it, the traders, or the input dealers.

Conway And when you've got a harvest, how easy is it to sell it?

Maigari If we get the harvest, we sell it immediately, because we have no storage facilities, and we sell it at a give-away price. Because if we try to skip it, it gets worse, because we don't have proper storage facilities. We don't have preservatives, or what do you call them? We have to preserve these foods, especially the vegetables. Many of the women grow tomatoes, and you know tomatoes cannot stay long. So it needs to be preserved or stored properly.

Conway If you could get a loan—let's say you could get a loan from the bank—what would you use it for?

Maigari I get a loan?

Conway I'm not promising it. I'm just saying if...

- Maigari Okay. In case we get a loan, that would help us to expand our farm, maybe if they loan is much, we go and even buy half of a truck of fertilizer from the company. I think they are willing to give half of the truck. That is about 300 bucks.
- Conway But you have some laborers working on your farm now. You tell me five acres, but you've got laborers working there.
- Maigari I cannot work alone in the farm. I have laborers.
- Conway Would you have more laborers?
- Maigari Yes, I would.
- Conway Or would you buy more machines, or what would you do with the loan?
- Maigari I would buy also machines, like the tractor I saw. I even collected a picture.
- Conway In Southeast Asia they call them two-wheel tractors, and we need lots of those in Africa.
- Maigari Yes.
- Conway And factories to make them.
- Maigari Okay.
- Conway I'm going to find myself committed to doing all these things.
- Maigari I have another challenge on the loan you made mention of. Women are not given loans because of the hard conditions given, given that we say gift for... If you have the collateral, maybe one million, they say give collateral of 100. I will use the 100 to go and farm, but we don't have. And also women are denied land. We don't have land. We say give..., sure, a piece of land, but us women do not have land.
- Conway Patricia, would you like to make a comment or ask a question?
- Haslach This is not just Nigeria. This is throughout Sub-Saharan Africa, what she's talking about, the difficulty in women in farming. So in fact what we've tried to do is give some women like her dairy cattle—I'm not promising, but dairy cattle and these types of programs. But common, common problems that need to be addressed, yes.
- Conway Mahmoud, if you were trying to help her, what would you do?
- Solh You see, I think the biggest bottleneck is the technology transfer to farmers. Lots of the technology are available on the shelf, but they don't find their way to the farmers. What the distinguished farmer indicated, that she is, yes, we know that there are short-season varieties. We know that there are Striga resistance, but she doesn't get them. You see, this is the problem. This is the biggest bottleneck we have—effective extension, in a broad sense, not in the old narrow sense with an extension agent with their bicycle or a motorcycle that would have no information to extend. And now with the media that we have, individuals, even when we can

tell farmers now on the mobile want to do some supplemental irrigation, you know, depending on the weather conditions. So I think we really have to think much broader in helping the farmer adopt technologies. Farmers are very smart, no doubt about it, smarter than many of us scientists. And if you give them the right technology, they will use it very well. We have very good experience in Egypt, in Tunisia and Sudan, in many countries, Ethiopia as well, where, when the technology is available, things really go up.

Ethiopia is a very good example. When we had been working with Ethiopia for 35 years in ICARDA or even 40 years, the largest impact came in the last 10 or 12 years when the government put agriculture as a priority. Then this is how we really, our research impact was the maximum. But, you know, if you are really working with a government that doesn't care for agriculture, you are really swimming against the stream. And this is the problem that we have.

So I agree with you fully. You need really more extension service to help you and provide you... I think the best way to help the farmer is to provide them services, rather than subsidize.

Conway Monica, you have a mobile phone?

Maigari Yes, I do.

Conway Silly question, really silly question – 600 million mobile phones in Africa, right? Well, you don't know that, but I mean that's 600 million, so you're bound to have a mobile phone. Now, what do you use it for?

Maigari To receive calls and make calls.

Conway And who are you talking to on your mobile? I'm not being inquisitive, but I mean what kind? Do you use it for social reasons or because of your farm?

Haslach Do you get crop information?

Maigari I use it for my farm, and just when I came here, I had to communicate to my people because, yeah, with the project that's to be carried out, it's... I think because of my absence they should suspend. Yes, so it helps...

Conway ...to have it.

Maigari The phone.

Conway But do you get information? Do you get the information from your phone? Do you get subsidies for your fertilizer on the phone? E-wallet? No, no.

Haslach The market, for instance, for the crops?

Maigari You mean market?

Haslach Yeah, what the crops are selling for on the market.

Conway What information do you get on your phone that you...

Maigari Okay. We don't sell them locally. We just ask those that went to the market, how much is the food price at that period. But I don't use my phone to communicate on food price.

Conway Good. I know we've got another group that's going to come up. And so I think we ought to finish now I just want to thank these panelists enormously. I think we've ended up on a relatively optimistic note. You know, we know a lot in terms of technology. We know a lot in terms of science about how you get food security. We even know how you get the economies right to get food security. But what is crucially important, at least for Africa, is that the future of food security resets upon people like Monica. Eighty percent of the farmers in Africa are like Monica. In fact, many of them have got much less land than she has; they've only got about a hectare of land or maybe two hectares of land, not as much as she had. And if she can do what she can do, then lots of other Africans can do it. And if they get the right kind of help from people like yourself, Mahmoud, in your work on research, and people likely you, Patricia, in the way that you can influence policies, then I think we can be helpful and we can be relatively optimistic.

I'd like to end on that note, if you don't mind. Thank you very much.