

DIGITAL DIALOGUE #2:

DEFINING MEDIUM TO LONG-TERM IMPROVEMENTS FOR RESILIENT FOOD SYSTEMS

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President - World Food Prize Foundation

Greetings, everyone. Thank you so much for joining us in these challenging but evolving times. Welcome to the second edition of the World Food Prize Foundation’s Digital Dialogue. We’re bringing together World Food Prize laureates and other experts in a series of webinars to advance worldwide discussions taking place on *Resilience in Global Food Systems*.

We have planned a great agenda for you today; but just to let you know, at the end of our session I’ll be sharing an announcement.

As you know, the mission of the World Food Prize Foundation is *Elevating Innovation and Inspiring Action to Sustainably Increase the Quality, Quantity and Availability of Food for All*. With this dialogue series we’re bringing together world experts on the challenges of the Sustainable Development Goal #2 – *Eliminating Hunger and Achieving Global Food Security*. Today we’re pleased to welcome five distinguished panelists and over 500 – actually, we have registered over 600 – participants from around the world, including several of our laureates. Welcome.

Today, as in the International Borlaug Dialogue, we welcome participants from many sectors and from all over the world. We have over 150 participants in academia and research institutions from all over, over 100 just from the nonprofit sector, over 50 private sector companies, 30 government agencies and representatives from various governments around the world, and a dozen, maybe more, multilateral agency representatives.

So let me get right to the introductions. We are fortunate to have experts joining us from various perspectives today.

Agnes Kalibata – Agnes is President of the Alliance for Green Revolution in Africa, and she’s also Special Envoy to the U.N. Secretary-General for the 2021 Food Systems Summit we’re all hearing so much about. She manages this major initiative of key leaders, including many governments, to ensure the Summit serves as a catalytic process for the decade of action to improve food systems around the world. Welcome, Agnes.

Per Pinstrup-Andersen – Hi, Per. Per is Professor Emeritus of Cornell University and our 2001 World Food Prize Laureate. He was a catalyst upon the groundbreaking 2020 Vision Initiative and was selected to receive the World Food Prize for his contribution to agricultural research through policy and uplifting the status of the poor and starving citizens of the world two decades ago, more than that.

Purvi Mehta – Purvi is head of Agricultural Development for Asia at the Bill and Linda Gates Foundation and a member of the World Food Prize Council of Advisors. She has extensive

background in agricultural development in South Asia and Africa and has worked with international organizations such as IFPRI and USAID. Welcome, Purvi.

Ismail Serageldin – Ismail is Emeritus Librarian of Alexandria in Egypt. He's a member also of our World Food Prize Council of Advisors. He's worked on food security programs around the world with the World Bank, within the CG system, and is co-author of a recent open letter to the G20 and U.N. on the future of the food system. We're going to be referring to this open letter, and you'll find it on our website and in the invitation that you originally received.

Louise Fresco – Louise comes to us as President of Wageningen University and Research. She's also a member of the World Food Prize Council of Advisors. We have a tremendous Council of Advisors. Louise combines a long academic career as professor at Wageningen and other institutions, but she also has extensive involvement in policy and development, including programs in Africa, Latin America and Asia.

So, with so many of you joining us today, we want to hear from our audience as well. Questions can be submitted through the form at the bottom of the livestream page. We'll only be able to take a selected few questions, starting at about 45 minutes after the hour; but we will collect and post these questions to continue and advance the discussion afterwards.

Also, as we proceed today, I encourage you to share your thoughts through whatever your favorite social media platform is, at #FoodPrizeDigitalDialogue. Okay, let's get started.

Defining Medium to Long-term Improvements for Resilient Food Systems. Our first digital dialogue addressed the immediate impacts of COVID-19 on the food security. That provocative discussion left us with many questions about the medium and long-term changes that are really needed and must not be forgotten in a time of crisis. In this session we look to those medium and longer-term needs for reshaping the food system now as we continue to try to address these pressing, urgent needs.

In our discussion we will reference numerous calls for action and open letters that are in circulation, in particular the open letter to the G20 and U.N., co-authored by Ismail Serageldin and others, calls for addressing the interrelated challenges of hunger and malnutrition, climate change and environmental degradation, all together as a system. This letter emphasizes the need for concerted, proactive and collective action, and we're going to talk a lot today about action.

We'll examine how in a time of crisis we can prioritize creating long-term resilience over just responding to the current food system shocks – as important as they are, how do we go beyond?

So our first question: FAO and many global organizations predict that the pandemic will cause major disruptions in the food supply chain, due to restrictions in labor, travel, reduced demand for foods in markets, disposal, all kinds of challenges we're already seeing. There may be even less production of high-value commodities such as fruits and vegetables, which are so needed for nutrition. Additionally, many countries are facing challenges strengthening their food safety and social safety nets in response to the pandemic.

These shocks have revealed the existing cracks in our food system. They also highlight the opportunity and urgent need for action towards a longer-term vision.

Panel Moderator

Barbara Stinson President, World Food Prize Foundation

Panel Members

Louise O. Fresco President, Wageningen University and Research; World Food Prize Council of Advisors

Agnes Kalibata President, AGRA; Special Envoy of the UN Secretary-General for the 2021 Food Systems Summit

Purvi Mehta Head, Agriculture Development, Asia, Bill & Melinda Gates Foundation; World Food Prize Council of Advisors

Per Pinstруп-Andersen Professor Emeritus, Cornell University; 2001 World Food Prize Laureate

Ismail Serageldin Emeritus Librarian of Alexandria; World Food Prize Council of Advisors

Barbara So let's begin. Agnes, we'll start with you. From what we're witnessing today and what you know about building resilience, what are the medium and longer-term impacts on the food system that we see from the current disruptions caused by the pandemic?

Agnes So, thank you, Barbara, and thank you all that are on the panel with me. I'm really happy to be among such distinguished panelists. The question you're asking is an extremely important one. I guess building on what you just said, there's one thing that the COVID crisis has demonstrated is just how fragile our systems are but also how in each of our countries, respective of where we are in the world, we have extremely weak people among us that have been affected the most. So my take on what the medium, long-term impacts of this crisis would be an increase of food insecurity when you have 11% of the global population that is food insecure, that number might double. We're already seeing increases in different places. My biggest concern is the number of food insecure will be doubled. We are seeing that here in Kenya, for example, we are aware – we have seen that the number of people that can't afford food is going up significantly as every month spent with COVID goes by, and that number is being increased in Bangladesh and in different places of the world.

The next challenge that we must worry about is the type of choices that households are being forced to face as they enter into this type of crisis. Households are reducing the number of meals they are having in a day and they're making choices in terms of the type of food that's on the table. So the impact on nutrition is going to be huge. We already know that about 160 million children worldwide under five are malnourished. That number is going to go up. We already know that school children are missing out on school meals that they were getting before COVID, so definitely the number of malnourished people is going to go up.

So my last point I would like to make from a long-term impact perspective is the impact it's going to have on the agricultural sector itself. So when you look at how SMEs (small and medium enterprises) are struggling here and there to keep going, when we look at how farming communities are isolated today because of the disruption of supply systems. But also when you look at how countries' economies are going down pretty fast. Definitely the expected investments that you would expect to see after the COVID crisis is not going to be what we would want to see and that's going to be very challenging.

Barbara Great, thank you so much for those initial thoughts. Let's go to Per.

Per Do you want me to go on, or do you have a second question?

Barbara Yes.

Per Thank you, thank you very much, Barbara. I want to build on Agnes' point about what needs to happen at the household level. But before I do that, I want to make absolutely clear – we all understand that the food system has to include an effective supply chain, an effective supply chain that makes available the food that people need at prices they can afford to pay.

But I'm not going to talk about the supply chain. I'm rather going to talk about, building again on what Agnes said, how low-income peoples' food and nutrition situation is affected, not only by COVID-19, because we did talk about that at the first symposium, but more importantly how the policy measures that have been introduced affect incomes, purchasing power, and production of food for low-income people. And I think we should look at both the formal and the informal sector, because both of those sectors are important to low-income people.

Now, when an economy is closed down – and many economies are closed down as we speak – poor families are very severely affected. Many of them lose their source of income completely, whether it's in the formal or informal sector. And they have in those cases no buffer. So this week no income; next week the kids are starving or they're eating empty calories that are cheaper than nutrients. They become less resistant to other diseases, and in the worst case, they will die. The schools are closed in so many countries, and so are the school lunches. Now, you may think, well, school lunches – that's no big deal. Yes, it is a big deal. For a lot of kids from low-income households, that may be the only, almost the only food that they get the whole day.

Now, if we're talking about child death and child misery, we didn't have to wait for the coronavirus. Last year five to six million children died mostly because of lack of food, infectious diseases, unclean drinking water, and other preventable causes. That number could increase dramatically if the wrong policies are applied. So what are those policies that are now applied in more than 130 countries, as far as I understand?

Well, first of all, they imply that you lose your job and your income, you must stay at home, you must keep distance, you must wash your hands, you must have good sanitary conditions. And those kinds of things are being asked of people in so many developing countries including low-income people. Now, put yourself in the

situation of the slums in Mumbai, Calcutta, Dakar, Nairobi and any other big city in low-income countries. Can you really stay at home doing your work? Probably not because the work you're doing as a low-income person probably requires you to be there. And even if you could do it at home, your home is probably rather populated with people and it may be difficult. Can you keep a distance? No, not really. It makes no sense when your population density is so high.

But surely you can wash your hands? No, you can't, because less than half of the people have access to clean water, so you can't really wash your hands. But surely you can keep good sanitary conditions – No. It's the same problem – close to half of the people do not have improved sanitary conditions. So the solutions that may work for the non-poor – and those are the solutions that have been implemented in so many low-income countries, imposed on so many low-income people, may in fact cause more harm than COVID-19. Now, am I saying they do? I don't know, because it depends on the circumstances, and each case has to be looked at differently.

The point I'm making is, before these policies are implemented, take a very close look about the impact of any difference that applies, and what are these policies. And that's my last point, Barbara. Social protection first of all, and that means safety nets, whether that's in terms of the money, in terms of food, in terms of healthcare. It means food aid. It means to continue food plans, the school lunch programs after the schools have been closed. Don't close the school lunches – they are very important in so many locations. It may mean supporting the informal sector where a lot of low-income people earn their money, and it may be protecting the jobs that are currently occupied by the poor.

So those are some of the things that we need to implement now, and we need to take a very close look at the policies that we are simply copying from high-income countries. Thank you.

Barbara Thank you, Per. Very, very well said and drawing our attention to some of the things that might be implemented now that would not serve in the long-term interests in increasing the resilience of the system. We'll come back to some of those points that you raised. Next we'll go to Purvi and then Ismail.

Purvi Yeah, hi. Thanks, thanks, Barbara. Thanks for a very good question. I think the crisis that's started as a health crisis has turned into one of the largest economic crises. And the economic impact of this crisis is definitely going to outlive the health crisis or the health impact of the crisis.

But I think, building on what Agnes and Per said, let me make three points on some of the factors that we need added attention internationally. Number 1 is to reemphasize nutrition. Nutrition is the key outcome of the food system and it will be, and it has started to, as Agnes said, hugely compromised. Not just because of the loss of income for households but because of various other reasons including the food program that was mentioned by both the speakers, but also the very issues that we have seen across the various commodity supply chains. For example, animal sourced food has had a huge impact across the world, whether it is a developed country or a developing country. The animal sourced food supply demand has gone down anywhere between 23% to 67%, depending upon the

country. The food aid – there are 20-plus countries which have rolled out large food aid programs in a couple of weeks' time. And if you see any of these food aid programs, they're predominantly based on food commodities. And that's when access and affordability and availability of diversified diets is going to be an increasing problem and will have a very direct impact on nutrition.

The second one is again building on what Per said, but I think a slightly different perspective to that is the supply chain issue. And supply chain is very important – right? It is kind of a lifeline of the food systems that we talk about. And today about 60% of the world's supply chain is informal – right? And they are already very deep. They are pretty vulnerable and the absorption capacity of any crisis is very limited, and therefore the supply chain, and it's impact on the food system vulnerabilities will be something that we would have to pay great attention to.

My third point, of course, will be on equity. This pandemic often has been called as an equalizer. Its impact on various sector, impact on different countries has really been an equalizer. However, it has also revealed and sort of unveiled large inequities and sometimes it has reminded us of the phrase "survival of the fittest". It has reminded us that an unacceptably large number of stakeholders across food chains are unfit or vulnerable. And therefore this crisis actually has had multiple impacts on these unfit or vulnerable economies. So anything that we do will have to have this equity lens; whether it is smallholder farmers which is the majority of the world's farmers, women who have been much more impacted from the economic breakdown and so forth.

So I think we have to be very careful and pay special attention to some of these factors.

Barbara Thank you, Purvi. We'll go to you, Ismail.

Ismail Well, thank you very much. I agree with everything that my colleagues have said, and as you mentioned at the outset, this is summarized in an open letter that was signed by 170 eminent scientists, former presidents, former prime ministers, ministers of agriculture, etcetera - all of them emphasizing some of these points.

But there are, I think, four additional points that I would like to make. The first of these is that we were already beginning under the SDGs in the transformation of the agricultural system in many of the poorest countries. For example, in sub-Saharan Africa, 95% of the agriculture is grain-fed, and everything we know from climate change is that rain will become very erratic. So you will have one year of floods and one year of droughts, which will make it extremely difficult for the smallholder farmers to survive and even at the borderline of the Sahara, for pastoralists to survive. So the transformation of agriculture must not be stopped right now as people focus on the health aspects of COVID but must continue as well. And that implies moving towards precision agriculture, implies having better seeds and crops that are more suited in terms of traits. And we can do that with the new genetic techniques and traits such as greater salt tolerance, greater drought tolerance, shorter growing season, higher yields, more nutritious contents, etcetera.

Secondly, Africa primarily is still the growth area in terms of population in the world, and it seems very likely that this is accompanied by movements towards the

city. And as Per pointed out, the problems of bringing food to the cities is enormous, and it includes weak infrastructure, weak transport, weak marketing, etcetera; but which needs to be strengthened because we need to accelerate the pace of the innovation from labs to the field of the farmers and from the farmers to the consumers. These value chains need to be accelerated and improved. And so we know the conditions in these cities are terrible. And the nature of the food would mean more in terms of transportability and storability.

Finally, I would like to add a point to the school lunch program, and it's very important, and I agree with this fully. But I also believe that the most important focus of nutrition programs, and globally and in aid programs as well, is pregnant women. Pregnant women, if the mother is malnourished, there's a likelihood that she will produce a low-birthweight baby, which then is likely to be susceptible to all sorts of other diseases and have a weak survival capacity. On the other hand, if she is well-fed, then the child will be an actual birthweight baby, and she will be able to lactate and therefore also will not require artificial, which as we know, there was a big story within itself on the quality, that no better food for the babies than the mother's breastmilk.

Thirdly, that it is in that period that the brain development of the child - from the last trimester to the first year of life, and that the development of the child is very important. Otherwise, the children risk growing from babies that are stunted and wasted and would have very serious health - and be susceptible, more so, to health problems.

And finally the international community must, in this period of difficult transition, avoid trade barriers. People sometimes in moments like this say, "Okay, I'm going to keep all my wheat for myself. I'm going to keep all my rice for myself." And that becomes very serious, because there are many countries that are dependent on significant amounts of imports. So maintaining the trade for the basic crops, I think, is also very, very important.

So these are just four additional points, and I fully support what my colleagues have said.

Barbara Thank you so much. So many tremendous comments. Louise, from the medium to long-term view of what can be done, you've written so much. What can you say? What would you like to tell us today?

Louise Yes, there is so much to be said about this subject. Let me emphasize a couple of points that have been made before. One important point is I just think the food system is too important to be left only to Ministries of Agriculture or rural development. The food system is a national issue and an international issue, and the first thing that needs to be done, and maybe this crisis can trigger that, is to really come to a national food system plan, which do not exist in any country that I know. And then I mean by the food system and the supply chain is also for the whole nutritional health and environmental issues. We just can't leave it alone.

Of course, the problem today is that the crisis actually exacerbates a number of things that were already going on. For example, environmental degradation but

also the overall problem of lack of access to credit to farmers, lack of education and so on. What we need to do is try to get a reverse of this.

And I do worry also that official development assistance is staying down because rich countries will use the money first for themselves and will not necessarily think about ODA. So this is something on which there also needs to be an international outcry.

Then the other thing indeed, as Ismail said, I'm very worried about protectionism. And, Ismail, as you know, Egypt is a case in point. If I'm correct, you're the largest importer in the world for wheat, I think an impressive two billion a year.

Ismail Yes, we are.

Louise And this applies to many. And this is a tragedy that in fact poor countries often are food importers, and protectionism is going to be very dangerous, and cross-border problems even within Africa are going to be a real problem. So we need to have again a national food policy, and also very much an international or pan-African, pan-Asian food policy so that we get it right and we don't get protectionism.

The other thing, I think the only way to get out of things is not by doing more of the same. We need to innovate ourselves out of the crisis. And innovation indeed – I agree with all of the previous speakers – it also means getting new food systems in place, being imaginative and not just getting a little bit more fertilizer, a little bit better seed, but we need to think about what are the food needs? How can the best foods, also our best reserve and most nutritious, get to both the rural area and the urban area. One bottleneck increasingly will be labor, and it sounds strange because indeed population growth is enormous, and you would think, well, there's enough labor, but in fact there is very little labor for modernizing agriculture. And it means that we have to look at smart systems, nimble system, and use the best possible technology, including breeding technology, but also forms of mechanization, forms of looking at smart systems. And they don't need to be expensive smart systems in big combines but tailor-made systems that actually work in fragile environments of many of the countries that are poor and also are fragile. If we don't solve the neighbor issue, we will not solve the food issue.

And when we want to solve the food issue, we should look also at what is actually produced and what is its composition. Can a country actually enhance some of its nutritional qualities by choosing the right crops? For example, pulses, that is, lentils, beans, etc., have really declined in many countries. They're essential, especially if we want to have balanced animal and plant protein – we need to look again at pulses. We need to look at vegetables. We need to look at fruits. We all know they are very important. But vegetables, fruits and pulses are for very technical reasons quite difficult to grow well to any scale. And so there is an innovation system that includes the whole food chain and must make it possible for farmers not just to do more of what they are doing now but really also for younger generations to want to stay in farming, to be entrepreneurs, to get the credit, and actually become part of the modern system while not being pushed out of the market by massive imports that are not going to help the country in the longer journey. Thank you.

Barbara Thank you so much. So maybe now we can go to the full screen view if our tech support can take us to all six squares. I want to take us into a second question that builds on that. So many important topics that all of you have raised. There's so much to address in the immediate crisis, being really magnified by everything going on right now. And yet, still somehow to attend these longer-term needs like shipping policy measures so they don't have unintended consequences, or creating national food system plans when countries are in a time of crisis, bringing into innovation, investing in innovation in important areas when it's so difficult to manage the system just as it stands. So let me just ask this question and focus on even some of the broader, long-term needs.

For each of you, thinking about the developing in low-income countries that we've been talking about especially, how do we address climate change impacts, the scaling up that's needed of science and technology innovation, this improvement in nutrition that's desperately needed, not to be lost, the advances that have already been made, fruits and vegetables, pulses, etc., and still address these disruptions that are facing our system. What can we do now to advance these longer-term actions?

Ismail, I'll start with you and come back to you, Louise, afterwards.

Ismail Oh, thank you, Barbara. I believe that we have a lot that we can do right now. Some of it is based on the exposition of the facts that we have already started under the SDGs, some of those things. But as you rightly point out, given the crises going on in all the countries of the world, much of that has been put on the back burner, and we need to bring it forward. And we're very hopeful that the U.N. Summit of 2021 that Agnes will be the key person on, will help us to reaffirm and reassert that and specifically the combination of innovation that Louise talked about, the smart system, smart agriculture, precision agriculture, the innovation on nutrition, whether it be school programs or the mothers, and the nature of the fact that urbanization taking place among the poorest people in the world in Africa and elsewhere. And I think, therefore, these policies have got to be put in place.

The other policies that have to be put in place is the recognition that climate change is going to impact rainfall in many countries, and many countries are totally dependent on that. Plus, North Africa and the Middle East is a water scarcity region, it has a high percent of the world's population, 1% of the water – water tables are falling; even with irrigation, they are already food deficit countries. As Louise pointed out, Egypt is number one wheat importer. Algeria is the number two wheat importer. So it just gives you an idea how much the trade regime will be important and how to ensure that these policies are kept in place.

And secondly is that innovation, revolutionary innovation, is occurring on the biological side but is also occurring on the IT side. And we now have capacity to do very carefully analytic work, coming straight from satellites to local handheld devices. And we have seen the ability of the poorest people in countries and slums like India, for example, using their mobile phones for things such as M-Paisa banking. So farmers would be able to interact with this new technology. As for smarter and more precision agriculture, not very rich and high cost but still highly focused on their needs. And we can do it.

Finally, I would like to point out that the average farm size in countries like Africa is less than a hectare and in Asia it's about 1.7. In the north and in Brazil and in other countries it's huge. So there you have to really do very careful people empowerment and most fundamentally women empowered.

Barbara Great, thank you so much. Louise, how do we keep these innovations and all of these actions moving forward in this time?

Louise I think the first thing to say is that there are lots of innovations that are not being applied today. And before we start thinking about all kinds of further steps, I would very much like to see countries develop a kind of innovation policy here as well and create an innovation climate. And that means that there needs to be some work at the national and regional level within a country, for example, to map out what are the best areas for irrigation to see what kind of irrigation investments can be made. They don't need to be big rivers or big streams, there's a lot more that can be done with local systems of irrigation. Those are smart systems, but they don't require huge bank loans, for example.

The thing that we need to do is to get a generation of people who want to start or be in farming or stay in farming and give them the means to do that. So credit systems are extremely important, because if a young person has no credit, he or she cannot go farm, and particularly she because of course women, we know, are very diligent farmers, very productive farmers but the least likely to get access to credit. But credit itself is not enough. What we see that in fact the old rural development ideas that developed in the '70s and '80s about getting a package to farms, with seeds, with fertilizer - which is also access to market, to storage facilities. I'm totally convinced that farmers can be innovative. So that part can be done, and it should be done as of today, as of yesterday anyway, applying what we know, apply a national policy for innovation, for using the best possible areas, and try also to grow what is possible there – so don't use wheat varieties that are not suitable to a tropical climate.

At the same time we have to look at innovation, and I also think that can be done, for example, higher nutrition in some of the fruits and vegetables. Horticultural systems that use fewer chemical inputs, that are very economical water, systems that allow the combination of crops and animals, for example, at a high-quality fashion. And this is really like tailor-made solutions. The devil is in the details. But I think it's more a mentality in a country to attract young people to make everybody proud of being in agriculture and in the food chain than the lack of innovation itself. Innovation is there and can also come through collaboration. But you see of course unfortunately many countries are trying to reinvent the wheel. But the bottom line for me for innovation is – use the best capabilities and do more with less. We don't need huge, massive inputs. We don't need enormous mechanization. We need a very nimble system that really builds on ecological knowledge of how soil, climate, water, plants interact and get the best possible yields and then store them right, get them to market right, and also make sure they get to the poorest consumers. It's not magic in a way, it's not miracles, but it's very diligent work all along the food chain.

Barbara Thank you so much, Louise – some excellent actions and suggestions for improvement. Agnes, and then we'll go to you, Purvi.

Agnes So I'm going to build on some of the things the previous speakers have talked about. I definitely recognize the need for us to deal with climate change here in Africa. If anything we've been reeling from one impact of climate change to another, all the way from colony worms, to locusts now, to droughts, and right now floods that are affecting hundreds of thousands of people. So the issue is not that we need innovations, but I agree with Louise – we need an environment that is crowded with ideas, with technologies. I think what we need today is global leadership and leadership that recognizes, that we need to do something about some of the challenges we are living with. Leadership that recognizes that there are many that somehow stayed among us that are still not accessing the basic human requirements that we need to be able to make it through life. And so many of us talk about the type of leadership we have seen that we must probably align to and start working with... I mean from the Secretary General's perspective, he has set this ambition around the decade of action for us to achieve the 2030 goals. And it is in that context that the food system summit it being launched, recognizing fully well that we are all behind on our ability to achieve any of the goals - whether it is on poverty, whether it is zero hunger, whether it is nutrition, or whether it is environmental issues - we are behind and we will not be able to achieve them if we go by the pace that we are going toward. So I think the idea of making sure that we really start doing something around what we can do to our food system and start thinking about what will building back better look like and think about what innovations can we do to truly direct how we do business in the food system, is going to be very, very important.

So, I just want to highlight that the COVID crisis has made it very clear that leadership is going to be one of the areas where we'll be focusing. I also want to bring up the issue of gender and the fact that women are suffering the brunt of what is happening during this time. And anything that we could do, we must do. Anything we can do, we must do to ensure that women retain some form of economic capabilities, some form of social dignity that allows them to be able to come out of this on the better side of things.

I guess when you then look at what is happening in the developing countries, ensuring that we scale technologies that are already known, we scale innovations that are already known, we scale innovations that have transformed the rest of the world and made us produce 300% more food than we were producing fifty years ago when we started the green revolution for example. There are technologies that are already known, but we still have 75% of the world's poor who are living in famine. That's a contradiction that we are all living with despite that we know what needs to be done to spread these innovations for over 50 years to the ones who are still living in famine.

So I think for me at the end of the day it still goes back to leadership and how we take known solutions to the people that needed them the most, how we invest in policies that will make a difference to the people that have the least. So again everything goes back, for me, to the Food System Summit and how we look at the different pillars that the food system is designing to address zero hunger, to address climate issues, to address environmental issues, to address nutrition, and to address the risks that we sit through even in our production systems. Thank you.

Barbara Thank you. Purvi and then Per.

Purvi Thanks, Barbara. I'm going to build on three points that were made, but I'm also going to use the word "unprecedented" again. We've been using this word for this crisis all the time. But the response - the crisis has been unprecedented, but the response to this crisis also has been unprecedented – right? You know, Agnes spoke about the leadership. If you look at the evidences of... You know, the public thinks that the various countries have made in the last couple of weeks, fine. The amount of money, percentage of their GDPs, for example. You know, most countries have sort of been punching beyond their weights. Right? It's really been amazing how the response... I'm not saying this is enough, but there has been a lot of response, there has been a lot of commitment. How do we utilize this into something very, very substantial, is going to be the key.

And I think the first step would be to be very smart about where they spend this money and to focus what are the best long-term return on investments that we get out of this money, so that the next crisis (A) can be mitigated and (B) will be less costly to the world. Right? So, you know, the areas that you suggest – for example, climate change, supply chain, nutrition – all of this seems to be holding potential for higher return on investments. But this is... You know, I just wanted to bring these suggestions on sort of more than what to, I think how to. And one more way to use and invest resources in addressing the challenges, finding the solution... – Louise mentioned about the tools, for example – and not merely just diagnosing the problem.

The second would be to leverage on this sort of opportunity to revisit, revive, and kind of reboot our system. This crisis has been almost like a stress test for the system. It has identified a lot of big points within the system. It has helped us diagnose some of those and interface some of those. Let's just focus on bridging them.

And the third would be mending the fences. You know, if there is one clear message that this crisis has brought to us, it is the interconnectivity and interdependence between the countries, between the various sectors, whether it's health or agriculture or environment and so forth. And therefore, you know, trade as Ismail said. So why is the quick response to this crisis maybe done very individually by single countries? This is the time to actually not all close our borders and look at our own countries. But this is the time to actually open up and get into more and more collective action. So I think whatever has been said, but let's be very, very smart, because the large resources can be a huge amount if we spend wisely, but it can be very, very trivial if we are not smart about it.

Barbara Thank you, Purvi. And we certainly hear a lot about the importance of, as you term it, "rebooting the system," so that in fact we don't consider proceeding along lines that we know have fractures in them, haven't worked, etc., and we fog forward. Per, do you want to give us just some comments on some of the medium to long-term actions, and then I'm going to open it up to a little bit to all of you?

Per Sure. Let me just make kind of a quasi-point first, and then I'll get to the long term. The government response to Corona reminds me of a point I made many years ago in my frustration about the lack of government action to eliminate malnutrition. If we could just make malnutrition contagious, something would happen. That says a

lot about government response it seems to me. Now, let me leave that one and get to what you asked me to talk about.

I want to repeat what others have said, that the Sustainable Development Goals provide an excellent framework for modifying the food systems for the future. And my suggestion is that we argue to have Goals #1, 2, 3, that is poverty, food and nutrition, and health, drive the action that we take. Now I realize that's a biased position; that's why I'm on this particular panel I'm sure. But at least in my country before Corona, everybody was talking about climate change. Nobody, nobody was talking about the fact that so many people suffered from malnutrition, from hunger and from related diseases. And the two, of course, link; they are linked. Climate change and health are closely linked. The question is – which one should be the driver? And I would argue that we need to make some really strong arguments that health is just as important as dealing with climate change, and we need to move ahead to get rid of malnutrition as though it was contagious. Thank you.

Barbara Okay, great. Thank you. Before we go to some questions from the audience, which we'll do here shortly, any reactions that any of you would like to offer to each other, any potential points to follow on?

Louise Can I?

Barbara Yes, please.

Louise We do have a dilemma here, which I think we should put squarely on the table. If you look back at the Green Revolution and what has happened since, the price of food has declined both at the world market level but also in many countries. This has been a tremendous benefit to urban consumers. And in combination with more of the opening up of markets, especially after the fall of the Berlin wall and China entering the world system, has meant that there has been much more possibility also for people to earn money outside agriculture.

If we massively invest in agriculture, the first effect might be that we drive actually food prices down even more. And that might be a concern to farmers as to the willingness of farmers to actually be farmers and farming as a way of living. To put it differently, we actually need to look at rewarding farmers for more services than just producing bulk food or volumes of food. Because farmers, as we all know, have many more functions in preserving the landscape, preserving biodiversity, preserving watersheds, etc., etc., and keeping also people in the rural areas in a livable way is very important. So if a country is not, or a government is not careful, it may actually trade off its urban consumers versus its farming community. We need to be really careful in the way we design the policy. Just moving forward for yield increases without looking at the environmental context is sticky even when climate change becomes more important. It's going to be risky. If we define farmers as the ones who actually deal with a lot of environment issues, perhaps even also fixing carbon in the soil, however difficult that is, then we get a new equation and a new role for farming, of tremendous importance to the whole society. And then we don't have this trade-off between cheap consumer prices and cheap prices to the farmers.

Barbara Everybody wants to come in. Ismail and then Agnes.

Ismail Yeah, I think Louise put the finger on the important question about the differential pricing that happens when we start having increased production and the prices come down. But I am a great believer that there is no program, especially I'm talking not about the rich countries that have a multiplicity of programs to deal with any issues in society, but of the poorer countries. There's no better program to help nutrition and food for the urban poor than reducing the price, because without administration, it immediately means that they can eat more, and that's very important. So the conundrum of what happens to the poor farmers who could use the food is really that you must be able to increase the production faster than the declining prices, so that the net position of the farmer is beneficial for them, as well as you are benefiting the poor urban residents who are the results of today a huge shift towards the urban population in places in the poorest countries of the world. So I think that mechanism needs to be addressed.

Secondly, that I think also Louise is right in pointing out that farmers do a lot more than just the production of food. But I think that in many ways enumerating that for farmers with subsidy programs will be much more difficult than just ensuring that we have good supply chains to increase production of the farmers while faster than the reduction in the prices to help the poor in the urban areas as well as the poor farmers themselves.

Barbara Okay, great. Thank you. Agnes?

Agnes Yeah, thank you. I just wanted to build on that that but mostly when we make the point that, because food prices being mentioned here, let me make the point that the current export bonds that we have seen actually already taken global food reduction to four percent. And the last time we saw a price hike in 2004, in 2008 the reduction in food volume globally had reached 4.8. So if we move to the 4.8 mark, we already start to increase the price and price hikes. In this type of crisis, we don't need that. Which takes me back to the point I made with global leadership and that we need to ensure that we are not just worried about ourselves looking inward but we are looking to having discussions around the table around the types of policies that are being put in place, we show that we are protecting ourselves and each other.

But to the point that Louise made, the issue of price – price is decreasing at the farm level as production increases – I think that there is a real point that we can learn from what happens in the cash crop environment, Louise. But more recently we've seen a lot of value sharing in the cash crop area that is not happening in the other, for example, the staple crop environment that is mostly affected by depressed single prices at the farm level. So in the cash crop industry, they have put investment that recognizes the position of the farmer. To ensure that the farmer is getting valued for their place in those value chains. We are not dealing the same in staple crops, and we need to start to understand. So for me, when we do accept to do two things, to one, be sure that farmers are having enough volume coming out of the labor. Labor productivity is increasing at the farm level, which we can do with the technologies we already have. And with the right level of national leadership that you all talked about.

Number two, if we can start working on value sharing, even within the staple crops, then farmers will also get the type of... They'll have the right incentive to be in that

environment. But right now the system is designed such that neither of those is happening. We're not increasing production enough, and we are not sharing the value where we are doing that. So it becomes a chicken and egg basket, where farmers, when they are producing, it's where there's real value and good markets; and they're not producing where there's no value and good markets. And then climate change on top of that just makes it a mess for all of us.

Barbara Great, thank you. I know we could keep going, but I also know that there's so many questions that have come in. And Meghna Ravishankar has been collecting those for us and is ready to offer us all a couple of questions. Meghna.

Meghna Thank you, Barbara. Thanks, all, for all the wonderful comments that you've been making. We've had several questions come in from people all over the world; so I wish we could get to all of them, but we will be posting the list after the event. The first question that I will offer is: Where can smallholder farmers or aspiring farmers access the knowledge and information about innovative and nimble food systems?

Barbara It's a great question. We heard those terms even mentioned already today. Purvi?

Purvi Yeah, thanks, Meghna. We see many developing countries, and the lack of extension, lack of knowledge is one of the biggest factors hindering productivity. Right? If you see many developing countries, especially in South Asia, only about 40 to 50% of the farmers have access to any formal knowledge in agriculture. That is quickly changing, and that needs to quickly change, because our definition of what we call a knowledge exchange or extension has to change. You know, these are the same people that 86%, even in places like Bangladesh, for example, 86% of the household have access to cellphones, for example. Right?

So how do we combine this? Again, you are talking about the rebooting of the system. Are we looking at strengthening the same extension system, or are we looking at new tools and changing our definition of an extension system? These are going to be very, very important. So the farmers' ability to access knowledge will have to modernize, I think the farmers themselves have created more innovations. We in the development community, I think, will have to catch up with them.

Barbara Thank you. Other comments on this?

Barbara Yes, Agnes and then Ismail.

Agnes So thank you. I will do from the extension part that Purvi has spoken about, and then look at this perspective. Here, in Africa, we have many countries we have one extension is 7,000 farmers, so you will never be able to get to any... if you were to come visit a farmer there, you would never be able to get across to them. So what are trying to do are two things. One, how do we start looking at extension as something that can be given by private sectors, because definitely what is happening in the world and in our systems today is not going to work. So we are beginning to design a private sector-led extension system would really allow the knowledge but also reach, and in this case we are equipping extensionists with a capacity to be able to have access. In fact, we are making businesses pay for extension, because if you're looking to get your seeds out faster, you're looking to get your fertilizers out faster, then you have an incentive, an interest actually,

getting your things out. So that is why we are looking at this. We are finding ways of getting the landscape to share the cost of extension better than make it a cost of government, which we know will not work.

The next one is building with what COVID has exposed today, which you might call an opportunity and which others talked about the telephone. But one of the things we are looking at, actually are beginning to say that the telephone and building the digital infrastructure needs to be as important as building an energy infrastructure. Water – it needs to be as important to household as water and electricity are. Because in this case, countries that have developed systems that allows them reach farmers new telephones, businesses that have developed systems to reach farmers through telephone, have not suffered as much as those that don't have the capability. So we have a tool right here in our hands that is 70% penetrated even on a continent like Africa, that we can use to reach as many farmers as possible so we can create systems for in terms of how often we pass messages across. So I think the opportunities... Let's look at new ways of paying for extension and paying for solutions for farmers, but also let's take advantage of tools that we already have that can help us make a difference to farmers.

Barbara Thank you so much. Great question coming from our audience. Ismail, let's hear from you, and then, Meghna, we'll take a second question.

Ismail Yes, I very much want to support what Agnes just said. The answer to getting information to farmers is the National Agricultural Research System, the extension system. But as she rightly said, it cannot just be the expedition of the old system that existed. We now have new technology, and it's working fine. In fact, I'd just like to say a word about that, because it implies a lot about how we deploy technology in the poorest countries. We used to say back when I was in the World Bank many years ago, "Appropriate technology is kind of thumbs down technology." That is not true. Mobile phones are among the most sophisticated pieces of equipment, but fundamentally they are robust, they don't require constant fiddling by experts, and secondly they're user-friendly, and thirdly they respond to a felt need. So we should be open to technology that will help us in our task, if they are robust and user-friendly. And the poorest people have shown that they can actually lead through that and work with it very well. So the question is whether the government or the bureaucracies that see this as their turf would be willing to bring in other actors to let that outreach continue.

Barbara Thank you so much. Meghna, let's take another question from our audience.

Meghna Sure. Another good question that we've had come in – a few different people have asked, actually – is: How can multilateral development in financing institutions best contribute to the necessary changes to food reform, especially in the context of COVID-19? How can we ensure that agricultural research and innovation get funded?

Barbara We've talked a lot about the need for investment, shifting investment. It's a good question. Purvi?

Purvi Sure. The largest investor in the agricultural sector in developing countries continues to be the government right now. Right? And they were all as a catalyst.

They were all as knowledge factors and strengthening the system rather than trying to create a parallel system is where the multilaterals can play a very important role. One of the key roles that is also the role that the private sector plays, for example, if you see the extension systems, for example, the largest amount of extension work whether is to send their products, or whatever it could be, but was taking knowledge to the farmers. And, you know, so the private sector plays an extremely important role as well. And multilaterals could also play a very interesting match-making role, an honest broker role, between the two major investors in agricultural sector, which is the public sector and the private sector.

Barbara Thank you. Anyone else want to...? Everybody does. Per, you're up if you would, if you'd like to respond.

Per No, that's okay. I would pass on this one.

Barbara Okay, and Agnes?

Agnes Thank you. I think the point I want to bring out here in addition to what Purvi said is multilateral institutions are in a privileged position when it come to how they work with the government. And I think they need to equalize that. The challenge I see is that the areas you would want governments to prioritize, and not always the areas that they prioritize. Right? We then go to the point of how we manage malnutrition and how malnutrition if governments would prioritize it could be solved. So when we talk about the 75% of the world's poor who are living in famine, we know that if we invested in these areas, we would cut poverty very quickly by 60% just investing in the function of the agricultural sector. You already know that. I think here if private investors are working with governments, who is this guy? Government is their client, right? If they can help government prioritize, if they can... They can't force them. They can't force government to understand and prioritize the areas that are in fact the most vulnerable among us but push..., that would, if invested in, would push for more inclusivity in our economies. And think it would go very well. So there's an opportunity there for them to really have the right conversation around inclusivity and investing. But also they have the knowledge around research and where research is working and innovation is working and where innovation is working. And helping some of these countries understand the need to prioritize this area as well as moving some of the critical pieces of moving an agriculture sector forward but moving the inclusivity forward. It's a conversation that they could have and where their engagements would have an impact.

So my point here is – if they take on that responsibility and own it, we might get some action and see some of the changes we aren't seeing when governments do this.

Barbara Louise.

Louise I think I would make a plea apart from, you know, a policy dialogue to multilateral, bilateral and national agencies, what I said before, the long-term food policy. I would make a plea for multilaterals to advance very, very happily and create a worldwide fund for two particular things. One being a massive training program. We know from the past from studies by the World Bank and CGIAR, that training

people in agriculture and nutrition science has major impact. It's the best possible way to invest your money in a young generation is by training people. And then make sure that they actually do get back to their countries or have to deal with the government. That's the first, most important things. All these training programs have actually fallen through the cracks because training was not considered important importance. And I'm not talking about training in other countries. I'm talking about in-country training, maybe partnering with universities, lifelong learning – it doesn't need to be degree training only but massive training.

And the second thing the multilaterals can do much better than even the private sector or governments, is to invest in high-risk research, research where you don't know whether there is going to be solution, or they may not need a quick answer. But there are some very what they call “wicked problems” that we cannot solve. For example, Agnes mentioned already the locust problem. And I worked on locust in my U.N. times, and the locust problem is not easily solved for many reasons. We have to experiment, maybe long-term research, high-risk research. Nobody's doing it, hasn't been doing this since the last decades, 30, 40 years – no locust research whatsoever. Those are the kinds of things where the multilaterals have a unique role because governments cannot do it alone. Thank you.

Barbara Great. So many great suggestions – emphasis on the private sector, trying to bolster extension services and extension systems, supporting parallel what governments do, multilaterals in those investments, and helping them reprioritize. We hear so much about investment in high-risk activities and high-risk technologies, etcetera. It's hard to find that money, and this is the sector to go to for it. Ismail, did you have a closing comment on this one before we go to one more question?

Ismail Yes, I do. Actually, I want to raise a very important question that has not been mentioned at all today. And this is the situation of debts. I mean, the countries like the United States and maybe the European Central Bank and others can help in these countries borrowing their own currency. But almost all the developing countries are borrowing in foreign currency, and they'll have to repay that. There has been a request I co-signed a number of people including Gordon Brown to suggest that they should certainly give a deferment on the repayment of the debt and maybe face up to the fact that you would have to write off part of the debt as, of course, the developing countries as they're trying to deal with their own COVID problems. Now, that is an enormous pressure, because the multilateral and also the multilateral banks, the World Bank must give loans not the actual grant. And therefore the priorities the government will have on what money it gets is going to be part of an important debate between the multilaterals, and I think the Louise mentioned both bilaterals and the national government. But fundamentally we have to remind them of the importance of their food and nutrition and therefore the importance of addressing that side as well. But I don't think we'll be able to have that dialogue between these actors without a proper rethinking and analysis of the debt problem. We did it before with the highly indebted countries and the write-offs that occurred with the debt crisis from the '80s and '90s and so on. But it's time to also look at that dimension of the food security and agricultural problems in terms of development in the poorest areas.

Barbara Excellent broader issue to raise. Thank you so much. Meghna, let's go to another question.

Meghna All right. I think one of the good questions that came in, which might be a good reflection of some of the helplessness that a lot of ordinary citizens feel right now is if speakers could comment on how ordinary citizens can play a role in supporting or advocating for high-level policy decisions.

Barbara And maybe this question goes especially to the open letter, in a sense. Ismail, you've had tremendous response to the open letter. What do you really see coming out of this, and how can ordinary citizens help elevate some of the messages in there?

Ismail Well, the purpose of the open letter is really to remind the governments, news media, international organizations that, hey, there's an important problem right here, and, you know, we should start thinking about this; because if you want to see the crops to be harvested and the food to be distributed, you've got to act now. But you also have to lay down the foundation for the medium and long-term, which is going to be starting from next year. And letting all these very eminent people, 170 at last count, heads of governments, heads of state, etc., to sign in, along with Nobel laureates and distinguished World Food Prize laureates and yourself. We are trying to say – Here is something that is certainly worthwhile discussing, because all these people have signed up on it and saying we believe this is important. And that this gave the NGOs a strong tool to use in discussion with the media and in discussion with the international organization.

I'll just mention one thing that we need to remember. The first U.N. Summit on Environment and Development was in 1973, and it was attended by only three heads of state. By the time of the Earth Summit in 1992, we had 114 heads of state and government. What happened in between was the NGO movement that was about environment. Whether people were talking about whales or about climate change or whatever, the environment could no longer be ignored. And I think just as the COVID has pushed out of the attention span of a lot of people than any other issue, we want to say that food security, starving people, famine, nutrition for children are equally important and cannot be pushed aside, and we must address them today, and hopefully that is how we will do it with the normal citizen really in their various platforms and framework can bring this to the attention of their colleagues and spread the good message elsewhere.

Barbara Anyone else? Per?

Per Yeah, I think on the question of what can ordinary people do, that of course depends on which country we're looking at, which situation we're in. But use the media. The media is there. Write letters to the editor. Do whatever you have to do to get the media involved in this. Speak up. Organize locally. Organize things locally. Yes, I know we can't get together, all of us, at this particular time, but Corona will disappear and we can get together again. Support your favorable non-governmental organization. There are a number of things that ordinary people can do. But don't hide behind the fact that you don't have any power. You have lots of power, particularly if you organize.

Barbara Right. Anyone else on this one before we turn to closing remarks? Yes, Agnes.

Agnes Well, I was going to say that we are already seeing - even with COVID-19 we already seeing - I saw a very interesting example here in Kenya that was borrowed from old Greek, I think political process where groups of ten people - they call it [inaudible] it works in East Africa - Groups of ten people meet to find solutions but also to discuss training challenges among them. It's a very important tool during COVID because it allows us to know among that group of ten households, is there a sick person. But also is there someone who has fallen out a job that needs help, but also is there some lawlessness going on because of whatever. But also is - what is it that the community needs? So we are beginning to see. This is something that the Kenyan government passed in 2013 but also something that happens across a number of other countries in East Africa. And I think I've seen in China that is what was used, this type of small group communities. It's what was used to deal with the COVID crisis. And I think for me it's part of this composition is how we learn from what's happening globally, how we learn from each other, and what we can do, given the means..., what is allowed within the circumstance, what we can do together. So the idea. I really found the idea of groups of ten as the way of identifying problems are really something that we should look at in restricted situations like this one and I wanted to share the story.

Barbara Great advice. Thank you so much. I mean, honestly, it's one of the reasons I was thrilled to be convening this group, this particular set of experts - because in this time where there would be so many meetings and progress being made, and there still, there's not as much opportunity for that cross-fertilization for trying to handle what's coming right at us as well as deal with the longer-term problems. So hopefully some of this discussion helps foster and inspire. It certainly inspires me.

Let me turn now to each of you and give you one to two minutes, just a very short final set of closing remarks. Send a message to our community in global food security that's joined us today. Who wants to start? We could start with you, Purvi.

Purvi I think, you know, we worry, of course have a lot of reasons to worry, we are going through an unprecedented time and we are in a very interesting point in history. And while we emphasize the need for building resilient systems. let us not really undermine or underestimate the inherent resilience that exists already in the system. Right? Seventy-five percent of the world's farmers face at least one crisis, whether it is because of the abiotic stresses like drought or flood or biotic stresses because of pest attack and so forth or price volatility. Seventy-five percent of the world's farming population face at least one crisis every 11 months. Okay. It is a resilient system. They are resilient people who work in the food systems, and that's what is making this food system of the world great. Right? So all that is needed from us is just creating better safety nets, creating better opportunities, tools, as someone mentioned, and very importantly offer and ensure equal access to that with equity.

Barbara Thank you. Ismail?

Ismail Okay, thank you. Yes, I do realize that farmers are resilient, but sometimes the conditions can overwhelm them as well. And we have learned there many people, including what we have seen from present and if you look at the '80s, that you can have famine in one part of the country and you can have surpluses available in the other if the transport systems are not working, if there's no demand for it, and the

knowledge systems that keeps people tied together that are not sufficient. And we have learned also from Per and others the notion of the silent hunger, the fact that malnutrition and deficiencies of particular micronutrients are particularly important for children around the world. And we have I think acquired a very powerful view that hunger in the world today that can produce so much is really unacceptable. And I used to say that there was a time in the 19th century when people looked at slavery and said that it's not about slightly improving the conditions of the slaves, it's not about negotiating with the slave trader – it is simply unacceptable, and it must be abolished. I think with Norman Borlaug as our village leader that we sort of always had considered ourselves not only warriors of hunger but the new abolition. We really must abolish the condition of hunger amidst many that is really challenging our common humanity. It is as bad as COVID, and it stretches out in silence, and we must not be silent about it. Thank you.

Barbara Tremendous. Louise?

Louise Yes. I would like to echo Norman Borlaug also, because if he has taught us something, it's also a message of hope. And in his lifetime and our combined lifetime, so much has been improved. Yes, it's true there is poverty. It's unacceptable. There's hunger, which is unacceptable, too. But a lot of that, of course, is a combination of political factors and not so much of the knowledge that is needed to solve this. And if you look at longer back – and it's always important to take a little bit of a longer historical view. If I just take a country like Russia, which had 150 famines over the last, I think, 800 years – famines, I mean not just hunger, famines – you can see that we have moved in the last 50 years of our collective world to a world which is much better in terms of production, in terms of accessibility, in terms of price, and so on. So it's important, I think, to end with a note of hope. Why did we do so much better in the last half century compared to all the centuries before? Because of a combination of better trading systems, better technological knowledge, better knowledge at the level of the farmers, and a more productive world system where we share more, where there is more attention to what we can do. And I think it's that "can-do" mentality that reflects also what Norm so much wanted us to do – to food, in my case, science and education at the disposal and in the service is what needs to be done. And we should continue. Yes, we can. Yes, we can. And, yes, we can, even with the Corona crisis, solve the world food problem, and that is get resilient food systems. So there's my message of hope. Thank you.

Barbara Thank you. Per, and then Agnes, you'll have the final word.

Per Yes, we can, absolutely we can. There will be plenty of food available to feed for a healthy diet. The question is whether we're going to make it happen, or are we just going to continue to kind of let the problems as they are. Three quick points, Barbara. First, let's bring the Sustainable Development Goals back as a framework for the debate and for policies for the food system. We should not wait until Corona has left us, because that may be a long time and then may be all of Iowa coming our way. Let's get going on reactivating the Sustainable Development Goals framework right now.

My second point is, and that's related to the Sustainable Development Goals, because I think we need to focus on Goals #1, 2 and 3, and let that drive the rest of

the system. We need to focus on modifying the food system for health. So many people do not have a healthy diet, and many of them don't know that they don't have a healthy diet, for the hidden hunger that was just mentioned. And about one quarter of people, maybe one third of people, don't get enough nutrients, don't get environment vitamins. And they may or may not know that. We produce way too many calories and way too few nutrients. We need to change that. We're all going to become obese because calories are inexpensive. We're going to be nutrient-deficient because nutrition nutrients are too expensive – that's my second point,

And finally, Barbara, my third point is that, while we are dealing with the crisis we're in right now, the Corona crisis, we also have to collect data so that we know where the danger points are in the food system, so that next time we get hit by some shock virus or something else, we don't fumble the way we've been fumbling this time, so we're ready for it next time it hits us. But right now is the time to collect the data. And I know that's a nasty thing to say, because we need to spend all our resources solving the problem – but, no. We also need to learn from it. Thank you very much.

Barbara Agnes, a quick final comment.

Agnes Thank you. Really I want to recognize the comments that have been made. I just want to end also recognizing Norman Borlaug on his contribution to where we are at. When Norman Borlaug was born, the population of the world was 2.1 billion. At the time he died, the population was 6.1 billion. I want to believe, and I know all of you believe, that had it not been for his work, we would not have been 6.1 billion. So there's the a whole that each one of us can do to change, and I want anchor it into two things. In the messages that many of you have talked about as a framework to help us get there, but also in the food system summit that is coming up and the recognition that, yes, we've gotten here, but we also know that it is not sustainable. Doing business the way we are doing today is not sustainable. We are sitting in the midst of climate change here in Africa. We are reeling from one crisis to another, and we just can't afford it. So we need to rethink our food systems. We need to rethink the vulnerabilities of some of the weakest among us. And we need to rethink why COVID, a zoonotic disease, and so many others, 75% of the infectious diseases we have today have animal origins. There's a reason for that. So that's why I'm saying that our systems are not sustainable as our food systems, and the food systems some it provides an opportunity to think and build back better. So it is an opportunity, and I invite you to be part of this. Thank you.

Barbara Terrific. Thank you so much. And really thanks to all of you for the tremendous comments today, all of your insights and advice. We're coming to a close, but I just want to say a couple of things and then a bit of an announcement. First, let me say how much we appreciate all of you who dialed in. We had great questions, very active participation now on social media, I'm told, so we appreciate it.

Based on this series, we are driving our approach for the International Borlaug Dialogue. It will take place during the week of October 12th, and it might be virtual, it might be in-person. We are making that decision soon. The dialogue will focus on *Building a Resilient Food System*. We'll continue these discussions. We want to equip stakeholders with the capacity to recover from and mitigate the impact of the stressors we are experiencing now but the others that we've talked about today.

We'll hope that we're able to address both the short-term impacts of COVID-19, since they've shed so much light on the vulnerabilities and weaknesses of the system, but we'll also want to continue to address needed changes for the medium to long term. And today we've heard so much great advice about proceeding in that direction. How will we follow up? What actions will be taken? What will you take up from all that you've heard today?

The International Borlaug Dialogue is planned in a new format. We will offer interaction, more interaction, cross-cutting exploration, increased accessibility for all, whether it's in-person or we're presenting another virtual platform. We continue to innovate our platforms in order to inspire others to elevate the work of those feeding the world. So I thank all of our speakers and all of you.

And now I invite you to save another date. We plan to webcast the announcement of the World Food Prize Laureate on Thursday, June 11th, 10 o'clock Eastern Time, same time, same day. The virtual format will feature both the U.S. Secretary of Agriculture and the U.S. Secretary of State – Michael Pompeo, Sonny Perdue will join us. The announcement will be followed by a short third digital dialogue, the content of which is going to remain a little bit of a surprise.

So sign up now. You can register shortly after this session closes, and thank you all for joining us again. And we hope to see you on June 11th.