

2012 THE "BORLAUG DIALOGUE"

October 17, 2012 - 11:00 a.m.

Panel Moderator: Marc Van Ameringen

CONVERSATION:

VALUE ADDED: INTEGRATING NUTRITION FOR HUMAN AND ANIMAL HEALTH

Panel moderator:

Marc Van Ameringen

Executive Director, Global Alliance for Improved Nutrition

Panel members:

Florence Chenoweth Minister of Agriculture, Government of Liberia

Mehmood Khan CEO of the Global Nutrition Group, PepsiCo

Jeff Richardson Vice President, Abbott Fund

Jim Gerardot Executive Director of Global Strategic Marketing, Novus International

Introduction by:

Ambassador Kenneth M. Quinn

President - World Food Prize Foundation

Jeff, I have to let you know that... You saw Jeff had a wonderful op-ed in the *Des Moines Register* today about the egg and the hens. And people say, "Well, where's your wife? She's been with you all week." I said, "She's gone to Costco to buy eggs in bulk quantities. She's worried."

So, you know, a few years ago no one was talking about nutrition. We put it on the agenda at the World Food Prize so that we could be bringing attention. We see the World Food Prize as a place where people can get out of their bubbles and come together, very, very diverse groups of people coming here.

And so we want to continue with this focus on nutrition today, and we will next year as well. And our next panel is "Value Added: Integrating Nutrition for Human and Animal Health." So let me invite our panelists to please come up on the stage.

I'm so grateful to Marc Ameringen. We were together in Canada in Ottawa and talked about him coming and having a focus on nutrition. And we had Dr. Mehmood Khan with us a year ago, and we said we needed to have more about nutrition, given his leadership position in the world on this very issue. Florence - Florence Chenoweth, we're so honored to have you here in your position as minister. Florence is also a University of Wisconsin Badger, so we know her as a neighbor as well. And to have Jeff Richardson and Jim Gerardot with us from two great friends, the Abbott Fund and Novus, one of our sponsors. So thank you all for being here.

CONVERSATION:

VALUE ADDED: INTEGRATING NUTRITION FOR HUMAN AND ANIMAL HEALTH

Marc Van Ameringen

Executive Director, Global Alliance for Improved Nutrition

Thank you very much. Well, we have an hour before your lunch, and so we're going to try and really make it exciting for you and challenge you a bit.

As you've heard, we've got a fairly diverse panel, and we're really looking at the whole issue of – How do we integrate nutrition into human and animal health? And perhaps more broadly looking at the linkage between agriculture, health and nutrition.

But before turning to the panel members to give you some of their views, what we're really looking for here is really following the theme of this meeting, what are some of those new models that can build this integration? We know how difficult it is when we're sitting down with the agriculture sector and the health sector – they're totally different cultures. They rarely come together. But we see today that, given the challenges around food and nutrition security, there's a new openness to start to look at – How do we integrate nutrition all along the value chain? And what are some of those new models, and what are some of those new partnerships that can drive this?

So those are the things that we are going to try to tease out over this session. And with that I'm going to turn first to the minister and ask her – Given all your experience globally as well as in Liberia, how do you see this integration happening? And we know one of your most exciting programs has been this elimination of hunger initiative, which focuses very much on women at the center of this. Maybe you can share with us some of your experiences.

Florence Chenoweth

Minister of Agriculture, Government of Liberia

Thank you very much.

You are right about our focus in Liberia on women. Why? Because the Liberian farmer, she is a woman. But one of my closest collaborators is the minister of health, because we both realize that something that goes wrong in agriculture can very quickly become a health problem. We also have no problem looking at human and animal health and nutrition together, because for our farmers they are one; they go together.

And so we start first with the policy. As we talk about Liberia, which if you do the math, we are 165 years of independence, but I want you to think not of 165 years of starting in 2006 where we literally started from scratch to rebuild a country after 26 years of total destruction.

Food and nutrition, of course, is high on our list, was when we started, will continue to be, because a quick assessment told us that food insecurity at the time was about 55%. But on top of that, we could see the nutritional problems that we had with our children, because you could see so many of them stunted. We have done the assessment with WHO in itself. Our figure of

stunting – not malnutrition only, just stunting – is 41.8% from all of those years of being deprived of food and nutrition.

And so we put the emphasis on developing the policy to deal with that bundle of problems. And I can tell you, all of those years of international work, all of those years of being trained here in the U.S. and in Wisconsin, all of those years of just observing, listening, we have had to use every bit of it to carve out what is the policy direction for us.

It starts first and foremost with ownership. We determined that, since we are starting from scratch, we will own our own agenda so we drive it – it is not driven for us. And on that agenda for food and nutrition we look at both food crops but, as I said, animals as equally as important, animal health, because for us they go together. And so we spent time putting the policy in place, and that policy has nutrition for both at the center.

Marc Van Ameringen

Thank you. Let me turn to Jim Gerardot from Novus International. Jim, your company produces so many of the key products for animal nutrition. As somebody who's leading an international organization working on human nutrition, all the things that you're doing for animals, we're struggling to do with humans. And I look at some of the products from probiotics to essential fatty acids to key minerals to antioxidants. How do you see us moving from all the success around animal nutrition to human nutrition. Do you see the possibilities to link the two?

Jim Gerardot

Executive Director of Global Strategic Marketing, Novus International

Yeah, Marc, great question. I think when we look fundamentally, some of the people that are the most interesting in kind of understanding this is what I would call the farm kids. Myself and my wife for example – we're from farms in Indiana, and Rhonda is in the audience today, but she's always challenging, trying to bring the human nutrition into what's done.

And some of our childhood memories are around canning fruits and vegetables, quality production of beef, even for the neighbors, ourselves, the communities, and making sure that's done in a very good and solid, sustainable way and trying to bring that to the equation and try to bring it to what we've heard today on the stage and all week really to feed the world affordable, wholesome food is where Novus' vision kind of intersects with that.

The neat thing is that there's a lot of farm kids like myself in Novus, and we have a vision to really execute this, not just talk about it. And so one of the things we found most important in the process of executing it is really understanding you can't do it alone. Farm kids need a lot of different people involved in helping them to develop technologies, to bring those to bear, so we understand that.

So Novus found that the best way that it can bring that to life as a company is to be a catalyst, is not to just sit and stay idle with its knowledge of nutritional products and its knowledge of production but to bring people to bear. So I wanted to give you an example.

In 2009 Novus went to Alagoas, Brazil, and this was an area of some poverty, people who really wanted to improve their quality of life but didn't have all the answers to be able to do that. And we just heard from the last panel – and Jeff, I love his, get out of the bubble – was to try to bring to bear on the community a way that they could integrate animal protein into their own area sustainability and be a part of that.

So Globoaves was one of our customers, and they had some really great technology in poultry production; they had chicks available. So we said, what if we just take some of those technologies and understanding to local farmers who aren't producing poultry and talk to them about the benefits of poultry protein – easy to grow, very economical – use our technology to show them how to grow it, and use the local community, the governments locally to try to get involved in a sustainable value chain. Because what we're talking about is value added. So it's got to be sustainable.

So we got them involved in the fact that, if we were to be able to set up this chain locally and they were able to put the product into... what they decided to put it into the school lunch program in the community. We could make a fool loop. So the local government decided to buy the poultry from the poultry raisers. We helped them to raise that, and we closed that loop in Alagoas. And a month ago it was so exciting to see the families come to us at the WPA and say, "You really have changed our lives, because you didn't just provide the fish, you taught us how to fish, and now we've got a closed system."

So one of the models we're trying to promote and really put into play in a very workable and very effective manner is that closed value chain and trying to bring to bear local governments, regional authorities, school systems, build the markets, our customers, and the whole chain to make that happen. So that's just one of several, and we've actually been able to now we've announced a scale-up of that project in Chad. It'll be a \$50 million project from the boiler chicken all the way to the processing plant to help sustainable protein in Chad to be developed as a footprint.

And two weeks ago, talking with some of the U.S. commerce officials, they're now interested in going to Minas Gerais State in Brazil and utilizing some of our resources in the U.S. to scale a similar project in that area. So not all projects fit all sizes, but when you start the process of trying and getting involved and being a catalyst and bringing all the people that can get the experience and knowledge to bear, I think that's where you hit a pretty nice sweet spot.

Marc Van Ameringen

Let me turn to Mehmood Khan from PepsiCo. I mean, for the last few years PepsiCo has been investing quite heavily in bringing nutrition into all its food and beverage brands and also leveraging its supply chain in interesting ways. Can you share with us some of your experiences?

Mehmood Khan

CEO of the Global Nutrition Group, PepsiCo

Well, I think, as has already been said and you pointed out, first of all, there's no one solution. And secondly, I don't believe any one company, any one government, or any one nonprofit is going to find the answer. I think it's going to be how we all work together. And let me share

some examples of how we came about it. And some of the solutions are not what you intuitively would come to.

Let's give the example of, start with Africa. We've looked at our capabilities in agro, our ability to scale production, distribution, production of the final product. Because most consumers don't consume a commodity; they consume a finished food. And there's a difference between food that's been cooked or processed versus a commodity. And I think what we sometimes forget is, just because we grow it doesn't mean to say that it's actually going to get into the hands of the consumer. We've been focused on that.

And we went into Ethiopia, we're working with the Ethiopian government to look at chickpea as a commodity that grows but ultimately becomes a final product that we can distribute. It's very difficult to distribute raw commodities.

The other is - we've learned over the years that, other than the extreme poverty where you have people who are starving. The majority of the world's population that is hungry has some disposable income; they just don't have enough to meet their needs. However, as humans and the difference between the animal business and the human business, humans will exert a choice.

And we have to find ways of making whatever we make both nourishing but also aspirational. If it doesn't taste good, if they don't enjoy it, and particularly the people, the children and the adolescents that need it most will reject that product once they have the ability to make a choice. So bringing in our knowledge of expertise around consumer choice - taste, texture, aroma - and preserving that in a fashion that keeps the nourishment is important.

The last is one that really for me has been one of the most fun projects. We looked at this, and we asked a question. A lot of what we've talked about even this week has been about increasing the use of fruits, vegetables, eggs, meat, etc. but there's a logistical problem here. It's great to produce fresh vegetables, but by the time you've transported that fresh produce to the consumer and it's not harvested on a weekly basis or a daily basis... I mean, we all hear the famous story of the mango crop that comes out four weeks a year, and the other 48 weeks it rots and there is no food supply in terms of that fruit.

Refrigeration is critical. Processing technology is critical. Both are capital intensive and expensive. Let me give you one example of how we looked at approaching this. I asked a team of engineers. I said, "Look, a typical refrigerator costs somewhere between five and six hundred dollars if we talk about what's in the shopkeeper. The cheapest, if you go to the developing world, you can bring it down to \$400."

I asked the engineering team - we put an engineering team together - I said, "Look, if the world can produce a \$2,000 car in India. Why is it we can't produce a fridge that costs less than \$500 bucks." Well, the answer I got was from my usual engineer, and we have a lot of engineers at PepsiCo. Fortunately, they all report to me. I called them, and, you know, humor the old man, and I said, "Look, I want a cooler that costs \$200 bucks." My senior-most engineers threw their arms up and said, "Mehmood, have you any idea how much a compressor costs? The lowest-cost compressor from China is \$250. How are you going to make a \$200 cooler?" So we set about it a year ago. I can tell you we've just put into market for beta testing a \$180 cooler. Okay?

It's not pretty, it's not scale, it doesn't have all the bells and whistles, but it drops the temperature from the ambient down to about 20 degrees centigrade. That's enough to give me shelf life for dairy, for perishables. It doesn't give me a month, it doesn't give me three months, but the time to look at the cycle of distribution, it's important.

So these are examples. By the way, that one didn't come from the refrigeration engineers. It came from electrical engineers, with no moving parts, no compressor. So we can get into detail, but my point is - Unless you create the vision, the direction and look in areas which you haven't traditionally looked with these partnerships, you're not going to solve this equation.

Marc Van Ameringen

Just come back on one thing. You know, many of the players who work in the nutrition space often say they're a little confused when they look at a company like PepsiCo or other of your competitors, and why they're not able to provide more nutritious products at the base of the pyramid. And the answer that often comes back is - too expensive; you can't recover the costs of nutrition by providing these products at the base of the pyramid. I mean, just use your cooler example. I mean, where are we in getting these affordable, high-quality nutrition products? Because I know as we've said earlier, more and more people are going to be living in cities, more and more people are going to be consuming industrial foods. How do we get those products to those people?

Mehmood Khan

Well, we're going to have to think of this two different ways. One is - look, a lot of discussion goes on about rural poverty, and you've touched on one that I'm particularly interested in. Fifty percent of the world's population lives in cities. By the year somewhere around 2050, two thirds will. Ironically, it's a developing world issue. By that time, of the 25 to 30 megacities in the world, 2 will be in the developed world, and the other 20+ will be industry the developing world. And in that developing world with the 20 million population in that city, getting food from farming communities into the middle of that city where these people who are hungry live, it is not going to be by organic farms. It is not going to be by local farming.

You have on average two to three hundred miles of distance between the producer and the consumer. And unless we figure out cheap production, the right agro crops, which means their governments have to align, the right way of distributing it, we cannot use our usual methodology. A 16-wheel truck is not going to go through the downtown area of Sao Paulo, Mumbai, Shanghai and get into those little communities - or Manhattan, for that matter. You cannot. Anybody try driving in Manhattan? Try a 16-wheel truck delivering your groceries - it doesn't work that way.

So we need to, which is why I've become particularly interested in leveraging our expertise to say - this is going to be a new equation, new scale.

But I'll end by saying - It starts with - Are we growing the right stuff? And that's with the governments. It's with the ministers of agriculture talking, the ministers of health; because when a ministry of agriculture is incentivizing one type of crop and the minister of health is saying, "No. We ought to be eating something different," the first thing I do when I go to Washington is say, "How come you two aren't talking?" Because I as a food producer will

produce ultimately the commodities that are grown, which in turn is what the governments are incentivizing farmers to grow.

We can get into that in more detail at another time.

Marc Van Ameringen

Thank you. Jeff, Richardson, the Abbott Fund has done some really innovative things. I mean, one project that I'm very aware of is the Haiti project where, with a number of partners you're producing therapeutic, or supporting production of therapeutic foods, relying on the local value chain. Can you tell us a bit about that model and what you've learned from it?

Jeff Richardson

Vice President, Abbott Fund

Sure, thank you. Again, I'm with the Abbott Fund, which is the philanthropic arm of Abbott Laboratories, and I oversee the international giving programs, primarily nutrition, HIV AIDS and neglected tropical diseases. In this particular instance, we have a great partnership with Partners in Health, and Zanmi Lasante, the local NGO that works closely with Partners in Health in Haiti, also with TechnoServe and getting some technical advice from FSG, a Boston-based consulting company.

And what we're trying to do here is to produce the RUTF for malnourished children in the Partners in Health catchment area; about 1.5 million people are in that central plateau area in Haiti. But what's different about producing and scaling up their current production of what they call "nuri mamba", we're also going to build the plant in such a way that they'll be able to make peanut butter and that the profits from the sale of the peanut butter will sustain the nuri mamba, which will always be distributed for free.

So we're looking at those kinds of models where we can actually build in sustainability to this project. Now, this is a very hot topic in my world, in the philanthropy world. In fact at the last couple of Global Philanthropy Forums, this intersection between social enterprise and philanthropy has been at the top of the agenda. And so I say with great enthusiasm what we're doing with Partners in Health, but I also say with some humility it's still a work in progress. And so we'll see how the commercial piece of this works out.

We know how to build nutrition plants. That plant will be completed by the end of the year. It's over a \$4 million investment. We have a number of people working with us from Abbott, which is also new and which is also a very hot topic in the philanthropic world. We're looking at bringing in more and more people and more of our projects. But specifically in Haiti we're working with our Abbott nutrition scientists. We're working with Abbott engineers who have actually overseen the building of this 18,000 square foot plant. We're working with global purchasing people from Abbott, which are helping to secure different products as well as equipment for the plant and with Abbott marketing folks who are going to help us design and develop this commercial plant.

We're doing a similar kind of work with PATH in India on a fortified rice project. We're also working with Project Hope at the Shanghai Children's Hospital and with Boston University School of Medicine, with Bachma Hospital, the National Institute of Nutrition, and the

University of Medical College in Hanoi, and also a nutrition project that's basically saying food is medicine and institutionalizing good, nutritious meals in hospital settings as part of the overall offering of services, if you will, at the hospital.

So there's a lot more to talk about, but we are looking at new and innovative ways to advance the nutrition agenda and where appropriate bringing in our core competencies from Abbott, as well as our dollars from the Abbott Fund.

Marc Van Ameringen

Thank you very much. I think if we look at how we're going to feed billions of people, address very difficult challenges like malnutrition, stunting, underweight, we really need to start to look at – What are some of these new integrative models? And I really want to turn the focus on asking the panel members – What are the best bets in terms of these models? And what do we need to have in place to make them work? We need to go to scale. We're not looking at boutique projects here. We need scale. So what are those models, and what needs to be in place? Is it new partnership platforms? Is it concessional financing? Is it new technology partnerships?

I was at an event that the Prime Minister of the UK held at the end of the Olympics where you had many players committing to a new R&D platform. Is that what we need to, in a precompetitive way, not with number companies coming together? Or is it a big focus on the regulatory and policy environment? What are the things that are preventing us from getting these models going? And what do we have to start to build?

There's a lot of great examples in the global health area that haven't yet really been applied in the food and agriculture area, where we've created many vehicles that have been extremely successful. And maybe we have to start to look to some of those.

So let me first start with you, Honorable Minister.

Florence Chenoweth

Well, as I said before... In fact, I like the topic, "integrated." So all of the things you mentioned, we need to do them. We definitely need to scale up. We're not going to feed all the expanding population doing business as usual in many of these places where the hungry are in fact, or the number of hungry are growing. So you have to scale up – I agree with that.

But you also need to have the policies and the regulations in place. So all that you mentioned, one needs to do. Our governments have to be involved. Governments have to encourage partnership. But one thing I'd like to point out, that part of that partnership has to be the people themselves. We're not going to do it and talk about sustainability if we are going to build around a system that will do it for people, that would give all of these things to people free. We're not going to get there. Sustainability, giving free, shouldn't be in the same sentence.

So what, even though like I like your idea that people have something to bring to the table; they have some resources to bring. Let's look at integrating the nutrition, and let's look at the model we are using of feeding children at home, under five, and/or at school. Working with the World Food Programme as a partner, working with the government as a partner, working with the mothers, the farmers as partners, everybody trying to do all this. The farmer is involved in an

education program, that teachers about nutrition. It's supported by both agriculture and health, so she is involved or the family is involved in growing those crops, for example, that will go into the school feeding but also be used. Help with their nutrition, people teaching them how to use the product. And it's a win-win for everyone.

So it has to be - why is it working? Because it's part of a policy direction, and then you put the regulations in place. Some areas require regulations that have to even be rectified and made into law, but not all of them do. Scaling up, you must do. In many places, the movement of products from one point to the other - and I love your story about refrigeration, because in areas like ours, where you have long distances in between, you have roads that become impassable, and even if you are able to pass, as he said, the shelf life of the product deteriorates.

So the model that we are using at this point in time is to localize some of those processing, production. Your example of the poultry is one that we are using also. Localize it, get things moving, and then expand it. Oh, do I know about the urbanization. One third of Liberians live in the capital city alone. And so you do have to face up to this problem of urbanization. But it's just bringing everybody to the table, making them feel that they are partners. And the public/private relationship has worked. We only are looking for more opportunities for this kind of relationship, because that's what you need for the scaling up.

Marc Ameringen

Is this a model that we can replicate in other countries in Africa or elsewhere?

Florence Chenoweth

Well, as I said in the beginning, it has worked for us. We have been able to drop our undernutrition or malnutrition from 53% to now 41%. We're able to feed our children in 1,800 schools totally on locally produced product. And who's doing it? The small farmers. It has a partnership with government. We buy the products from the farmers. We work with them on training them skills for food production, and then we buy it from them. But that woman is also involved in adult education. So now in six years, seven years, she can read, and she can write her name. She can sign her name. She has a bank account. She can understand the money transfer, because it's all by telephone. And she knows how to. So it's education, it's the health, it's the nutrition, it's the package coming together as one.

Marc Ameringen

Let me turn to Jim. What do you see as the best bet if we really wanted to focus more on...

Jim Gerardot

Just to build on Her Excellency's comments, I think the best bets are those where the local need is really clearly identified. Because in some cases supply chains are pretty well developed. And in other cases they're very underdeveloped. So what we try to do in our best bet has been, by understanding that local need and situation, then getting that collaboration around what you're trying to achieve first, set the objective, and then find out holistically how you're going to be able to pull it all together so all the pieces of the puzzle will fit and work.

If there's one missing, that's where you get the challenge. So in some cases we have a big challenge because the finance piece is missing, or we just don't, we can't, we haven't found the right group to sell in to support the financial infrastructure. In some cases the technology piece is missing; we don't have the experts, so we have to go out and reach out and find them.

But once we kind of establish and set the local objective of what we're trying to achieve and then we can be the catalyst to identify those components where we need to bring into the discussion, we start to find all the elements. It may take time. You know, as we were scaling up our Chad project, it took two and a half years to get that collaboration. It'll take another three to five years to finish the project.

So you have to be consistent, you have to be tenacious, and you have to sell a lot of people. And that's what I like about the World Food Prize environment. As we go out, think about the people you know that you can bring in in the process, find the objective, pull it together in a group, and sell everyone to collaborate. And we sometimes miss the fact that that's not always easy but definitely what we're finding is the most appropriate way to get the best results from whatever footprint we try to scale. So those component pieces need to be into play, but always start at that stage of - What is the objective for that local situation you're trying to achieve actually?

Marc Ameringen

Thank you. You know, I think the time issue is really an important one. I think certainly with the programs that we've financed over the last ten years, we've found that a lot of these programs, to get to scale, and they reach over 600 million people today, it's taken eight years to get to scale.

But for the private sector eight years is a lifetime. They're often looking to make a profit on a brand or a product in 18 months. Mehmood, could you tell us a bit about - how do you look at time to get some of these achievements underway? And how do you make these business models work?

Mehmood Khan

Well, I think your comment about the private sector and the pressure to get a return on investment in a relatively short time is partly true. I think that's true for a division or an operating business, from that business unit point of view. But the role of corporate and the role of the corporation and the senior leadership is to think strategically much further out. And I can give you several examples of that.

For example, when we looked at growing our business in China, ten years before we had the business we were teaching farmers in Mongolia how to do drip irrigation, create the farming capability, create the supply chain for a future business that we were going to actually launch the businesses on the eastern part of China, Shanghai, all the coast. That didn't happen in a year; that was a decade. But knowing that this was a growth area strategically was very necessary. The same in South Asia, a lot of attention now to Africa for the same reason - Africa is going through rapid transformation. And companies that have the foresight to look at this have done this repeatedly.

But let me add two points that I think often are forgotten. One is – this is not just about growing more food. The best estimates out there say the world’s population gets to nine billion; we’ll have added somewhere between 20 to 30 percent more people. If we do this and we continue our current ratio, we’re going to have to increase food production by about 50 percent. The planet can’t produce another 50 percent of food. Okay, so we’re going to have two choices: either use more of the food we’re already producing or starve this planet out of its resources, and we won’t have that capacity – I don’t care where we are.

So one is – We’re going to have to find efficiency in what we do, which means our usual way of doing things are possible. And then second, the economic challenges that are going on, not only in the developing world but in the developed world – take a look at Europe, take a look at the average person, and there’s 50 million Americans on food stamps. What are we going to do that keeps our products at a price range that is accessible? So accessibility is not just physical accessibility but financial accessibility. At the same time allow businesses to continue to have the profits to be able to invest to get the innovations like the examples I just gave.

You know what? That’s going to take a whole lot of different thinking. One of the things I’m doing as the chief scientist at our company is say – which other industries do I bring into PepsiCo? You know, it’s a crazy notion. Here’s a physician, a practicing physician sitting as the head of R&D PepsiCo. And yet I go to food meetings and a lot of meetings, and I say, I wonder how many people in this audience have got a background in health? It’s very rare. And I ask myself – why? Aren’t we talking about human health?

So I think there’s an opportunity here to really bring disciplines together, and I think you’ll have great ideas. The bottom line, though, is it can’t be old, expensive ways of doing things – cannot be sustained.

Marc Ameringen

How do you bring those groups together? I mean, one of the early programs that GAIN did seven years ago was putting a health person in the middle of NEPAD to try and bring health into CAADP. It’s very hard to – you sit down with agriculture permanent secretaries in Africa for many years. Now, it’s changing, but, you know, health was not on the top 50 of their priorities. They’d say, “Go talk to the minister of health.”

But also in the private sector you don’t see this. You’re a bit of an anomaly – how do we create this culture more that allows for this integration of disciplines?

Mehmood Khan

I think as leaders we set the precedent. My boss, Indra Nooyi, was having a conversation with Steve Jobs before he passed away a couple years back, and asked, this was a dialogue around what was important. And there was a question on which parts of the organization were important to any leader. And the first question Steve Jobs said was, “Does that function report to you directly?” And if the answer is, “No,” it’s not important to you. If the answer is, “Yes,” as a leader it’s important to you.

So one of the things I take out of that familiar a very insightful business leader is, as I look around my organization and say – which parts of my organization should be immediately

reporting in to me? – if they’re really that important strategically, I’ll do that. And that does two things. One is it puts it on your radar screen. The other, it sends a very strong message to your organization, whether you’re a for-profit or not-for-profit, of what is important to you as a leader.

How about we start there? As leaders, we ask ourselves – Who do we surround ourselves with, and do we have the shared voice that we need? All too often we espouse something is important, and then when you look at a leader’s executive staff, you sort of see this gap, and you wonder – I wonder how important that really is.

Marc Van Ameringen

Jeff, I wanted to turn to you. You know, there is... Many people think philanthropy could play a much bigger role in picking up the risk of introducing a lot of these new technologies, a lot of new business plans where the market is not prepared to cover the risk. Do you see philanthropy playing that role? I mean, can you see de-risking more as something that can help move us along with some of these models?

Jeff Richardson

Yeah, I do, and I think just to build on the last point – When I was brought on to the Abbott Fund, prior to that, from 1951 to basically ‘99, all of your giving was domestic and primarily in the Chicago area. And so when the new CEO came on, Miles White, earlier in the year, he basically said, “I want to globalize not only the business but also the Abbott Fund.” And so that’s when we started our international work. So the leadership piece is key there.

But we have gotten really a broad mandate to do exactly what you’re saying, to take risks. And so, for example, when we started, AIDS was our primary focus early on. With the Baylor International Pediatric AIDS initiative, we opened the first clinic ever with them in Romania, which some of you may know, it was the only country in the world that had more children with HIV than adults. And there’s a longer story behind that, but that was the reason that Baylor started there.

That program now has eight clinics in seven countries and serving over 125,000 children and young people who are living HIV and AIDS. And I’m happy to say that I went back for the tenth year anniversary in Constanta, Romania, where the clinic was, and I was surrounded by now a lot of young people who have families and jobs, are in college and that type of thing. And that’s part of what needs to be done with foundations, and I would say companies, when you’re – back to your point, Marc – when you’re in this you have to commit to be in it for the long haul. We are still the largest... our largest grantee, I should say, is Baylor College of Medicine. But because of all their great work now, we’re less than 15% of their overall budget. And so we made that commitment.

And there’s other examples of that. We went into Tanzania with a very small project on AIDS, orphans and vulnerable children. Now, eleven years later we’ve invested more than a hundred million dollars in Tanzania in helping build up their healthcare infrastructure and systems because of that experience. Again, we now have a 20-person office in Dar es Salam, more people than we have in Abbott Park, Illinois.

So if we have a good connection, we're making a difference, we have measurable results, we can do, I think, remarkable things. I mentioned the Haiti project before. We just do have in the deep end of the water here. We're not sure how it's going to work out. But we've had that kind of permission, if you will, from leadership at Abbott and within the Abbott Fund to do just that.

Let me just say, and I know we want to get to questions too, but if I can quote my late father, one of the things that he said that I think also resonates with a lot of my fellow donors and grantees – *It's amazing how much you can accomplish if you don't care who gets the credit.* And that is really essential when you're doing this kind of work, is just get the work done.

You know, Abbott... (I got choked up thinking about my Dad, sorry.) What's amazing to me, oftentimes I have people say, "Why doesn't Abbott talk about what they're doing?" And I just feel that all too often... we're very proud of what we do, and I do it at these kind of forums, and I'm glad to talk with anyone anytime about it. But I do think there's so much emphasis on the public relations piece of the work and whose name is on the building and all of these kinds of things. So I just think if people can get into this work and look at again what are we trying to accomplish, what kind of impact we're doing, and also know that failing can also be a positive thing – we can learn from that, and we can actually do this.

And I can say again with this whole Haiti project, this whole commercial piece might go belly up. I hope it doesn't, of course, because we're very enthused and excited about it. But I'm so proud of Abbott and the Abbott Fund for doing it, not knowing what the outcome might be. And so I think that's also key to success.

So first to your point of being in for the long haul, but also taking risks. And I think at the Fund – and I know a lot of my fellow philanthropists, if you will, also have that kind of permission to do that – and so in many ways we can be a catalyst for change.

Q&A Session

Van Ameringen Thank you, and that was a great comment. I'm going to turn to the floor for questions. And while people are thinking about their questions, I'm going to ask the minister one other question, because many people who look at a lot of these models, which are focusing on markets and say, "Well, that's great, but a lot of the people you're trying to reach aren't in the market. They're too poor to be in the market. They're not consumers - yet, and they're earning less than a dollar a day, and they're barely hanging on." So what's your model offer for these people?

And, Minister, you said part of the new model in Liberia was to have rations in the home and a big investment on school feeding. So that to me implies we need subsidies of some kind, or does it mean that we can build these into the models to reach those people?

Chenoweth There are no rations going into the homes. The farmers are paid a fair market price, and so they have some buying power. But the farmers also retain part of their production for home consumption. What goes into the school is part of the school feeding program - one hot meal a day or something. So now that I cleared that there are no subsidies to the farmers when we take their product. When we take their product, we pay them cash, at source, in fact.

Van Ameringen Is there no need for subsidies?

Chenoweth There are needs for inputs. Now, we're not, we do not have the means to provide the subsidy that we need to provide. If we did, we would be subsidizing the inputs to increase the production level. But when we provide the first planting material, because seven years ago nobody had planting material. We started off, if you can imagine, with a country that had no seeds to plant, no germplasm, no animal life.

Over 26 years, anything that moved became dinner. So there were no animal life, so we have had to restock, we have had to multiply by bringing seeds, multiply them to get to the point where we are now - with our major staple, rice, we're self-sufficient in seed production. So those seeds are not given. The first sign to a farmer, thereafter, a very small farmer, thereafter, 20% payback on the seeds so that we can share it with another farmer.

Van Ameringen Well, I see a long lineup for questions there. We have ten, about ten minutes, so I think I'm just going to ask those people already standing up to just say their question really quickly, and then the panel can respond to all the questions at once. But we've got to be really short, given all the people, so please, and maybe introduce yourself.

Q Hello. My name is Dr. _____. I am a physician, and my question is for Dr. Mehmood. I would want to know, because as a physician when I look at food, I'm looking at it as energy as well as the information at the cellular level and how it's going to impact our health. How are we going to bridge the gap between massive production of food to feed the whole world and at the same time maintaining the health that we need as human beings in order for us to progress?

Van Ameringen Wait. I was going to take all of them, and then we'll do them together. Yeah, sorry. Otherwise, we won't get through them.

Q Sarah Delaney. I'm with Episcopal Relief and Development. Mehmood, you mentioned with the growing population, particularly growing urban population, that we need to be growing the right stuff. Just curious if you could elaborate in your view what that is and why or if anyone else has an opinion on that.

Van Ameringen Question from the back.

Q Question for Dr. Kahn. I applaud your development of this low-cost refrigerator, very exciting news. I'd be interested on your thoughts on - How do you see, presuming the beta trials are successful, how do you see scaling this partnering to actually get manufacturing and distribution throughout the world? And secondly, is this technology also amenable to scaling for producer wholesale capacity cooling chains?

Van Ameringen ...stop after this next one, because they're all for you, so it should be easy.

Q I'm Craig McKenzie from New Zealand. I'm a farmer from New Zealand. I'm here as out of the Global Farmer Roundtable. You made a comment about being able to be

sustainable, and then you also made a comment about being able to buy cheap food to be able to get it through the food chain, through the line to be able to deliver it to the cities. I think one of the things that's very important to remember, that farmers need to be profitable, along with everybody else, and if they're not profitable, then this whole business is not sustainable.

Van Ameringen Maybe I'll just ask Mehmood to respond to the first three, were all directed to you.

Khan Which order?

Van Ameringen Your choice.

Khan The first one from my physician colleague – I think it's going to take an understanding of taking a look, first of all, starting with our staple crops. What are we actually growing? And does it have the mix of nutrients that we need? Continue that through, and our processing technology... And one of the things that was an "aha moment" for me when I went from healthcare pharmaceutical industry to food industry is, processing food today is about adding heat. Everything we do to food is heated up to various degrees. And yet if you ask any food technologist or food scientist, heat is the enemy of many of our micronutrients. And yet, why do we heat? We heat to desiccate, dehydrate, and by dehydration it increases shelf life. At the end of the day most cultures will use heat and dehydration of some way of preserving their food to be able to be consumed after their harvest. Keep that simple thing in mind, and you tell me that we don't have the technologies or we don't have the ability to develop technologies that could get around that?

How do we go from heat extrusion to super-critical carbon dioxide based extrusion? By the way, I didn't know a thing about this until my engineers told me. But if I can invest behind that and lower the temperature, adjust the pH, there's a number of levers we can do will change the supply chain.

That was the first question. What was the second question you wanted me to touch on, refrigeration?

Van Ameringen It was the balance between what's required globally in terms of food...

Khan You know, it's interesting. Would you let me be provocative, and if you talk to my staff, they'll tell you I'm never shy of being provocative. You know, we have some choices to make, and some of them are very fundamental. Let me give you a statistic. Somewhere just over 40 million hectares of arable, high-quality land on the planet today is used to grow tea, coffee chocolate and palm oil – 40-plus million hectors – tea, coffee and chocolate.

If you had to choose as a country between feeding your people and growing one of these cash crops, who should make the decision? Is it about increasing land use, or is it making choices of what we're going to use, our precious resources of land and water? I'm not trying to judge one way or the other, but these are examples of choices we can make.

Can we use corn and convert it to fuel, or do we want to use that same land and grow it for vegetables? It's a choice. Does our Department of Agriculture want me to grow corn and sell it, or do I grow broccoli. No, I know if you're President Bush, that's not palatable, but you can make that choice.

So some of this is really about choices, and I don't have the time to go through, but I can go through line by line through the supply chain and give you examples of where we make these choices. Ultimately, I'm convinced it cannot be based on the choices we've already made and scale those.

Now, the third question was on our refrigeration technology. Look at the beta point. The first point for me when I commissioned this project was to make sure we went out of the box. We went to our traditional suppliers and said, "Could you find us a way of making a refrigerator the third of the cost?" It wasn't any surprise when procurement came back and said, "No supplier says it's possible." Well, of course, not. If you go to the usual suppliers, how are they going to tell you they can make the same thing for a third the price? I'm no MBA, but it sounds sort of like a poor business model.

Now, the other way is, I took a group of engineers who are not the traditional ivy-league engineers, but we took one good leader who actually wasn't an engineer - he was from our operations department - sent him to India and put him right in the heart of the engineering institute's ecosystem in India where they know something about reverse engineering and low-cost engineering. Because as an ecosystem, as a country that had no choice but a necessity to figure out low-cost ways of doing things. I bet you if we went to Africa, they'd have ideas.

And my point is - first start, do not assume your arrogant position that, because you have high institutes of education in one part of the world, that all the best brains and ideas come from there. We learn those applications.

The second is - take some of your smartest people from this part of the world, put them right there in an ecosystem that thinks differently, and that combined thinking will come up with ideas.

Now, how are we going to scale this up yet, I don't know yet. First thing was, was it even possible? I shared with you that they showed it could be done. The second was, as I said, the idea actually came from electrical engineers, not refrigeration engineers. Electrical engineers were using these types of technology to lower the temperatures of their processors. Ah, I wonder if we could use it for food?

Could we scale it? Yes, but maybe the manufacturing base is going to be a very different manufacturing base than what we might have gone to in the past - or, we've just transformed an existing manufacturing industry who has got an installed base of capital that may or may not be applicable. These are some very critical thinking as we think about scale-up.

And the last point is, of course – who's going to provide the capital? Because what you're actually asking for is write-off of one type of capital investment and creation of another to change the operating costs of all of that.

So I hope that at least gives you some insight into the thinking.

Van Ameringen Thank you. We have two and a half minutes, so for those last three questions, I think if you can just quickly say what they are, it's going to have to be very fast.

Q Very quickly to the minister of agriculture as well as to Dr. Kahn. I'm an alumni of PepsiCo and now working for the minister of agriculture in Nigeria. How do we attract PepsiCo in terms of investing in the staple crops that we have made high priority in Nigeria?

And to the minister, how are you attracting investors from multi-corporations to come to your country?

Q Hi. My name is Carrie Kisler. I'm a student at Iowa State University studying these issues. My question is for the entire panel. What sort of advice do you have for someone like me or my peers about what we can do to help?

Van Ameringen Thank you. Last question, really fast.

Q Thank you. That's a great one. Jennifer Rigg with 1,000 Days, which we've heard about focuses on that pregnancy to age two critical window. So my question is – Over the next year what can we do in terms of tangible steps to ensure that our work to scale up nutrition is reaching that critical, cost-effective window. And in particular, which things would you each like to see happen in the coming year that we could report back on at the next World Food Prize. Thank you.

Van Ameringen That's a big question. We need a panel on that one to do, but 1,000 Days is top of everyone's priority, I hope. But we have really just time for about 20 seconds, each of the panel members just to address the questions and say any final thoughts. So I'll start with you, minister.

Chenoweth There were many, many of our citizens that were pessimistic that in our environment of 26 years of unrest, coming out of that, we would not attract foreign investment. Well, our country is led by a Harvard business ... She's an economist. And so we all put our heads together and decided we should first of all get the regulatory requirements that we need to change to attract business, get the policies right. Six years later, we now have \$17 billion worth of foreign investment in Liberia, of which just about \$5 is in the agricultural sector.

Gerardot Yeah, Marc, I wanted to take one, which was very interesting, the young lady on what can you do to help? You just did it – you're right here, and you've listened to the dialogues. The biggest challenge to agriculture is the human capital component, the ideas that can drive new innovation, that can understand the local needs, bring that together.

And it really starts with the human capital. Because again I started with, I'm a farm kid, the farms are not growing. The small farms are starting to collapse, so we need more people like yourself that are here and interested and that'll jump in, you know, pop the bubbles and pop the bubbles of other people, bring them together. So you've already taken the big step.

Now the question is back to you. Now, hearing what you're doing, how are you going to get involved? What part of the industry will you take up? And how will you move that forward from a leadership perspective? Because we need that leadership, we need that thinking, and we need the passion. The passion is the most important thing. You know, as a farm kid I had the passion to get there. I know it's going to be difficult, but to work all together to try to do it. So make it happen. I'll challenge you with that.

Van Ameringen Two last sound bytes here.

Khan I guess my sound byte would be – you know what? For the leaders in this room, make it easy to take risks. One of the biggest problems we have is our anxiety and fear of failure, and yet there has never been a great idea that's broken through without a history of a series of failures. My résumé is made up of 90-some percent of failed ideas with a few successes, none of which were my ideas. I usually tell my students, I've made a career out of recognizing other people's ideas and letting them have a chance. And you know what? Maybe it's – let's go back to that – it's political risk, financial risk, technical risk. We've got to learn to take the risk if we're going to move forward, because without it, there's no progress.

Richardson One of the great things about these conferences is that you get to meet other people, and I was at a great table last night, purely by accident, with the Future Farmers of America. And it was just a really great group, and one of the people I was speaking to basically said that their overall mission in working with young people is first to increase awareness about what they can do, then get them engaged, and then turn them into advocates. And I thought that was a great way to describe to young people – and we support a lot of these student groups as well – to young people what they can do. So increase awareness, get engaged, and be advocates. Thank you.

Van Ameringen Thank you. It's been a great panel, and give a round of applause. I mean, I do think there's a lot of optimism, I think, came out. There's a lot of new models that we can try, and I think the last message is about taking risk and trying them, and let's not be worried about failure. A lot of these are proof of concept. So thank you.

Ambassador Quinn

This was great. Thank you so much, so wonderful, so many good ideas and so many insights. I've got a résumé full of failures as well, Mehmood.