

Center for Strategic and International Studies

TRANSCRIPT

Event

“The Vision for Adapted Crops and Soils (VACS): Keynote Address and Armchair Discussion with Dr. Cary Fowler with Special Remarks from Ambassador Cindy McCain”

DATE

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FEATURING

Cary Fowler

*Special Envoy for Global Food Security, Office of Global Food Security,
U.S. Department of State*

Ambassador Cindy McCain

United States Permanent Representative to the U.N. Agencies in Rome

CSIS EXPERTS

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INTERNATIONAL STUDIES

Caitlin Welsh: Good morning, everyone. I am Caitlin Welsh, director of the CSIS Global Food Security Program. And I am pleased to extend a warm welcome to CSIS for today's event, a keynote address from Dr. Cary Fowler, U.S. special envoy for global food security, with special remarks from Ambassador Cindy McCain, U.S. permanent representative to the U.N. Agencies in Rome. Welcome to those of you joining us in person and those of you joining us online.

Before we begin, I have two short announcements.

First, regarding emergency procedures. Of course, we feel very secure in our beautiful building, but as a convener we must prepare for any eventuality. Please take a moment to familiarize yourselves with your emergency exit pathways for this room, which are behind me to the right and in the back of the foyer behind you and to the right. Should the need arise, please follow my instructions and make your way to those exits.

And, second of all, an announcement about our Q&A session after the keynote address. After my conversation with Dr. Fowler, we will welcome questions from the audience. You can submit your questions at the "ask questions here" button on our event page, which for those of you in the audience you can find using the QR code on the screens here.

Without further ado, it is my distinct pleasure to introduce Dr. John Hamre, president and CEO of CSIS for 23 years, and Langone Chair in American Leadership. Dr. Hamre, thank you for joining us today. The floor is yours.

John J. Hamre: I will be very, very brief. I wanted to say words of welcome to all of you and thank you. Special thanks to Ambassador McCain and Dr. Fowler for this privilege of being able to feature this event. You know, I say this honestly, there ought to be ten times as many people in the room right now as there are. Now, there are probably thirty times as many people watching remotely, but this is a topic that should be much more widely discussed in America. If you – it's hard to imagine more complicated a problem that touches so many lives as we're witnessing. It's around us.

The drought, and we were talking with Ambassador McCain, in her home state of Arizona. I mean, my goodness, it's – this is epochal in its nature. And it's just an example of the water crisis that's emerging around the world. And where, of course, does it have its impact? It has its impact on human lives and food. And we're going to explore all of that today. I really greatly admire the administration's vision to create this vision for adapted crops and soils. And of course, it's in character with Dr. Cary Fowler, who is a visionary himself, that he would be leading this effort. And we're very grateful we're going to learn about that today.

It's our very, very good fortune that Ambassador McCain is in town. She was in – it was Bahamas, I think you said – on work. It was work. (Laughter.) It was work. And I have every reason – I know that to be the case – but she's all over the world, thank goodness. You know, she represents us in the three major food organizations in Rome. She's our ambassador there. And just in the nick of time she got there. I think her greatest contribution is going to be to help with vax, to get bipartisan support for it, you know, because she can bring that voice that will transcend the partisan divides up on Capitol Hill, and make sure that we get this initiative with full energy.

It's Ambassador McCain who's going to introduce Dr. Fowler. And so what I'd ask you now, with your very warm applause, welcome Ambassador Cindy McCain to the stage. Thank you. (Applause.)

Ambassador
Cindy McCain:

No, I'm not tan from the Bahamas; it really was for work. (Laughs.) I'm embarrassed telling people that. Anyway, they're doing some great stuff with regards to food security and food issues and conservation and sustainability. So I'm happy to report that I had a very good trip to the Bahamas, and if you have an opportunity to go down there, there's some good stuff happening.

So, good morning to everyone. Thank you very much for having me. I appreciate the opportunity to be here and to be a part of this, this timely discussion on food security but, more importantly, to introduce Dr. Fowler.

We find ourselves in a moment of overlapping crises: ongoing armed conflict, especially Russia's war of aggression against Ukraine. COVID-19 and climate change continue to strain the global food systems. Rising costs for food and agriculture inputs impact everyone, especially the poorest and most vulnerable around the globe. Throughout my travels as the U.S. ambassador to U.N. Agencies in Rome, I've seen the effects of conflict, water scarcity, and extreme weather conditions from Kenya to Madagascar, from Sri Lanka to Laos, and more. We need solutions for the future of our changing climate, and we need to be working on them now.

Building resilience, making food systems more sustainable, producing more with fewer resources: this is the challenge before us. As global leaders sought climate solutions in COP-27 in Egypt last year and at the Negev Forum in UAE last month, it is clear that we must leverage science and technology and innovation in agriculture to feed a growing population, and it demands a united, global effort.

This is why we are so lucky to have Dr. Cary Fowler heading the Office of Global Food Security at the State Department. He's a lifelong champion of preserving the biodiversity of our planet, in finding solutions that will keep people healthy and fed for generations to come. Notably, Dr. Fowler has dedicated his career to saving and is commonly known as the father of the Global Seed Vault in Norway. The vault holds samples of nearly 1.2 million crop varieties for future plant breeding and crop improvement efforts, and they house the tools we need for – to adapt for our changing a planet.

He's also very connected to the U.N. agencies that I work so closely with in Rome. Thirty years ago he was recruited by the U.N. food and agriculture organizations to lead the first global assessment of the world's plant genetic resources. Nearly 20 years ago, he was then chosen to lead the new Global Crop Diversity Trust at FAO and implemented a program to rescue 90,000 threatened crop varieties in developing countries. And about 10 years ago he was appointed to the Board for International Food and Agriculture Development, another Rome-based agency.

President Biden smartly tapped him in 2022 as a special envoy for the Office of Global Food Security, where he uses his stellar scientific background, coupled with the strength of U.S. foreign policy, to spread the word on global food security and the importance of international funding and cooperation.

Just last week, I traveled to London, together with Dr. Fowler, to meet the U.K. government officials and visit the Millennium Seed Bank in Kew. Watching him deftly explain the intricacies of conservation strategy and genomic diversity in seeds was inspirational. As you will see, he can make an incredibly complex scientific principle urgent and understandable. There is no question the value of the work that he has done and continues to do in securing the future of humanity. He is a professor, an author, a small farm owner where he tends to his own crops in his spare time. He's also my colleague and my friend, and most importantly, he is a humanitarian.

Please let me introduce to you Dr. Fowler. (Applause.)

Cary Fowler:

Good morning. I'm quite sure I can't live up to that introduction. (Laughter.)

Thank you, Ambassador McCain. I'm honored to share the stage with you, honored to have you as a colleague, and truly honored to have you as a friend. I appreciate that.

And thank you, Dr. Hamre. Where are you? I can't find you in the audience but – and Caitlin for hosting us here at CSIS. This is a privilege.

It's my pleasure today to discuss the Biden-Harris administration's ongoing commitment to strengthen global food security. As part of this effort, I'm particularly focused on the urgent need to develop crops that are prepared to withstand the effects of climate change and the agricultural productivity demands of a growing population.

To this end, my team and I at the State Department are partnering with the Food and Agriculture Organization of the U.N. – FAO – and the African Union to develop a vision for adapted crops and soils.

FAO, as you probably know, is the oldest of the U.N. specialized agencies, founded in 1945 with the Latin motto, *fiat panis* – “let there be bread.” It has 195 member states and has long been a positive force in advancing the cause of food security and nutrition.

Based in Addis Ababa, Ethiopia, the African Union, with its 55 member states, is the leading African voice on matters concerning food security on that continent. The State Department is working closely with other departments and agencies in the U.S. government, particularly the U.S. Department of Agriculture and the U.S. Agency for International Development, and is honored to be partnering with FAO and the African Union.

This effort to help address the medium and long-term agricultural needs globally aligns with the pillars and work being done by the Feed the Future program, the U.S. government's hallmark food security program, which I have the distinct honor of serving as the deputy coordinator for diplomacy.

Crops adapted to climate, pest, diseases, and the needs of the marketplace are a prerequisite for food security. Poor soils don't produce rich harvest. Our work on crops and soils is a key element that will help build resilient food systems.

Yes, it's true – a robust, productive, sustainable food system requires more than soil health. But, simply put, there is no such thing as food security or good nutrition without these two fundamental elements, healthy soils and healthy crops.

At a time when Africa is experiencing historic weather extremes and as population growth is increasing we see a real opportunity promoting soil health and climate-resistant crops in Africa.

By the end of the century, as you probably know, Africa will be the world's most populated continent. Yet, already, there are 300 million people who are food insecure on the continent.

Along with FAO and the African Union we're going to collaborate at various stages with many other countries and organizations. I'll just mention the Rockefeller Foundation, the Columbia Climate School, the CGIAR, the African Orphan Crops Consortium, among others.

Our work to ensure the adaptation of crops will be undertaken in three stages. First, we will convene experts in nutrition and crops to identify those crops that are most important today and tomorrow for nutrition in all of Africa's five subregions.

We'll then assess how those crops will be affected by the climate extremes that we're already seeing, experiencing, and expect to see more of by 2050. Knowing which crops are and can potentially be most important to nutrition and understanding how production will be affected by climate change are prerequisites for making good decisions in public policy and planning purposes. It will tell us where we can grow which crops, most productively.

Historically, most crop adaptation efforts have focused on a handful of crops, principally maize, rice, wheat. Other crops, such as grains, such as sorghum, and millet, and teff, many of the legumes, almost all of the root and tuber crops, and the hundreds of traditional and indigenous African fruits and vegetables, have received much less attention.

Not surprisingly, their yields are low, and their potential has been unrealized. For many of these crops, there has never been a single scientifically trained plant breeder working on them, in all of agricultural history. Many of these crops, however, are rich in vitamins and micronutrients, and they're inordinately important to lactating women and children, particularly in their first thousand days. Indeed, many of these crops are raised by women in home gardens throughout Africa, both urban and rural.

So, this push will seek to highlight these crops, and aim to help them adapt both to climate change, to farmers' needs, and to the demands of the marketplace. It will lead – we hope, we expect – to increased research, investment, and productivity, and provide options for better nutrition and food security.

It will also allow us to make other important decisions. It'll inform our investments in infrastructure and trade. We're currently exploring financial mechanisms and financing for this third phase, the crop

adaptation phase, though I'll note that scientific efforts are already underway, for instance, by some of our land grant colleges in other institutions, and by the CGIAR, both supported by USAID.

As I've mentioned, soils are also critical to our efforts. Improving the health and productivity of African soils will begin with a renewed push to map soils, and assemble the data necessary for determining which crops can be grown where, sustainably, and what interventions – crop rotations, composting, biochar, manures, liming, fertilizers – which of these are needed, and where, and in what amounts.

Fertilizer use efficiency is notoriously low in Africa. This effectively prices fertilizers beyond the capacity of many smallholder farmers. Increasing the soil organic matter is a key to soil health, and it's also a key to having an agricultural system that's sustainable. Again, we're going to be building on the good work that's being done by FAO, the African Union, USAID, and others.

This is a fast-moving train. We don't have a lot of time. To the many like-minded organizations concerned about food security in Africa, please hop aboard. Please join us on this transformational journey. We don't have any time to waste. As someone told me recently in Malawi, nothing changes if nothing changes. (Laughter.)

So, I would like again to thank CIS – CSIS, for hosting this event, Caitlin, for your generous support. You are an alum of the Office of Global Food Security at the State Department, and in fact, with my new staff, I can almost say that you've spent more time in this office than all of our staff combined. (Laughter.) We value that experience and appreciate the visit you made to us a couple of weeks ago, and to give us the history of – (laughs) – of our own office.

Ambassador McCain, thank you again for your – for your kind introduction. It's – you and I have had great collaboration from the very beginning of your tenure, and mine. I value that, personally, professionally.

And finally, before we go to the question-and-answer session, let me just thank Secretary Blinken for his strong, personal support of this work, and his commitment to global food security, and the work that all of us here today are so passionate about.

And one final word, which is, most of the staff of the global – Office of Global Food Security are here today. My life would not be worth living without them. (Laughs.) They are here, and I deeply appreciate their support. So thank you very much. (Applause.)

Ms. Welsh: Thank you so much, Dr. Fowler, for joining us and making this important announcement here at CSIS today. To start off our conversation, I have a two-part question. And after our conversation, we'll welcome questions from the audience. And we really do look forward to hearing from all of you.

My question for you, a two-part question, first starts with the history of this initiative. I know that you were in conversation with the administration to take this post starting way back in 2021. By the time you assumed the role, global food security had been upended by Russia's invasion of Ukraine. So my question is, what is the history of this initiative before joining the State Department? And also, how does this initiative help to ameliorate the effects of this war on food security, particularly across Africa?

Dr. Fowler: Well, I guess the intellectual origins of this really go back in my own history quite a ways. I've been concerned for many years about the deep challenges that our agricultural crops are going to face in an era of climate change. What I think many of us don't realize is that climate affects every part of the plant. It affects every part of the growing season. And making those kinds of adjustments are not trivial, from a plant breeding perspective. There is no such thing as a climate change gene that we can just insert in all of our crops, and everything will be fine.

So I understood that agriculture itself was being transformed by climate change, and we wanted to be in the driver's seat of that and not just be the recipient of the effects. But I also realized that food security depends on diverse crops. It's not – people don't just eat maize, soy, rice, and wheat. And good nutrition can't be provided by just those four crops. So if the international community, public and private sectors, were focusing their investment, as they are and have been, on those particular crops, well, what happens to all the rest of them? What is their avenue to adaptation in a quickly changing world?

And I was particularly concerned, and have been for a number of years, about the – about the minor crops – what we call minor crops. Which may only be minor because we haven't made those investments. I mean, maize – the global yield of maize has gone up somewhere between six- and sevenfold during my lifetime. I didn't notice that, frankly. (Laughs.) Why and how did it go up that much, six or seven times during my lifetime? It went up that much because we invested in it. Lots of money into plant breeding and such. So those types of investments could be expanded to other crops. And I could go on and on on that, as you can see.

But I'll answer the second part of your question: How does that affect – or, what's the relationship with the war in Ukraine? I think one of the things that we've learned from the war is that we have multiple food systems around the world. We talk about the global food system, but when you really get down to it, there are a lot of different food systems, including my little farm, and your backyard garden, and things like that. And in some ways, they're linked and they're precarious. And the invasion of Ukraine showed just how precarious the entire system was to a shock, such as the Russian invasion of Ukraine.

There are many different ways you could respond to that. And the U.S. government is certainly doing quite a lot in many different areas. But if we look long term, one of the ways that we can respond is by reducing the absolute dependency we have on those kinds of exports that can be disrupted by an uncalled for war. And if you're looking at building a nutritious and productive food system in Africa that's not totally at the mercy and the whims of somebody like Vladimir Putin, then you need to diversify your – what you're growing in those countries. And that means providing options to farmers that are productive and nutritious.

Ms. Welsh: Certainly, and also to making nutritious food more available across the continent. I think one fact that can get lost in conversation about global food security is it's not just about the number of people who are food insecure but the number of people who can't afford a healthy diet, which is almost 40 percent of the world's population. So it seems to me that that's a key focus of VACS, is to make nutritious food more available across –

Dr. Fowler: That's right.

Ms. Welsh: Yeah.

Dr. Fowler: I think – I think something like 14 percent of the people in Africa have real access to an adequate amount of fruits and vegetables, and that says a lot about malnutrition/undernutrition in Africa. And it's behind the horrifically high stunting rates that we see. I was just in Malawi, and 47 percent of the children under five are stunted. That has a heartbreaking effect on not just those children and their families, but on the future of the country because it's a lasting effect.

Ms. Welsh: Mmm hmm, absolutely. Thanks for bringing that up.

Second question for you is about the importance of partnership to VACS – to the Vision for Adapted Crops and Soils. You're launching this in partnership with the FAO and with the African Union. Those of you in the room are able to see the endorsements that VACS has received, but for

those online the African Union recently stated that they “are pleased to partner with the State Department in this initiative to promote research, production, and consumption of Africa’s nutritious traditional and indigenous foods.” And the FAO said that “It’s with pleasure that we join forces with the State Department and the AU in the Vision for Adapted Crops and Soils.” In addition to the AU and the FAO, you’re partnering with others. You mentioned the Rockefeller Foundation, Columbia University, the CGIAR. Why is it important that you’re launching this in partnership with these other entities?

Dr. Fowler: Well, certainly we wanted from the very beginning to partner with FAO and the African Union as two premier organizations and voices for food security and for the continent. I think it would be, frankly, illegitimate to launch an initiative without being in a close working relationship with them.

But as I described internally and to my staff at least in the United States who will be familiar with this term, this is really like a potluck dinner where we are beginning by saying: Well, we’re going to bring to the table some resources and maybe a main dish, but we really have to crowdsource this. And we need other partners and people to come in and contribute what they can to this effort to make it a success. So the process itself that we outlined – identifying crops that are important to nutrition and assessing how they’re going to do in a climate change world – is part scientific and it’s part consensus-building and commitment-building.

Ms. Welsh: Thank you.

Last question before we turn to questions from the audience is about the relationship of VACS to Feed the Future. The Office of the Spokesperson released a note yesterday describing VACS as a multiphase initiative grounded in the objectives of Feed the Future. As we know, the president signed into law in December the Global Food Security Reauthorization Act, authorizing Feed the Future through 2028. So how does VACS relate to Feed the Future, as you – as you mentioned in your own remarks?

Dr. Fowler: Right. Well, I think the – what you read out captures it. We want to work quite closely with Feed the Future. These aren’t two separate, separate efforts. Feed the Future is doing already some very important work in this – in this area, in fact in all elements that I’ve – that I’ve just outlined. So this is really a push or a surge for what the U.S. government has long seen as a valuable place to work.

And as was mentioned earlier, I do have a role with Feed the Future as the deputy coordinator for diplomacy, so I’m a big advocate of Feed the Future. I was just in Zambia and Malawi with the other deputy

coordinator, who really runs Feed the Future, Dina Esposito, where we saw some really quite amazing programs and work on the ground there.

Ms. Welsh: Yeah. OK, thank you.

Happy to turn now to the audience for questions. We have someone in the audience who'd like to ask a question about private-sector investment and involvement in VACS. So, again, the three phases being identifying nutritious crops, identifying climate change – anticipated impacts of climate change on those crops, and then sourcing investment in their production. So I believe it's Laura Malenas (sp) has that question. Do we – thanks. Great. And we have –

Q: Hi. I'm Laura Malenas (sp) from the – (comes on mic) – oh. Hi. Laura Malenas (sp) from the ICRC.

Just wanted to know if you could just tell us briefly about how you're partnering with private-sector partners in terms of research, investment, production. Obviously, big agricultural companies and researchers have a lot of knowledge and input. Thank you.

Dr. Fowler: OK, sure. Well, I can't say too much substantively at this point, because we're just announcing this today. (Laughs.) So I can more talk about intention. I have gotten around and spoken with a number of private sector companies, both in the soil health and fertilizer area – I was in touch with some of those yesterday – and in the plant breeding area. And I'll just say that, as you might expect, those private sector companies are really quite positive towards this work. They realize that it – that they have a role to play, in some cases not initially but down the road. They hope that this would prepare the way for them. So we've gotten a real positive reception and intent to partner with them as well.

One of the things that I saw in visiting Zambia and Malawi was actually the – and the Feed the Future Programs there – was actually the power of the private sector on the processing and distribution end to work backwards, if you will, in contracting with and serving almost as extension agents for small-scale farmers to produce, in the cases I saw, groundnuts and soybeans that were being processed into really nutritious foods at low-cost, frankly. And in growing those two crops, they were promoting crop rotations that enriched the soil. And the farmers were getting better prices than they normally would. They created a market for it. So I think we can work from both ends with the private sector, on both the supply and the demand side.

Ms. Welsh: Thank you very much. I have a question from someone viewing online from California. This question, which shouldn't be a surprise, is about

water depletion and climate change. And this person would like to know how the United States, and FAO, and others can collaborate to make sure that productive regions don't become dust bowls due to excessive depletion of groundwater, et cetera.

Dr. Fowler:

I'm no expert in water, but – so I'll pivot to talking about what I actually know about, and the relationship of that to water. (Laughs.) It's true that we have these kind of challenges in many parts of the world. And Africa is no stranger to that. One of the things that I think VACS will do, if we are preparing crops for climate change, is preparing them for instability in water supplies. And what does that mean, in a climate change world? Well, I mentioned that climate change affects all plant parts. It includes the roots. And for some crops, we will literally need – want to have new root architectures that take more advantage of not just the moisture that's in the ground, but the micronutrients, and such.

Also, we have to realize that soil health, which has a lot to do with the water retention and capacities of the soil, and in a way that ameliorates the effects of drought, has a lot to do with the diversity of crops that are grown in the soil. When I was, again, just two weeks ago in Malawi and Zambia, I saw agricultural systems that were predominantly maize and maize and tobacco. Both of those are heavy feeders of micronutrients, and water, and such. So if we had a diversity of crops growing there, which requires a diversity of crops that are actually productive and high yielding and nutritious, then we could begin a virtuous cycle of improving the soil, improving our response to these kinds of drought situations, and improving the nutrition of people.

Ms. Welsh:

Thank you. So two questions that I see as related. And they're about access to improved seeds. One question is about trade barriers that might be in place that might prohibit farmers from accessing improved seeds. And another is about access to – it's about the role of GMO crops, for example, and access to those seeds. What can you tell us about seed varieties and the seeds that will be used under VACS?

Dr. Fowler:

I think at this stage, you know, I don't want to prejudge how plant breeders and others will approach this. What I normally tell people is if you outline all the technical possibilities for how you can adapt crops, all those are on the table.

Certainly, GMO technologies are there. The use of those is restricted in some countries, so obviously that's – one has to take that into account.

There's also gene editing, which I think is going to be a really promising tool for some of these particular crops, a tool that we didn't have until recently, and frankly, for a number of these crops, I would say, you

wouldn't even want to think about engaging in plant breeding. And we weren't thinking about engaging in plant breeding 25 years ago, but now we can imagine that; this can be a new dream because of this technology.

We can also think about distributing – well, of course, using traditional plant-breeding technologies; that's generally what's used in most crops today.

And then, last but not least, we can examine the possibility of distributing targeted diversity to farmers directly for their own selection work; in other words, enlisting them as citizen-scientists, much as, by the way, our own citizens in this country were enlisted in the 1800s when the Patent and Trademark Office was distributing tens of millions of boxes of seeds to farmers for experimental purposes, which, in part at least, explains how all of the non-native crops in North America – all of our major crops are non-native – became adapted to all of the climates and environments here.

So those are – that's the range of possibilities; I don't want to pre-judge how one is going to be used for a particular crop.

Ms. Welsh: Good. Thank you.

Moving from seeds to soils, we have a question from the U.N. FAO based – I think you're present in the audience, so Jocelyn.

Q: Is it OK if I ask it in person?

Ms. Welsh: Absolutely.

Q: Hi, I'm Jocelyn Brown Hall. I'm the director of FAO's Liaison Office for North America, for those of you who don't know me.

And I wanted to touch on your plan around soils and soil mapping. Recently, the U.S. government was very generous in giving FAO \$20 million to upgrade our soil maps. Some of our country's soil maps go back 60 or 70 years; obviously, they're not updated. And of course, if we don't know what the soil is, then you don't know what the fertilizer it is; you're using the wrong fertilizer, maybe using expensive fertilizer that's not available now due to the war in Ukraine. So I just wanted to touch a little bit about VACS. You have soils in your – in your title and the importance of soil health and soil mapping in this. And I also wanted to express a lot of appreciation to both you and Ambassador McCain for raising the importance of soils and seeds in the grand world of food security and humanitarian efforts. Sometimes soils and seeds don't get a lot of attention, so really wanted to appreciate the U.S. government's leadership on this. Thank you.

Dr. Fowler: Thanks, Jocelyn.

Ms. Welsh: Anything to add on the soil-mapping aspect of this?

Dr. Fowler: Well, yes. Jocelyn makes a good point that I think, particularly for Africa, I must say, we really need much better soil mapping and soil data. We had that in the United States and we have precision agriculture and we have even farm implements that can measure out fertilizer on a meter-by-meter grid. In Africa sometimes the soil maps are kilometers – (laughs) – in scale, and that doesn't allow for planning and management purposes. So we need much better data, and if we had that, we could make much better use of efficiency of fertilizers, which really are priced out of the market for a lot of small-scale farmers. You know, if the fertilizer efficiency rate is 20 percent and you're dealing with really the most expensive fertilizers in the world, once they get transported to Africa, then it's not economical for farmers in many places to even use fertilizers. If they knew which fertilizers at what amounts were useful for which crops and which places, you could begin to change the game. And so I think that's a place – it's a place to start. We have to scale that up.

Ms. Welsh: Thank you, Doctor.

Dr. Fowler: Well, I'll just add that, you know, as you mentioned, the U.S. government has provided \$20 million fairly recently to FAO. That's the beginning. That has to be a beginning. The Feed the Future program is engaged in this kind of work and a lot of fertilizer efficiency work, which is also great.

Ms. Welsh: Great. Thank you.

We have another in-person question from Barbara Stinson. I believe Barbara is here with us. Great. Thank you. Good to see you.

Q: Hi. Barbara Stinson, the past president of the World Food Prize Foundation.

I just wanted to follow up a little bit on the proposition of more nutritious crops, which is critically important, identifying those, building on those already historically, perhaps, abandoned in Africa. Just can you say a little bit more about how you might go about that process? And also, culturally appropriate and adaptive, nutritious foods also seem very important. So it makes for a very complex web striving to select those.

Dr. Fowler: Mmm hmm. Sure.

Well, in my own mind I kind of divide these crops into three categories, for better or worse. There's the category of crops that is receiving a lot of investment in plant breeding work.

Am I worried about those in the climates that are here today and coming tomorrow? Yes, I am. But if anything's going to be taken care of it'll be those crops that already have so much going for them in terms of our economic system.

And then there's a second category right under that and that includes some major crops – I call them major – but are not receiving as much investment. I typically give the example of yams. Thirty (million) to 40 million metric tons of yams grown in Africa – mostly in Africa every year. It's hard to imagine 30 (million) to 40 million metric tons. That's a lot of yams.

So there are millions of people that depend on yams. But in the current situation, I'd like to turn the tables and ask the opposite side of the question, which is how many people do yams depend on. Because if we want yams to be adapted to future climates that's a human activity, and the last time I looked there were six yam breeders in the world.

I don't think that's adequate for the kind of challenges that we're facing. And then there's a – so yams and cassava and sweet potatoes and millets and sorghums fit in that second category with a lot of potential. Not enough investment, in my personal opinion.

And then there's a third category that sometimes people call neglected crops or orphan crops, and some of those crops literally have never had any plant breeders working on them. They've been selected and saved from year to year by farmers and, yet – and they're grown in household gardens. And I think their contribution currently to nutrition is very much overlooked because typically these are not the staple, fill-the-belly crops. These are the crops with high value in small quantities, and that means for nutritional purposes and for medicinal purposes as well.

So you look at crops like African yam bean and moringa and a little crop that I might be the only person in the United States growing on my farm, which is grass pea, or lathyrus, and various crops like that that, I think, can be scaled up, made more nutritious, made higher yielding, and, therefore, have a stronger place in the toolkit – in the list of options that farmers can have in Africa.

Ms. Welsh:

Thank you.

Question from Julie Howard, who's in the audience, long-time associate of CSIS and formerly with the U.S. government as well.

Q: Hi. Thank you. Hi, Cary.

Dr. Fowler: Hi, Julie.

Q: So, yeah, in addition to CSIS I also sit on the board of the World Vegetable Center and so we are thrilled at this important announcement today and is committed to help you in any way that we can. We do a lot of work in sub-Saharan Africa, as you know.

I also have a history with Feed the Future – helped to stand that up a decade ago – and so with that hat on I have to ask a little bit about funding because it's been an important, I think, charge, you know, of the global food security community, many people here today, to make sure that funding for Feed the Future remains robust and that we have continued congressional support for that. And that's – you know, it's a continuing battle. You know, we see now, I mean, the needs following Ukraine. It's just keeping that 1 billion (dollars). And that's not even approaching, you know, the money that we had for food security and agricultural development, say, back in the – in the '70s and '80s.

So how do you see the funding for this initiative, you know? And how can it be additional how rather than sort of threatening this really important base that we have established with Feed the Future? Thank you.

Dr. Fowler: Yeah. Well, thanks for that. And let me underscore the words you said about the vegetable – World Vegetable Center, which is – we hope to work with very closely. And that center has been doing great work over the years in vegetable crops, and particularly in Africa, but also in Asia.

I think it's clear that the United States has much to offer in the area of global food security. Sometimes, I'm asked, are we doing everything we could do, and – (laughs) – but it's hard to answer that question in the affirmative. I mean, my gosh, we've got 828 million food-insecure people in the world. And so, I wouldn't want to explain how it is that we're doing everything we can do – we, the international community, not just U.S. government.

I – you know, I personally am a strong supporter of Feed the Future. I think that work needs to not just continue, but be expanded in so many different ways. Feed the Future just recently expanded from 12 to 20 countries as its focus, but without an expansion in budget for those additional countries. That's clearly not what we would – we would want in an ideal world.

So, I think that, to ask – to answer the question about funding, and how this initiative will be funding – funded, I think it's important to realize that the first two stages – which, by the way, for the first time, I'm told, really bring together the nutrition community with the agricultural development community, with the climate community, in a single project that has a concrete goal, and a – and an imperative, which – as far as I can tell – all three communities are quite excited about that. I've been out talking with nutrition CEOs, and with NGOs, and others, and certainly, climate scientists and such.

But this initiative is both to help us answer certain questions, scientific questions, but it's also to build awareness, and build consensus. If we do that properly, I have to think there will be more of a commitment on the funding side, broadly speaking. And as I said, this is a potluck dinner, and I'm already out there talking with other governments and agencies about this, and fully expect that others will join the party.

Ms. Welsh: Thank you.

One last question from the audience, and then I'll turn to you for some final remarks.

But Dave, from IFAD, I believe is here? OK. Hi, Dave.

Q: Good morning, Dr. Fowler.

I'd be remiss to not ask this question. What do you envision as the role of IFAD as an assembler of finance, particularly working in the poorest part of the world with smallholder, with indigenous people, with women?

And then, maybe, last question, mostly focusing on Africa. How are you thinking of involving academic institutions – universities, research institutions – based in Africa in this – in the VACS initiative? Thank you.

Dr. Fowler: OK, no, thank you.

As you know, I've had several meetings with your new leadership, IFAD. Very, very impressed by the direction you're taking, the work you're doing.

I think, as we – as we get into this – into this effort, we will be looking for ways in which to make it more sustainable, frankly. And that means, I think, building out – building up the value chains that are associated with these crops, and that inevitably means involving the private sector, and such. And that's really where IFAD plays such an important role –

particularly, I have to say, because you are focused on smallholders. So, we are – we're meeting in a common space, so to speak. And I think that's – that has a lot of potential.

We intend to – in terms of the process itself, and how to involve African institutions and individuals – we're already beginning that. The first phase that we're going to undertake, which is identifying those crops most important to nutrition, obviously, we're doing that in conjunction with FAO, and the African Union. But we're also going to be very careful to have experts from Africa, from those different regions, involved, and – physically present, and involved.

One of the things that has given me the most hope coming – having come out of retirement to take this job – (laughs) – is to see how much progress was made while I was – (laughter) – while I was retired. And most notably, I've just seen a great deal of added, increased, deepened expertise in Africa and in the institutions there. So I think if you look down the road, when we talk about adapting crops to African climates, how stupid would we have to be not to involve African institutions? I hope we're not that. (Laughter.)

Ms. Welsh: Well, thank you. Thank you for your candor in answering all of our questions. Thank you, again, for making this important announcement today. Anything final that you'd like to share with our audience?

Dr. Fowler: Maybe just one thing, and that is that to some extent I think what we're doing – and we're doing it very much in collaboration and cooperation with other agencies in the U.S. government, certainly with USAID, and USDA, and others. To some extent, it's – we're really working on a proof of concept. Can we quickly and, in an impactful way, do this work? The kind of factors that have led to us standing up this effort exist on the other continents as well.

So this is not a problem that's unique to Africa. We've started in Africa, because we think that's where the greatest need is and the potential for improvement is so great there. But if we're successful, we ought to – we need to be thinking about asking a very basic question: How prepared are our soils for producing nutritious food in the quantities that are necessary? And how prepared are our crops for growing in a different environment? And I think if we ask that question in every – on every continent, we will find ourselves with plenty of work to do. (Laughs.)

Ms. Welsh: Great. Thank you for making that important note. Over the past year we really have seen exceptional leadership from the U.S. government with regard to global food security at the highest levels, from President Biden, Secretary Blinken, Administrator Power, Ambassador McCain, and from

you. So thank you, again. Thank you for your leadership at this critical time. Thank you for joining us today to make this very important announcement. Thank you, again, to Ambassador McCain for joining us. Thank you to Dr. Hamre for your support. Thank you to CSIS for – our Global Food Security team and external relations for your tireless attention to detail. And, most importantly, thank you to the audience, in person and online, for joining us today. Thank you, again, and please follow us on Twitter at @CSISfood. (Applause.)

(END)