S. Hrg. 112–278

FOOD FOR THOUGHT: THE ROLE, RISKS, AND CHALLENGES FOR AMERICAN AGRICULTURE AND THE NEXT FARM BILL IN MEETING THE DEMANDS OF A GROWING WORLD

HEARING

[BEFORE THE]

COMMITTEE ON AGRICULTURE, NUTRITION AND FORESTRY UNITED STATES SENATE

ONE HUNDRED TWELFTH CONGRESS

FIRST SESSION

MAY 26, 2011

Printed for the use of the
Committee on Agriculture, Nutrition and Forestry

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FOOD FOR THOUGHT: THE ROLE, RISKS, AND CHALLENGES FOR AMERICAN AGRICULTURE AND THE NEXT FARM BILL IN MEETING THE DEMANDS OF A GROWING WORLD

Thursday, May 26, 2011

UNITED STATES SENATE,
COMMITTEE ON AGRICULTURE, NUTRITION AND FORESTRY,
Washington, DC

The committee met, pursuant to notice, at 10:21 a.m., in Room 216, Hart Senate Office Building, Hon. Debbie Stabenow, Chairwoman of the committee, presiding.

Present or submitting a statement: Senators Stabenow, Conrad, Nelson, Brown, Klobuchar, Bennet, Johanns, Lugar, Boozman, Grassley, Thune, and Hoeven.

STATEMENT OF HON. DEBBIE STABENOW, U.S. SENATOR FROM THE STATE OF MICHIGAN, CHAIRWOMAN, COMMITTEE ON AGRICULTURE, NUTRITION AND FORESTRY

Chairwoman STABENOW. Good morning. The meeting will come to order. I am very pleased to be having our first official farm bill hearing and to have our distinguished Secretary of Agriculture with us, as well.

Let me first start by saying that my friend and Ranking Member Senator Roberts would certainly not want to miss the hearing today, but due to a death in the family, he has had to do that, and our thoughts and prayers are with him and his family. But I am very pleased to have joining me as the Ranking Member, as the person that will be leading our Republican colleagues today, Senator Johanns from Nebraska. Thank you very much for being here.

Senator JOHANNS. Thank you.

Chairwoman STABENOW. We appreciate it.

As the Secretary just indicated, we do have some wonderful Michigan red tart cherries for everyone, so please enjoy.

Senator Nelson, thank you very much for being here. Senator Brown, welcome this morning.

You know, the story of agriculture over the last 50 years is one of incredible productivity gains and impressive conservation achievements. Today, one American farmer feeds an estimated 150 people. Think about that. One farmer for 150 people. And despite all the economic and budget struggles over the last decade, agriculture has remained a bright spot. We continue to innovate. Farmers have become even more productive and they have become even

better stewards of our land and our water resources. And we are not only feeding the world because of that innovation, but we are showing farmers in every corner of the world new strategies to be more productive themselves.

Today, as we officially kick off the process for the 2012 farm bill, we are starting in a different spot than we have in the past. Instead of the usual discussion where we talk about each of the various farm bill programs, we are focusing today on the principles that are important for this discussion, the ability of American agriculture to feed the world, why that is critically important, how American agriculture can help the world better feed itself, and the risks and challenges that come with that, meeting the demands for better stewardship while producing more with limited resources.

We have some great witnesses today who will testify this morning, and Secretary Vilsack is here, one of our nation's greatest advocates for agriculture, rural development, conservation, and innovative farming, and we appreciate that.

Our second panel is made up of leading experts who will talk about the importance of getting the farm bill right for not only American producers, but for consumers throughout the world.

This first hearing of the 2012 farm bill is a great step down the long, deliberative road that this committee will undertake over the next year as we work to craft a bill that effectively meets our principles and our priorities and one that helps American agriculture continue to lead the world in productivity, innovation, and sustainability.

It is easy to take our agricultural policies for granted, to assume that without them, things would work just the same as they do now. But when we look back at history, we can only marvel at how far we have come.

I will use a current example. Today, people in the Western edge of the Oklahoma panhandle are enduring the longest drought on record, with over 240 days without rain. That is worse than the droughts experienced during the Dust Bowl. And yet, today, there is no dust storm. The topsoil is not blowing away. That is a testament to the good work our farmers and ranchers have done thanks to voluntary conservation efforts in the farm bill. There are many other examples of positive effects of American farm policy.

So as we get started with the hearing today, let us remember the 150 people who have food on their table today because of one American farmer. Let us celebrate the successes and recognize the challenges ahead. Let us keep focused on the principles, the goals, not the programs, that the farm bill should accomplish. And let us continue to work together to make sure that American agriculture remains prosperous and successful for years to come.

It is now my pleasure to turn to Senator Johanns for his opening remarks.

STATEMENT OF HON. MIKE JOHANNS, U.S. SENATOR FROM THE STATE OF NEBRASKA

Senator JOHANNS. Thank you very much, Madam Chair. It is an honor to be here, an honor to serve in a temporary capacity, at least, as Ranking Member for the purposes of this hearing.

I know I speak on behalf of all of us when I send my condolences to Senator Roberts and his wife, Franki, and their family, and I also know that he really wanted to be here, but family matters, the death in the family, called him away. He is disappointed to miss the hearing. I offered on his behalf to share a few remarks, and they will be very, very brief because I am anxious to get to our witnesses.

Let me also start out today and say, Secretary Vilsack, it is good to see you here. What an appropriate way to kind of kick off our efforts in farm policy.

Secretary Glickman, it is good to see you here today, also.

As this committee begins examining our current suite of agriculture and nutrition programs, it is always important to remind ourselves and identify the underlying reasons for those programs. Farming and agriculture is about supplying the food, feed, and fiber necessary—and energy—for a growing global demand.

The challenge facing agriculture producers worldwide, especially in the United States, is a very real challenge and it is a formidable one. We have already begun to see the effects of not meeting this challenge in places all over the world, but I would mention Egypt, Syria, and, of course, Africa.

With this in mind, why would the Federal Government ever want to do anything that would impair the ability of our farmers and ranchers, our growers, to meet the demands that exist for the future? Why would we ever want to do anything that would impact their ability to serve and meet the needs of a growing world?

We can spend a lot of time going through those statistics, but I think we all know them. The population is putting greater and greater demands on the United States farmer and rancher and grower to feed the world and provide the energy sources and the fiber sources.

I especially want to say thank you to the people at USDA who have worked so hard through the years to put us in the right place to get policy right. As we know, I worked with those fine folks for three years and they do so many good things.

I also want to thank our witnesses that are here today. We appreciate the opportunity to hear your testimony and to ask you questions and I look forward to that.

While we often think in terms of one five-year farm bill to the next, I would suggest that as we queue ourselves up to think about this farm bill, we think about agriculture's long-term importance in feeding a troubled and hungry world and how that relates to our national security and to our future. I believe it is a key part of that.

Well, I will wrap up by saying I associate myself with those comments from our Ranking Member that I just delivered. I do look forward to engaging in a farm bill process, I guess on this side of the table would be the best way of putting that, and I look forward to working with our Chair, as we did last time, in crafting farm policy, and since I have been in the Senate, on resolving the issues relating to the 1099 requirements.

With that, Madam Chair, thank you for the opportunity. I look forward to our witnesses.

Chairwoman STABENOW. Thank you. Well, thank you very much, and let me just say, Senator Johanns, that one of the things that I think is really terrific about our committee is that we very much focus together. This is not a partisan committee. This is a committee where we focus together on farm policy. We may have differences about which crops we advocate for or what we believe is the most important focus, but it is very much done on a bipartisan basis, and I see my colleagues here on both sides who have been so critical in crafting farm bills and we very much appreciate everyone's leadership and attendance today.

We have excellent panelists today, and in the interest of time, I will ask that members' opening statements be submitted for the record. We will recognize the Senators, as we always do, in order of appearance on alternating sides. We would like to thank everyone——

Senator BROWN. Madam Chair? Madam Chair?

Chairwoman STABENOW. Yes, Senator Brown.

Senator BROWN. I have to preside at 11:00. Could I just have 60 seconds now——

Chairwoman STABENOW. Yes, you may.

Senator BROWN. —since I will not get to the questions before I have to leave to preside.

Chairwoman STABENOW. Absolutely.

STATEMENT OF HON. SHERROD BROWN, U.S. SENATOR FROM THE STATE OF OHIO

Senator BROWN. Thank you, Mr. Secretary, for joining us, Secretary Glickman, too. Thank you for your work in helping with our ag research station in Worcester. Agriculture is still, as it is for most of us, the most important, largest industry in our State and research is a big component of that.

And thank you, too, for your interest in the ACRE program and what you have done in crop insurance. We need to figure out, as the Chair and I have talked and others who have interest in that program, in conservation programs and the ACRE program both in terms of the safety net, the work we can do together to strengthen that and make it simpler so that more farmers, particularly more corn and soybean farmers who want to enroll in it will be crucial for only saving taxpayer dollars and providing that safety net for agriculture in my State.

So I just wanted to say that, Madam Chair. Thank you.

Chairwoman STABENOW. Well, thank you, and we thank you very much for your leadership. Thank you.

Well, I am very pleased to introduce officially our first panelist, Secretary Tom Vilsack, no stranger to any of us. Secretary Vilsack is a tremendous voice for American agriculture in rural America, has been since the beginning of his public service in Iowa as a former mayor and State Senator and two-term Governor of Iowa. He has brought a wealth of experience with him to the USDA.

We look forward to hearing your testimony, Mr. Secretary. Welcome.

STATEMENT OF HON. TOM VILSACK, SECRETARY, U.S. DEPARTMENT OF AGRICULTURE, WASHINGTON, DC

Secretary VILSACK. Madam Chairwoman, thank you very much for that kind introduction, and to Senator Johanns, it is good to see you again, as it is all the members of this panel.

First of all, let me also add my voice to yours in expressing condolences to the Roberts family for the loss as well as all of the families in the nine States that have been devastated by tornadoes and floods recently. Our hearts and prayers go out to all of them.

I want to thank you for the opportunity to discuss U.S. agriculture and the next farm bill today. Many folks do not recognize it, but American farmers and our agricultural industry are responsible in no small way for the health and strength of our great nation. Not only do we rely on American agriculture for food, feed, fiber, and fuel, our agricultural producers also preserve our environment and help drive our national economy. That is why we believe and continue to believe a strong and effective safety net needs to be in place for those who need it.

Agriculture is responsible for one out of every 12 jobs in America, and while many sectors of our economy are running trade deficits, American agriculture has enjoyed a trade surplus for nearly 50 years. This year, we expect a record surplus and record agricultural exports should help support more than one million jobs across the nation.

What is more, the incredible productivity of American farmers and ranchers makes all of us more prosperous. American families spend only six to seven cents out of every dollar on food, less than almost any other nation. That means we can spend more on a nicer home, save for retirement, or fund our children's college education.

And American farmers have taken extraordinary steps to take care of our nation's natural resources. In the last 30 years alone, USDA has helped producers reduce soil erosion by more than 40 percent, and agriculture has gone from being a cause of wetland loss to leading the entire nation in wetland restoration efforts. Our farms act as carbon sinks, mitigate the impact of climate change. Our farmlands, pasture, and forests help clean the water we drink and the air we breathe.

But American farmers, as the Chairwoman has noted in her invitation to this hearing, also have a role in feeding a growing world population. They not only do this through historic productivity and record exports, but also through the development and embracing of new research and innovative practices and technology as well as institutional structures that can be shared with the rest of the world.

At USDA, we support farmers in both their domestic responsibilities and their international role. Additionally, the Department seeks to conserve the nation's natural resources, build thriving rural communities, and ensure that every American has access to healthy, safe, and affordable food.

So as we prepare to write a new farm bill, you will have to discuss how USDA continues to support these various goals. At the same time, there will be considerable external pressures on that process, fiscal and political realities about the size of the debt and deficit, and the tight budget they have inspired. I have no doubts that the next farm bill will be smaller than the one that was

agreed upon in 2008. In acknowledging that reality, I hope that this committee will give serious thought to your priorities for American agriculture and your priorities for USDA and to the values of the American people.

We at USDA are prepared to do as much as we can with fewer resources, but there is no doubt that cuts will have a real impact on American agriculture and on American people. There will be pain and everyone will have to sacrifice something. There are no easy cuts. Waste, fraud, and abuse are real, but they represent only a tiny fraction of the big budget picture.

Today, USDA is already being forced to make very tough choices based on the budget resolution that is funding us through the end of this fiscal year. As a result of those cuts and because I assume there will be more coming, I am asking top leaders at USDA to think creatively about how to do business. Are there changes we could make in structure, program delivery, staffing, or responsibilities that could improve our efficiency or the quality of service we provide? I want folks to look at this moment as an opportunity to build a USDA for the 21st century, one that does things differently and might not deliver all of the services that we do today.

And I would ask as this committee prepared to write a farm bill that you do the same. Let us know what your priorities are. Are there places where the private or nonprofit sectors can or should be involved? What are the results you want? Where should USDA focus its energy? And what are the resources you will be able to provide to allow us to meet the goals you have set for the Department?

When these elements begin to be settled, I would ask you to give USDA the flexibility to serve American agriculture and the American people as effectively as possible. While prescriptive programs are appealing, they can make it difficult for USDA to deliver the best results for Americans. Give us the flexibility and the time we need to adjust to make this big difference.

Please also recognize that we simply cannot cut our way out of a deficit. We also have to grow our way out. If we want to grow businesses, create jobs, and increase incomes, we need to make sure America is built to compete. We have to bear the cutbacks, but also, we must invest in our future so that we can strengthen American agriculture, rural communities, and the middle class while also growing our economy. In the end, the American farmer and rancher should be instructive to this body. The strength of American producers comes from their willingness to adapt, to work hard, to shoulder sacrifice, and to innovate.

As Congress moves to write a new farm bill with limited resources, I hope you think of USDA in a similar light. We are ready to adapt and innovate, but we need clear goals and the resources to get us there. I look forward to working with Congress, Democrats and Republicans, House and Senate members, to craft the next farm bill to serve as best we can with the budget we are given, American agriculture and the American people.

Madam Chairwoman, that concludes my statement. I would be happy to answer any questions.

[The prepared statement of Secretary Vilsack can be found on page 85 in the appendix.]

Chairwoman STABENOW. Thank you very much, Secretary Vilsack, and let me first start by indicating that I share and I believe the whole committee shares great concerns here as we move forward on the challenges in putting together a farm bill, given the discussions that are occurring as it relates to the very important need to tackle our deficit, as I think you and I both share the belief that agriculture has done its part, and done a very big part already before anyone else is doing it and has taken significant cuts in the current budget that was agreed to. So we have got to make sure that we understand the importance of rural America and the 16 million people that already work in agriculture and the need to grow. We are never going to get out of debt with 13 million people out of work in this country, and so we have got to focus on growing the economy and agriculture is a very important part of that.

So we have very challenging times to work on together and I appreciate your leadership in the tough challenges that we have got in front of us as we do this together. We will do it. We will do it to the best of our ability. But these are, I think, challenging times on the budget front.

Let me talk a little bit about the—and ask you a couple of questions concerning the lessons that we have learned from what we have done right in American agriculture, when we look at this farm bill and all the positive aspects of it and the efforts that we have put into R&D and the efforts around supporting production agriculture and conservation practices and stewardship and so on.

What are the top two or three lessons we have learned from all of that that we should be exporting and teaching to farmers around the world as they seek to improve sustainable production?

Secretary VILSACK. Madam Chair, I think one of the most important lessons is the importance of continued investment in research. We have not been able to be productive as we have been without the important research that is being done, both publicly financed research and also privately financed research. That is why I think it is important for us to continue relationships with farmers and producers across the globe, making sure that we can impart our technology and our knowledge as well as our food assistance.

The second thing I would say is that I think we all have a responsibility to continue to conserve the national resources, whether they are here in the United States or wherever they might be. And to the extent that we can encourage better conservation techniques, better utilization of scarce water resources, we might be able to be more productive and also create a better environment.

And then the third thing I would say is that I think it is important for the rest of the world to be willing to embrace technology. As we have learned, one of the ways in which we can be more productive is by using science to increase the capacity of plants and livestock to withstand pests, diseases. We have had extraordinary increases in productivity because of science. And I think we have to work very hard to educate the rest of the world about this science and accepting science so that there is not the fear or concern that sometimes prohibits or inhibits producers in other countries from embracing that science.

I would say I can answer that question in much greater detail, but that gives you a sense of what we have learned.

Chairwoman STABENOW. Thank you. Let us explore a little bit more about conservation efforts and better farming practices that have helped our farmers manage the significant risks that they face. What are some of the practices that seem to deliver, in your judgment, the most benefits to risk management for farmers and, again, top lessons as we look not only in our country but around the world in terms of where our focus should be.

Secretary VILSACK. On conservation specifically? Well, we are learning a good deal about the benefits of conservation through an assessment process that we have just begun to utilize in large watersheds. I think what we have learned is that while it is important to focus on individual operations, also, you have to have an integrated and comprehensive approach to conservation that focuses on large watersheds.

So, for example, we are investing resources in the Chesapeake Bay area and the Upper Mississippi River area, the California Bay delta and other areas. We have begun an assessment of how effective those conservation practices are. We have learned the following lessons.

One, that American producers are willing to adopt conservation techniques. They are voluntarily willing to adopt those techniques.

Two, that it is important that there be a suite of conservation practices. It is not just an individual conservation practice but multiple practices working in an integrated fashion that give you the biggest bang for the buck.

Three, we know that conservation is working. We see less soil erosion. We see less nitrogen and phosphorous, for example, getting into our waterways. We obviously have more work to do, and that we have got to integrate those conservation practices with also better nutrient management plans and programs.

I am encouraged by the assessments that we have done in the two areas. We are doing on in the Great Lakes right now and we will see what that unfolds. But when you look at 40 percent less soil erosion since 1982 and you see that there is a substantial less reliance on water resources because of conservation, these are practices and techniques that we can apply not just in the United States, but all over the world.

I would also say that it is extremely important to make sure that we have the resources and that we target those resources and that we provide the technical assistance. Conservation is really hands-on. You have got to have people working with the farmer personally to be able to have the best effect, and what we have seen in the past is a mismatch between the amount of resources being provided and the number of people being able to manage those resources. So we are trying to align that better at USDA so that we can provide more technical assistance and more hands-on efforts.

Chairwoman STABENOW. And finally, information I have read indicates that the incredible yield gains we have seen in the past decade may be slowing down. Is this an issue that the USDA has been tracking and analyzing, and do you have any insights as to what might be causing this, what we are working on in terms of solutions, and, of course, what is happening with the weather, of course, is also another huge discussion point. But speak a little bit about what you are seeing in terms of yield gains.

Secretary VILSACK. Well, I think the long term, I think that there are still gains to be had. We have seen enormous increases. Corn, in my lifetime, has increased 338 percent, wheat almost 200 percent, soybeans 200 percent, to give you a sense of the productivity gains. So, obviously, as we have seen these dramatic gains, what we are now getting into are incremental increases as we maximize our efficiency.

Having said that, I think that there are technologies that are being worked on in the private sector and in the public sector that hold great promise for a continued growth in productivity. The key here is to have a regulatory structure and system that allows those advantages, those technologies to get into production more quickly, which is why we are in the process of putting a Process Improvement Plan in place in APHIS to basically try to see if we can speed up our review of the regulatory impacts of these technologies to try to get them approved more quickly. We have had a backlog and it is something that needs to be addressed.

Chairwoman STABENOW. Thank you very much.

Senator JOHANNS.

Senator JOHANNS. Thank you, Madam Chair.

Mr. Secretary, I was heartened during your testimony by your reference to the safety net, the need for the safety net in appropriate circumstances for farmers. Let me, if I might, dig a little deeper on the whole concept of the safety net.

When I became Secretary in January of 2005, corn prices were, I do not know, $1.95. With Katrina, if you will remember, they dropped to, like, $1.60. I mean, it was a wild time. The concept of a safety net then was the Marketing Loan Program, the countercyclical program. Without those, farmers in Iowa, Nebraska, across the corn belt literally would have gone broke because they were farming and producing their crops and not even covering the cost of production.

Of course, that has changed today. Prices are strong. The carryover shown by the USDA is historically tight. It seems to indicate pretty good prices as we look into the next farm bill.

As I get around the country in Nebraska and talk to producers, it seems like they reference me back to the importance of the Crop Insurance Program as the mainstay, if you will, of the safety net, and I would like to hear your thoughts about that, because it occurs to me that we could leave the loan deficiency program in place, the Marketing Loan Program. We could leave the countercyclical program in place. It is not going to pay out much for most of the crops anyway, if anything. But it is crop insurance that we need to be focused on, especially with the disasters that we have seen this year, but disaster seems to be always a part of agriculture. I would like to hear your thoughts on crop insurance as kind of the bedrock upon which we build a safety net for the next farm bill.

Secretary VILSACK. Well, Senator, it obviously depends on what crop you are talking about, whether or not crop insurance is the vehicle for the safety net. But clearly, in the area that you have talked about, it is an important component. And so it is important for us to maintain the integrity and the viability of crop insurance

with whatever decisions you all make, and there is no question about that.

The reality is, though, that you have to couple that, it seems to me, with a disaster program that recognizes that as good as crop insurance can be, there are circumstances and situations where it is not enough, or there are extraordinary and catastrophic circumstances, as we are seeing now in States that have been hit very, very hard recently in the South and in the Central part of the country, where we need to basically have a way in which we can provide additional assistance.

At the same time, I think it is really important for everyone to understand that there are a number of different types of farmers in this country. There are commercial- sized operations for which crop insurance is vital, disaster assistance is important. But there are also relatively small-sized operations, operations that maybe they will generate less than $250,000 in sales. Those folks, in the second best year we have had in agricultural income in 35 years last year, will be lucky if they average $10,000 from their farming operation.

And you might want to say, well, you know, maybe those folks do not—maybe it is time for them to consider something else. But to me, we want to make sure that rural communities still are thriving. We want to see them populated with young families. We want to see folks get back into the farming business. So as you craft your safety net, I hope everyone keeps their attention focused on that middle group who struggle mightily, who work off the farm, whose spouse works off the farm, who want to stay connected to the land.

And so crop insurance is important. Disaster assistance is important. And we obviously want strong markets. We want to continue to promote exports. And, frankly, we also want to find more domestic opportunities to link those producers with local consumers so that perhaps there are additional opportunities for them that did not exist.

Senator JOHANNS. You are kind of, I think—and I could not agree with you more. I always said I grew up on one of those small farms, as you know, in your home State, and I just love all of agriculture. I love the small operator to the big operator. I just love agriculture.

But I think kind of what you are thinking about is kind of what I am thinking about, and that is that as you think about agriculture for the future and the importance of that safety net, and recognizing the severe budget limitations, I am hoping to encourage people to focus on the dollars that are available in the current agriculture programs and saying to ourselves, those dollars need to be committed to that because there is a better job we can do in crop insurance. There are some other things we can do. You expanded disaster relief beyond that. Well, what it comes down to is it just takes some money to finance that. Any reaction to that comment?

Secretary VILSACK. Well, it does take money, but I think we are obviously facing the fiscal reality that there is just not going to be as much money as there has been in the past. I have a—I have seen a chart, and I do not know if it is accurate or not, but over the last 30 years, if you look at real growth in spending by function in terms of outlays in constant dollars, agriculture as one of the

many responsibilities, whether it is defense or space and science or transportation, agriculture has pretty much flat-lined in that 30-year period, and I think that is really an important consideration as you all discuss how you allocate these resources and how you allocate the reductions.

Agriculture has been a good steward of the fiscal resources that have been provided to it. It has increased productivity. It has made food available and affordable. It has provided export opportunities. It has created jobs. You got a pretty good return for your dollar.

So, clearly, we are going to have to be innovative, and I think one place where we can be innovative, if I can just take a second, is in addition to the safety net, the conservation programs. I think there are ways in which we can utilize conservation programs to encourage more private sector investment, and we are working with the EPA in a way to try to figure out if there is a way in which we could provide regulatory certainty for producers when they follow a suite of conservation practices.

If you combine regulatory certainty and creating and being able to define the environmental results that you get from certain conservation techniques that somebody in the private sector may want to purchase, you now have a new opportunity to leverage those Federal dollars in an effective way, and that is what I think we are challenged to do. How do you leverage—how do you expand opportunities with those Federal dollars?

Senator JOHANNS. Thank you.

Chairwoman STABENOW. Thank you very much.

Senator NELSON.

Senator NELSON. Thank you, Madam Chair, and thank you, Mr. Secretary, for being here today and for your extraordinary service for American agriculture. We appreciate it so very much.

I want to continue with something that Senator Stabenow brought up more specifically here. The 2008 farm bill Environmental Quality Incentives Program, or as we all refer to it, EQIP, gave priority to water conservation or irrigation efficiency applications that reduce water use, projects where the producer agrees that associated water savings would not be used to bring new land under irrigation production, and proposals that improved conservation practices or systems that were already in place.

And while the Agricultural Water Enhancement Program has provided financial and technical assistance to help farmers and ranchers conserve ground and surface water and improve the quality on agricultural lands, the first question I have is, have these programs been successful in helping producers reduce or more efficiently utilize their water resources in their production?

Secretary VILSACK. The quick answer is they have, Senator, roughly, a 40 percent greater efficiency as a result of these programs, and it goes along with the additional soil erosion benefits from conservation. So the combination of the two indicates that they are working.

Senator NELSON. And it is as though I am seeking to get another positive answer here, which I am. And do you believe that EQIP is effective in balancing environmental considerations and the need to produce a reliable and safe food supply versus the alternative of additional regulations?

Secretary VILSACK. Yes.

[Laughter.]

Senator NELSON. Okay. And then the final question in this area is to what extent is the Department working to promote these more efficient technologies that we have developed domestically to help other countries that are facing astute or very acute water shortage problems themselves?

Secretary VILSACK. Senator, as part of the Feed the Future Initiative, we are focusing our efforts on capacity building, and one of the aspects of capacity building is taking our technical information and knowledge to countries and basically imparting that knowledge to farmers and producers as well as researchers and academic folks. We have, as you know, a very robust fellowship program with the Borlaug and Cochran Fellowships, which provide us an opportunity to share that information.

An example is what we are doing in Afghanistan, where we have got teams of folks from USDA working with USAID and with Afghan farmers to try to convince them to move away from poppy production to pomegranates or apricots or things of that nature, and we are beginning to see some positive results. Our focus is obviously limited by resources, but nevertheless, I think we are making a real impact with the transfer of technology and information.

Senator NELSON. Well, I think it is important that we continue to do that, because while only 17 percent of the world's arable land is irrigated today, it still produces roughly 40 percent of total output, so it seems that we are going to have to continue to try to get better water use and to limit the quantity of water that is used to produce the kind of production that we are expecting today.

Secretary VILSACK. Well, we are working and experimenting and researching various irrigation techniques which are being transferred as well as—and this gets back to the comment I made earlier—the importance of having countries embrace new technologies. We are working on drought-resistant seed, and to the extent that we can develop seeds that are more resistant to tough, stressful environmental conditions, the more productive folks can be around the world. But there has to be an openness and a willingness to embrace that technology. At this point in time, there is sometimes a reluctance.

Senator NELSON. Well, in China, approximately 1,400 square miles of land in the northern regions turn to desert every year, and, of course, this limits their production and creates a greater demand with less production. So I hope that we are able to find the willingness to follow our lead in China and other locations in the use of water to certainly conserve it.

Moving to another area that the Chair has referenced, biotechnology, I know that you support biotechnology and the benefits that it provides agriculture in being more efficient in meeting the needs of the growing world population. I really was appreciative of your efforts with Roundup Ready sugar beets when we were facing some challenges in getting that handled because of some court cases. Because of your efforts, I have heard often from my producers the frustration of the growing length of time it is taking for the Department to grant authorization for new products that have been submitted for review. Could you give us some idea of what

steps are being taken by the Department to perhaps approach this in a more timely manner?

Secretary VILSACK. Well, there are a greater number of these and they are far more complex than when we first started this process, which is one of the reasons why it is taking a little bit longer. We have done a couple of things.

First of all, as I indicated earlier, we are engaged in a Process Improvement Program in which we are trying to eliminate steps in the regulatory process that are duplicative or unnecessary.

We are also expanding the number of people that are working on this particular area. We have proposed, notwithstanding the budget difficulties, to reallocate resources in creating additional teams of people that can look at this.

We have also suggested that we can follow the same process that EPA and other regulatory bodies follow in encouraging or providing an alternative to us reviewing information, providing an independent contractor paid for by those who are seeking the regulatory relief to do a review, and then we at USDA would review the review, if you will, to ensure that its integrity—that it is solid and that its science is sound. This might speed up the process significantly.

Having said that, I think that there continue to be challenges, which is why we are trying to encourage dialogue and a conversation between those who have questions and concerns about biotechnology, those who wish to proceed in a different direction, which we also support, organic production. There needs to be a more serious conversation between those groups so that we can find common ground, and we are trying to facilitate that at USDA.

Senator NELSON. Well, as you know, the new biotechnology that continues to increase every day has resulted in far better yields in America than perhaps in other countries. Where their production has leveled off, ours continues to increase very dramatically because of these measures and the advancement of the biotechnology and the development of the seed grains and other plantings. So I hope that we can find ways to do it in an appropriate fashion. We do not want to make mistakes rushing forward, but we do not want to lose ground in the process, either.

So thank you very much. Thank you, Madam Chair.

Chairwoman STABENOW. Thank you very much, Senator Nelson.

Senator GRASSLEY.

STATEMENT OF HON. CHUCK GRASSLEY, U.S. SENATOR FROM THE STATE OF IOWA

Senator GRASSLEY. Thank you, Madam Chairman.

I want to read a short paragraph out of a statement I am going to put in the record before I ask questions.

The American family farmer is going to lead the way in producing food for the world, but we all know prices fluctuate, weather changes, foreign markets may be open and closed without much warning, all leading to unpredictability for today's farmers. Farmers have to have a good safety net and farm programs serve an important role as part of that safety net and we have to make sure that the farm program gets directly to the farmers that need it the most.

[The prepared statement of Senator Grassley can be found on page 13 in the appendix.]

Senator GRASSLEY. Before I ask a question, I would compliment you, first of all, in two areas that you have taken a leadership role in that I am glad to have a Secretary of Agriculture do that, in the area of civil rights and in the area of enhanced competition.

I want to start with a question where you left off on what you said in response to a question from my colleague, the junior member from Nebraska, about helping small farmers. I believe both in the President's budget, and I am not sure exactly what you have said about it, but we have proposals for hard caps on what can—payment limitations, I should call it. So could you comment, since you brought up the issue of small producers, comment on having payment limits better direct those farm programs so those family farmers that need them the most?

Secretary VILSACK. Senator, I think we are faced with a fiscal reality and we are also faced with an economic reality, and the fiscal reality is that you have got far less resources to deal with. The economic reality is, as Senator Johanns indicated earlier, prices are pretty good right now. And when you have the combination of those two things, you have got to look for ways in which you can prioritize where your resources go.

That is one of the reasons why the President has been fairly insistent that there be a reduction in the Adjusted Gross Income limits. Right now, you could, theoretically, have $750,000 of Adjusted Gross Income from your farming operation and another half-a-million dollars of income from non-farm sources and still get payments from the government. At a time when we are really challenged in terms of where the money is going to go and who it helps, it may make some sense for this body to take a look at that process, and the President has suggested that. I think you have, as well. This recognizes that these operations, these large operations, have substantial capital at risk, but they also have, in these good times, pretty good incomes, so——

Senator GRASSLEY. Yes. And I would like to suggest my willingness to work with you on that and the other members of this committee, as well.

Even though it is a little bit out of the farm program but it is very closely connected with prosperity in agriculture, I would like to have you discuss the continuing role of ethanol and its part in any farm bill discussion.

Secretary VILSACK. Well, I think this is extraordinarily important. I mean, first of all, the American consumer is the beneficiary of ethanol. We are now enjoying 89 cents a gallon less in cost for our gasoline because we have an ethanol industry.

We also have somewhere between 400,000 and 440,000 jobs that are directly or indirectly created as a result of this industry, and it is fairly clear that it also helps to improve the bottom line for the producers. So producers not only can profit from production of agricultural products, but they can also profit from processing.

It is also true that the process of ethanol production creates coproducts or byproducts which are very helpful to other aspects of agriculture, including the livestock industry.

So there are a multitude of reasons why we need to continue to have this industry, in my view, but we need to be able to expand it to meet the renewable fuel standard guidelines of 36 billion gallons. When we do, it is a million new jobs in rural America. It is $100 billion of capital investment in rural America. Rural America, 90 percent of persistent poverty counties are located in rural America. The per capita income differential is significant in rural America. The poverty rates are higher. The unemployment rates historically are higher. So we really have to pay attention and address the concerns of rural America, which oftentimes are sort of an afterthought, in my view.

The ethanol industry has provided real hope. It is a linchpin for revitalizing the rural economy. And my only hope is that as you deal with the fiscal challenges that you confront here, that you do not create a cliff for the support that has been provided to the industry, because when we did this with the biodiesel industry, we saw 50 percent of production end and 12,000 jobs lost immediately. So if there is to be an end to those support levels, there needs to be a glidepath and perhaps a redirection of those resources in a way that can help bolster this industry, provide a maturing industry firmer ground, and allow us the opportunity to expand the feedstocks beyond just corn-based ethanol to a wide variety of things that we think have great promise.

Senator GRASSLEY. I had the same question on crop insurance that Senator Johanns had, and so I will not ask that, but I do want you to know and the members of the committee to know that I think that is a very important part of the farm safety net.

The last thing I will end with, but this is not a question, it is just something to take into consideration along with all the other good things you said about helping food production around the world, enhancing it so that we can feed—not just rely upon American farmers, but farmers to produce for themselves, and that is the studies that Hernando de Soto has done about the very important role that farmers or anybody, even people living in the cities, have title to land and ownership of land and be able to prove it, that it is theirs, if you measure those societies that have that and those economies that have that versus ones that do not have it, you will find out that the productivity of people in those countries is much, much greater. And I am not talking about just Europe and North America, but there are other countries that are developing that have gone that direction and have enhanced their productivity very much and I think it would be very helpful for our government to be promoting that concept among governments of other countries as well as all the other stuff that we are doing.

Thank you, Madam Chairman.

Chairwoman STABENOW. Thank you.

Senator CONRAD.

Senator CONRAD. Thank you, Madam Chairman. Thank you for holding this hearing. It is a very good beginning to our contemplation of a new farm bill, which is extraordinarily important not only for the rural parts of the country, but the urban parts of the country, as well. I think, as every member of this committee knows, the vast majority of funding in the farm bill does not go to directly support farmers and ranchers, but directly goes to support nutrition

programs across America, that is felt in every community across our country, and I think it is important to remember that. Well over 85 percent of the funding in the farm bill goes for nutrition.

Mr. Secretary, welcome. Thank you for your leadership. I believe you have been doing a superb job. It is confirmed for me by the excellence of your testimony here this morning. I was just listening to you talk about ethanol and the review that you gave of the importance to our economy, not only our rural economy but the national economy of biofuels and ethanol specifically, I was impressed, and I hope others are listening, are paying close attention to the very thoughtful testimony you are providing.

I would just like to talk for a moment about America's competitive position with respect to our toughest competitors in world agriculture, which remain the Europeans, and what they do to support their farmers and their ranchers compared to what we do. I was just having a chance to review the most recent World Trade Organization data, and when I look at what the Europeans are doing on a comparison basis, it is sobering. If you look at the most narrow measure of support, on a per acre basis, the Europeans are outdoing us three-to-one. On the broadest measure of support, they are outdoing us eight-to-one.

So our farmers and ranchers are out there competing in world agriculture and the playing field is tilted against them, because, again, on the most narrow measure of support, the Europeans are outdoing us three-to-one on a per acre basis. On the broadest measure, they are outdoing us eight- to-one.

And I know they have a strategy and a plan to dominate world agriculture because I have heard them describe it to me, and their plan is very simple. They have got farm supports at a higher level than we do. They are up here. We are down here. They want to keep getting equal percentage reductions until we fall off the table. That is exactly their strategy and plan. And shame on us if we fall for it. But they are very good about this. They say, well, everybody is taking equal percentage reductions. They never point out, from a very unequal base.

The point of this is, I now look at the House budget that passed the House of Representatives, cuts agriculture $50 billion, by far the biggest percentage cut anybody is being asked to take, and I think we have got to ask the question, what is that going to do to the competitive position of the United States? If a budget like that were actually enacted—and it failed here in the Senate yesterday, thank goodness it did—but if a budget like that were enacted, what would it do to the competitive position of the United States?

I would just ask you, do you have concerns that in doing what we all know has to get done to get our deficits and debt under control, are you concerned that this could go too far? And let me just end by saying, the Fiscal Commission on which I served recommended $10 billion of reductions over ten years.

Secretary VILSACK. I want to make sure that I am clear about this. I do not underestimate the extraordinary difficult challenge that this committee and the Senate and the Congress have in terms of getting our fiscal house in order. I think agriculture has been instructive to the rest of the country that if you keep a lid

on debt, you continue to work hard and you embrace technology, you can be productive and you can be successful.

Having said that, I think, candidly, that the USDA has taken a disproportionate share of the cuts and we are now at a place where I have had a very serious conversation with all of the under secretaries. I suspect that Senator Johanns knows what those conversations are kind of like, where you essentially say, look, we are looking at potentially a 25 to 30 percent cut in our discretion budget. That means we really have to start thinking about what we can do as well as what we cannot do.

One area in particular is in the research area. At a time when we ought to be out-innovating and out-building and out-educating, as the President calls for us to be competitive, we are reducing our commitment to research at a time when we should be actually looking at ways in which we can leverage and increase our commitment to research.

This research is one of the reasons why we have higher productivity, because it is producing genomes. It is producing more information and knowledge. It allows us to be better. It allows us to be protecting our crops against pests and diseases. It is developing new technologies and new ways to produce crops more effectively and efficiently. It is really something that we really ought not to shortchange, and it is part of the reason why I say we have to also grow our way out of this deficit in addition to cutting our way. Investments in research, every dollar that you spend, ten dollars return.

Trade is another area. When you cut the Foreign Agriculture Service, it seems like a small thing, $10 million, does not seem like much. This is a relatively small part of our budget. Every dollar that we spent in trade promotion generated $35 of economic opportunity for farmers and producers and business leaders and job growth in the country.

So I think you have to be really careful about this, and I think we have gotten to the point with the agriculture budget, if this chart that I alluded to earlier is correct, we have been flat-lined for 30 years. The Defense Department has not been flat-lined. Health and Human Services has not been flat-lined. Science and technology has not been flat-lined. Transportation has not been flat-lined. And I am not taking anything away from all of those. They are very important. But when you look at our numbers and then you look at that chart, it is hard to make the case that somehow agriculture can give more.

Senator CONRAD. I just want to conclude, if I can, Madam Chairman, by saying this. Look, we know agriculture has to take reductions, as does every part of the Federal budget. We are borrowing 40 cents of every dollar we spend. It cannot continue. But it should not be disproportionate. And I am extremely concerned that we are headed in a direction where we could see disproportionate cuts to a part of the budget that, frankly, has not contributed to the deficit. We paid for the last farm bill. We paid for it. And I just hope that message is being heard in other parts of this town. I thank you.

Chairwoman STABENOW. Well, thank you very much, Senator Conrad.

Before going on, let me just indicate, as you know, that I feel strongly and agree with you on this question. We have already seen a net $4 billion contributed towards the deficit as a result of crop insurance cuts. We are seeing disproportionate cuts in agricultural research as a result of the way we are changing the way things are funded and the other cuts that, Mr. Secretary, that you have talked about. And I share a deep concern and am conveying that at every point.

The fact that agriculture is willing to do—we are willing to do our part in agriculture, but it is a mistake to undervalue the importance of agriculture to our economy and to the world, which is part of what this conversation is about, in terms of growing our economy and innovating and supporting our capacity to feed the world and to feed Americans, as well. And so this is a time, I think all of us who care deeply about agriculture need to be engaged in this discussion.

Secretary VILSACK. Madam Chair, could I just respond— just 30 seconds?

Chairwoman STABENOW. Yes, please.

Secretary VILSACK. When you realize that roughly 200,000 producers in this country produce 85 percent of what we consume, I challenge anybody in the country to show me 200,000 folks who have contributed more to the American economy and more to the American nation.

Chairwoman STABENOW. Well said. Thank you very much.

Senator THUNE.

Senator THUNE. Thank you, Madam Chair, and Mr. Secretary, welcome. Thank you. Great to have you with us.

I also am concerned about the perception that a lot of people have that the entire agriculture budget goes into production agriculture when about a dime of a dollar of agriculture actually supports the commodity title of the bill, conservation programs, and other programs that actually directly benefit production agriculture. I guess that is part of the job that we have in educating people, our colleagues included, about where that spending occurs.

You only have to look across the country this year, from the droughts that we have seen in the Southwest, you have got severe flooding in the Northern Plains, in the Midwest and in the South, and, of course, you have got record-setting numbers of tornadoes in numerous States, and you realize the incredible devastation that natural and weather-related disasters have on millions of acres of farmland and to poultry and other livestock producers.

From any perspective, and it has been talked about a little bit, the effective risk management for agriculture producers needs to be one of the highest priorities that all of us, I think, have on this committee as we look to writing the next farm bill.

But I did want to bring up an issue with you with regard to risk management that is a little bit more of an immediate concern and that has to do with crop insurance, which is a critical feature of the safety net across the country, and especially in my State of South Dakota. My understanding is that RMA is proposing a change specific to the Prairie Pothole region to existing rules effective for the 2012 crop year that basically would remove prevent planting eligibility for acreage that was not planted and harvested

in at least one of the three most recent crop years using recognized good farming practices.

This proposed provision has caused considerable concern in Northeastern South Dakota. I fully understand that there may be prevent planting abuses that RMA is trying to overcome with this policy change. However, I also believe that this proposed change has the potential to cause financial hardship on many farmers in that area and in North Dakota and Minnesota who have not abused prevent planting provisions.

Would you be willing to consider other alternatives to RMA's proposed change that would not allow continued prevent planting abuse, but that would still offer a certain amount of prevented planting assistance in those areas, assuming that prevent planting is an issue in 2012?

Secretary VILSACK. Senator, we are always willing to work with folks to try to get to the right solution. The key here is to balance the workability of the program with the integrity and the fiscal stability of the program. I mean, there are circumstances, unfortunately, where folks, because of the nature of their land, have had areas that have been, in a sense, flooded or ponds for an extended period of time who continue to receive crop insurance benefits when, in fact, they have never really for a long period of time been able to plant anything there. So I think what we have to do is figure out how do we separate that circumstance from the circumstance where it occasionally occurs and people are losing potential income.

I am happy to work—if your staff has ideas or thoughts, I am happy to communicate those to Mr. Murphy, happy to have Mr. Murphy come up and visit with you and your staff if you think that would be helpful.

Senator THUNE. That would, and we would love to have that happen because there are, I think, legitimate circumstances in which—and I understand what you are trying to target here and fully support that. But there are circumstances, and Northeastern South Dakota is a good example of one of those, where these rules have really, I think, gotten at farmers who are using recognized good farming practices. And, frankly, in Northeastern South Dakota, you have to understand, people have used analogies like pouring water on a pool table. It just kind of spreads out. The Prairie Pothole region is very flat and we have hundreds of thousands of acres now for consecutive years that have not been able to be planted. I do not think that the changes that are being proposed were directed at those particular types of producers, so I would like to work with you and your staff if we could do that.

Mr. Secretary, one of the provisions in the 2008 farm bill—I should not say one, I guess there were several provisions that provided incentives for beginning farmers and ranchers. I guess I am interested in knowing from your perspective, as USDA Secretary, do you believe that the existing beginning farm programs administered by USDA have been effective and do you have any suggestions for improving those initiatives or for new ones as we get into this next farm bill? I think getting into agriculture for young farmers today is very, very hard because of the capital requirements, the cost of farmland, and those sorts of things, and I am curious

to know what your assessment is of the existing programs and what your recommendations might be for other ones.

Secretary VILSACK. Senator, it is tough to move the dial in this area with the limited resources that have been allocated to the beginning farmer program. I would say that the monies are being wisely used, but I think we have to be a bit more creative.

When you take a look at the last agriculture census, what you find is that we had 100,000 new farmers in the category of very, very small operations, small acreages that basically finance or provide commodities to farmers' markets, things of that sort, and we want to encourage that because that helps to repopulate rural communities.

But when you look at production agriculture and look at the commercial-sized operations, what you found was that we had a net loss of about 40,000 producers. And if you combine that with the aging nature of farmers, average age 57, 30 percent of our farmers over 65, you look and you see that the trend line is not what it needs to be.

So I think we need to figure out ways in which we can provide sweat equity opportunities for young people who want to get into farming. Perhaps it is the tax code. Perhaps it is estate tax. Perhaps it is income tax. Some way or process by which someone can work on a farm, and as a result of that, generates some degree of equity that allows them then to go to a banker, be able to have a proven track record to have some equity, some collateral that they can use that allows them to expand their operation.

I cannot say that I have a specific idea today, but I just know that there has to be something more than what we are doing, because what we are doing, while it is okay, is obviously not bending that trend line in the right direction.

Chairwoman STABENOW. Thank you very much.

Senator THUNE. Thank you, Madam Chair.

Chairwoman STABENOW. Senator Bennet.

Senator BENNET. Thank you, Madam Chair. Thank you for holding this hearing.

Mr. Secretary, thank you for your excellent testimony today. We appreciate it very much.

I actually will start where you guys just left off, maybe, and broaden the question a little bit, because as I travel the State, people in Colorado are really worried about where the next generation is going to come from, whether they are going to be able to stay on the farm, be able to stay in rural America. We know that today, more than 90 percent of farm household income comes from off-farm activities and that, as you and I have discussed before, that means Main Street and a healthy non-farm economy is hugely important to our rural economies.

In Colorado right now—I wanted to mention this to you in case you did not know—Governor Hickenlooper has been leading a sort of ground-up discussion with every county in the State about what their economic future looks like, what their plan for the future looks like. We have been encouraging—he has been encouraging people to think regionally, which I think is an enormously important part of what we need to do and what we have not done well. With stovepiped agencies and stovepiped programs, I am not sure

we have encouraged or incentivized the kind of regional thinking we need.

And I wonder whether, in the context of the farm bill we are going to take up, you might be willing to share your perspective on how our discussion of agriculture really fits into a conversation about what the trajectory and future is of rural communities in this country.

Secretary VILSACK. Agriculture, Senator, is at the center of rural development. It has been always and it will continue to be. But it has to be supported. There are far too many farmers today that need off-farm income, as you have indicated, either themselves or their spouse or a combination, to be able to preserve the farm. So rural development, job growth, is important to preserving farm ownership.

In order to do that, number one, small communities have to recognize that they probably by themselves do not have sufficient resources, either financial or brain power-wise, to be able to do it on their own. They do have to think regionally. They have to think collaboratively. They have to look at what their natural resources are and how to better utilize those natural resources.

I think there are essentially four key elements. We have to figure out additional ways to encourage private investment in rural areas. We have to think of ways in which we can expand on the innovation that agriculture has shown in rural America. We have got to create networks, both in terms of regional approaches to economic development, but also broadband expansion allows folks to be connected with the 21st century infrastructure. And we have to celebrate place. We have to do a better job of maximizing the economic opportunities from natural resources.

When you look at what we are investing in, whether it is renewable fuel and energy, whether it is broadband expansion, whether it is these local regional food systems that can help create economic opportunity or it is the Great American Outdoors Initiative the President has launched, all those are strategies to try to advance rural development, create jobs, and help to support agriculture. And, in turn, agriculture helps to support the rural community. So it is a partnership.

Senator BENNET. I would be interested—we do not need to do it today, but if your staff knows of models of places that have done four of those things well or some combination of those things particularly well, I think it would be interesting to us in Colorado to be able to see some of those examples. We may have some of our own, but——

Secretary VILSACK. We have invested in a program called Great Regions, where we have identified roughly 22 regions where we are investing some of the rural development resources that were provided in the 2008 farm bill that are doing a lot of this, a lot of strategic thinking and a lot of investment. We will provide your staff with the locations of those Great Regions, and Doug O'Brien from my staff would be happy to visit with your staff about what is taking place in those regions and what might be applicable to Colorado.

Senator BENNET. Great. I wanted to shift gears in the last minute that I have here. You mentioned at the outset of your testi-

mony that we were having a record year of exports, a record year in our trade surplus. And I just wondered whether would share with the committee, beyond Colombia, South Korea, and Panama, what the administration is doing to resolve existing trade disputes with Mexico, Japan, and China to make sure that we continue on this trajectory of growing our exports.

Secretary VILSACK. Well, I had a very productive meeting with the Secretary of Agriculture of Mexico in December and we identified a number of issues, potatoes and beef on our side, a couple of issues involving specialty crops on his side, which we are in the process of working through. The resolution of the truck issue will be very helpful in terms of reducing tariffs that Mexico has assessed on agricultural products. And I am confident that we are—we are working through a process on potatoes that involves sort of a binding arbitration process that was put in place. We are waiting for a certificate from the Health Ministry on beef and the efforts to reopen the beef trade.

In China, we are focused, as we have been for some time, on reopening the beef industry in China. I think the Korean Free Trade Agreement, when it is passed, will give us the impetus to go back to the table and to continue to negotiate with the Chinese. We are separated by a position on offals. We identified 15 to 20 offals which we think should be part of an expanded trade opportunity in China. China has identified three or four or five. Frankly, they did not identify the ones that actually could create market opportunities for us. We do not think it is science-based. And so we have got to keep going back to them with that.

On the Japanese side, I had very fruitful conversations with the minister there, but they have changed the ministers. There have been three in the time that I have been Agriculture Secretary. And obviously, in light of what has happened in Japan, we are giving them enough space and time to get their feet back on the ground before we reengage in negotiations.

Senator BENNET. And I think that is exactly the right thing to do. I would say that my understanding is that there may be a new appreciation of science-based analysis in the wake of this accident in Japan on the part of the Japanese, which may give us some help on the beef negotiations. So I think at the right time, that may be of some use. And I want to say thank you—I am out of time—on behalf of our potato farmers and our beef producers for your work to try to expand these markets. Thank you.

Thank you, Madam Chair.

Chairwoman STABENOW. Thank you very much.

Senator Boozman, and then Senator Klobuchar.

Senator BOOZMAN. Thank you, Madam Chair, and we appreciate you being here, Mr. Secretary.

I really—you made some comments about trade. I think in your testimony, you devoted an entire page to the importance of that. And in these very difficult economic times, not only does that increase markets and things like that, but that really is a thing that will help provide another security network, in other words, making our farmers more secure by getting those agreements done.

The other thing is we have the information put out on the importance of the global stuff and what is going on. Again, the trade

agreements, in getting those done, you also create a situation where you start putting the infrastructure in more overseas, you know, the storage components, all of those things, the transportation components which are so important.

So I guess my question is, how can we help you? You have come out very strongly. How can we help push the administration, push Congress, whatever we need to do to get these things enacted?

Secretary VILSACK. You know, Senator, I think there is a—I believe there is a consensus on the importance of these trade agreements and I think there is a growing consensus on the importance of also having some trade adjustment assistance that will help those workers who are displaced or impacted negatively as a result of trade, and my hope is that as you consider that, that you include farmers in that category, because there are some farmers that sometimes do not get fairly treated in these arrangements.

But on balance, these trade agreements are not just about increasing opportunity for farmers, as you pointed out, but to supplement what you said. It is for every billion dollars of agricultural trade, we generate 8,400 jobs. So when you are looking at Korea, $1.9 billion of additional agricultural trade, to a point where the Korean Free Trade Agreement, the agricultural component of that will be equal to the previous nine Free Trade Agreements that we have signed. So it is a tremendous opportunity for us to grow, and I think it does provide some momentum for further opportunities in other parts of Asia.

So I think it is just continue to promote the benefits of this and continue to see this in a comprehensive way to move trade opportunities, not just the bilaterals but also the multilateral discussions with the Trans-Pacific Partnership. You know, the Doha Round is a little bit problematic right now because we just do not see the balance. We are hopeful. We want to have a strong Doha Round. Again, Senator Johanns, I am sure, is well aware of the challenges there from his past experiences. So I would say just continue to advocate for this and continue to point out the importance of trade in terms of security, economic, and for that matter, national security, as well.

Senator BOOZMAN. Very good. I agree. The other thing that you mentioned was the importance of the research, and we have a number of facilities in Arkansas. There is just a tremendous amount going on nationwide. You made the point that 200,000 supply 80 percent, and I would argue that the reason that we can have 200,000 good is because of the research that came out of a much, much smaller group giving them the knowledge that they were able to go froward.

So, again, I guess I am saying the same thing. How can we help in promoting the value of the research and maintaining those facilities that are doing such a tremendous job?

Secretary VILSACK. You know, Senator, I think it is—I think understanding that as you deal with the deficit, which is real, that you also recognize that you need to grow your way out of a deficit, and this research investment pays.

When you look at the amount of money that we spend on invasive species and pests and diseases, some of that money could potentially be prevented if we continue to be aggressive in terms

of our research, or we may be able to mitigate the damage by those pests if we continue to promote research. We might be able to figure out how to be more productive with that research. We might be able to figure out ways in which we can do a better job of transferring knowledge and information to other parts of the world so they, too, can be in better shape from a food perspective.

So this is a really important component, often not fully articulated. We are always talking—you know, one of the frustrations of this job is that when you go out and you talk to folks, when they hear "farm bill," they immediately think of subsidies and that is about all they think of. And the reality, which you all know, is that the farm bill is far more expansive than that, and a component that is often ignored is the research component.

Senator BOOZMAN. Right.

Secretary VILSACK. I mean, it just—people—when you say, we do research at USDA, they go, "Huh? Really?" So I think publicizing the important role that research plays in agriculture, I think would be helpful.

Senator BOOZMAN. Then very quickly, Madam Chair, can I just say that the flooding that is going on right now, you know, we have been waiting for the floodwaters to go down and everybody expected them to go down, but it is continuing to rain, and I would really encourage you, and I know you are doing this, but some things were done after Katrina, you know, similar situations where you had lots of damage to the farm community, to really look at ways that we can be helpful. I know even little things.

You have got a lot of people with product in silos that they have contracted. The roads are gone. The water is up around them. They cannot get to it. Things like that, that maybe that is due at the end of the month, things that we can do to just look in and to help to remediate would be very, very helpful.

Secretary VILSACK. We have instructed our teams to work with farmers and to work with communities that have been negatively impacted by these floods so that they are given the time and the opportunity to get themselves back on their feet. Our heart goes out to those folks. I mean, the tornadoes and floods are just devastating.

Senator BOOZMAN. Thank you, Madam Chair.

Chairwoman STABENOW. You are welcome.

Senator KLOBUCHAR.

Senator KLOBUCHAR. Thank you very much, Mr. Secretary. Thank you for your recent visit to Minnesota and your work on biofuels, and I appreciated all your work. Many people have talked about your work with genetically modified seeds, which I am head of the Biotech Caucus in the Senate, so I appreciate that as well as the work that you have done with exports, as has been pointed out. When we have had issues with certain markets, you have been incredibly helpful.

My first question—Senator Conrad touched on this—is just some of the budget proposals which are going to directly affect our work on the farm bill. I know he asked about the Ryan budget, the Republican budget that came over from the House, but that is, just to clarify that—and I think you know I have been one of the leaders on some of the reform efforts. I had a bill that did not pass a

few years ago to try to focus our farm payments more on family farmers. But, in fact, the Ryan budget would cut agriculture by $30 billion, conservation by $20 billion, the nutrition program by $125 billion, is that right?

Secretary VILSACK. I will defer to you on the figures- -

Senator KLOBUCHAR. I think it is right. And then the Deficit Commission, which was a bipartisan effort, actually is very different. It is a $10 billion cut, and I think everyone knows we are going to have some cuts. And could you—I know you talked to Conrad about this, but could you just expand a little bit on what this would mean? I will be honest. My biggest fear is we are going to start being dependent on foreign food and foreign oil, just like we are on foreign oil if we are not careful here.

Secretary VILSACK. Senator, one of the great advantages we have in America is that we have a degree of self-sufficiency in food that is the envy of the world and we have got extraordinary productivity. So we obviously do not want to harm that.

One of the areas that I am concerned about as we look at reductions is in the area of conservation, and there are several reasons for that. The obvious reason is that conservation is helpful to the producer and it is also helpful to the environment and it helps to preserve these natural resources that provide us this bounty.

But there is another reason, and that is that these conservation payments go to those folks that I mentioned earlier, the 600,000 that are struggling every day to make ends meet. Their land may not be as productive or they may not have as rich a soil. So when you cut and significantly reduce conservation—significantly reduce conservation, which is what that would be—you basically limit the capacity of those operations to continue to do what they need to do to stay in business and to stay on the farm and to stay supporting schools and the local community and the small businesses in those communities. So I have deep concerns about that.

Senator KLOBUCHAR. Next, on biofuels, I think you know there are a few of our colleagues here that just want to pull the rug out from under immediately, and could you talk about the uneven playing field that would be created if we were to allow the oil subsidies to keep in place and then completely take away even the ability for biofuels to have infrastructure and blender pumps and things like that?

Secretary VILSACK. We spend a billion dollars a day and we take hard-earned American dollars and we send them overseas. The renewable fuel standard basically would allow us to reduce our imported oil by 17 percent, which is roughly equivalent to the President's goal of reducing imported oil by a third. What that would do is it would create, as I said earlier, nearly a million jobs in rural America, $100 billion of capital investment. None of that is going to take place unless folks know what the rules are and unless folks have an understanding of where we are headed.

When you create a cliff—and we saw this with biodiesel—when you create a cliff, when you just cut it off, no transition, no time, you just cut it off, basically, the markets get scared, the capital dries up, the production stops, and jobs are lost, and an opportunity for producers, particularly those producers in the middle

that need off- farm income or they need another market for their product, end.

Why we would do that at a time when we have the capacity to wean ourselves from foreign oil and we have the capacity to take those dollars that we are shipping overseas and creating economic opportunity, to create it in rural communities, why we would not create some kind of glide path and redirect those resources in a way that would build a stronger renewable fuel industry is, frankly, beyond me. And there are so many myths associated with this that need to be addressed. The land use myth—a recent study has shown that that is not correct. The energy efficiency myth, which is that it takes more energy to produce ethanol than it does, that is not correct. In fact, the most recent studies show that it is more energy efficient than oil. So there are a multitude of reasons why this industry is important and I sincerely hope that we do not make the mistake of creating that cliff.

Senator KLOBUCHAR. Right, and I think you are aware that Senator Thune, Senator Grassley, Senator Harkin, and I, and a number of other people, Senator Stabenow, have been working on that glide path, to find a way to actually ratchet down the subsidies of biofuels to basically nothing, which is very different than what we have been hearing from the oil people.

Secretary VILSACK. That is really important, and I would say that it also creates an opportunity for us to expand these production opportunities in all parts of the country, which I think is important, as well.

Senator KLOBUCHAR. Okay. And my last thing, which we can talk about later, it is just the wolf issue. I think you are aware that in the last negotiations on, I think it was Montana, Wyoming, and Idaho, I think, are exempt from the Endangered Species Act, yet the State of Minnesota has double the amount of wolves in all three of those combined States. And then we lost our wolf management funds in that deal and last year we lost over 100 cows, 15 pet dogs, and a number of other animals to the wolves.

So we are continuing to work with you to at least maintain our wolf management program in our State, to hopefully go through the Endangered Species Act delisting. If that is not working, most of the mainstream groups are not suing, but if we get delayed, we will be coming back here with legislation, because it is somewhat hypocritical that certain States got exempt when one State whose basketball team is named the Timberwolves——

Secretary VILSACK. Timberwolves.

Senator KLOBUCHAR. —is left with no wolf management funds. So that is something that I hope we will continue to work together on.

Secretary VILSACK. I would be happy to work on it. I think this is an instructive point for the committee, though. In the past, there could have been an opportunity with the kind of flexibilities we had to be able to move some resources, but the reality is, with the depth of these cuts, there just is not that flexibility.

Chairwoman STABENOW. Thank you very much.

Senator Lugar, and before you speak, Senator Lugar, in thinking, turning to you, it reminds me just how fortunate we are in this committee to have such depth of knowledge about agriculture, a

former Secretary of Agriculture, four former Chairs, including yourself, and Senator Roberts having chaired the committee in the House, and so I think if any group of people will have the opportunity to actually put together the very best farm bill we can with the challenges that we have, I think it will happen here. It is just great to have you as a member of the committee. Senator Lugar.

Senator LUGAR. Madam Chairman, thank you very much for that introduction.

Let me just take advantage of your general statesmanship, Secretary, to raise a broad question that is often raised in other fora about the fact that the rural food supplies are limited, and in this particular year in certain crops that we produce, whether it be corn or soybeans or wheat, the supplies have diminished precipitously. In fact, many people write that unless we have very good crops this year in the United States, this crisis will take on even larger dimensions of human suffering throughout the world. Others have correctly been talking about the problems we are having with barriers to trade, and these have existed even given the human conditions we are talking about, for a long time.

So I do not ask you to hop over all of that, but think, for a moment, how in the United States will it be possible for us to find more acres on which we might cultivate crops, or is that really a task that is not going to find solution given our geography, our history, and so forth? And beyond that, how are we going to move maybe even in a ten- or 20- year period to perhaps as much as a 20 percent increase in yields on the acres that we have?

This would not solve the world problem, but nevertheless, it would indicate an extraordinary statesmanship on our part in moving at least to do our part and maybe to stimulate Europeans, as the arguments we have with them on genetically modified seed and so forth, to think also in a production way so that, somehow, the increasing population in the world, which is happening, and apparently the decreasing supplies that make markets precarious do not envelop all of us. We cannot solve all this in our own farm bill, but I ask you for your counsel as we take up the farm bill as to what are the productive steps we might take along with you to bring about greater acreage, greater yields in the United States, even as we are working through the trade barriers that bollox up our movement.

Secretary VILSACK. Senator, that is a very, very important question and it requires a comprehensive answer and I will try my best to touch on a couple of things.

First of all, I think we have to continue to focus on research. There is no question that I have a great confidence in our ability to continue to be productive so long as we continue to invest in the research that allows us to figure out how to be more productive or how to protect our crops from diseases that might reduce yields.

You know, there may be some circumstances and steps that we can take in terms of increasing acreage, but honestly, I am not sure that those steps will fundamentally change the equation. I think the key here is for us to be as productive as we can with the land that we have, and then, secondly, to be able to work with other nations to make sure that their productivity is as good as it can be. I do not think there is any question that there are many, many

parts of the world today that are underperforming simply because they have not embraced the technologies or have been concerned about the science that we have embraced in this country.

And so my hope is that, over time, we can break those barriers down. We are beginning to see more and more countries begin to recognize the need to have regulatory systems and structures that will allow this science, the biotechnology and others, to take hold. We need to continue to focus on that.

And I think, frankly, we need to figure out how to be more creative with the production processes that we have. For example, when we deal with biofuel production, interesting technology in Shenandoah, Iowa, I saw recently, where they are taking the CO2, the reclaimed water and heat from an ethanol production facility and producing algae, which they harvest daily. Algae can be used as a feedstock for biofuels. It could be used for aquaculture feed. It can be used for livestock feed. It can also be used for cosmetics. Tremendous opportunity, and they are going to have algae farms, which are very small in size in terms of acres because they can basically do them both horizontally and vertically, these tubes. I mean, it is a brave new world out there and we need to be confident and optimistic about it and we need to make sure that we continue the investments that allow those kinds of things to happen.

Senator LUGAR. I just note as a personal point, on our farm in Indianapolis, my dad was getting 40 or 50 bushels to the acre when I was a boy and we are getting 170 regularly. This is not an all-star situation, but at least moderate, average Indiana, a four-fold increase even in my lifetime. This is why I am excited about the possibilities of going even further with the next generation, because I note not only is this a human task, but likewise, because of this crisis, land values in Indiana and many other States are going up very sharply. In other words, we are discussing this farm bill in a time in which, by and large, the net worth of most farmers is increasing substantially. The balance sheets are much better. So both of these things are moving along in ways that may be helpful. But I really trust your judgment to give us good counsel as those things that would be helpful to you either administratively or for inclusion in our farm bill, and I thank you for coming this morning.

Chairwoman STABENOW. Thank you very much. Thank you.

Senator HOEVEN.

Senator HOEVEN. Thank you, Madam Chairman.

Secretary, good to see you again. Thank you for appearing in front of us. I am sorry I missed your comments earlier. I had a conflicting Energy Committee meeting.

I want to pick up on a couple of the themes, though, that I did at least hear part of the discussion on, one of which is flooding. We are having a tremendous amount of flooding in our State and prevented plant is going to be very important to our farmers this year. I know you will be out around the country. You have been very good about coming to our State in the past and I would like to begin by inviting you to come out to our State and see some of the impacts of that flooding, not only to get your assistance with programs like prevented plant, but we have a unique situation in Devil's Lake where we have an enclosed basin and the lake keeps get-

ting bigger and bigger, inundating farmland. So we are trying to use the programs, crop insurance programs that apply, the Wetland Reserve Program, which is a newer program that is an easement program that we are trying to make work, CRP, where it works. There is another program, Water Bank, that could apply, but does not have funding in it.

I guess two questions. One is would you be willing to come out and see some of the impacts of the flood, and the second is what ideas you have or what assistance you can offer for some of these inundated acres in the Devil's Lake area due to this very difficult growth of this enclosed basin lake.

Secretary VILSACK. Senator, let me answer the second question first. I do know that Dave White, Chief of the NRCS, has been working with a number of folks in your State as well as in Minnesota to address this and I believe he has identified up to $10 million of additional resources that are going to be put into this effort to try to provide some relief and some assistance. We will continue to work with folks to figure out creative ways to do this, but obviously the resources are somewhat limited.

You know, one of the questions there, one of the points I would raise in terms of the farm bill is to the extent that we can have flexibility to use some of these programs, we have a lot of programs. Maybe we need fewer programs and more flexibility within programs to be able to address unique circumstances and situations that we find in other parts of the country, including North Dakota.

I am always happy to travel to the Dakotas. I cannot promise you when that will be, but I am sure that we will be back to the Dakotas at some point in time.

Senator HOEVEN. We are working with Chief White. I thank you for that assistance. And, of course, your support behind it makes a big difference.

The flexibility, I think, is an excellent point. You have got a number of programs, some of which I just identified, that have different strengths and weaknesses. If the Secretary, yourself or future Secretaries, had the ability to move dollars amongst those programs to meet the needs, I think that would be an important tool and would help our dollars go further and more effectively.

Secretary VILSACK. Yes. I mean, the challenge here, obviously, with fewer dollars is to figure out how to leverage them, and I think that there are ways in which you can do that, but sometimes when you are prescriptive in these programs, which I understand why, it limits your capacity to be flexible and to be responsive. So I think to be nimble, to be a 21st century agency, if we had fewer programs but more flexibility within programs that survive or exist, we might be able to do a better job.

And if the committee and the Congress would be clear about the results that they want from these programs—to me, if you said to me, here is a conservation program and we expect you to do X, this is the result that we expect and here are so many billions of dollars to do it, come back next year and tell us how you have done, that would hold me far more accountable than having a whole series of programs with no specific result other than hopefully it is going to do a good thing for the farm economy.

To the degree that you can be very specific about results that you want, it will make it easier for us to be held accountable, and if we have the flexibility, if I can stand on my head and get Devil's Lake figured out, what difference does it make how I do it so long as the result is what you want.

Senator HOEVEN. I think you make a very good point and it is something we will have to look at in developing the next farm bill.

On biofuels—Senator Klobuchar brought that issue up— we really are working to transition to blender pumps, flex- fuel vehicles, and higher blends allowed through the EPA, and then also help from the EPA with some of the regulations so that more of these fueling stations can utilize their equipment to dispense ethanol. I think it is a good transition that can work and I am optimistic that we are going to make that transition, which I think will be good for the industry and actually probably bring the biofuels and the traditional fuels industry together in some good partnerships.

Do you have any thoughts beyond that as to how we continue to build the biofuels, again, in an environment where we have limited dollars? What else can we do, in your opinion?

Secretary VILSACK. We have clarified our REAP program to provide some financial assistance to convenience store operators and petroleum marketers to be able to finance these flex pumps or these blender pumps. The budget that was passed, the budget resolution that was passed by the House, I think, eliminates that funding, which you can eliminate the funding, but the reality is, it is very difficult to get these convenience store operators to install these very expensive systems unless they have some incentive.

The second thing, you know, I think there ought to be ways in which we can encourage auto makers and/or consumers to embrace flexible fuel vehicles. I am told by Secretary Chu—he knows a lot more about energy than I do—that a $150 part on every car that is coming off the line would basically make every vehicle a flexible fuel vehicle. If that is true, is there not some way in which we can encourage Detroit either to do that or consumers to be encouraged to purchase a car that has that capacity and, therefore, create greater demand. So if you make supply more convenient and you create greater demand.

The last thing I would say is I think you want to be mindful of the fact that we are also working on aviation fuel, which is a tremendous opportunity. We have got a very interesting relationship with the Navy and the Department of Energy that we are working on to try to figure out how 50 percent of the Navy's fuel needs could be met with biofuel. That would be true for the Air Force, I am sure, and the Army, as well. So there are tremendous opportunities here. I just—hopefully, we do not pull the rug too quickly out from under this industry.

Senator HOEVEN. Madam Chairman, I know my time is up. Just one quick final comment. I appreciate the work on the biofuels. I think we are working to make that transition. Again, I am optimistic.

The other is I also appreciate your earlier comments on the trade agreements. We need to get those trade agreements ratified, and your help there is greatly appreciated.

Chairwoman STABENOW. Thank you, Senator.

Thank you very much, Secretary Vilsack. As you can tell, we have spent extensive time this morning, many members here, because obviously we are extremely interested and appreciate all of your input and leadership. So thank you for joining us.

We are going to immediately move to our second panel. We have very important witnesses and we are at that point. I allowed this morning a little bit longer than the five minutes on questioning for our Secretary, but I am going to hold to five minutes on our next panel so that we can move through this.

Thank you again, Mr. Secretary. We are going to ask each of our witnesses to move forward and we will have an opportunity to hear from each of them and then we will go to our round of questioning.

[Pause.]

Chairwoman STABENOW. Well, good morning. I think it is still morning. Yes. Thank you very much to each and every one of you for coming in, and let me introduce our panel and then ask you to move forward. As you know, we ask for five minutes' verbal testimony and then, of course, we want to have whatever additional testimony that you would like to give the committee.

Let me first, in introducing our panelists, welcome the Honorable Dan Glickman, who is certainly no stranger to this committee. We very much appreciate your leadership over the years as former Secretary of Agriculture and currently the Co-Chair of the Chicago Council's Global Agricultural Development Initiative, where he is actively engaged on issues regarding food security. I also on a personal note want to note he is a graduate of the University of Michigan, so we appreciate why you have done such a great job over the years.

Let me also welcome Barry Mumby from Michigan and his wife, Diane, who is here. We appreciate both of you coming in. He is a third-generation farmer from Southwest Michigan in St. Joe County, where his family grows soybeans and corn, among other things, on 2,200 acres. He is a founding Director and ten-year member of the United Soybean Board, and through them has traveled to 27 countries to promote open markets for U.S. soybeans and currently in the process, I understand, of transitioning the land to the fourth generation, which includes his two sons and daughters. So welcome. It is good to have you.

And Mr. Doug DeVries is a Senior Vice President for Worldwide Agriculture Marketing at Deere and Company, which is, of course, a preeminent global farm machinery manufacturer, and in this position, he is responsible for global marketing activities for Deere products, so we welcome you.

And then Dr. Andrew Rosenberg is the Senior Vice President for Science and Knowledge at Conservation International as well as a professor and former Dean at the University of New Hampshire with background in public service, including a former Deputy Director of NOAA. So we welcome you.

And certainly last but not least at all, Dr. Per Pinstrup-Andersen is the 2001 World Food Prize Laureate for his landmark research that prompted several governments to reform their food subsidy programs and increase food availability to the severely impoverished, currently a professor at Cornell University in three disciplines: Food, Nutrition, and Public Policy, Entrepreneurialship,

and Applied Economics and Management, and we are so pleased to have you with us this morning, as well.

I will first turn to Secretary Glickman. Welcome.

STATEMENT OF HON. DAN GLICKMAN, CO-CHAIR, THE CHICAGO COUNCIL'S GLOBAL AGRICULTURAL DEVELOPMENT INITIATIVE; FORMER SECRETARY, U.S. DEPARTMENT OF AGRICULTURE; AND SENIOR FELLOW, BIPARTISAN POLICY CENTER, WASHINGTON, DC

Mr. GLICKMAN. Thank you. I am glad you mentioned my Michigan connections, including my wife——

Chairwoman STABENOW. That is right.

Mr. GLICKMAN. —my son, my brother-in-law, my sister- in-law——

Chairwoman STABENOW. That is right.

Mr. GLICKMAN. —the whole team, you do know well.

Chairwoman STABENOW. Yes, exactly.

Mr. GLICKMAN. And I also appreciate being before one of my successors, Mike Johanns, who did a wonderful job as Secretary, and my mentor, Dick Lugar, whom I was confirmed before he and his panel, it seems like in the 18th century——

[Laughter.]

Mr. GLICKMAN. —but we are both still alive, Senator, so——

[Laughter.]

Mr. GLICKMAN. Let me just first mention, my testimony is offered on behalf of Catherine Bertini, who is the former Executive Director of the World Food Program, and I. We have been involved in the project for years through the Chicago Council on Global Affairs that looks at the need for the U.S. support for agriculture development abroad and ways the United States can be a global leader in this effort, and this was funded largely by the Bill and Melinda Gates Foundation, and we have sent you a whole bunch of materials, reports, and testimony, which we will assume will be part of the record.

I just want to make a few points. Number one, we are going to need to double food production in this country, double—in the world, not in the country—in the world over the next 30 years. We are going to have an addition of 2.6 billion people in this world by the year 2050, so that is two Chinas. And we are dealing with a supply situation which is in much greater equilibrium than it has been in the past, which is going to cause much greater food price volatility and many other issues that result from that, political instability and an increase in poverty and hunger and a variety of issues there. And so that is a given, and I think that everybody understands that.

What we have been looking at, is the United States poised to lead the world in trying to help not only feed the world, but move us to more global food self-sufficiency. And based on our review, this country in the last two years has made transformational progress in the areas of food assistance, food assistance delivery, reform of our food and foreign assistance programs, the metrics of the program, and the government working together, and that is through the efforts of the Secretary of State, the head of AID, Raj

Shah, and partnerships with the private and public sector. So things are much better.

This was a listless period for the last ten to 20 years in terms of the ability of the United States to be a vital force in leading the world in foreign assistance, development assistance, but it has changed and it is a different world. And even Secretary Gates as Secretary of Defense has said that the three pillars of America's leadership in the world are diplomacy, defense, and development. And development took a bottom line, a back seat to a lot of these efforts, and I think it has begun to change.

I am not saying it is perfect now. We need more investments in agricultural research. More foreign students need to go to school here. The units of government often do not work perfectly with each other. There are not the partnerships with private universities that we would like to see. The land grant world was very much involved in the science and research of developing food self-sufficiency in the 1960s and 1970s. That slipped for a while. Hopefully, that is coming back.

And the report gives a grade card of how the government has done. I mean, we actually, like, we gave the government a B-minus overall. But from the standpoint of how USAID is doing, how the State Department is doing, they actually fared very well.

The second point I would like to make is the fact that America's power to lead and change the world is in large part based upon our ability to be engaged in the developing world and helping them feed themselves. Catherine Bertini and I went to Mozambique and Tanzania just recently to see what is happening on the ground and it is tough out there, I have to tell you. I mean, the impediments to change are very great. In some respects, we saw more Chinese engagement in that part of the world than we saw American engagement.

But the truth of the matter is, there is still great promise for our country to lead the world, and I wanted to give you one anecdote. We were in Tanzania and we were meeting with some government officials, and I forgot who it was, but somebody said to me, he says, "You know, America is great and you have got three great leaders who are moving America's influence in this part of the world along." And he said the leaders are Bill Clinton, George Bush, and Barack Obama.

I do not think you could find very many people in our country that would list those three leaders as moving America along. Bill Clinton, because of the efforts of the Clinton Global Initiative, the Clinton Foundation, efforts in the developing world. Obviously, George Bush because of his leadership in AIDS and malaria and the PEPFAR Initiative. And Barack Obama because of who he is and where he is from, and also because of his commitment to try to make the farms flourish in the developing world.

Our potential to be a factor in leading these parts of the world into becoming food self-sufficient, reducing their poverty, helping all of the population, particularly women and girls, get out of poverty, because they produce most of the agricultural commodities in the developing world, and building democracy in governance systems is to a large extent dependent upon our continued engagement in this area.

I know Secretary Vilsack talked about the budget conditions, and I recognize that. I am reminded of all the years I testified on a lot of similar things, as I am sure Mike Johanns did, as well.

But I would tell you that if we unilaterally disarm from our development agenda, now that we have a team in there that really knows what they are doing, it is really going to handicap the United States in terms of being a leader in the future of the world. Almost one-third of all the members of the General Assembly of the U.N. are from Africa. These people need our—not our assistance from the standpoint of charity, but they need our technical capability, our minds, our resources in terms of agriculture productivity, and it is not all exotic technologies, either. A lot of it is the basics.

And if we can stay engaged, and that is my plea to you today, as part of the farm bill, as part of the budgeting process, if we can stay engaged, we will have great impact in the developing world and it will affect America's economic, foreign policy, and national security interests, as well.

So the recommendations are contained in our report. I would like to pay tribute to my former colleague, Mr. Roberts, who I had hoped he would be here and I regret that he is not for difficult circumstances. He and I have had, I would say, a wonderful marriage—I do not want anybody to take that too personally—here over the years in terms of the relationship back in Kansas, and he is a great friend of mine, as well. So I want to just pay tribute to him, too.

Thank you.

[The prepared statement of Mr. Glickman can be found on page 61 in the appendix.]

Chairwoman STABENOW. Thank you very much.

Mr. Mumby, welcome.

STATEMENT OF BARRY MUMBY, SENIOR MEMBER, WAKESHMA FARMS LLC, COLON, MICHIGAN

Mr. MUMBY. Thank you. Thank you, Senator. I guess I am here because I have been in agriculture a long time and I bring to you basically the view from a family farm. I am a third-generation farmer and I am involved in the transition to a fourth generation. It has been a very rewarding life and, I guess overall, I could not have chosen a better profession. When I was at Michigan State University, I had an opportunity to do some other things and I chose to come back to the farm. My two boys achieved educations at Michigan State University in other fields. They chose to come back to the farm. A lot of roots. It brings you back.

As I near the end of my career as an active farmer, I have become more and more involved in world issues in terms of what can the American farmer do to help foreign countries. In my travels, I witness almost an adulation, if you will, of farmers. Any farmers, any fish farms, any place that I visited around the world, whether it be China or Asia, Tunisia, wherever, American agriculture is so highly regarded, it is frightening, because you do not want to tell them what you do to be successful because they will do it, whether it is the right thing in their situation or not. It is not a process of evaluation. They just do it. And that is a responsibility that Americans carry when they travel.

I think my normal workday starts around 5:00 in the morning at this point in time and I continue to do a news world search, try to gather anything that is pertinent to agriculture. I share that with a bunch of associates that we convene a conference call every morning at 7:15, and that usually takes until about 8:00.

My associates consist of risk managers for grain originators, risk managers for ethanol plants, a think tank in Detroit, two other services, and anyone else. We have some livestock specialists, as well, and I guess I serve on that and have for probably ten years now just because I am an average farmer. We are not a large farm. You know, 2,100 acres is not large. But it is a family farm and it is a solid family farm and I think if you go across America, you will find a lot of that. That is the insight that I bring.

I really focused on risk management at this point in my career. I wish you folks a lot of luck because you have a big, big task. The risk management issues that I see right now for U.S. farmers, of course, prices, but that can be handled. There are methods to handle prices. Violent weather—I do not know how you deal with that. As I looked at some of the footage of the recent tornadoes, it may not be a disaster for a county, but if you are in the path of that storm, not only have you lost lives and property, you have lost crops. I mean, there was a path viewed from a helicopter that was brown. Nothing was in the path of that tornado left. Now, that has taken a lot of cropland out. That is a very localized, specific loss, but it is 100 percent. How you—I do not think you can write a farm bill that deals with that, frankly. But those are issues that we are going to face as we come to the fruition of this crop and see what we have this fall. I fear that we are going to fall substantially short of what is projected right now and I think we are on the edge of a very, very dangerous time.

The next—we are up at bat. It is our turn to produce a crop. The next time, it will be South America. They need to come in with another big crop. Brazil had 73 million metric tons of beans this year, which is huge, but we are just basically treading water. We are not gaining anything in inventories. So the world carry-out stocks are flat. We are trying to build them, but the demand curve is way ahead of us.

The U.S. farmer is not going to solve this problem by ourselves. We need to outreach to farmers in other countries and encourage them to adopt technologies that are commonplace here.

I believe that we have done a great deal in soil conservation, no till drills. We have a lot of CRP acres that I believe could be farmed with no till technology now. I think that was basically laid out before no till drills and no till farming was a common practice.

I think farmers in the United States will do everything they can to be as productive as possible. I think there are yield gains to be made with current technology right now if a lot of practices were adopted. I think the price structure right now is good enough so that it encourages farmers to adopt some of those practices and take a little more risk. You can afford to invest a little more in a $7 bushel of corn than you can a $3 bushel of corn. So you invest money and you take the risk, and farmers are entrepreneurs and they will do what they can to be profitable and they will do what

they can to feed the world, but I do not believe the United States alone can do it.

Thank you.

[The prepared statement of Mr. Mumby can be found on page 67 in the appendix.]

Chairwoman STABENOW. Thank you very much. I really appreciate your being here representing the folks that we all talk about all the time who are at the heart of what s happening for American agriculture, so thank you very much.

Dr. Rosenberg, welcome.

STATEMENT OF ANDREW ROSENBERG, SENIOR VICE PRESIDENT FOR SCIENCE AND KNOWLEDGE, CONSERVATION INTERNATIONAL, ALEXANDRIA, VIRGINIA

Mr. ROSENBERG. Madam Chair and members of the committee, I am Andrew Rosenberg, the Chief Scientist for Conservation International, and thank you very much for the opportunity to testify today on the risks and challenges facing American agriculture as the world population grows from seven billion to more than nine billion over the next 40 years and global food demand doubles by 2050.

Food security is part of Conservation International's mission to empower societies to responsibly and sustainably care for ecosystems and the services they provide for the well-being of humanity, and our staff of over 800 people here in the United States and across the globe work together to address the challenges of food security and more broadly sustainable development.

Conservation International partners with government, civil society, and the private sector, including leading U.S. companies such as Monsanto, Bunge, Cargill, Starbucks, JPMorgan Chase, and Wal-Mart to help reverse the unsustainable draw-down of earth's natural resources and ensure that development is based on the principle of sustainability.

For example, we are informal advisors to the Global Harvest Initiative, a partnership that includes Archer Daniels Midland, Monsanto, John Deere, and DuPont to address hunger and food security by sustainably closing the agricultural productivity gap.

Conservation International views the agricultural sector as a priority because it is a major driver of rural economic development, providing income, employment, and prosperity for farmers and farm workers around the world. Ensuring a reliable food supply directly supports broader U.S. policy, helping enhance our national security through improved regional stability in developing countries and supporting U.S. competitiveness by creating growing markets for U.S. exports.

The challenges of feeding a growing global population are threefold: Meeting the demand for food from a growing and more affluent population; increasing production in an environmentally and socially sustainable manner; and ensuring the world's poorest people are no longer hungry.

From our work over the last 25 years, we know that we must not only improve food production from agriculture, aquaculture, and fisheries, but also conserve the natural systems upon which that production depends. Natural systems provide many of the essential

supporting services for agriculture, including fertile soil, runoff protection, water regulation, and pollination, to name a few, and for a quick example, native bees provide valuable ecosystem services worth $8 billion to U.S. agriculture alone each year.

Farmers are already experiencing the consequences of declining natural ecosystem health through increasing severity and frequency of shocks, such as droughts, storms, and flooding, and this will require the agricultural sector to continue to innovate and to engage in more sustainable practices. And towards this end, Conservation International has worked with our many partners to test innovative methods and promote conservation in agricultural landscapes.

Conservation International is working with the Gates Foundation in Africa to develop a monitoring system for ecosystem health, the services ecosystems provide, and human well-being in agricultural land states to create the kinds of tools and systems that can improve food production while ensuring that the natural systems are not undermined.

We are a founding member of the Keystone Field to Market Initiative that has developed objective data-driven tools to help U.S. farmers manage farms, explore different management scenarios, and compare their performance to peers.

And through our partnerships with agribusiness companies such as Bunge and Monsanto and their network of farmer clients, we have piloted programs in Brazil to encourage protection and creation of private protected areas in agricultural landscapes to demonstrate that production and conservation can coexist.

In Indonesia, Brazil, Liberia, and Peru, Conservation International is working with farmers to identify degraded lands appropriate for restoration through crop cultivation, and we work closely with corporations such as McDonald's and Starbucks to develop sourcing polices that encourage purchase of sustainably grown commodities. Our experience has shown us that sustainable food production relies on health ecosystems and such that enhanced food security depends upon the protection of those natural systems.

We look forward to working with the committee to ensure that the United States meets the challenge of innovation in our agriculture sector, ensure that American farmers remain leaders in providing sustainable food supply while maintaining the natural systems we all depend upon.

Thank you for the opportunity to testify and I would be happy to answer questions.

[The prepared statement of Mr. Rosenberg can be found on page 81 in the appendix.]

Chairwoman STABENOW. Thank you very much.

Mr. DeVries, welcome.

STATEMENT OF DOUGLAS DEVRIES, SENIOR VICE PRESIDENT, GLOBAL MARKETING SERVICES, AGRICULTURE AND TURF DIVISION, DEERE AND COMPANY, MOLINE, ILLINOIS

Mr. DEVRIES. Thank you very much, Madam Chairwoman, Senator Johanns, Senator Lugar. Thank you for the opportunity to be here. On behalf of John Deere, we appreciate the opportunity to provide testimony today on this issue that is most important to not

only our country, but the world, and that is global food security. For 174 years, John Deere has been driven by a consistent purpose to achieve that, and that is improving productivity and efficiency of our equipment for the benefit of our customers and food production.

As this committee begins deliberation on the future of U.S. food and agricultural policy, Deere believes it is critical that the policies and programs be reviewed in light of the new reality in agriculture. This reality entails more volatility, greater need for risk management, and a growing reliance on international commerce to support.

The U.S. has long recognized the importance of strategic food and agricultural policy in supporting rural development, economic improvement, and social well-being, both at home and around the world, and strong partnerships between public and the private sector will be increasingly important in achieving these strategic goals and John Deere is committed to that opportunity.

The global agricultural challenge that everybody has addressed this morning is significant. The population is increasing, and not only increasing but having increased purchasing power, meaning diets improving at the same time while becoming more urbanized. These givens require that we double agricultural output by mid-century, and we must achieve this additional output in a sustainable manner. Doubling output while not appreciably increasing inputs.

For example, most of the world's productive agricultural land is already in use. Some incremental acreage can be brought in, but it tends to be less fertile, more costly to farm, and often less sustainable. Clean water is also becoming increasingly scarce for urban and industrial needs, but significantly for agricultural irrigation. Add to these challenges unpredictable weather patterns and the enormity of the task becomes very clear. In short, we must produce more food in the next three decades than we have in the previous 10,000 years.

So, how can we sustainably double agricultural output by mid-century? Clearly, we must be more productive than we are today. Specifically, the rate of future agricultural productivity growth must increase compared to the trend rates of the past. Although this challenge is significant, the technologies exist or are under development today to help do just that, not only in mechanization, but also in crop and livestock genetics and, importantly, in water use efficiency.

Advances in machinery will play a big part in reaching this goal as agricultural equipment gets ever more powerful, smarter, and more efficient. For example, today's large John Deere tractors include more lines of software code than the early Space Shuttles did. GPS technology today guides tractors and implements in the field with near perfect precision, reducing overlap in seeding, tillage, and crop care applications. This reduces input usage, saves time, reduces fuel requirements, and saves dollars for producers, all the while reducing environmental impact.

Additionally, Deere strongly believes the strategic investments must be made in expanding and enhancing infrastructure. Investing in infrastructure in rural areas will significantly boost agricul-

tural output. And that investment must also require a focus on soft infrastructure, those policies that reduce or eliminate legal, financial, and social barriers to land ownership, property rights, and investment across the entire agricultural chain.

We must also, as was indicated earlier, prioritize investments in research that will help accelerate agricultural productivity. We failed to increase investments in these areas in recent decades despite the growing challenge. Targeted priority research in efficient water use, specific crop genomics, agronomic practices, enhanced nutritional and health benefits of crops, and reducing post-harvest losses will pay enormous dividends.

Finally, we strongly believe that expanding access to markets worldwide is critical and that the United States must lead in these efforts. One-quarter of all food and agricultural products today are traded and that figure will grow, making trade even more integral to improving food security for a growing global population.

We believe the challenge before global agriculture still is not well understood, and this must change. This challenge requires us to think differently and to act more aggressively to ensure future generations are able to flourish while protecting critical natural resources. To promote awareness of this challenge and the opportunities, John Deere joined DuPont, Monsanto, and ADM to form the Global Harvest Initiative in 2008. GHI collaborates with key partners like Conservation International in the related spaces of food security, hunger, environment and conservation, economic development, sustainability, and national security to promote policies that can ensure we meet global agricultural demands while responsibly meeting societal needs.

In closing, I want to express our optimism—no, more importantly, our confidence in agriculture's ability to accelerate productivity and growth sufficient to meet future global requirements for food, feed, fuel, and fiber. I am also confident John Deere can contribute significantly in that offering.

We thank you for the opportunity to come today.

[The prepared statement of Mr. DeVries can be found on page 52 in the appendix.]

Chairwoman STABENOW. Thank you very much.

Dr. Pinstrup-Anderson, welcome, and again, congratulations on your efforts.

STATEMENT OF PER PINSTRUP-ANDERSEN, H.E. BABCOCK PROFESSOR OF FOOD, NUTRITION, AND PUBLIC POLICY, J. THOMAS CLARK PROFESSOR OF ENTREPRENEURSHIP, AND PROFESSOR OF APPLIED ECONOMICS, CORNELL UNIVERSITY, AND PROFESSOR OF AGRICULTURAL ECONOMICS, COPENHAGEN UNIVERSITY, ITHACA, NEW YORK

Mr. PINSTRUP-ANDERSEN. Madam Chair, distinguished committee members, my name is Per Pinstrup-Andersen. I am a professor at Cornell University.

I can think of no better way of beginning deliberations about the 2012 farm bill than to look at the global food situation, something that is so very much on so many people's minds right now. This is clearly the way to start the deliberations and I congratulate you, Madam Chair, for taking that position.

I would like to mention six points that I think are very important as you proceed with the deliberations and decisions on the farm bill.

First, U.S. agriculture is and will continue to be a very important source of food for the world population, let there be no doubt about that. The value of agricultural exports from the United States has doubled during the last eight years and will continue to increase. Much of that increase will come from developing countries and it will depend on successful economic growth in those economies and those countries, and that is why initiatives such as the Global Agricultural and Food Security Program and Feed the Future are very important to promote agricultural growth in the United States and the employment that comes with it, because those programs, if successful, will expand agricultural exports out of the United States. It is clearly a true win-win scenario that can be achieved.

Secondly, current estimates are that demand for food and feed will increase by about 70 percent by 2050. This is the first time in my professional life I have disagreed with Secretary Glickman. He thinks it will be a 100 percent increase. I think it will be a 70 percent. I am willing to split the difference. We do not really know, but what we do know is there is going to be a tremendous increase in the demand for food and feed over the next 40 years.

I do not think there is any doubt that this increase can be met with an equal supply increase. The earth's productive capacity is very far from being fully utilized. The key question really is whether appropriate investments and policies will be made to exploit the capacity to produce the food needed in a sustainable manner. It is not a question of not having the resources, it is a question of whether they are being appropriately used.

My third point is that sustainable intensivication is the key to meeting future food demand. By sustainable intensivication, I mean increasing productivity per unit of land and water while maintaining the productivity of natural resources for future generations, and for that we need investments in agriculture research and technology and in extension. We have heard this mentioned several times this morning, critically important, both in the United States and in developing countries. Modern science, including genetically modified seed, offers tremendous opportunities. Agricological approaches in ecosystem management combined with productivity-increasing technology deserve a lot more attention than what that combination has been given in the past.

My fourth point, large fluctuations in food production and dramatic food price volatility lead to increasing risk and uncertainty by farmers, consumers, and traders. Large fluctuations in fertilizer, oil, and pesticide prices add to those risks. And there is, in my opinion, no reason to believe that the price volatility in the international food market is going to be less severe in the future. Therefore, we need to focus, as has been mentioned this morning, on improved risk management, whether we are talking about producers, farmers, whether we are talking about consumers, or whether we are talking about the trading sector.

My fifth point is that although we do not know for sure, we think that between 800 million and one billion people suffer from hunger. That is roughly three times the total U.S. population that does not

get enough to eat. Many more suffer from insufficient intake of nutrients. Overweight, obesity, related chronic diseases affect about one in seven of the world's population. Agriculture and other parts of the food system play a key role in assuring good nutrition, not just by producing food, but in a number of other ways, and to fully exploit that role, policy and research priorities for the food system should explicitly consider opportunities for improving health and nutrition.

My sixth and last point is that recent food price increases brought, as I mentioned earlier, new international attention to the need for increasing investments in agricultural development and improved food security. That attention culminated in terms of promises for funding, culminated with a commitment of $20 billion by G–8 and other countries at a meeting in L'Aguila in Italy. The problem is that the follow-up has been extremely disappointing. Not very much of the $20 billion have yet been allocated. There is an urgent need for the kind of investment we have been talking about this morning in public goods such as roads, irrigation facilities, agricultural research, local markets, rural institutions, to facilitate agricultural and rural developments in low-income developing countries.

Without these investments, the private sector cannot do its job. It cannot operate efficiently and it will not make the necessary investments in food supply chains. We are going to have more food riots. We are going to have more political instability if these investments are not being made, and the opportunities for improving health and nutrition will not materialize. Neither will opportunities for expanding exports of agricultural commodities. So it is a true win-win possibility that we have.

Thank you, Madam Chair.

[The prepared statement of Mr. Pinstrup-Andersen can be found on page 75 in the appendix.]

Chairwoman STABENOW. Thank you very much. We very much appreciate all of your testimony.

Let me start questions with Mr. Mumby. Again, welcome for coming. As you look at transitioning to your fourth generation on the farm, I think it is important that we look at how we can ensure that new farmers are going to be able to continue the great work of your generation and others. I wondered if you might talk a little bit more about the top challenges for new farmers as well as for those that are transitioning, not just of the land but the expertise that is transitioned, and what else can we do? What should we be focused on as it relates to the next generation of farmers?

Mr. MUMBY. Thank you for that question, Senator. In my estimation, we need to support our land grant universities. They have been reduced substantially in their budgets. They have a real problem trying to originate young agricultural people. There is not a lot of those folks out there. There are fewer and fewer. As was mentioned, there are 200,000 basically farmers that supply the majority of product. Those individuals in that 200,000 area are very, very important. They need to have more than Dad's education.

I was very pleased my sons chose to attend the university and really obtain their degrees in other areas and then decide to come back to the farm. I feel it broadened their education, made them

more business-oriented, if you will. But I think that is one of the key things. We have to support our universities and educate the young farmers. They cannot get it all from suppliers or from vendors. And there is a lot of education out there that is helpful there, but really, we have seen the decimation in Michigan of the Extension Service. Personally, I benefitted a great deal from the Extension Service. I was the first one in my family to graduate from college of any sort. So I really relied on the Extension Service. But budget constraints have made it very difficult. I guess that is my first concern.

Chairwoman STABENOW. Well, thank you very much.

I should have mentioned, as you are sitting next to a University of Michigan graduate, that you get extra points graduating from Michigan State University, my alma mater, Mr. Former Secretary. I appreciate——

Mr. GLICKMAN. Sometimes, I wish my parents had sent me to Michigan State.

[Laughter.]

Chairwoman STABENOW. Well, when I was on campus, I actually worked for Cooperative Extension, and so, Mr. Mumby, I share your strong support, having seen it up close and in person, what they do.

Dr. Pinstrup-Andersen, when we talk about the world population growing and the increased demands that we all know are coming, we are also seeing an increased demand for high-value foods, as well. In your testimony, you mentioned the need for policies that increase access for fresh fruits and vegetables, other highly nutritious foods. What types of policies would you recommend and how can we implement them in a way that encourages production both here in the United States as well as in developing countries?

Mr. PINSTRUP-ANDERSEN. The key issue, it seems to me, is to change the relative prices consumers, particularly low-income consumers, have to pay for certain vegetables and what they have to pay for other things, like sweeteners and animal products. And one way to change those relative prices to make vegetables less expensive is to invest more in research to reduce the unit cost of production by certain vegetables and by certain fruits. Another way, of course, is to have direct interventions in the prices, but that tends to distort markets and that is probably not the best way to go about it.

Nutrition education can play a major role, as well. In spite of much of the—in spite of all the information that is available to consumers, particularly low-income consumers, low-income consumers may need a lot more understanding of how to change their diet. So those are some of the things that can be done.

But the point, I think, that is very important to get across is that we do not deal with nutrition in one box and agriculture in another box but that we integrate the two, and there are many, many ways of doing that.

Chairwoman STABENOW. Thank you very much.

Mr. DeVries, John Deere is relatively new, a recent entrant into the crop insurance business and I wonder if you might just talk a little bit about the company's decision to get involved, what you are

learning from providing insurance to farmers in addition to your other lines of business.

Mr. DEVRIES. We are in the crop insurance business and the discussion today around risk management and the issues facing producers today, growers of all kind, I think, underscores the reason why. If you think about the volatility, the variability in the marketplace and the need for producers to continue to have confidence to make investments over the long term in productivity improvements, whether it is in the form of equipment or seed technologies or other things that go along with that, protection is required to be able to support that and we believe that the combination of that risk management coupled with the kinds of things we can bring in the form of common agronomic practices, new technologies, we can allow for a better risk management profile for a producer going forward and that has proven to be the case. We believe it is a very interesting opportunity, continues to be, and we think it is a core part of our financial offerings going forward.

Chairwoman STABENOW. Thanks very much.

Senator JOHANNS.

Senator JOHANNS. Let me just start out and say this has been a very, very good panel, a very interesting panel in terms of the breadth of things that you have all talked about, so it is a little bit difficult even to know where to begin with a question or two.

But Mr. Mumby, if I could start with you, you are kind of the boots-on-the-ground witness, if you know what I am saying. You are out there every day. You mentioned your concern about supply, and, of course, having been a Secretary of Agriculture, I pay attention to those USDA numbers kind of religiously. Those carry-out numbers are historically tight, if you look at corn, soybeans, and, of course, that impacts other products that are raised.

I look at the flooding that is going on out there. You know, I asked farmers from other States, how are you doing in planting. We have got States where they are just barely planting, and here we are, the first of June. It is getting awful late for corn. So you kind of wonder if they are going to start switching their focus to soybeans, and it is even getting a little bit late for soybeans. So all of that together raises concerns in my mind about supply and whether there will be an adequate supply.

You talked about risk management and I would like to hear your thoughts about that, again, in terms of the boots- on-the-ground witness. What are you concerned about as you look out there at the next 12, 18 months?

Mr. MUMBY. I think we are going to have historically low corn stocks at the end of this year. September is going to be very difficult for anyone to buy a bushel of corn anyplace. I do not know where we are going to come up with a substitute for that. You can only feed so much wheat in most rations. There is a lot of that substitution that will take place. The crops down South did not get planted on time for them, not timely. We always count on the South to bring in an early corn crop, maybe 400 million bushels, to supplement when we have a tight reserve, which we have extremely tight reserves. I do not believe that is going to happen. There is enough demand down there to probably soak up what early corn comes.

The North Central Corn Belt, Ohio has a disaster. It got worse last night, again.

Senator JOHANNS. Yes.

Mr. MUMBY. I cannot see them plating 50 percent of their corn—this is just my number, but they were only 11 percent planted last week. They are going to struggle to get it from here on. Yields will go down, that is a fact, unless we have extraordinarily good summer weather.

Senator JOHANNS. Secretary?

Mr. GLICKMAN. First of all, I want to echo what Mr. Mumby said. I just was looking at my Blackberry. There is a Reuters story to expect corn plantings down about two percent more than projected, in part because of weather conditions.

Senator JOHANNS. Mm-hmm.

Mr. GLICKMAN. I think what is happening is we are, after almost 50 years of high supplies of almost all the major supported commodities, we are in for a long-term period of greater equilibrium between supply and demand. I am not saying worldwide shortages, but equilibrium, which means you will have significant shortages in various parts of the world at times when weather or natural disasters get there.

It has got a most interesting ramification for how you are going to deal with the next farm bill, because farm policy, as you know more than—both of you—has been traditionally based upon low price, high supply since the Second World War. We are probably going into a period that is substantially different, both here at home and around the world, and it is going to have great ramifications to how the United States helps the world lead, and that will mean much greater attention to research, much greater attention to technical assistance.

And the final thing I would say is the problems that the developing world are having with drought, pests, water, and energy are not limited to the developing world. We have got a lot of the same exact problems here. We are ahead of them in most cases, but a lot of these issues now, we are inexorably linked to the rest of the world, not just—they are not all by themselves.

Senator JOHANNS. We are about out of time here and I want to be very respectful of your time. We have maybe even extended a little longer than we thought we would. But here is a thought I would offer as we are kind of wrapping up here today.

As we think about the next farm bill, in many respects, I am coming to the conclusion that this farm bill is about risk management, because I think you are absolutely right. When we were working on farm bill after farm bill through the years, we were often using kind of the Roosevelt-World War II–Dust Bowl-Depression era approach. But the world has changed so vastly. We can have great technology. We can have Deere and others do wonderful things with equipment and et cetera, et cetera. The one thing that we all know we cannot control very much is what Mother Nature does to a farmer on any given day, and I just think that risk management policy is critical.

A final thing I would offer, and I have been thinking a lot about this as each of you testified, what you are all describing to us is we need a 21st century model for agriculture because there are

huge demands on the U.S. agricultural system and people need to eat or we have worldwide chaos. We all know that.

What I think we need to maybe spend some time talking about as a committee is how do we make sure we have got a 21st century USDA. And I do not say that critically of current leadership at all. It is just that you look at the time span to get things approved, and that has been slipping for years. I mean, you look at some of this stuff—Mr. Secretary, I am sure you did. I know I did as Secretary. And you would see these protracted processes that you go through. There are regulatory processes, and I could go on and on. If we tangle up the system in trying to overcome hurdle after hurdle after hurdle, then the problem we have is that we are not going to meet these demands. We are not going to see the progress we need. So how we deal with that, I think, has got to occupy some of our time as we think about the farm bill.

Mr. GLICKMAN. May I just——

Chairwoman STABENOW. Yes, Mr. Secretary.

Mr. GLICKMAN. I also think we need a 21st century review of our agriculture research, because my experience at USDA was a lot of the research was important, but a lot of the research was repetitive and routine, not enough public research being done, that is, generic, basic research, because there was an awful lot of research focused on specific crops, and I understand a lot of that stuff.

But, boy, if we are going into a world where supply and demand is much more fragile than it used to be, which means big dislocations in farm prices and food prices all over the world and possible political dislocations, which we have seen in Tunisia and Egypt and Yemen and other places, then we are going to have to really double down on finding ways to increase yields and produce crops that use less water, less energy, and do it sustainably, and that is a variation on the theme which I would agree, in addition to risk management.

Chairwoman STABENOW. Well, thank you very much, and thank you, Senator Johanns. Thank you to each of you. This has been a terrific way to begin the discussion. There is more to do. We will follow up individually and want to speak and continue to get your input. We, of course, will make sure that any additional questions for the record will be submitted within the next five days.

We thank you again, and this meeting is adjourned.

[Whereupon, at 12:47 p.m., the committee was adjourned.]

A P P E N D I X

MAY 26, 2011

Statement
Senator Sherrod Brown
United States Senate
Committee on Agriculture, Nutrition and Forestry
Full Committee Hearing
Food for Thought: The Role, Risks and Challenges for American Agriculture and the Next Farm Bill in Meeting the Demands of a Growing World
Thursday, May 26, 2011

As we enter the discussions for the next Farm Bill – it is clear to see how much agriculture has progressed even in the past generation. From development in technology and harvesting techniques to agricultural research, our nation's crops are found on kitchen tables across the globe. Our nation's farmers are the most productive in the world, but with a growing population around the world our nation's farmers are asked to continue and build upon their long history of feeding the world.

I recently announced the start of my Grown in Ohio Listening Tour, an opportunity to hear directly from Ohio farmers about the needs of the agriculture industry. In Ohio, agriculture is still the number one industry – with more than one out of seven Ohioans in job related to agriculture.

Still, Ohio farmers face challenges from fluctuating and volatile markets. Today's hearing and the Farm Bill is an opportunity to look into the tools to help farmers overcome and withstand uncertain markets. Done right, the Farm Bill can ensure Ohio's farmers have a strong safety net, access to conservation practices, and the insight of agricultural research – all to keep our farmers the most productive in the world.

SENATE COMMITTEE ON AGRICULTURE, NUTRITION AND FORESTRY
FULL COMMITTEE HEARING

U.S. Senator John Thune

American Agriculture and Food Security
"Food for Thought: The Role, Risks and Challenges for American Agriculture and Next Farm Bill in Meeting the Demands of a Growing World"
Thursday, May 26, 2011 – 10:00 a.m.
215 Hart

Madam Chairwoman and Acting Ranking Member Johanns, I would like to thank you for holding today's important first hearing on the 2012 Farm Bill. U.S. agriculture producers have taken the lead on providing food, fiber and fuel for this country and for the world. This role becomes even more important as the global population is expected to reach nine billion people by 2050.

I understand the focus of today's hearing is to draw attention to the significance of American agriculture in today's growing world. I couldn't agree more that our urban constituencies and Members of Congress need a better understanding of and appreciation for the risks and capital intensive requirements for agricultural producers to each feed more than 150 people.

Agriculture production will need to double over the next few decades. As we write the next Farm Bill under severe budget constraints, our greatest challenge will be to provide federal farm policies that balance the growing need for increased production in all sectors with providing adequate land stewardship tools to keep agricultural production sustainable and our land protected for future generations.

Our farmers and ranchers have already stepped up to the plate with increased efficiencies and technologies that have resulted in doubling corn, wheat and soybean yields over the past 50 years. Crop biologists have told us that with even more advanced biotechnologies crop yields will continue to grow. However, as yields grow, so do costs of production for growing these crops.

In fact, many farmers I know are paying more per acre to grow this year's crops than they paid per acre for their land.

The point I'm making, Madam Chairwoman, is that I have no doubt that U.S. agriculture producers will continue to increase production to meet domestic and global needs – but as they do so, their costs of production and risks will also increase.

All we have to do is look across the country, from drought in the Southwest, severe flooding in the Northern Plains, Midwest and South and record-setting numbers of tornadoes in numerous states, and we realize the incredible devastation and toll that natural disasters have wreaked on millions of acres of farmland and to poultry and other livestock producers.

From any perspective, effective risk management for agriculture producers should be one of the highest priorities for all of us on this Committee as we write the next Farm Bill.

Madam Chairwoman, we need to look beyond our own borders as well. Abroad, U.S. foreign agriculture policies are not focused enough on modernizing agriculture practices; and European Union adversity to genetically modified crops

continues to influence trade policies and decisions of leaders in developing countries.

Rather than just providing more food aid to developing countries, we need to provide more aid for agriculture development. In the past several years, we have spent 20 times as much on food aid in Africa as on teaching Africans how to better feed themselves.

Additionally, free and fair trade policies along with providing access to biotechnology, fertilizer, modern farming equipment, and infrastructure development to bring crops to markets both local and abroad, are keys to addressing the food shortages around the world.

In summary, Madam Chairwoman, I expect that writing this Farm Bill will be the most challenging, compared to the two previous Farm Bills I helped author since coming to Congress.

From a U.S. agriculture and global food perspective, this Farm Bill must lay the groundwork for keeping U.S. agriculture sustainable and to protect domestic and global food supplies.

Testimony of Doug DeVries

Senior Vice President

Agriculture & Turf Global Marketing Services

Deere & Company

Before the Senate Committee on Agriculture

May 26, 2011

Chairman Stabenow, Ranking Member Roberts, and distinguished Members of the Committee, my name is Doug DeVries. I am the Senior Vice President of Agriculture and Turf Global Marketing Services for Deere & Company. On behalf of John Deere, thank you for the opportunity to provide testimony today on the issue that is perhaps the single most important challenge facing our country, our company, and the world – that of global food security.

For 174 years, John Deere has enabled human flourishing by offering advanced solutions to those who produce our food, fiber, and fuel, beautify and protect our environment, and build and maintain our homes and critical infrastructure. Deere has been driven by a consistent purpose – improving productivity and efficiency of our equipment for the benefit of our customers.

BACKGROUND

The global agriculture sector faces significant challenges in the years ahead. The world's population is growing steadily, resulting in at least 30% more people to feed, shelter and clothe in the next four decades. Every hour an additional 9,000 people join the world's population, and the world's population will grow from approximately 7 billion today to more than 9 billion by 2050. New estimates indicate a population of more than 10 billion by the end of

this century. In addition to growing in number, this population is growing in prosperity – requiring improved and more varied diets – while becoming increasingly urbanized. The demands on agricultural production are significant, requiring that we double agricultural output by mid-century to support this growing population and enable better living standards.

The impact of the emerging affluence of much of the world's population cannot be understated. Consider that over one half of the world's population lives in countries with economies growing at 6% annually or more. Fully 40% of the population is in countries growing 8% annually. As incomes in these countries rise, more and more people join the ranks of the middle class. While in many instances that may mean earning only a few additional dollars a day, it is enough for people to upgrade their diets – a first priority of most. This creates more demand for meat and animal protein in particular, in turn creating greater demand for grains.

Further compounding this challenge, we must achieve this additional output in a sustainable manner. This means doubling output with roughly no more inputs than used today – land, water, and other inputs such as fertilizer. There is limited amount of farmable land and fresh water available – most of the world's productive agricultural land is already in use. Indeed, incremental acreage can be brought into production, but it tends to be less fertile, more costly to farm, and often less suitable for sustainable agriculture. Clean water is also becoming increasingly scarce – both for urban and industrial needs, as well as for agriculture irrigation. Water scarcity already affects a significant portion of the population on every continent. Expanding industrialization and urbanization further increases the competition with agriculture for available fresh water.

The effects of climate change on food production add to the challenge. Experts believe that the impacts of a changing climate may have the most negative agricultural effect in the regions of the world that already are struggling with food security -- regions that also have less capacity to adapt.

Urbanization is another trend with significant impact on our ability to ensure agricultural development and productivity growth. As the population becomes more affluent and urban, less labor is available in rural and agricultural communities, requiring greater mechanization and the use of more modern equipment, as well as significant investments in infrastructure to deliver high quality food and agricultural products to the centers where it is consumed. In 2007, for the first time, more than half the world's population lived in cities. By 2050, 70% of the population will be urban -- nearly as many people could be living in cities as are alive on the planet today.

Higher incomes, better diets, increased urbanization, the necessity of sustainability – while addressing climate change impacts – present a significant challenge for our sector. It means producing more food over the next few decades than in the previous 10,000 years!

Given these powerful economic, social, and environmental trends, how can we double agricultural output by mid-century with the same or fewer resources than used today? Clearly we must be more productive than we are today. How do we close the productivity gap – the difference between today's rate of farm productivity growth and the rate required to meet future demands? How can we not rise to this challenge? Failure to do so will mean additional human suffering from hunger and malnutrition, leading to widespread social and economic disruption. Obviously, that is not acceptable. For John Deere, with a long history of improving the quality of life and promoting human flourishing, this is a cause of great concern.

AGRICULTURAL PRODUCTIVITY

The issue of increasing agricultural productivity is nothing new, and dramatic gains have been made over the years. Productivity advancements have resulted in the typical US farmer today feeding more than 150 people – six times more than in 1960. The highly-productive US agriculture sector has played a key role in meeting global demand in the past, and will continue to do so as producers innovate and adopt new technologies. While this illustration shows us what is possible, it is also important to note that the rate of global productivity growth may have slowed in recent years. In any event, we know that the rate of annual total agricultural productivity growth must be even faster – perhaps 25% or more – in order to meet society's future needs.

Further advances in machinery can play a big part in reaching this goal. Indeed, agricultural equipment has been getting more powerful, smarter, and more efficient for some time. These machines are truly sophisticated productivity tools. Today's large Deere tractors include more lines of software code than early space shuttles! GPS technology can guide a tractor and implement in the field with near-perfect precision. This means less overlap in tillage and chemical application, saving time and money, while reducing environmental impacts. Consider also the dramatic gains in harvesting technology. Deere's smallest combines today are more productive than the largest sold in 2000. Today's typical combine does three times more work than the harvesters of a generation ago in a similar amount of time. So, while the world may be challenged to boost agricultural productivity, the technologies exist, or are under development, to help do just that not only in mechanization but also in crop and livestock genetics and other areas.

SOLUTIONS NEEDED

Enhanced Trade

Ensuring and expanding trade is a foundational requirement to meeting the world's food demands in a sustainable manner and enhancing global food security. About one quarter of all food and agricultural products today is traded. That figure will only grow, making trade – local, regional and international – even more integral to providing a growing population with the food and products they need. A strong, open, rules-based trading system helps ensure that agriculture is practiced in the places where it makes the most economic and environmental sense. Traditionally, major nations viewed food self-sufficiency as equivalent to food security. As self-sufficiency becomes less and less viable, it magnifies the importance of having more open trade policies and fewer barriers to moving agricultural goods from one nation to another. Freer trade, fewer restrictions, and stronger rules will go a long way towards facilitating worldwide commerce, stimulating economic growth, and ensuring the world's population is properly fed, clothed, and housed.

Deere believes that the United States must play a key leadership role in ensuring progress in creating a more open global trade environment. This includes enactment of pending trade agreements, development of additional bilateral and regional agreements where they make sense, and enhanced efforts to conclude the Doha Round.

Strategic Investments

Another prerequisite for higher productivity is significant strategic investment in rural sectors across the world. It is not enough to simply sustain rural communities -- we must work to ensure long-term prosperity. In developing and transitioning countries, the majority of the population tends to be engaged in some aspect of agriculture. Investing in hard and soft infrastructure for these rural areas can improve the lives and livelihoods of many people and

have a very positive impact on agricultural output. In many parts of the world, the primary impediment to productive farming is not the fertility of the fields or the caliber of the equipment, but the condition – or even existence – of adequate roads, bridges, storage, and ports.

"Soft" infrastructure is important as well, including appropriate policies that eliminate legal, financial, and social barriers to land ownership and property rights and encourage private investment across the agricultural value chain. The estimated gap in investment in this sector is significant, and while a portion of the funding can, and certainly will, be provided by public and private donor programs, the private sector must play a major role. In order to spur private sector investment in much-needed infrastructure and capacity that directly and indirectly drive agricultural sector growth and productivity, a strong focus in all countries on domestic infrastructure programs, and efforts to improve governance and reduce corruption are urgently needed. This will ensure a stable investment climate and enable leveraging public-private-partnership capabilities around the globe.

The role of the private sector as a partner with the public sector is critical to enhance agricultural productivity. For example, Deere announced an innovative public-private partnership in the state of Gujarat, India, to benefit tribal small farmers. The program is intended to help 50,000 families mechanize their farms and increase yields as much as three-fold. Deere will open small agricultural-implement resource centers across Gujarat, making more than 500 tractors available for use by local farmers. In addition, Deere will train 1,000 local tractor operators and another 500 mechanics. This project will build local capacity and enhance utilization of advanced agronomic practices, while generating additional revenues for the local producers and their communities and enhancing food security.

Strategic Research

In addition to a focus on investment in infrastructure and capacity in the agriculture and rural sectors around the world, a renewed emphasis on agricultural research is required. In recent years, support for basic agricultural research has been declining. This reduction in research capacity, coupled with the growing demands on the agricultural sector, present a critical shortcoming. While Deere recognizes the fiscal challenges facing the US and many other countries, programs that can deliver lasting agricultural productivity results in the coming years through investment today are dearly needed. In addition, targeted priority areas of specific research such as efficient water use, targeted crop genomics, enhanced nutritional and health benefits of crops, and reducing post-harvest losses will pay dividends. While emphasizing the need for more public sector research support, the private sector is also playing a critical role. For example, at John Deere we spend more than $2 million a day on research to create more efficient equipment, efficient utilization of inputs, and management of the harvested crop. This investment in research is taking place at Deere and many other agribusiness companies around the world, and is helping to deliver critical successes to ensure accelerated productivity growth.

Focus on Sustainability

Finally, the more rapid rate of agricultural productivity growth must be achieved in ways that conform with society's expectations for sustainability and corporate social responsibility. For Deere, this commitment is reflected in pretty much everything we do – which should not come as a surprise considering that farmers are the original conservationists. A strong example is the advancement in Deere engines over the last thirty years – today's larger engines are 99% cleaner-burning than just 15 years ago! What's more, these gains have been accomplished with virtually no decrease in fuel economy. In recent engine generations, in fact,

fuel economy has improved in certain respects. This is a significant achievement in light of the design changes required to reduce emissions so dramatically.

CONCLUSION

As we can see, tremendous challenges face the world today, and none so stark as those facing the agricultural sector. In order to close the global productivity gap, we must think differently and much more aggressively. This drives John Deere's efforts as we expand our global presence and broaden our product lines. Several recent significant projects will expand our global manufacturing capacity, including in some place where opportunity for improved productivity is greatest, such as China, India and Russia. By expanding our presence throughout the world and making our products more available to more customers in more places, Deere is seeking to help close the agricultural productivity gap. This is also true of our competitors and virtually all companies associated with agriculture.

The growing investments by our industry will help to feed the world in the years to come. But even more is clearly needed. To promote awareness of the enormous challenges and opportunities facing global agriculture, Deere and three other companies (DuPont, Monsanto, and ADM) launched the Global Harvest Initiative in 2008. The GHI collaborates with key partners in the related spaces of food security, hunger, environment/conservation, economic development, sustainability and national security to promote policies that can ensure we meet global agricultural demands while responsibly meeting other societal needs. To focus attention on immediate needs, GHI has developed the Global Agricultural Productivity Report and the Global Agricultural Productivity Index in collaboration with USDA, the Farm Foundation and others to provide a meaningful metric for efforts to advance agricultural productivity worldwide. These reports and much more information is available at

www.globalharvestinitiative.org, and are highlighted each year at the World Food Prize symposium.

In closing, I want to express our optimism about agriculture's ability to accelerate productivity and growth sufficient to meet the future global nutritional requirements. It will not be an easy task, nor can success be taken for granted, but it can be done. I am also confident that Deere has the plans, the products, and the technological prowess to contribute to meeting the mechanization so critical to meeting that goal. After all, this is what Deere has been doing for nearly 175 years. In the early days of our nation, John Deere's steel plow made possible the settlement and development of much of America. Today, our equipment is arming another economic revolution –helping to feed, fuel, and clothe a growing, more affluent population with growing aspirations. In this way, we are supporting greater prosperity around the world, and furthering our corporate mission of serving those linked to the land. We have an opportunity – and an obligation – to help the world grow in sustainable ways and facilitate human flourishing everywhere.

Thank you again for the opportunity to testify, and I will be pleased to respond to any questions the Committee may have.

Remarks by Cochairs of The Chicago Council on Global Affairs' Global Agricultural Development Initiative – Dan Glickman, former US Secretary of Agriculture and Catherine Bertini, former Executive Director of the UN World Food Program

HEARING – "Food for Thought: The Role, Risks and Challenges for American Agriculture and the Next Farm Bill in Meeting the Demands of a Growing World" U.S. Senate Agriculture, Nutrition and Forestry Committee May 26, 2011

Chairwoman Stabenow, Senator Roberts, and members of the committee, thank you for giving me the opportunity to appear before you to discuss our on-going work to identify opportunities for the United States to provide leadership in advancing global agricultural development.

For the past three years, Catherine Bertini and I have supported an effort to restore American leadership in the fight against global hunger and poverty. We have done this from a platform at The Chicago Council on Global Affairs, through the support of the Bill & Melinda Gates Foundation, and in partnership with many public and private organizations and interest groups[1]. We have focused our efforts on activities that will result in a significant increase in agriculture and food sector development in sub- Saharan Africa and South Asia. These two regions have the world's most un-developed agricultural systems, and we are convinced the development of these systems is essential to both the world's ability to meet the demands that will be placed on the global agriculture and food system over the next decades, and to spurring economic growth and development in areas of the world where poverty and hunger are pervasive.

I am here today with some very good news. But I am also here with a challenge for congress, for the Administration, and for civil society including the for profit agribusiness community. I will base my testimony on two major sources of information; the "2011 Progress Report on US Leadership in Global Agricultural Development", released only two days ago at a Symposium on Global Agriculture and Food Security, organized by The Chicago Council on global Affairs, and first hand observation of food security and agricultural development projects in Tanzania and Mozambique where Catherine and I had an opportunity to see some of the U.S. government's work on food security projects led by USAID, the Alliance for a Green Revolution in Africa (AGRA), and the World Food Programme (WFP).

The bottom line is that the attention that the US government has paid to global agricultural development since 2009 has been pivotal. For years this was an area that was extremely neglected by U.S. policymakers. However, now there is new energy, and much has been accomplished. America's agricultural institutions have been part of this transformation. The US agriculture community has an opportunity to continue to support international agricultural development to not only address the challenge of global hunger, but support US food and agriculture interests.

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[1] The views expressed in this statement are those of Dan Glickman and Catherine Bertini and may not reflect the views of the Bipartisan Policy Center, Aspen Institute, the Maxwell School at Syracuse University, other organizations with which the cochairs are affiliated, or The Chicago Council on Global Affairs.

Global Food Security Contributes to US National and Economic Security

The world food shortages of 2007-08 followed more than two decades of declining U.S. investment in global agriculture and revealed the importance of worldwide food security for America's national interest. At the time, optimists argued that the shortages and price volatility were temporary. World food prices did fall back in 2008 and 2009, but they stayed above the historically low levels seen earlier in the decade, and then rose sharply again to crisis levels in 2010-11.

Volatile commodity prices and food shortages are an important trigger for political instability and signal natural resource scarcities. These forces, combined with political corruption and soaring unemployment in low-income countries, loom as a further threat to the stability of governments, global economic growth, and U.S. national security.

Moreover, the demands that the food and agriculture system will face in the decades to come are enormous. There are currently 1.4 billion people who live on less than $1.25/day. Global demand for food is expected to double by 2050 because of population and economic growth. This is a conservative estimate, because new data from the United Nations projects that the world's population is expected to expand more rapidly, and for a longer period of time than originally anticipated. To put it in stark terms --- the world's farmers, ranchers, and fishers will be expected to produce more food in the next 40 years than they have had to in the last 8,000 years combined.

The world now is extremely interconnected. The implications of the natural disasters in South Asia and fires across the wheat fields of Russia in 2010 were reflected in world commodity price markets. Moreover, many of the issues African and South Asian farmers grapple with are the same as those of American domestic producers: the challenges of how to increase yields and make crops more pest, drought, and disease resistant impact farmers not only in Africa, but America as well.

U.S. leadership in global agricultural development is an important component of meeting future challenges and minimizing commodity price volatility in an increasingly interconnected and interdependent global agriculture and food system. These investments will benefit both American and international agricultural producers. Improved U.S. policies towards and increased public investments in developing agrifood systems would make private sector investment less risky and more attractive and bring a return to rapid productivity growth and build a hedge against price volatility. Failure to exert sufficiently large and well-targeted efforts will simply continue the recent trend of increasingly volatile markets.

American Leadership

Since the release of The Chicago Council's 2009 *Renewing American Leadership in the Fight Against Global Hunger and Poverty* report, a number of policy developments signal a significant shift in thinking about how the U.S. can best leverage its resources to address global hunger and poverty. In April 2009, President Barack Obama called for a doubling of U.S. support for agricultural development at the G20 summit; in July the G8 announced a new $22 billion multinational food security initiative. Both the House and Senate considered legislation to enhance support for agricultural productivity. In September 2009,

Secretary of State Hillary Rodham Clinton released a consultation document on the U.S. Global Hunger and Food Security Initiative and in May 2010 the Administration launched the *Feed the Future Guide*, a whole-of-government food security effort led by the U.S. Agency for International Development (USAID).

The government's increased focus on agricultural development and food security occurred in the context of a broader effort at foreign assistance reform, embodied in two new kinds of policy statements, the Presidential Policy Directive (PPD) on Global Development released in September 2010, and the Quadrennial Diplomacy and Development Review (QDDR) delivered in December 2010. U.S. investment in agricultural development has increased sharply in the past several years, a clear statement that indeed the U.S. recognizes the gravity of the global food security situation and is prepared to take a leadership role in addressing head-on the causes of food insecurity.

America's past and present successes with domestic agricultural development mean it is well placed to lead the global fight against hunger and rural poverty. The institutional and technological strengths that built the U.S. agricultural sector can be deployed overseas to help the most fragile regions of Sub-Saharan Africa and South Asia achieve robust productivity growth comparable to that which was achieved over the last century. Past experience with U.S.-led assistance for agricultural development in countries like South Korea shows how valuable it can be for America to sustain these investments over many years, and thereby permanently transform a vulnerable and unstable country into a prosperous and secure partner. There is great, un-tapped agricultural potential in Sub-Saharan Africa and South Asia. Yields in Africa are, on average, seven times lower than those in America, and in many places, only about 20 percent of arable land is in use.

If we fail to lead in this way, America will be the poorer for it. U.S. public agricultural institutions have the world's strongest track record of success in achieving food security and poverty alleviation, in large part by delivering new technologies and market infrastructure for use by farmers and private-sector input suppliers and product marketers. Other countries that seek to influence agricultural development in Sub-Saharan Africa and elsewhere often bring a very different agenda, such as European countries opposed to biotechnology, or Chinese efforts to influence Sub-Saharan African governments and control natural resources through massive land purchases. If the U.S. fails to sustain leadership in global agricultural development, the result could be a significant setback in the struggle against hunger and rural poverty.

Progress in Delivery of Global Agricultural Development

The area where there has been the most impressive progress has been the improvement in the national and international institutions that deliver agricultural development assistance. USAID's leadership and effectiveness at delivering agricultural development has been renewed, and there is impressive interagency collaboration on *Feed the Future*. The agency is being re-energized under new, dynamic leadership; a Bureau for Food Security has been created and is being staffed with professional officers. The interagency coordination that went into the development of first the US Global Hunger and Food Security Initiative Concept Paper and then the *Feed the Future Guide* was exceptional.

USAID has implemented, and is continuing to implement, the broader structural changes needed to ensure that it can deliver effective, targeted, agricultural development assistance

that will have maximum impact. The Agency's ability to monitor and evaluate the impact of their programs has been totally restructured and is already being implemented.

There has also been improved interagency coordination. There are 10 agencies that are working on various components of the *Feed the Future* initiative. The *Feed the Future* research strategy has laid out ambitious plans for coordination, including the new Norman Borlaug Commemorative Research Initiative, which establishes partnerships between USAID and USDA to leverage the expertise of USDA's research agencies.

The US government is also taking new measures to work with partner organizations in the field, and more of this collaboration should be encouraged. When strategy is clear, integrated and high-performance field teams can maximize limited resources. For example, in Mozambique, which is a focus country for *Feed the Future*, agricultural development is a key part of the vision for U.S. country programming. The US mission has integrated its Food for Peace and PEPFAR work into its agricultural development plans, and is working with local businesses and international organizations such as the World Food Programme. Although Mozambique is only receiving a limited amount of funds for *Feed the Future*, those monies are well-directed and managed.

Future Opportunities for American Leadership in Global Agricultural Development

In spite of this progress, there are areas where the US can strengthen its leadership and support for agricultural development. We will focus our remarks towards the areas that are especially pertinent for the Senate Agriculture, Nutrition, and Forestry Committee's consideration.

Agricultural education for international scientists and extension systems in developing countries need strengthening and more innovative methods should be adopted. Although the U.S. government is supporting agricultural training for a greater number of foreign students at American institutions (In 2008, the U.S. government supported training for about 80 students. In 2010, that number increased to approximately 125 students, thanks to the fellowships from USDA and USAID), the majority of these programs give students just one year of education. Deepened educational experiences are needed, and more support should be provided for high-quality training in developing country institutions.

Partnerships between US and developing country institutions require significant strengthening : there is little evidence, from our experience and perspective, on the ground of partnerships between U.S. and African and South Asian universities. These partnerships need to be led by the institutions in the developing countries, and designed to build indigenous capacity, including the establishment of institutional networks and centers of excellence in Africa and Asia.

Further support for extension systems in developing countries is also critical. Because of the limited capacity of governments in the developing world, the US government and private sector actors are beginning to invest in alternative extension models, and this kind of investment should continue. In Tanzania, we saw how the Alliance for a Green Revolution in Africa is training agro-dealers to be extension agents. These agro-dealers become knowledge about handling of inputs, and then in turn, train their customers in yield-improving techniques.

Additionally, the US is well positioned to continue to strengthen its leadership in the area of agricultural research. USAID and USDA have collaborated on the *Feed the Future* research strategy, and a large portion of it focuses on research that would be beneficial to both American and international producers. Modest, increased investments in the Consultative Group for International Agricultural Research, National Agricultural Research Systems in the developing world, and Collaborative Research Support Programs hosted at US universities are critical vehicles for international agricultural research. Moreover, many components of USDA, including the Economic Research Service, Agricultural Research Service, and National Institute for Food and Agriculture, could focus more of their research agenda on issues that can strengthen both American and international production. Efforts to advance this portion of the research agenda are underway, but on-going and bolstered Congressional support, particularly from the members of this committee, would further energize these activities.

The recently released *Progress Report* analyzed U.S. policies currently seen as harmful to agricultural development abroad. It concluded that there has been no change since 2008 in U.S. policies that inhibit agricultural development abroad – U.S. food assistance delivery, including the monetization of food aid abroad and US cargo preference rule and trade and biofuels policies. These policies continue to generate heated debate. However, there is real opportunity for change in the year ahead because the Farm Bill is being considered. The 2009 Chicago Council Report recommended the following:

- Food aid policy is more effective and efficient when monetization is scaled down and local and regional purchase increased. There are two opportunities in particular that this committee might consider. First, the local and regional purchase pilot project launched under USDA's Foreign Agriculture Service in 2008 with Congressional endorsement, will conclude in 2012. An expanded version of this project should be extended. Second, the McGovern-Dole International Food for Education and Child Nutrition Program has become not only a source of pride for the US but an incredibly effective mechanism to both alleviate global hunger and malnutrition and increase educational opportunities for children. This committee might consider also providing technical assistance to developing country governments and local organizations to support the expansion of school-feeding in lower-income regions.
- The Bumpers amendment still prohibits the US government from supporting foreign research for commodities that are also produced in America. There was legislation to modify this amendment in early 2010, but it was not passed.
- Revise U.S. trade distorting policies related to agriculture.
- Reconsider bio-fuels policies. However, it should be noted that the US Department of Agriculture is investing in research for non-foodstock biofuels, which is consistent with our recommendation.

Conclusion

In summary, the *Progress Report* and visits to field programs in Africa show that there has been significant improvement since 2009 in America's leadership in global agricultural development. The attention this issue has received over the past two years has been unprecedented since the 1980s. There is the opportunity to demonstrate real results --- and permanently reduce the incidence of global poverty while expanding and strengthening the global agriculture and food system to meet the demands that will be placed on it in the

years ahead. What is needed now is a long-term, American commitment to advancing agricultural development, and continued leadership. Thank you.

Testimony Before The US Senate Committee On Agriculture, Nutrition & Forestry
Presented By
Barry A. Mumby

Good Morning Madam Chairwoman, Distinguished Senators and Honored Guests

My name is Barry Mumby and I thank you for the opportunity to share my views of American agriculture, the pending farm bill and the role we as American farmers are required to play in feeding an ever growing world.

First allow me to provide a brief background of my experience as a lifelong farmer located in South Western Michigan, in St Joseph County adjacent to the Indiana state line.

My father, Robert Mumby purchased our home farm consisting of 330 acres in 1933 with the aid of his Father-in-law Frank Shellenbarger. I mention these names as a reference for comments I will make later in my presentation. Our family farm, Wakeshma Farms LLC, now cultivates about 2200 acres each year and provides a livelihood for three families.

Agriculture does not plan in weeks, months or quarters but rather in years, decades and generations. I am a third generation farmer and am in the process of transitioning the land to my sons David and Sean and daughter Kate. They have all achieved a higher level of formal education than I but they continue to look upon "The Farm" as their roots. I have been and continue to be a mere caretaker of the land during my lifetime, working to secure the benefits of production agriculture for my family. As I move toward retirement I will remain close to the soil that has provided a good living and an opportunity to prosper for three generations and hopefully the fourth fifth and beyond.

I have witnessed innovations in production agriculture that combine information, genetic, mechanical and environmental technology that my father, who started farming with mules, could never imagine. As you begin to consider a new farm bill I believe it is important to remember the

successes and failures, of past bills and to address the needs of a hungry growing world population that demands a better balanced diet.

American growers can and will do their part in this endeavor because we have the land, the economic incentive, the technology, the infrastructure, the machines and genetic knowledge that is readily available to all US growers. Our farm now utilizes management practices such as GPS grid soil testing, GPS variable rate application of fertilizer and lime, GPS controlled guidance systems to ensure there is no duplication of land tillage that wastes time and energy, and yield mapping by the GPS system in our combine to provide hard data for yield, test weight and harvest moisture every five seconds.

This data is supplemented by the same technology for our field sprayer which records the weather, time of day, wind speed and direction, temperature, name and rate of herbicide that is being applied, all required for every pesticide we use. The sprayer also has the swath width managed by the GPS unit on the 90 ft. wide boom to avoid lapping or gapping fertilizer and pesticide applications. The corn planter monitor records seed corn kernel spacing to a tenth of an inch for sixteen 30 inch rows every two seconds. All this information flows into a computer chip that can be downloaded into our laptop computers for future reference in planning and record keeping.

As a Founding Director and ten year member of the United Soybean Board I traveled to 27 foreign countries reviewing projects and in-country office performance. The projects and country offices were funded by US soybean farmers through the National Soybean Check Off and administered by the American Soybean Association in conjunction with the USDA Foreign Agricultural Service. Some of those countries had one, two or several components of our production advantages mentioned above but none of them had all the pieces to the puzzle.

American farmers must be allowed to do what we do better than anyone and that is produce food. I believe American growers can continue to improve crop yields and maintain the highly productive quality of our nation's soil and do it in an environmentally sound fashion. Earlier in my comments I mentioned my Father and his Father-in-law and indicated I would revisit them later. My farm now consists of large fields that 40 or 50 years ago were individual farms. Field names such as Nichols, Addison's, Churchill's or Shellenbarger's were all family farms at one time. The Shellenbarger farm is now three generations removed from the original owner but remains under

cultivation by my son, Sean and I. Entire family farms have become a single field name with the descendant of those family farms scattered far and wide.

My Grandfathers cleared timber and prairie ground into "horse" sized fields and picked a lot of rocks by hand making piles of rocks and stone walls to contain their livestock. My father continued improving the land by making the small fields into twenty and forty acre fields large enough for small tractors. He also buried four miles of rock fences and over 240 stone piles on the home farm of 330 acres to improve the land on his watch. My contribution has been to complete clearing stones and fence rows, the installation of drainage tile and irrigation in addition to utilizing deeper tillage with chisel plows burying crop residue and improving the organic matter and depth of the soil profile and improving the general fertility and soil composition.

There are those that frown on big or corporate agriculture and dream of returning to the old days of small farms with small fields and the simple life. That is not the type of agriculture that will feed a world population that has grown 32% since 1990 creating crop demand curves that are very aggressive. While world population grew 32%, demand for soybeans has risen 151%, corn 81% and cotton 40%. The demand for rice has grown 36% while wheat demand has increased 21%.

I believe that the 1990 farm bill authorizing the creation of the United Soybean Board (USB) with the intent of market promotion for US soybean farmers played a significant role in creating a strong demand base for our products. The USB focused on the inclusion of more and better quality sources of protein for feed rations as is witnessed by the increased consumption of Chinese soybean meal from 2 MMT in 1990 to 48 MMT in 2010. USDA projects the 2011/2012 world soybean production will equal demand at about 263 MMT including a record soybean crop in South America. In 2000/2001 world soybean production totaled 176 MMT with consumption of 172 MMT.

US farmers have about 236 million acres to plant to crops each year with many of those acres interchangeable between cotton, corn, soybeans and wheat. As my son and I prepared our business plan for 2011 and beyond, it was interesting to note that for the first time in my lifetime every commodity crop we considered provided a reasonable return given normal yields and weather.

The world carry out of nearly all grains and oil seeds continues to decline as poor growing conditions reduce yields while population growth and increased demand for better diets increase consumption. Commodity supplies for cotton, sugar, corn, wheat and soybeans are dangerously low. On May 18th 2011 it was reported that a livestock feeder in the S.E. US purchased corn paying $1.20/Bu. cash price premium over Chicago July CBOT futures. This is a wide, almost panic basis that may be an indication of future cash prices needed to originate corn for feeders or ethanol plants in late summer. This will place a burden on the meat production industry in the US that may prompt a reduction in numbers of livestock on feed.

In the world of agricultural production each continent in either hemisphere has an opportune time to plant and harvest and their crops and total production are the result of the usual weather conditions both good and bad. I believe the last eighteen months of world commodity production has been limited by poor weather conditions at some point in each area of their production cycle. The spring crops in Europe suffered from a cold and wet spring, Russia and Ukraine lost many tons of wheat, rye and barley to drought prompting them to stop exports. This was the catalyst for the rapid increase in grain and oilseed prices late last summer. This was followed by a unexpectedly poor US corn crop which fueled higher prices.

Today we have a severe drought in portions of the UK, Northern France and Northern Germany while the US struggles with a severe drought in the Plains drastically reducing Hard Red Winter wheat production. Currently, the Northwestern Corn belt, Midwest and South are experiencing wet soils and floods. Corn and soybean planting progress is behind the normal pace and an early 2011 corn and soybean crop harvest is out of the question. Due to late and prevented plantings, the 2011 US corn crop is likely to come in with fewer bushels than is currently projected by USDA.

The US farmer will do everything possible to produce a big crop but the crop growing weather is a limiting factor. American farmers will adapt new technology, balance fertility and pesticide applications and work night and day to grow a big crop in an environmentally acceptable manner. We will do this because that is what we do for a living and have done for centuries, generation after generation.

I believe that the US farmer has realized that we have a moral obligation to be as productive as we can on every acre so that we can help feed the world masses. In 1990 there were about 5.3 billion people in the world to feed and now there nearly 7 billion. A new farm bill must recognize the fact that the scenario is much different than in the past. I experienced an era of encouragement to "plant fence row to fence row" followed directly with over production and dirt cheap grain prices. It is always dangerous to predict but I think this is a different situation that is driven by several rapidly growing world economies, namely India and China. As long as their economies remain strong the demand for more food and higher protein diets will continue to increase demand.

We need a safety net that buffers us from weather losses or unexpected financial meltdowns such as experienced in recent years. The crop insurance program is an important part of risk management for many farmers and offers lenders some measure of comfort. I believe it works well and should be enhanced with more help for farmers when we need it.

Personally, I would favor support to keep insurance premiums as low to the farmers as possible and yet maintain the independent free enterprise system by utilizing crop insurance agents as we do now. I believe it unlikely crop insurance could be handled as efficiently by government employees as it is by independent agents and companies. Agents are competitive for my business with four or five contacting me each year. I choose the agent that is most knowledgeable, offers 24 hour service when I am busy and utilizes personalized spread sheets for insurance comparisons as conditions change on my farm year by year. The system works well as it is and I doubt that moving it under the government's wing will save any money.

Risk management is my business both for my farm and for client consultations which I conduct on an as needed basis. Total risk management for the American farmer is broad and complex and would take some time to explain. In general terms, risks experienced by farmers range from world weather, world economies, world politics and changing US policies regarding the rest of the world to spreading my production risks for my soybeans or corn from one farm to another so that a hail storm won't destroy my entire crop. And in reality I can't do anything about the world issues except, perhaps, by testifying before you today and reinforcing how your

decisions will affect me, my son's and future generations. But, there is a multitude of risk management tools that many farmers and I utilize daily.

#1 We have good crop prices offered for 2011-2012-2013 but I can't lock up my input costs nor protect against inflation of those input costs. Do I dare sell corn when I can't lock up my input costs? If so, how much risk can my balance sheet handle if I am wrong? If I hedge 50,000 bushels of 2013 December corn for $6.00 and the price goes to $10.00, will my banker cover the $200,000 margin call? Will I experience a crop failure and not be able to deliver to my buyer thus incurring a penalty as well as the margin money loss? What happens if fertilizer prices skyrocket and the country we are importing it from decides they want to keep the product for their crop or that they just don't like us anymore?

#2 How will the new farm bill affect my business? Will it be so complicated that my landlords and I can't understand it? Will it be timely in honoring it's commitments and not require me to wait two years for compensation from adverse market prices and weather? Will it saddle me with endless trips and paper work to an understaffed FSA office to sign up with delayed rules and regulations written some time in the future?

#3 Banks run hot and cold on agricultural loans and when they are needed most, they are no where insight. I have utilized borrowed capital my entire lifetime borrowing $2200 when I was 17 to buy some bred cows with calves by side. I survived $.80 cent corn in the 1960's, made some money in the 1970's on farrow to finish hogs but was forced to sell part of my expansion acres in the 1980's when there was an arbitrary devaluation of agricultural land and assets. Appraisals plummeted and even though no payments were missed I was about to violate my loan covenants.

This reminds me of the current situation with reports that federal agencies are expecting agricultural land values to experience a "bubble." They compare it to the housing debacle of late yet it is hard for me to see the comparison. To my knowledge, lenders will not loan more than 65% of the appraisal price for farmland and it will return 3-5% in the form of rent or profits. It does not require inflation nor refinancing in a few years to remain a viable loan.

#4 Agricultural and Land Grant Colleges from coast to coast have experienced budget reductions which is very detrimental to developing a

supply of well educated young farmers that are needed to replace the aging farm owner population. Beginning or young farmers need an opportunity for a solid education to develop skills needed to utilize the higher levels of technology needed to be successful. They also need an enhanced financing program to provide the low interest capital required by agriculture.

#5 US agriculture is very diverse and one size does not fit all regions, growers, commodities or economic environments. A Farm Bill needs to be flexible because anticipating future events for five years, given the current volatility in weather, economic and political environments, is impossible. The majority of Farm Bills have focused on price supports for agriculture and nutrition programs for the underprivileged. The human nutrition portion of a new Farm Bill continues to be large and actually growing due to high levels of unemployment. Current price support levels do not recognize the increased cost of production. The farmer's cost of the seed needed to plant an acre of corn or soybeans today and the cost of fertilizer will likely exceed the support price for the entire crop produced. I would suggest that the new farm bill focus on supporting an improved insurance safety net and allow farmers to determine their crop mix from year to year as supply/demand moves from commodity to commodity.

My oral presentation will cover many more issues I believe are important to the American Farmer as we try to feed a very hungry world. Make no mistake, US farmers can no longer solve the depleted world stocks problem as we have the past. The US can be proud of all the food aid given out to poor countries for decades but now the rest of the world has to improve their yields on the amount of acres they have with out clearing more forests raising environmental concerns.

I personally believe, if given "normal" weather, the US can produce an average soybean yield of 55 bpa., not the 43 or 44 we currently produce, if farmers utilize all of the current technology today. We have accomplished this on our farm in Southern Michigan over the last five years because the risk reward relationship said $12.00 soy prices were worth the extra trips and cost of added growth stimulants, fungicides or fertilizer. $8.00 soybean prices were not worth the added investment risk given variable weather

Corn growers have a positive trend line yield picture yet 2009's 163 bushels per acre was followed by 2010 at about 153. The USDA currently projects about 163 for 2011. It seems the corn breeding focus is more on saleable

defensive traits to protect yield than to just to increase yields. I believe given current technology and "normal" weather average corn yields can achieve 175 bpa. Again, farmers must weigh increased input costs against $6.50 corn prices to determine their level of risk acceptance.

In summation, I must say that this Committee has a daunting task and every farmer in the US as well as the rest of the world will be watching very carefully to analyze the effects of your Bill on their lives for the next few years.

In my travels to twenty seven foreign nations on behalf of US soybean farmers I was always greeted with friendship perhaps even admiration because I was an American farmer and in their eyes something special. I thought of myself as just another farmer trying to provide a living for my family and my employees. The number of questions about my personal and business views never ceased to amaze me. In 1996 I traveled to China as the USB Chairman to promote soybean meal in the diets of pond raised fish. The US product contained a high level of soymeal that better balanced the ration for fish and floated for a period of time so that it was more available for feeding.

In 2001 I returned to the same area and in fact to the same fish farm located in the Guangdong Municipality and owned by that entity. After introductions by my interpreter and a brief review of the current situation with the farm the farm manager, who was the same man in 1996 through the interpreter asked me to accompany him back to the travel bus. When inside the bus he bowed and shook my hand endlessly while taking out his wallet to show me a picture of his wife and children. He communicated with difficulty but said that he had achieved a very high level of fish production due to the new style US fish feed and had received promotions and increased his standing with government officials. As he spoke tears of gratitude flowed from his eyes as he continued to hold up the picture of his loved ones shaking my hand.

The impact of the Farm Bill this Committee is about to compose is monumental. The farmers and consumers of the world are confident you have the knowledge, skills and ability and we all wish you the best.

Respectfully submitted by Barry A. Mumby

The Global Food and Nutrition Situation:

Implications for the 2012 Farm Bill

Statement by

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Before the U.S. Senate Committee on Agriculture, Nutrition and Forestry

May 26, 2011

Recent fluctuations in international food prices have drawn attention to the global food situation and generated much debate about what the future will bring. Food riots have caused instability in many developing countries and the number of hungry people is increasing. Questions are raised about the ability of the world to feed future generations without doing damage to natural resources. Whether recent developments are a short-run blip in a long-run trend of stable food prices or the beginning of a new long-run trend of increasing and volatile food prices and more hunger is hotly debated. In this statement I will discuss six issues related to the global food situation that I believe should be considered in the preparation of the 2012 Farm Bill.

First, U.S. agriculture is and will continue to be a very important source of food for the world's population. The value of the United States agricultural exports has doubled during the previous eight years to $115 billion in 2010. This amounts to about 10 percent of the value of all U. S. exports. Most of it went to developing countries. Eight of the 10 top importers of American wheat and corn were developing countries as were seven of the top importers of American soybeans. Continued population growth in developing countries means increasing food needs. Although the population growth rate is on a decreasing trend, the world population will increase by more than two billion over the next 40 years, from the current 7 billion to about 9.3 billion by 2050. The population growth is projected by the United Nations to continue to about 10 billion by 2100.

Rapidly increasing demand for foods of animal origin leads to increasing demand for feed such as soybeans and corn. Desires for dietary diversity in low-income developing countries will expand the demand for wheat. Current estimates are that the demand for food and feed will increase by 70 percent by 2050. Success in efforts to promote economic growth in low-income developing countries will further expand demand for U.S. food exports. About a billion people (more than three times the total U.S. population) cannot afford to obtain the food they need to meet requirements. If they earn more, they will buy more food. Thus, successful poverty alleviation programs could increase the food demand beyond 70%.

As illustrated by the outcomes of past assistance to Southeast Asia, efforts to help developing countries promote growth among low-income people will expand U.S. export opportunities. For example, South Korea, which received much development assistance in the past, is now a major importer of American agricultural commodities. Rapid economic growth in China, led by agricultural development, also expanded import demands. During the last 4-5 years, American agricultural exports to South Korea and China doubled and tripled, respectively. Future expansions in the demand for American agricultural commodities will primarily come from developing countries. The magnitude of such expansions will depend on successful economic growth in those countries. That is a strong reason for close collaboration between initiatives such as the GAFSP (Global Agricultural and Food Security Program) and "Feed the Future," and efforts to expand agricultural exports and employment in the United States. Agricultural growth in low-income developing countries leads to rapid economic growth outside

agriculture which, in turn, leads to increased import demands for both agricultural and non-agricultural goods and services; truly a win-win outcome.

There is little doubt that the increase in food demand can be met by an equal increase in supply. The earth's productive capacity is far from fully utilized. Plenty of underutilized productive capacity exists in Brazil, Ukraine, Sub-Saharan Africa and elsewhere, including the United States. The gaps between actual and potential yields are large, and continued public and private investment in productivity-increasing research and technology can elevate food production per unit of land and water almost everywhere. Cutting food waste and losses, which are estimated to be about one-third of the food produced, offers another opportunity to meet future food demand. It is less clear whether real food prices will increase or decrease over the longer term. In my opinion, an upward trend in real food prices is less likely than a downward trend.

The key question is whether appropriate investments and policies will be made to exploit the capacity to produce the food needed in a sustainable manner. Investments in agricultural research and technology that reduce unit-costs of production, processing and marketing without doing damage to natural resources are particularly important both in the United States and elsewhere. Such investments need to be made with considerable foresight because of the long time lag between research and the availability of the technology to the farmer. The tremendous future potential of genetically modified (GM) seed is illustrated by the successes to date. Recent estimates found that the use of GM seed reduced the acreage needed to produce the 2009 corn, soybean and cotton crops by about 30 million acres, while reducing insecticide use and increasing farm incomes. It is estimated that the adoption of GM seed increased the incomes of the world's farmers by $65 billion during the period 1996-2009.

Sustainable intensification, i.e., increasing productivity per unit of land and water while maintaining the productivity of natural resources for future generations, is the key to meeting future food demands. Agro-ecological approaches and ecosystem management combined with productivity-increasing technology deserve more attention. Unfortunately, the very narrow definition of organic production methods that exists in the United States and the European Union makes such methods less attractive as a major player in efforts to assure sufficient food for future generations because of relatively low yields, higher process, risks of soil mining and in some cases higher levels of greenhouse gas emission.

Second, large fluctuations in food production and dramatic food price volatility lead to increasing risk and uncertainty for farmers, consumers and traders. It also leads to transitory food insecurity and malnutrition for low-income people in both the United States and developing countries. The food price volatility is a result of production fluctuations, which are caused in large part by changing weather patterns such as irregular rainfalls and extreme weather events leading to droughts, floods, wind damage and resulting crop and animal losses. There is some evidence to support the notion that these changes in weather patterns are linked to long-term climate change. Food price volatility is amplified by irrational or poorly informed investment decisions by speculators, traders and farmers; volatility in oil prices; the close relationship between food and oil prices through biofuel production and agricultural production costs; and by interventions in international food trade. These interventions, such as export restrictions, may be aimed at the protection of government legitimacy among consumers by keeping

domestic food prices low. Large fluctuations in fertilizer and pesticide prices add to the risks and uncertainties facing farmers and future food supplies.

There is no reason to believe that the price volatility in the international food markets will be less severe in the foreseeable future. Therefore, improved risk management instruments are called for. More appropriate food trade rules, that would make abrupt export restrictions and export bans incompatible with WTO membership, are particularly important. Had such rules been enforced for rice in 2007-08, the world would have avoided the extreme price spike in rice prices. Fortunately, two of the large rice exporters, the United States and Thailand, maintained open export markets thus avoiding an even larger price spike. Large increases in export earnings illustrate the saying "doing well by doing good."

In addition to improved trade rules, investments in productivity-increasing and risk-reducing research and technology, improved rural infrastructure and social safety nets, such as the SNAP and WIC programs in the United States and conditional transfer schemes in developing countries should be considered to help farmers and consumers manage risks and uncertainties. A variety of insurance schemes, both public and private, may be considered. It is important that such schemes do not damage the market signals to farmers to produce more and consumers to consume less when prices are high and the opposite when prices are low. International food aid may play an important role to mitigate the consequences of natural or human-made disasters. However, the timing of food aid is critical to avoid sending the wrong price signals to farmers, e.g., depress domestic prices at a time when farmers should be expanding production. Simple price stabilization schemes and certain trade restrictions may also send the wrong price signals by avoiding price increases to farmers and consumers in situations of scarcity. Countries that use trade policy to stabilize domestic prices are merely passing the needed adjustments on to the rest of the world causing increasing price volatility outside their own borders. Multilateral and bilateral trade agreements may help avoid such behavior.

Third, the extent to which changes in international food prices are transmitted to domestic markets varies greatly among countries and over time, making it difficult to estimate the impact on export demands. It is also difficult to estimate how poor people and their nutrition will be affected by international food price volatility. Two groups of countries are likely to have a relatively low food price transmission: the poorest countries, many of which are only weakly integrated with the international food markets, and large middle-income countries such as China and India. The latter may use trade policy, such as export restrictions or import subsidies, to reduce price transmission when international prices are high, e.g., the food price spikes during 2007-08 and 2010-11, thus protecting domestic consumers from large price fluctuations while reducing incentives and incomes for domestic farmers. Therefore, international food price changes may be a poor indicator of country-specific price changes. National and local factors may play a much bigger role than world market prices.

Fourth, failure to pursue sustainable management of natural resources and policies to mitigate and adapt to climate change undermines the production foundation for agriculture and makes it increasing difficult to meet future food needs. Smallholder farm families in developing countries, many of whom are at risk of malnutrition, are particularly vulnerable but unsustainable food production is a world-wide problem. Excessive and inappropriate use of water contributes to draw-down of ground-water levels

and reduced availability of surface water in an increasing number of locations. Appropriate incentives to farmers to treat water as a scarce resource, such as water pricing or rationing, may increase water use efficiency. Soil degradation is widespread. Wind and water erosion and reduced soil fertility are common in many places. Nutrient mining of soils is a particularly important problem in parts of Africa.

A full costing approach, in which the costs associated with unsustainable use of natural resources and negative contributions to climate change are fully added to production costs, is warranted to protect the future productive capacity and reduce the risks of food shortages and income shortfalls among farmers . In some cases, full costing will increase food prices but many opportunities exist for triple wins, i.e., achieving production and sustainability goals while keeping production costs and food prices at a reasonable level. A full costing approach would also reward farmers for action that would benefit the environment.

Fifth, according to the FAO, between 800 million and one billion people suffer from insufficient access to the dietary energy needed for a healthy and productive life. Many more suffer from insufficient intake of nutrients. Overweight, obesity and related chronic diseases affect about one in seven of the world's population. Agriculture and other parts of the food system play a key role in assuring good nutrition for all, whether in the United States or developing countries. To fully exploit that role, a closer interaction between improved health and nutrition and other goals associated with agriculture and other parts of the food system should be pursued. Policy and research priorities for the food system should consider opportunities for improved health and nutrition explicitly and go hand-in-hand with investments and policies aimed at the sustainable expansion of global food supplies. Government interventions related to specific commodities, such as price subsidies and research and development support, should pay attention to the nutrition effects. Interventions that lead to a more diversified and nutritious diet could play a major role in reducing overweight, obesity and related chronic diseases as well as micronutrient deficiencies and related illnesses such as iron deficiency anemia and blindness. Policies that would increase the price of sugar and sweeteners and decrease the price of fruit and vegetables are examples of such interventions.

Merely expanding food supplies may be of very limited benefit to malnourished population groups unless their access to food is enhanced. This is true for both low-income countries and the United States. Pursuing the goal of expanded food production while ignoring food security and nutrition goals may in some cases result in more food insecurity, a worsening of the nutritional problems and more overweight, obesity and chronic diseases. Recent and on-going international land acquisition in low-income countries resulting in capital-intensive agricultural production for export to middle-income countries and the removal of smallholder families from the land, they have cultivated but to which they do not have legal title, is an illustration of the trade-off between expanded food production and improved nutrition.

Sixth, a strong decreasing trend in real food prices during the period 1974-2000 led to complacency and low priority to investments in agriculture and rural areas in both developing and developed countries. The consequences became obvious in 2007-08 when food prices increased sharply and the talk about the earth's inability to feed itself gained currency. New international attention to the need for increased

investments in agricultural development and improved food security culminated with commitments by G8 and other countries at a meeting in L'Aquila, Italy in the amount of $20 billion. A relatively small share of the commitment has been released through the Global Agriculture and Food Security Program (GAFSP) and other vehicles. However, the follow-up to the L'Aguila meeting by the countries that made the commitments has been extremely disappointing although initiatives by the Gates Foundation, the U.S. Government (notably the Feed the Future Initiative), World Bank and several other organizations have made significant contributions. Some developing country governments, e.g., China and Ethiopia, have also expanded investments in agriculture, rural development and improved food security. However, many developing countries appear not to have made significant increases in such investments and only a few of the African countries have achieved the agricultural investment goals agreed to within the NEPAD/CAADP framework. There is an urgent need for investment in public goods such as roads, irrigation facilities, local markets and rural institutions to facilitate agricultural and rural development in low-income developing countries. Without such investments, the private sector cannot operate efficiently and will not make the required investments in food supply chains; the risk of food riots and political instability will increase; and opportunities for improved health and nutrition will not materialize. Neither will expansions of export of American agricultural commodities.

Testimony of Dr. Andrew A. Rosenberg, Ph.D.
Chief Scientist and Senior Vice President
Science and Knowledge
Conservation International

Before the

Senate Committee on Agriculture, Nutrition and Forestry

May 26, 2011

Madame Chair, members of the Committee, I am Andrew Rosenberg, Chief Scientist for Conservation International. Thank you for the opportunity to testify today on the risks and challenges facing American agriculture in the demands of a growing world. With the world's population expected to grow from 6.9 billion to more than 9 billion over the next 40 years, and with global food demand expected to double by 2050, the United States and the rest of the world face enormous challenges to ensure an adequate food supply. Food security is part of Conservation International's mission. Our broader mission is to empower societies to responsibly and sustainably care for ecosystems and the services they provide for the well being of humanity. Our scientists, economists and policy analysts from our Virginia headquarters as well as from our field operations around the globe, work together to address the challenges of food security and, more broadly, land usage for sustainable development.

At Conservation International we have a staff of over 800 people in more than 30 countries including the Americas, Africa, Asia, and the Pacific. We partner with governments, corporations, other non-governmental organizations, academia and others to help reverse the unsustainable drawdown of the Earth's natural resources and to ensure that development is based upon the principle of sustainability. A few of the leading U.S. companies that we work with include Monsanto, Bunge, Cargill, Starbucks, JP Morgan Chase and Wal-Mart.

Conservation International serves as an informal advisor to the Global Harvest Initiative, a partnership among Archer Daniels Midland, Monsanto Corporation, John Deere and DuPont. This group shares the common goal of addressing hunger and food insecurity by sustainably closing the agricultural productivity gap.

Conservation International has identified the agricultural sector as a priority for a few key reasons; the agricultural sector is a major driver of rural economic development providing income, employment and prosperity for farmers and farm workers around the world and addressing poverty and food issues globally helps foster the broader foreign and economic policy goals of the United States, such as enhancing U.S. national security, promoting democracy and expanding free markets. Ensuring a reliable food supply helps with regional stability in developing countries and provides growing markets for American exports. Working together with the private sector, and others, Conservation International participates in sustainable agricultural development projects.

The challenge of feeding a global population of 9 billion is threefold; to meet the demand for food from a growing and wealthier population, to increase production in an environmentally and socially sustainable manner and to ensure that the world's poorest people are no longer hungry.

From our work over the last nearly 25 years we know that we must not only improve food production from agriculture, aquaculture and fisheries, but also conserve the natural systems upon which that production depends. For example, natural systems provide many essential supporting services for agriculture, such as fertile soil, runoff protection, water regulation, and pollination to name a few. All people and societies, including America's farmers, rely upon our natural assets as the foundation upon which the agricultural sector

depends. For example, beneficial arthropods, including native bees, predators, and parasitoids, provide valuable ecosystem services worth $8 billion to U.S. agriculture each year.

We know that farmers are already experiencing the consequences of declining natural ecosystem health at global, regional, and local scale through the severity and frequency of shocks such as severe drought, storms, flooding, and other events to food production systems. We stand at a critical point in history for agriculture that will require the agricultural sector to be innovative and to engage in more sustainable practices. Towards this end, Conservation International has worked with corporations, government, intergovernmental organizations, private foundations, local communities, and others to test innovative methods to promote conservation within agricultural landscapes drawing from lessons at both scales - bottom-up and top-down.

For example, Conservation International's work with the Gates Foundation in East Africa to develop a monitoring system for ecosystem health, the services ecosystems provide and human well being in agricultural landscapes, is an example of the types of tools and systems that can improve and increase food production while ensuring that the natural systems that underpin production are not undermined.

We believe that farmers and other farming stakeholders could benefit from better data to make informed management decisions and improve the efficiency of their operations. To this end, Conservation International was a founding member of a United States oriented initiative, the Keystone Field to Market Initiative, that has developed objective, data-driven tools to help farmers manage their farms, explore different management scenarios and compare their performance to peers.

Through our partnerships with agribusiness companies such as Bunge and Monsanto, and their vast network of farmer-clients, we have piloted programs in Brazil to encourage the protection and creation of private protected areas in agricultural landscapes. One of the objectives of this project is to demonstrate that production agriculture and conservation can co-exist and provide co-benefits to each other in the same landscapes.

In several countries, such as Indonesia, Brazil, Liberia, Peru, Conservation International is working with the private sector and farmers to identify degraded lands appropriate for crop cultivation. Together with local partners we are supporting efforts to encourage better management practices, to improve yields and reduce inputs like water, fertilizer and pesticides, as a means to reduce the stress on nature and the services it provides. A mosaic of agricultural landscapes help capture rainfall to feed watersheds, serve as a habitat for pollinators and other species and help stem impact from soil erosion. These landscapes ultimately provide a return to the farmers in the area by ensuring that their agricultural landscapes remain productive over the long-term and produce crops with fewer inputs.

Increasingly, customers are demanding that the products they buy are produced in a sustainable manner. Retailers, restaurants and consumer products organizations have responded to this demand by making public commitments to source sustainable produced products. Over the past 20 years, Conservation International has had numerous partnerships with corporations such as McDonald's, Starbucks and WhiteWave Foods to help them develop sourcing policies,

and guidelines to orient their purchasing of key agriculture commodities to encourage the purchasing of sustainably grown commodities.

With a grant from the U.S. Department of Energy, Conservation International has led a program to evaluate options for a more sustainable biofuels industry that ensures that biofuel production is not a threat to biodiversity and ecosystem services. This program utilized spatial planning programs to identify high-risk landscapes that house a higher degree of ecosystem services, as well as to identify landscapes that are optimal for agricultural production. This broad scale landscape planning can provide a win-win for farmers and the protection of natural resources. (Full report can be found at: http://www.conservation.org/sites/celb/Documents/2011.04.03_DOE_CI_Sustainable_Biofuel_Crops_Final.pdf)

Conservation International works in partnership with WWF-South Africa, several NGOs, and the private sector on an initiative known as Green Choice. This initiative helps to ensure wise resource use by working across the value chain with producers, retailers and manufacturers. Sustainable farming and land stewardship initiatives that Green Choice supports include wine, potatoes, rooibos tea and others, from both subsistence and commercial farming. At the government and retail level, the initiative advocates for promoting access to markets. At the local level, Conservation International works with communal farmers to increase the value of their livestock production and conserve their wetlands to maintain a source of freshwater for people and nature.

At the macro-global scale, Conservation International and other stakeholders are participating in several commodity roundtables such as the Roundtable of Sustainable Palm Oil (RSPO), Roundtable on Responsible Soy (RTRS) and Roundtable on Sustainable Biofuels (RSB). One of the greatest values of these roundtables is that they include participants from farmers and farmer organizations, governments, non-profit organizations, corporations, and others with a goal to develop global standards and principles for commodity production that adheres to best practices for agricultural production and sustainability for key commodities like soy, palm oil and biofuels.

As a global leader, the United States has an opportunity to promote innovation in our agriculture sector that will ensure that American farmers remain leaders in food production, ensure a sustainable food supply and remain economically viable.

We look forward to working with the Committee to ensure that the growing population can be fed without depleting the natural resources which agriculture and humankind depend on to thrive.

Thank you for the opportunity to testify today. I would be pleased to respond to questions.

Testimony of Thomas J. Vilsack
Secretary of Agriculture
Before the Senate Committee on Agriculture, Nutrition and Forestry
May 26, 2011

Madam Chairwoman, Ranking Member and Members of the Committee, thank you for the opportunity to discuss U.S. agriculture's role in feeding a growing world population and the challenges, risks and implications involved.

Agriculture is a critical driver of American jobs, export growth, and economic recovery. With expanding middle classes and populations, global demand for quality, plentiful food is at an all time high. American farmers and ranchers are leading the effort to respond to that demand.

Yet the risks that our farmers and ranchers take are significant. One only needs to look at the past few months to see firsthand the tremendous challenges our producers face that are beyond their control. This spring cool temperatures combined with above normal snowfall and excessive rainfall have delayed planting for spring crops and caused widespread flooding, especially along the Mississippi River. Over two million acres of cropland had been flooded, much of which continues to remain underwater.

As the Secretary of Agriculture, I see personally the risks that our farmers face every day from natural disasters, uncertain markets, and price volatility. Our farm families are among the hardest-working people in the world – a world they strive to provide with safe and affordable food. These recent disasters illustrate the importance of a strong and effective safety net for those producers who truly need it.

The U.S. agricultural sector must remain efficient and competitive through a combination of smart policies, sound research, and innovative technology. With such support, U.S. producers will not only take advantage of market opportunities around the globe to continue to drive job creation at home, but also provide nutritious and affordable food for the world.

The Challenge to Meet Global Food Needs

Growing population and incomes in emerging and developing economies will add significantly to the demand for food over the next 40 years. According to the U.N. Food and Agricultural Organization (FAO), there is an estimated 925 million people around the world who currently suffer from hunger. Each year, more than 3.5 million children die from under-nutrition. The United Nations projects that the world's population will reach 9.3 billion by 2050, up 2.3 billion from today and, continue to grow to 10.1 billion by 2100. Much of this increase is projected to come from regions currently facing the greatest level of food insecurity. At the same time, per capita incomes in 2050 are projected to be higher, creating middle classes that demand more and higher quality food as well as higher input products, such as beef. With these two pressures of population growth and rising incomes, it is estimated that the demand for food will rise by 70 to 100 percent by 2050.

To meet this need, the FAO estimates that production in the developing countries will need to almost double. Annual grain production will have to grow by almost 1 billion metric tons while meat production will have to grow by over 200 million metric tons.

A wide variety of factors threaten to exacerbate the challenge to sufficiently increase production, including weather and climate change, environmental degradation, water scarcity, and loss of agricultural lands to non-agricultural use. The gap between supply and demand puts pressure on food prices, especially in middle income countries where as much as 50 percent of household expenditures may be spent on food. This can cause poorer consumers to seek cheaper food sources that may be less nutritious (damaging future potential) or divert scarce household resources away from other basic needs such as health or education.

In recognition of these trends and challenges, at the G8 Summit in L'Aquila, Italy in July 2009, global leaders committed to "act with the scale and urgency needed to achieve sustainable global food security." In support of this multinational effort, the President's Global Hunger and Food Security initiative, Feed the Future (FTF), which is led by the U.S. Agency for International Development, attacks the root causes of global hunger through accelerated agricultural development and improved nutrition. The Administration's commitment to catalyze agricultural-led growth will raise the incomes of the poor, increase the availability of food, and reduce under-nutrition through sustained, long-term development progress.. Through the U.S. government's leadership in global food security efforts, we advance global stability and prosperity by improving the most basic of human conditions – the need that families and individuals have for a reliable source of quality food and sufficient resources to purchase it. We support income growth that builds middle classes and new markets critical to our own economic prosperity.

Meeting the Challenge through Research

In general, there are three ways agricultural production can increase. First, we can devote more land to the production of agricultural commodities. Second, we can increase the yield on agricultural land by applying more manufactured inputs such as fertilizer. Third, we can improve the efficiency of farming by adopting new technologies or farming practices. Over the past 50 years, the first two factors, greater land and manufactured input use, have contributed to a little over one-half of the average annual growth in agricultural output while efficiency improvements have accounted for the remaining share of growth. However, as more agricultural land is converted to non-agricultural uses and manufactured input use is tempered by environmental concerns, the role of new technologies and farming practices become more important. The Economic Research Service (ERS) estimates that in the past decade, improvements in farming practices and technological change accounted for almost 70 percent of increased global agricultural output.

Investments in agricultural research are critical to meet the expected 70 percent increase in agricultural production required to provide sufficient food to the world's growing population by 2050. Emerging technologies hold the promise of creating crops that better tolerate drought, toxicity, disease and salinity. These innovations benefit not just developing countries, but our own country. Research on the adaptation of crops to better cope with climate change, production

of livestock vaccines to treat recalcitrant infectious diseases, and efficiency in water and energy use in agriculture are critical to both the national and global agricultural base.

In addition, many new technologies, including biotechnology, conservation tillage, drip irrigation, integrated pest management, and new multiple cropping practices have raised the efficiency and productivity of agricultural resources over the last decade. Biotech crops have already increased farmer income by decreasing pesticide use and increasing yields by decreasing crop loss due to insects and disease. New crops such as rice bio-fortified with vitamin A and bio-fortified bananas will increase nutrition, and drought and salt tolerant rice varieties will help address shifting environments due to climate change. Biotechnology will enable farmers to grow these crops in a quarter of the time needed through conventional breeding programs. While we recognize there are limitations on the use of this technology, biotechnology is part of a package of new technologies that will increase agricultural production and reduce poverty and under-nutrition.

The Importance of Trade in Addressing Food Needs and Driving American Prosperity

Enhancing production alone is not sufficient to address future food needs. FAO estimates that net grain imports by developing countries will increase three-fold by 2050, and will then account for about 14 percent of total grain consumption in those countries, up from 9.2 percent in 2006/07. As the world's largest agricultural exporter, the U.S. agricultural sector will continue to play a significant role in meeting those future food needs.

Exports are critical for U.S. agriculture. Over many decades, U.S. agriculture has shown an ability to increase output while reducing costs. Without any change in demand, this growth in productivity would cause prices to fall. For many agricultural products, the main opportunity for further growth in demand has been in export markets. U.S. farmers export almost half of their wheat and rice, over one-third of their soybeans, and over 15 percent of their poultry. For many high-valued products, export dependency is greater —about 70 percent for almonds, over 40 percent for walnuts, and 25 percent for apples. The prices farmers receive and income they earn from these products would be sharply reduced if producers lost access to export markets.

Agricultural exports also play an important role in U.S. economic prosperity. According to ERS, in 2009, every dollar of direct export sales generated another $1.31 in supporting economic activity. Agricultural exports create jobs not only on farms, but also in processing, transportation, and supporting activities. Some 828,000 jobs were generated from agricultural exports in 2009, including 541,000 in assembling, processing, and distributing products for export. These export-related jobs and other business-related gains benefited all regions and sectors of the U.S. economy.

Current levels of trade, as well as future growth, depend not only on commercial considerations but also on the rules that countries follow. The global food system has significant stake in fair, orderly, and open agricultural trade. Multilateral trade negotiations have improved the international trading system by lowering trade barriers, making the system more transparent, and establishing rules for dispute settlement. To that end, the United States has been engaged with other like-minded countries in pursuing further trade liberalization under the auspices of the World Trade Organization's Doha Development Agenda round of trade negotiations, even as

additional progress remains elusive. At the same time, we are pursuing regional trade initiatives, such as the Trans-Pacific Partnership, and are working closely with Congress to implement bilateral trade agreements with Korea, Panama, and Colombia. Taken together, these efforts will provide significant new export opportunities for our agricultural sector.

Trade policies like export bans only exacerbate food shortages. In 2008, export bans on rice spurred panic buying and hoarding, which made rice unaffordable from East Asia to West Africa to the Caribbean. Export bans undermine countries' confidence in the world trading system and can force countries to seek uneconomical goals of self-sufficiency through producer subsidies. Export bans can also discourage domestic farmers from increasing production. Rising food prices can have a positive effect if they send a signal to farmers to grow and sell more when there is transparency in markets and stocks so signals about prices and supply are accurately received.

International trade will remain crucial to even out supply fluctuations across the globe and to reduce market volatility. A liberalized global trade regime will enhance the ability of food-deficit countries to meet their food needs.

Tailoring Policy to Meet Future Needs

As we look forward, the risks and opportunities facing farmers and ranchers, as well as the opportunities available to them, will continue to change. The policies designed to meet those risks and create new opportunities are of vital importance.

Enhancing conservation. Conservation programs have an important role in long-term food security. Agricultural productivity is dependent upon climate, quality of land resources and pollinators. Environmental shifts such as climate change present threats to agricultural production systems as well as opportunities to improve and expand production. The distribution of weeds, diseases and insect pests may be altered by climate change and this will create new management challenges. Extreme events such as heavy downpours and droughts can reduce crop yields and crop quality. Higher average temperatures and extreme weather events can stress livestock and reduce their growth rates, weight gains, and productivity (meat, milk, or egg production).

Effective conservation will make farms and ranches more resilient to risks – whether these risks are from pests, disease, floods, or drought – and help producers adapt to the challenges of climate change. American farmers and ranchers understand that clean water, clear air and healthy soil are the raw materials for agricultural production. From generations of experience, producers know you cannot continually take from the soil without giving back, and they have made incredible strides to protect the land they rely on. Through programs such as the Conservation Reserve Program (CRP), the Environmental Quality Incentives Program (EQIP), and the Conservation Stewardship Program (CSP), USDA builds partnerships with farmers and ranchers to make agricultural operations more sustainable. USDA's conservation efforts improve soil fertility and reduce soil erosion, improve fertilizer and water use efficiency, reduce energy use, and enhance overall productivity.

At the same time we have been increasing agricultural production, soil erosion has been reduced by more than 40 percent and agriculture has gone from being the leading contributor to wetland loss to leading the nation in wetland restoration. For example, based on a survey of farms in the Chesapeake Bay Region conducted by the Natural Resources Conservation Service, it is estimated that conservation practices in the Chesapeake Bay have reduced edge-of-field losses of sediment by 55 percent, nitrogen in surface runoff by 42 percent, nitrogen in subsurface flow by 31 percent and phosphorus by 40 percent. These reductions are critical contributors toward restoring estuaries and rebuilding important fisheries.

These investments in private lands conservation are good for farmers and ranchers—reduced input costs directly help the bottom line, while improved soil and water quality help maintain and even enhance long-term productivity while mitigating regulatory pressures. These same investments in conservation work for all Americans and contribute to the food security of our nation and the world.

As we move forward, we need to accelerate the innovative approaches that allow market forces to play a more significant role in enhancing the environment. We need to develop the framework for clearly defined environmental or conservations programs that allow farmers and ranchers to be compensated for storing carbon, reducing runoff, and restoring wetlands and preserving biodiversity. While still in their infancy, environmental markets show promise for encouraging innovation and investment in conservation, improving accountability, reducing restoration costs, and expanding opportunities for agriculture.

Creating a cleaner and greener future. USDA's support for biofuels is an important part of a much broader commitment to a cleaner and greener future; an energy policy that reduces our dependence on imported oil; and a strategy that promotes jobs and economic growth in the United States. The United States imports about one-half of the petroleum we consume and the President is committed to reducing our imports of oil by one-third by 2025.

USDA's commitment has included investment in biofuels, biomass, wind, solar, geothermal, and hydroelectric power, as well as basic scientific research into second and third generation biofuels. In April, the USDA announced 42 National Institute of Food and Agriculture grants focused on new feedstocks, sustainable production, and biorefinery efficiencies. In May, we complemented that effort with eight research and development projects funded through the Biomass Research and Development Initiative, which supports the production of biofuels, bioenergy, and high-value biobased products from a variety of biomass sources. This research supports the development of improved feedstocks and processes which will improve the efficiency of biofuel production and expand it to all corners of the nation.

Supporting agricultural research. Investments in food, agricultural, and natural resource sciences are catalysts for economic growth and ultimately lead to increased profitability for farmers, reduced food costs and greater choice for consumers, and improved management of the natural-resource base. U.S. public agricultural research and development has accounted for about half of the agricultural productivity growth over the last 50 years. Over that time frame, we have become more reliant on improved agricultural productivity to lead agricultural growth rather than increasing the number of acres under production. Accordingly, in the future we will need to continue investments on public and private sector research and development to feed a

growing population in light of greater environmental constraints, notwithstanding the budget challenges that are real and imminent.

Maintaining a strong safety net for U.S. producers. As we consider the 2012 Farm Bill, it is important to keep in mind that farmers, ranchers, and growers face a variety of risks. Providing an effective safety net is one of the most important ways that we can ensure that America continues farming and ranching.

The most obvious are the risks associated with adverse weather, such as drought, excessive moisture, and high winds. A robust discussion is needed on how to best continue supporting farmers who face these types of disasters and as a result suffer losses to their production and revenue.

Pests and diseases can also lead to unexpected crop and livestock losses and reduced incomes. In addition, the incomes of farmers, ranchers, and growers are subject to swings in prices producers pay for inputs, such as fuel, fertilizer, and equipment and unexpected changes in the prices they received for their crops, livestock, and produce.

Producers have a variety of tools at their disposal to manage these risks. For example, they can manage price, production, and income risk by diversifying production, using seeds that are less prone to drought and insects, adopting precision agriculture techniques, forward pricing, hedging, purchasing insurance, and using off-farm earnings to stabilize farm household income. However, not all of these options are available to all producers. The climate in some areas of the country may severely limit what crops can be grown, off-farm opportunities may not be readily available to some producers, and some risk management tools may not be available for all commodities or regions of the country.

It is important to remember that there are diverse resources available to individual agriculture producers to manage risk. Some producers are highly capitalized while others have limited resources at their disposal to devote to risk reduction strategies. For these reasons, there is not a single risk management strategy that is best for all producers. Rather, individual producers face different risks and need different tools to manage those risks.

Reducing spending and moving in the direction of balancing the Federal budget requires that we be cautious about the level of risk reduction that we provide our farmers, ranchers, and growers. In addition, obscuring or masking the signals of the marketplace through government risk management programs could prove to be counter-productive. We certainly need to continue to help producers manage risk in the future but we must do so in ways that provide effective and wise use of Federal tax dollars and allow markets to function efficiently.

Developing New and Beginning Farmers and Ranchers. Finally, providing support to our new and beginning farmers and ranchers is another important way we can feed our future. The average age of the American farmer is 57, up from 55 in 2002. About 30 percent of principal farm operators are age 65 or older. Mitigating risk so that one bad year does not spell disaster, ensuring access to credit, creating opportunities for information sharing and extension services,

and revitalizing rural communities all helps to make agriculture an attractive option to new and beginning producers.

Conclusion

America's farmers and ranchers produce our food, feed, fiber, and fuel, help preserve our environment, and drive our national economy. Agriculture is responsible for one out of every 12 jobs in America. While many sectors of our economy are running trade deficits, American agriculture has enjoyed a trade surplus for nearly 50 years. This year alone the surplus is expected to exceed $30 billion dollars.

The strength of American producers comes from their willingness to adapt, to embrace science, and to innovate. These farmers and ranchers truly embody the spirit of American ingenuity and are among our nation's greatest assets. As we move to address the challenges and embrace the opportunities that lie ahead, I am confident that our farmers and ranchers will lead the world in quality, efficiency, and innovation. I look forward to working with Congress, Democrats and Republicans, House and Senate, to craft the next Farm Bill to help give our producers the tools that they need to do so.

Madam Chairwoman, that concludes my statement. I would be happy to answer any questions.

DOCUMENTS SUBMITTED FOR THE RECORD

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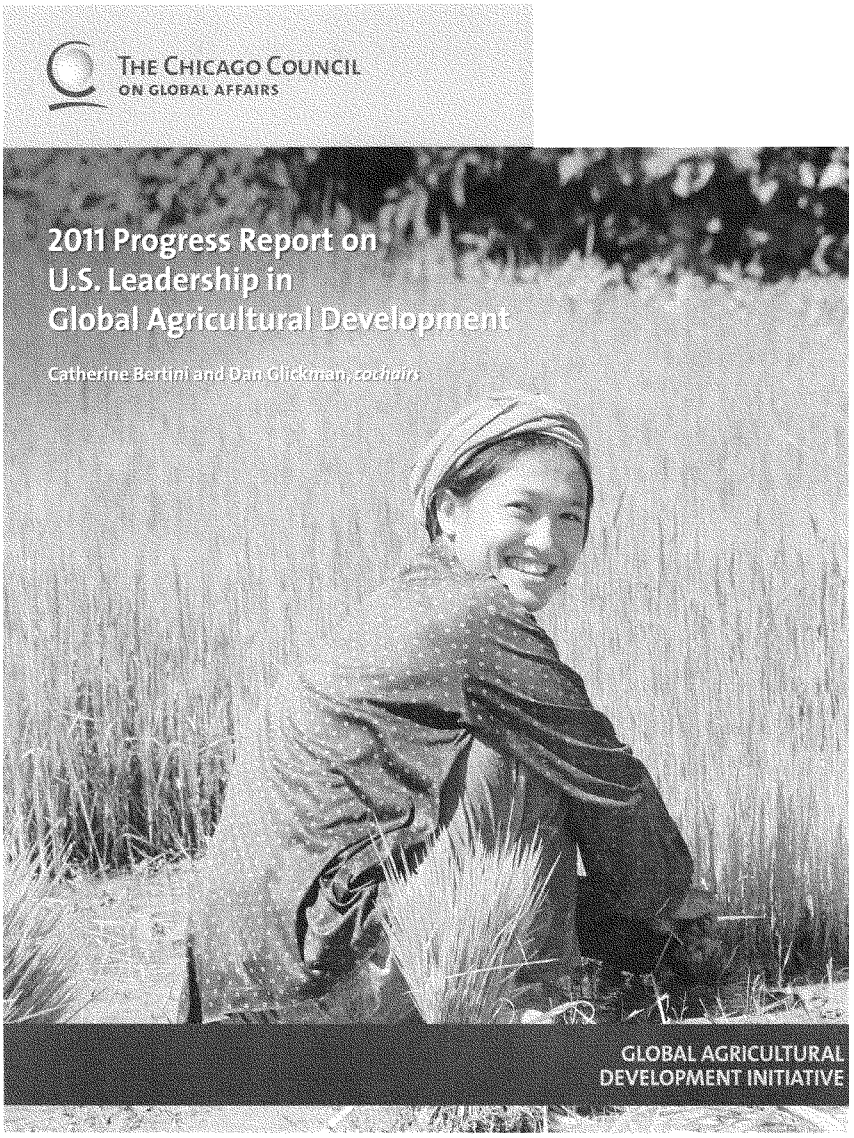
THE CHICAGO COUNCIL
ON GLOBAL AFFAIRS
2011 Progress Report on
U.S. Leadership in
Global Agricultural Development
Catherine Bertini and Dan Glickman, *cochairs*
GLOBAL AGRICULTURAL
DEVELOPMENT INITIATIVE

2011 Progress Report on U.S. Leadership in Global Agricultural Development

Summary

In February 2009, The Chicago Council on Global Affairs released the report *Renewing American Leadership in the Fight Against Global Hunger and Poverty.* That report laid out a comprehensive strategy for the Administration and Congress to secure global food availability by refocusing and reinvesting in agricultural development in Sub-Saharan Africa and South Asia.

This *2011 Progress Report* documents the degree to which the Administration and Congress have made progress in achieving the changes in U.S. government policy that were recommended in 2009. It is the first of several annual reports intended to monitor the pursuit of long-term national goals, whose results will be seen in the future stability and prosperity of today's food-security hot spots. Policy and institutional changes in pursuit of those goals were graded by Chicago Council staff after reviewing reports and official documents and interviewing agency personnel and observers. It must be underscored that this report assesses only policy development, implementation, and related organizational change, not the actual impact of U.S. agricultural policy on the ground in the targeted regions and countries.

In addition to evaluating the specific policies targeted in the 2009 recommendations, the *Progress Report* includes the results of an informal online survey on whether U.S. leadership in global agricultural development has strengthened or weakened in the past year. The results of the survey are presented separately and were not factored into the grading process; they are included here to supplement the assessments of The Chicago Council with the views of a broader constituency interested in agricultural development policy.

The *2011 Progress Report* shows that the U.S. is indeed exerting stronger leadership in global agricultural development, with positive changes since 2008 in the directions recommended by The Chicago Council. Improvements so far have occurred in the context of a deep recession and severe budget constraints and have consisted mainly of building partnerships and making organizational changes to improve the efficiency of new investments. U.S. government institutions have been significantly reoriented and restructured to deliver more effective agricultural development programming. This is a substantial achievement in itself, but much more is needed.

Whether improved U.S. policies actually translate into improvements on the ground now depends mainly on the magnitude of effort and the extent to which these investments are funded over time. The return of food price volatility in 2010-11 stresses the urgency and extent of the global food-security challenge. As the 2009 *Renewing American Leadership* report indicated, the fight against global hunger and poverty requires both immediate action and a sustained, long-term commitment. It is the responsibility of both the Administration and Congress to maintain the current momentum, as persistent threats call for equally persistent leadership

2011 Progress Report on U.S. Leadership in Global Agricultural Development

Understanding the Grades

What is being graded, by whom, and why?

The 2009 report put forward five broad recommendations to be carried out through 21 specific actions. In this Report Card, each letter grade corresponds to the degree to which the 2009 report's five broad recommendations have been implemented. The "Detailed Progress to Date" section includes narrative comments on policy changes and examples of how each action was or was not fulfilled. In each case, the evaluation refers to actions taken by the entire U.S. government, including all branches and all agencies, plus contractors and public institutions, such as state universities. Implementation has been tracked and assessed by The Chicago Council's staff with the assistance of outside experts, through the review of reports and official documents and interviews with agency personnel and observers.

Any evaluation of this type is necessarily subjective, especially given the very early stage and multi-faceted character of the U.S. government's global food security policy. Given the complexities of the issues discussed and the limited timeframe for research, this report does not provide a comprehensive exploration of U.S. efforts, but rather a documented overview of major changes. Each reader will have his or her own expectations about how much progress towards The Chicago Council's 2009 recommendations can or should have been achieved by this point in time. For some readers, any grade of C or better would be considered adequate, while others might expect straight As. The goal, as for any grading exercise, is to facilitate transparency in comparing performance across areas and over time between 2011 and future progress reports issued using a similar methodology. This *Progress Report* allows ready comparison across performance areas, in a field where achievements are often very difficult to benchmark and compare.

How were the grades determined?

The letter grades are based on the scoring of each of the 21 specific actions. Performance on the 21 actions was scored on a ten-point scale, where 10 means the full extent of recommended change is being implemented, zero means all activity was stopped, and five means no significant change since 2008. Individual scores for each action were then averaged to produce an overall percentage achievement for that broad recommendation; letter grades were given based on how much change could reasonably be expected given the many constraints on U.S. government action in 2009 and 2010. Average achievements above 80 percent earned an A; averages of 65-79 percent were graded B; 55-64 percent was a C; 45-54 percent was a D; and performance below 45 percent on any recommendation would have been rated F. The "At-A-Glance Summary" details the individual numerical scores for the actions, the averages, and the overall letter grades for each recommendation.

2011 Progress Report on U.S. Leadership in Global Agricultural Development

Report Card

Overall Assessment	Grade	Comments
U.S. Leadership in Global Agricultural Development	B-	Key changes have put the U.S. in a position to lead. Success in the field will depend on increased funding; leadership; whole-of-government coordination, both in Washington and in target countries; and sustained commitment.
Recommendation	**Grade**	**Comments**
Increase support for agricultural extension and education	B-	The U.S. is leveraging the skills and resources of its domestic agricultural education institutions, with programs that allow larger numbers of participants and a greater number of partnerships; the challenge ahead is deepening support to ensure long-term impact.
Increase support for agricultural research	B-	The U.S. has continued to support its major agricultural research mechanisms, and several promising new approaches have been launched, but direct support to national agricultural research systems remains a weak link.
Increase support for rural and agricultural infrastructure, especially in Sub-Saharan Africa	B	The Millennium Challenge Corporation has increased its disbursals and the World Bank has invested new energy and resources in global agriculture; however, stalled investments may hinder potential successes.
Improve national and international institutions that deliver agricultural development assistance	B+	The structure and effectiveness of USAID has improved and many interagency coordination efforts are underway, but staffing and budget constraints limit the magnitude of effort.
Improve U.S. policies currently seen as harmful to agricultural development abroad	D	The policies and issues that cross-cut U.S. domestic agriculture and global agricultural development continue to generate heated debate. While discussions continue, little action has occurred. Policies regarding emergency food aid and targeted vouchers have improved and could bring large gains, but other rules have not changed.

2011 Progress Report on U.S. Leadership in Global Agricultural Development

At-A-Glance Summary of Letter Grades and Numerical Scores

Recommendations and Actions	Action Score	Letter Grade
1. Increase support for agricultural extension and education		**B-**
1a: Support for students	7	
1b: Partnerships between universities	8	
1c: Direct support for education, research and extension	7	
1d: Peace Corps volunteers in agriculture	7	
1e: Support primary education through school feeding based on local and regional purchase	5	
Average	(68%)	
2. Increase support for agricultural research		**B-**
2a: Support for national scientists in national agricultural research systems	6	
2b: Support for the Consultative Group on International Agricultural Research	7	
2c: Support for collaborative research between U.S. and others	6	
2d: Competitive award funds to encourage agricultural innovations	8	
Average	(68%)	
3. Increase support for rural and agricultural infrastructure, especially in Sub-Saharan Africa		**B**
3a: Revive World Bank's lending for agricultural infrastructure	6	
3b: Accelerate disbursal of Millennium Challenge Corporation funds	8	
Average	(70%)	
4. Improve national and international institutions that deliver agricultural development assistance		**B+**
4a: Restore the leadership role of USAID	8	
4b: Rebuild USAID's in-house capacity	9	
4c: Improve interagency coordination	9	
4d: Strengthen capacity of U.S. Congress	5	
4e: Improve international agricultural development and food institutions	6	
Average	(74%)	
5. Improve U.S. policies currently seen as harmful to agricultural development abroad		**D**
5a: Improve America's food aid policies	6	
5b: Repeal restrictions on assistance to exports	5	
5c: Review objections to targeted input subsidies	5	
5d: Revive international negotiations to reduce trade distortions	5	
5e: Adopt biofuels policies that emphasize market forces	5	
Average	(52%)	

2011 Progress Report on U.S. Leadership in Global Agricultural Development

Global Agricultural Development Initiative

Catherine Bertini and Dan Glickman, *cochairs*

May 2011

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For further information about The Chicago Council or the Global Agricultural Development Initiative, please write to The Chicago Council on Global Affairs, 332 South Michigan Avenue, Suite 1100, Chicago, IL, 60604, or visit www.thechicagocouncil.org/globalagdevelopment.

Progress Report Lead Evaluator—William Masters

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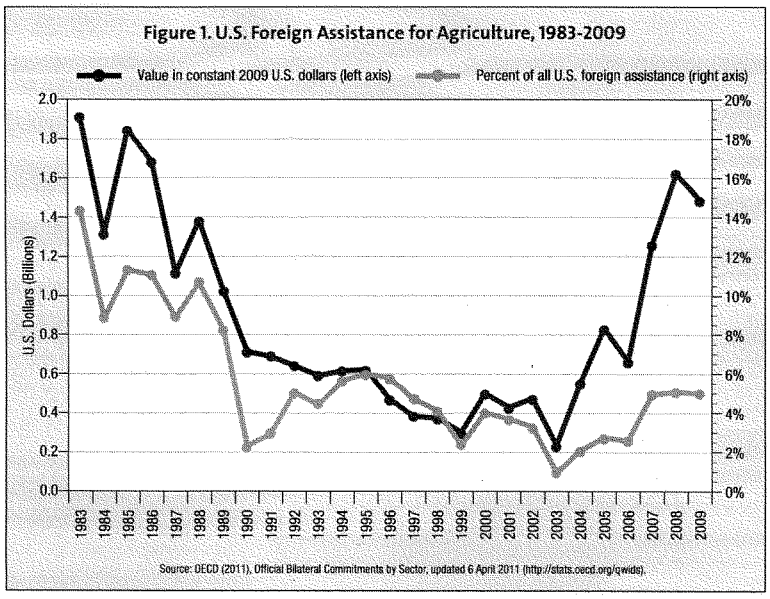
I. Introduction

Context: Why the focus on U.S. Leadership? And why now?

The world food shortages of 2007-08 followed more than two decades of declining U.S. investment in global agriculture (see Figure 1) and revealed the importance of worldwide food security for America's national interest. At the time, optimists argued that the shortages and price volatility were temporary. World food prices did fall back in 2008 and 2009, but they stayed above the historically low levels seen earlier in the decade, and then rose sharply again to crisis levels in 2010-11.

High and volatile world food prices are an important trigger for political instability and signal natural resource scarcities, which will only worsen if public and private investment continues to fall short of consumer demand. Stronger U.S. leadership, in the form of improved policies and increased public investments, would make private investment more attractive and bring a return to rapid productivity growth and low commodity prices. Failure to exert sufficiently large and well-targeted efforts will simply continue the recent trend of rising prices and increasingly volatile markets. Until the 2007-08 food price crisis, past successes in raising agricultural output had lulled many Americans into complacency about global food security. The sudden return of high food prices in 2007-08 and again in 2010-11 have renewed attention to the persistent problems of hunger and poverty in the developing world, and aroused concern over how best to secure food availability and meet growing needs over the long term.

Since the release of The Chicago Council's 2009 *Renewing American Leadership in the Fight Against Global Hunger and Poverty* report, a number of policy developments indicate a shift in thinking about how the U.S. can best leverage its resources to address global hunger and poverty. In April 2009, President Barack Obama called for a doubling of U.S. support for agricultural development at the G20 summit; in July the G8 announced a new $20 billion multinational food security initiative. Both the House and Senate considered legislation to enhance support for agricultural productivity. In September 2009, Secretary of State Hillary Rodham Clinton released a consultation document on the U.S. Global Hunger and Food Security Initiative and in May 2010 the Administration launched the *Feed the Future Guide,* a whole-of-government food security effort led by the U.S. Agency for International Development (USAID). The government's increased focus on agricultural development and food security occurred in the context of a broader effort at foreign assistance reform, embodied in two new kinds of policy statements, the Presidential Policy Directive (PPD) on Global Development released in September 2010, and the Quadrennial Diplomacy and Development Review (QDDR) delivered in



December 2010. U.S. investment in agricultural development has increased sharply in the past several years, evidencing that indeed the U.S. recognizes the gravity of the global food security situation (see Figure 1).

America's past and present successes with domestic agricultural development mean that it is well placed to lead the global fight against hunger and rural poverty. The institutional and technological strengths that built the U.S. agricultural sector can be deployed overseas to help the most fragile regions of Sub-Saharan Africa and South Asia achieve robust productivity growth comparable to that which was achieved over the last century. Past experience with U.S.-led assistance for agricultural development in countries like South Korea shows how valuable it can be for America to sustain these investments over many years, and thereby permanently transform a vulnerable and unstable country into a prosperous and secure partner. If we fail to lead in this way, America will be the poorer for it. U.S. public agricultural institutions have the world's strongest track record of success in achieving food security and poverty alleviation, in large part by delivering new technologies and market infrastructure for use by farmers and private-sector input suppliers and product marketers. Other countries that seek to influence agricultural development in Sub-Saharan Africa and elsewhere often bring a very different agenda, such as European countries opposed to biotechnology, or Chinese efforts to influence Sub-Saharan African governments and control natural resources. If the U.S. fails to sustain leadership in global agricultural development, the result could be a significant setback in the struggle against hunger and rural poverty.

Objectives: What are the goals towards which progress is being measured?

The *2011 Progress Report on U.S. Leadership in Global Agricultural Development* measures the extent to which the U.S. government has responded to the recommendations put forward in the 2009 *Renewing American Leadership* report. The recommendations for U.S. action were developed by a bipartisan, independent group of leaders in agriculture, development, and foreign policy, supported by a committee of technical experts in science and technology, infrastructure, education, international economics and trade, and regional affairs in Sub-Saharan Africa and South Asia. The 2009 report provided an objective assessment of the risks posed by rural poverty and food insecurity in Sub-Saharan Africa and South Asia, and proposed a long-term strategy to overcome those threats. The proposed strategy to strengthen American leadership consisted of five broad recommendations for the U.S. government, itemized into 21 specific actions to be taken by various agencies of the Administration as well as Congress.

This *2011 Progress Report* monitors the degree to which the proposed strategy has been implemented by the Administration and Congress, in terms of specific changes made in U.S. policies since 2008. The purpose of this annual *Progress Report* is to monitor year-to-year steps in a long-term strategy towards sustained agricultural development and improved food security in the world's most vulnerable regions. The world has changed since The Chicago Council released its original report, and individual readers of the *Progress Report* may adjust personal expectations about what level of performance they believe to be feasible in any given year, under short-term budgetary constraints, while still keeping the long-term strategic objectives in mind.

Methodology: How does the *Progress Report* measure U.S. leadership?

As mentioned above, the 2009 report's strategy for reestablishing U.S. leadership in global agricultural development was detailed in five broad recommendations and 21 specific actions (see Box 1). This report assigns numerical scores, based on a 10 point scale, to each action. A score of 10 indicates that the full action has been implemented, a five represents no significant change since 2008, and zero would indicate a removal of all U.S. efforts in that area of policy or programming. Individual scores from each action were averaged to produce an overall percentage achievement for that broad recommendation; letter grades were given based on how much change could reasonably be expected given the many constraints on U.S. government action in 2009 and 2010. Average achievements above 80 percent earned an A; averages of 65-79 percent were graded B; 55-64 percent was a C; 45-54 percent was a D; and performance below 45 percent on any recommendation would have been rated F.

The rating process is not mechanical: leadership strength could not be measured by dollars spent or any other single number. Points and grades for each action item were determined by Chicago Council staff, based on a research process that included the review of reports and official documents and interviews with government personnel and observers. Any evaluation of this type is necessarily subjective, especially given the very

early stage and multi-faceted character of the effort. Given the complexities involved, this report does not provide a comprehensive exploration of U.S. efforts, but rather a documented overview of major changes. Future progress reports' frameworks for measuring success will remain consistent but flexible, allowing for the inclusion of new materials and tracking varied dimensions of U.S. leadership. As the 2009 *Renewing American Leadership* report indicated, the fight against global hunger and poverty requires both urgent action and a sustained commitment that stretches far beyond each successive Administration and Congress. This *Progress Report* aims to track each year's steps in that joint effort to meet long-term national goals.

In addition to the scores for each action and letter grades in each area, the report includes the results of a leadership survey of about 250 participants in U.S. agricultural development efforts. The online survey was circulated to the Global Agricultural Development Initiative's mailing list and other partners and constituents for dissemination. The results of the survey are presented separately and were not factored into the grading process; they are included here to complement the numerical Report Card issued by The Chicago Council with the views of a broader constituency interested in agricultural development policy. Thus, the *Progress Report* in its entirety presents The Chicago Council's own Report Card on U.S. leadership efforts, plus the subjective impressions of a subset of the agricultural development community. Progress reports in future years will provide updated measures of achievement towards the 2009 recommendations, surveys, and other monitoring tools.

Box 1. Complete set of recommendations and actions from the 2009 *Renewing American Leadership* report

1. Increase support for agricultural education and extension at all levels in Sub-Saharan Africa and South Asia

1a: Increase USAID support for Sub-Saharan African and South Asian students—as well as younger teachers, researchers and policymakers—seeking to study agriculture at American Universities

1b: Increase the number and extent of American agricultural university partnerships with universities in Sub-Saharan Africa and South Asia

1c: Provide direct support for agricultural education, research, and extension for young women and men through rural organizations, universities, and training facilities

1d: Build a special Peace Corp cadre of agriculture training and extension volunteers who work closely within the Sub-Saharan African and South Asian institutions to provide on-the-ground, practical training, especially with and for women farmers

1e: Support primary education for rural girls and boys through school feeding programs based on local or regional food purchase

2. Increase support for agricultural research in Sub-Saharan Africa and South Asia

2a: Provide greater external support for agricultural scientists working in the national agricultural research systems of selected countries in Sub-Saharan Africa and South Asia

2b: Provide greater support to international agricultural research conducted at the international centers of the CGIAR

2c: Provide greater support for collaborative research between scientists from Sub-Saharan Africa and South Asia and scientists at U.S. universities

2d: Create a competitive award fund to provide an incentive for high-impact agricultural innovations to help poor farmers in Sub-Saharan Africa and South Asia

3. Increase support for rural and agricultural infrastructure, especially in Sub-Saharan Africa

3a: Encourage a revival of World Bank lending for agricultural infrastructure in Sub-Saharan Africa and South Asia, including lending for transport corridors, rural energy, clean water, irrigation, and farm-to-market roads

3b: Accelerate disbursal of the MCC funds already obligated for rural roads and other agricultural infrastructure projects in Sub-Saharan Africa and South Asia

4. Improve the national and international institutions that deliver agricultural development assistance

4a: Restore the leadership role of USAID

4b: Rebuild USAID's in-house capacity to develop and administer agricultural development assistance programs

4c: Improve interagency coordination for America's agricultural development assistance efforts

4d: Strengthen the capacity of the U.S. Congress to partner in managing agricultural development assistance policy

4e: Improve the performance of international agricultural development and food institutions, most notably the Food and Agriculture Organization of the United Nations

5. Improve U.S. policies currently seen as harmful to agricultural development abroad

5a: Improve America's food aid policies

5b: Repeal restrictions on agricultural development assistance that might lead to exports in possible competition with U.S. exports

5c: Review USAID objections to targeted subsidies (such as vouchers) to reduce the cost to poor farmers of key inputs such as improved seeds and fertilizers

5d: Revive international negotiations aimed at reducing trade-distorting policies, including trade-distorting agricultural subsidies

5e: Adopt biofuels policies that place greater emphasis on market forces and on the use of nonfood feedstocks

Source: The Chicago Council on Global Affairs (2009), *Renewing American Leadership in the Fight Against Global Hunger and Poverty*

II. Detailed Progress to Date

Recommendation 1: Increase support for agricultural education and extension at all levels in Sub-Saharan Africa and South Asia

Grade: B-

(Simple average of numerical scores: 68%)

Summary: *The U.S. is successfully leveraging the skills and resources of domestic agricultural research and education institutions and improving the structure and composition of U.S. government education and extension programming to allow larger numbers of participants and a greater number of partnerships. The challenge ahead is to deepen support and commitment to ensure long-term impact.*

Why is this recommendation needed?

Agricultural education and extension are needed to accelerate the spread of new technologies and seize market opportunities. The U.S. government approach to this for domestic agriculture has been particularly successful in part because education, extension, and research are conducted together, through federally-supported universities and research labs whose staff are clearly rewarded for solving local farmers' real world problems. Graduates and trainees deliver innovations to farmers directly and also through input suppliers or product marketers. With education and extension tied to research, public investment drives private-sector growth, meeting growing demands through locally-appropriate production, trade and investment. The 2009 report recommended that the U.S. renew its global leadership in this field by leveraging our domestic strengths, taking strategic advantage of its own agricultural institutions.

What has been accomplished?

The U.S. has increased investment in several categories of extension and education related to food security, including a larger number of short-term trainees brought for agricultural education in the U.S., more partnerships between U.S. and African universities, and more U.S. food aid used to promote schooling within African countries. All of these steps utilize America's distinctive strengths in rural education and agricultural extension, most notably through exchanges such as the Farmer-to-Farmer pro-

gram, the recently awarded institution-building effort led by Ohio State University to strengthen Sokoine University of Agriculture in Tanzania, and the strategic effort led by the University of Illinois to strengthen agricultural extension programs across 20 countries around the world.

How might U.S. leadership be strengthened?

Continued outreach via exchange programs and university partnerships is important, but rapid changes in technology and market institutions call for the most promising students to be brought deeper into U.S. educational institutions through long-term degree programs and sustained relationships with U.S. universities. The goal should be a funnel-shaped pipeline of educational opportunities, in which many African and Asian farmers have enhanced learning about advanced agricultural techniques and markets, while a few become highly trained scientists, entrepreneurs and advocates for innovation and growth. This flow of increasingly skilled agriculturalists can drive sustainable productivity growth, if carried by a long-term vision and investment in institutional development. Leveraging U.S. strengths calls for working with universities in the larger context of other public and private institutions, South-South partnerships, non-governmental organizations (NGOs), and philanthropies.

Actions to implement recommendation 1.

Action 1a. Increase support for students, younger teachers, researchers and policymakers seeking to study agriculture at American universities

Score: 7 out of 10

Summary: *Renewed attention and growth in student numbers achieved through short-term training. In 2010 the U.S. government's agricultural training and exchange programs brought approximately 125 Sub-Saharan Africans or South Asians to U.S. universities, at an estimated cost of only $1.8 million. Support for long-term, in-depth education is more costly, but needed to keep up with technological and institutional change.*

Programs to bring Africans and South Asians for study in America's agricultural universities have changed dramatically in recent years, shifting from mainly long-term degree training towards more short-term fellowships. This has been driven primarily by sharp cuts in funding since the 1990s, and a shift in the mix of agencies involved from long-term capacity building through USAID to short-term exchanges through the US Department of Agriculture (USDA). The Council's 2009 report called for more robust U.S. leadership in global agricultural training, aiming to bring 310 students to American agricultural universities by 2014. This would reverse decades of decline in these investments, which by 2008 were reaching only about 80 students per year.[1] In 2010, the U.S. government (via USDA and USAID) funded a greater number of students, but did so through even more short-term programs, with approximately 125 students from Sub-Saharan Africa and South Asia at an estimated cost of only $1.8 million.[2] Short-term programs stretch limited resources and reach large numbers of promising students. The challenge now is to deepen students' experiences in the U.S., with a special focus on engaging women, while ensuring their relevance to home-country institutions and situations.

Action 1b. Increase the number and extent of American agricultural university partnerships with Sub-Saharan African and South Asian universities

Score: 8 out of 10

Summary: *Some growth in partnerships with initial signs of success. Developments and increased funding have led to an estimated 10 agricultural partnerships in Africa in the last two years, at a cost of under $9 million; however, there is still ample opportunity for expansion.*

Partnerships between universities in the U.S. and Africa have expanded due to new efforts such as the Africa-U.S. Higher Education Initiative and the broader Higher Education for Development (HED) program. In 2008, USAID obligated $1 million to fund 20 partnership planning grants; the grant competition drew such a high level of interest that USAID funded an additional 13.[3] Eleven of the initial planning grants were awarded two-year funding for program implementation; seven of these partnerships are focused on agriculture, and five of those are in Feed the Future countries.[4] While these partnerships are funded in two-year increments, they are part of proposed ten-year programs that encourage long-term relationships and capacity building. In addition to the seven managed by the Africa-U.S. Higher Education Initiative, HED manages another three agricultural partnerships in Sub-Saharan Africa. In 2009, HED released comprehensive assessments of more than 30 partnerships in Sub-Saharan Africa and South Asia that received funding since 1998; its research underscored that the modestly-funded HED partnerships tap local resources and reengage host country nationals at home and abroad, thereby helping to reverse the brain-drain phenomenon and make other educational investments even more productive.[5] Partnerships with African institutions are still in nascent stages and relationships with universities in South Asia remain limited, thus there are still many opportunities for additional creative partnering arrangements.

Action 1c. Provide direct support for agricultural education, research, and extension through rural organizations, universities, and training facilities

Score: 7 out of 10

Summary: *Modest increases in direct support to extension; innovation in university collaboration. One key step has been using U.S. universities to build farmer-centered research and extension systems, but a larger magnitude of more direct support is also needed.*

Action 1c specifies the need for the U.S. government to increase direct support for rural education, research and extension. Much of the government's activities in this area flow through university partnerships, such as the new Tanzania Agricultural Research and Capacity Building Project awarded in March 2011. This project proposes to link Ohio State University and a consortium of other land-grant universities to work together to strengthen key agricultural institutions, including Tanzania's Sokoine University of Agriculture.[6] Another example demonstrating renewed attention to extension in particular is USAID's $9 million grant through the University of Illinois for a five year, 20-country project, Modernizing Extension and Advisory Systems; this program was cited as the first significant USAID investment in extension systems in decades.[7] There is still a need to strengthen extension systems in Africa and South Asia. One opportunity may be for the U.S. to support the training of agro-dealers as extension agents, based on a model

currently being implemented by the Alliance for a Green Revolution in Africa (AGRA). In addition to these university-focused programs, innovative exchange efforts such as USAID's John Ogonowski and Doug Bereuter Farmer-to-Farmer program help leverage agricultural development resources by providing skilled volunteer hours. This program continues to receive steady funding and will provide services to 20 core countries during fiscal years 2009 – 2013.[8] The U.S. government is also providing funds towards the CGIAR's African Women in Agricultural Research and Development (AWARD) program, which supports African women working in agricultural research through mentoring, leadership development and scientific training. While these programs offer unique opportunities, agricultural education, research and extension—and female agriculturalists in particular—require more support.

Action 1d. Build a special Peace Corps cadre of agriculture training and extension volunteers

Score: 7 out of 10

Summary: *A small increase in the number of agriculture volunteers has been achieved by changing the mix of assignments. As of 2010 there were 371 volunteers working on agriculture and environment projects in 13 African countries;[9] however, this number is less than five percent of the roughly 8,000 Peace Corps volunteers in the field at any one time, so further changes in the mix and number of volunteers are now needed.*

Peace Corps volunteer assignments that target agriculture and food production have increased since 2008 (when there was an estimated 300 volunteers in this area) and are expected to continue growing.[10] Additionally, USAID and the Peace Corps have made agreements to synergize food security related programming, focusing on training and capacity building with local farmers in Senegal, Ghana, Mali and elsewhere.[11] Peace Corps has expanded collaboration with USAID to provide direct project support to Peace Corps food security volunteers; to initiate this collaboration, the Sustainable Development Office of USAID's Africa Bureau helped fund the hire of a Food Security Specialist at Peace Corps headquarters. However, the total number of agricultural volunteers remains limited, and all Peace Corps programs in South Asia remain closed.[12]

Action 1e. Support primary education for rural girls and boys through school feeding programs based on local or regional food purchase

Score: 5 out of 10

Summary: *Increases in school feeding funding, but with little attention to local and regional food purchase. The past several years have seen increases in total funding for the USDA-administered McGovern-Dole school feeding program, and significant improvements in food aid quality are possible, but total food aid budgets face heavy cuts, with little discussion of local and regional purchase.*

The use of local procurement for regular school feeding is intended to simultaneously promote primary education, agricultural development, and child health, but has not been adequately adopted. New procurement mechanisms for food aid are being piloted under the USDA's Local and Regional Procurement (LRP) Project (2009 – 2012); however this project primarily targets expedited provision of food aid to vulnerable populations affected by food crises and disasters, and comes to an end in FY 2012.[13] The 2009 report

also encouraged the inclusion of technical assistance funds to assist local governments in the design and expansion of efficient safety-net school feeding programs.[14] While the McGovern-Dole program does require sustainability plans so that the communities being served can "graduate" from USDA assistance, to date the program's technical assistance funds do not specifically target the development of local government-sponsored school feeding. Progress on local and regional procurement is limited but school feeding activities in general continue to draw investment. Since its original authorization in 2002, McGovern-Dole has increased sharply, reaching more than $200 million in FY 2010, or about 10 percent of all food aid funding.[15] The FY 2011 budget only reduced this number slightly.[16] New programs such as the Food Aid Nutrition Education Program (FANEP) and USAID's Food Aid Quality Review could lead to dramatic improvements in the nutritional quality and effectiveness of food assistance.[17]

Recommendation 2: Increase support for Agricultural Research in Sub-Saharan Africa and South Asia

Grade: B-

(Simple average of numerical scores: 68%)

Summary: *The U.S. government has continued to support its major agricultural research mechanisms and several promising new approaches have been launched, but direct support to national agricultural research systems (NARS) remains weak.*

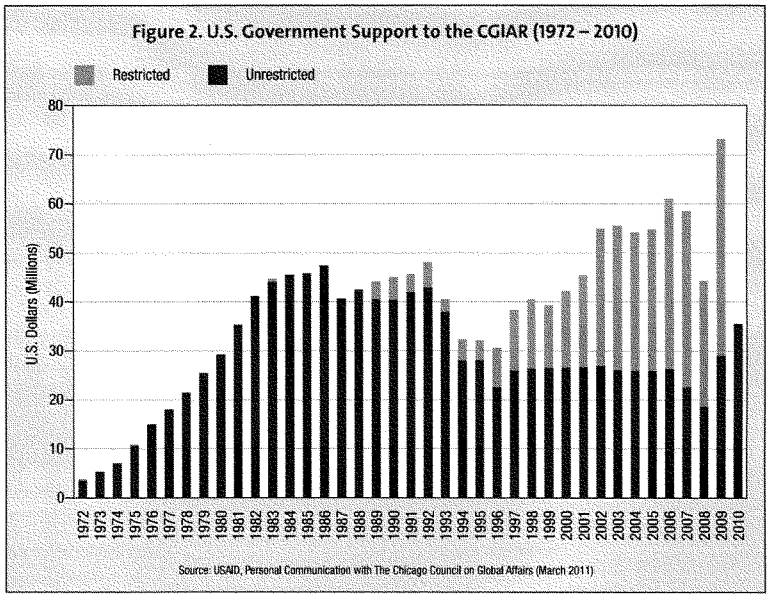
Why is this recommendation needed?

The 2009 report emphasized that sustained, geographically-targeted agricultural research is urgently needed to develop locally appropriate innovations, offering a unique opportunity to leverage American strengths in pursuit of a more secure global economic environment. American agricultural research is the most powerful in the world, using public investment to drive private-sector growth. It is successful for three main reasons: *sustained funding* from federal and state sources, *clear accountability* to farmers and the public, and *rapid delivery* of innovations through private-sector input suppliers and product marketers. This approach to agricultural innovation was successfully transferred to the most populous parts of Asia and Latin America in the green revolution of the 1960s, 1970s, and 1980s, but the resulting global abundance of food led to declining investment in the 1990s. The remaining areas of lagging farm productivity in Sub-Saharan Africa and South Asia continue to be trapped in extreme poverty and food insecurity. In these regions there is relatively little U.S.-style agricultural research, either because total investment is low or because other less successful approaches are being followed.

What has been accomplished?

The strategic importance of expanding U.S. public investment in global agricultural research is now widely recognized by the Administration and Congress. It is featured in numerous U.S. policies, most notably in the research component of Feed the Future.

Specific steps in this direction include the growth of partnerships between U.S. universities and scientists in Sub-Saharan Africa and Asia, as well as a doubling of core (unrestricted) funding to the international research centers of the Consultative Group on International Agricultural Research (CGIAR) since its low point in FY 2008 (see Figure 2).



How can U.S. leadership be strengthened?

The key challenge in research funding is to sustain enough support for innovations to flow from international channels to local farmers and consumers. Global capabilities are now being rebuilt; the weak link now is sufficiently strengthened national systems to perform local trials and make research responsive to local needs.

Actions to implement recommendation 2.

Action 2a. Provide greater support for agricultural scientists in national agricultural research systems

Score: 6 out of 10

Summary: *Support is flowing to NARS mainly through multi-party international partnerships, thus aggregate numbers are difficult to track. For long term success, more direct support to NARS will be needed to expand the flow of new technologies to farmers and input providers.*

Action 2a calls for the U.S. to restore its financial support for the national research systems of South Asia and Sub-Saharan Africa to the levels of two decades ago, which is roughly equivalent to $100 million annually.[1] While the U.S. has placed greater emphasis on strengthening developing country NARS, much of this support has been channeled through broader agricultural development programs and partnerships, rather than direct funding to NARS' activities. The U.S. does not track contributions to NARS, making it difficult to assess any commitment on the part of the U.S. or changes over time. Examples of recent partnerships with NARS include USAID/Senegal's Education and Research in Agriculture initiative, which will establish a broad research exchange program between a consortium of five U.S. universities and institutes of agricultural research in Senegal, and the USAID-funded Africa-U.S. Higher Education Initiative, which is working in partnership with the Forum for Agricultural Research in Africa.[2] While these partnerships are important, direct financial support of NARS is needed in order for them to reach their full potential and achieve the greatest impacts of agricultural research and development. Regular tracking of U.S. government support to NARS would be useful to assessing funds' use and ultimate impact.

Action 2b. Provide greater support to agricultural research conducted at the international centers of the Consultative Group on International Agricultural Research

Score: 7 out of 10

Summary: *U.S. unrestricted funding to the CGIAR nearly doubled from 2008 to 2010, with $29 million in unrestricted funds for 2009, and $35.5 million for 2010.[3] Continued growth depends in part on success of CGIAR reforms to focus efforts on farmers' diverse needs.*

Although the U.S. government did not reach the recommended $50 million core funding for 2010 suggested in the 2009 report, it has significantly increased its contributions, jumping from $18.6 million in 2008, to $29 million in 2009, to $35.5 million in 2010.[4] For restricted funds, U.S. funding increased from $39 million in 2008 to $50 million in 2009 (restricted funds for 2010 are not yet available).[5] The Council's 2009 report was released just as the CGIAR's "Change Management Initiative" was gaining momentum.[6] Now, a few years into the process, U.S. representatives are actively involved in many facets of the ongoing CGIAR reforms, including the development of the CGIAR Fund, which will oversee the funding and management of components of the new CGIAR Research Programs.[7] USAID has been actively working to create synergies between its agriculture and food security programming efforts and CGIAR's research agenda, particularly in relation to the Feed the Future research strategy, results framework and indicators. Future increases in U.S. funding of the CGIAR depend partly on whether CGIAR reforms prioritize results-based strategic global public goods and improved management.

Action 2c. Provide greater support for collaborative research between scientists from Sub-Saharan Africa and South Asia and scientists at U.S. universities

Score: 6 out of 10

Summary: *The Collaborative Research Support Programs (CRSPs) have evolved and are responding to changing research needs; however funding still falls short of needed levels of investment.*

The U.S. government made important progress on Action 2c by both establishing new and adapting existing CRSPs to changing agricultural research needs. For example, in October 2010, USAID awarded a new *Global Nutrition* CRSP to a consortium led by Tufts University, forming partnerships with Asian and African researchers to discover and disseminate how agricultural, health and nutrition interventions can best serve both women and men to improve maternal and child health outcomes.[8] This project's explicit focus on gender roles linking agriculture to health is an example of USAID's new priorities under Feed the Future. The *Horticulture* CRSP led by University of California-Davis and the *Adapting Livestock Systems to Climate Change* CRSP led by Colorado State University are also new additions in the last two years, and pre-existing CRSPs have been more effectively deployed through additional coordination.[9] As of 2007, the CRSPs received approximately $27 million in annual funding; in FY 2010 they received $31.5 million.[10] This increase is a positive sign; however the resources available are still nowhere near the $45 million peak funding received in 1983.[11] Given the successes of the CRSP model, the U.S. government should consider restoring funding to the previous highs of the 1980s, in real terms, and allocate additional funds to encourage the development of creative alternatives to these types of activities, working with new African leadership such as the Comprehensive Africa Agriculture Development Programme (CAADP) in efforts such as AGRA.

Action 2d. Create a competitive award fund to provide an incentive for high-impact agricultural innovations to help poor farmers in Sub-Saharan Africa and South Asia
Score: 8 out of 10
Summary: *USAID initiated the Grand Challenges for Development program, which could help implement the bipartisan America COMPETES Act successfully passed in 2010.*

Action 2d calls for innovative funding mechanisms and partnerships to offer new awards, which would recognize and accelerate the spread of high-impact agricultural innovations. An important step forward in Action 2d is the recently established USAID Grand Challenges for Development program, which aims to promote innovative approaches to problem-solving in international development. Prizes and competitions will be an important component of this program, and agriculture and food security are among the targeted sectors.[12] The Grand Challenges for Development program could help implement the America COMPETES Act, which was reauthorized in January 2011, enabling federal agencies to award prizes competitively to stimulate innovation that has the potential to advance an agency's mission.

Recommendation 3: Increase support for rural and agricultural infrastructure, especially in Sub-Saharan Africa

Grade: B

(Simple average of numerical scores: 70%)

Summary: *The Millennium Challenge Corporation (MCC) has increased its disbursals and the World Bank has invested new energy and resources into global agriculture; however, stalled investments may hinder potential successes.*

Why is this recommendation needed?

Infrastructural investments are essential instruments by which governments attract private investment and drive economic growth. For agricultural development, a key foundation of rural roads, telecommunications and electrification is needed for the private sector to build on, so it can seize the opportunities offered by new technologies and connect farmers with urban and global markets. During the long period of worsening poverty from the 1970s, Sub-Saharan Africa neglected investment in physical infrastructure. The World Bank estimates it would cost $93 billion to fill the massive infrastructure deficit that accumulated over this period. African governments are now spending about $45 billion to do so, increasingly with financial and technical support of the Chinese government.

What has been accomplished?

The 2009 report recommended that the U.S. increase investments in agricultural infrastructure by encouraging World Bank lending and accelerating disbursals of MCC commitments. Major successes in both directions have been achieved. Infrastructure spending is closely tied to other kinds of investment, as in the World Bank's Agriculture Action Plan for FY 2010 to FY 2012, which projected an increase in support (from the International Development Association, International Bank for Reconstruction and Development, and the International Finance Corporation) to agriculture and related sectors from a baseline average support in FY 2006 to FY 2008 of $4.1 billion annually to between $6.2 billion to $8.3 billion annually over the next three years. The recently launched Global Agriculture and Food Security Program (GAFSP)—a multi-donor trust fund located at the World Bank—is a promising new mechanism for additional investment in both infrastructure and other agricultural development activities. Likewise, for those countries with MCC compacts, agricultural infrastructure disbursals have accelerated, totaling $327 million in nine countries over calendar years 2009 and 2010.

How can U.S. leadership be strengthened?

The central obstacle to infrastructural improvements is the scale of investment required. Some of the accomplishments described above could quickly become weaknesses if they are neglected and underfunded. For example, the U.S. has only delivered $67 million of the $475 million originally committed to the World Bank's GAFSP (see Figure 3),[1] and MCC's strict eligibility standards mean that it can only reach a small number of African countries.

Actions to implement recommendation 3.

Action 3a. Encourage a revival of World Bank lending for agricultural infrastructure

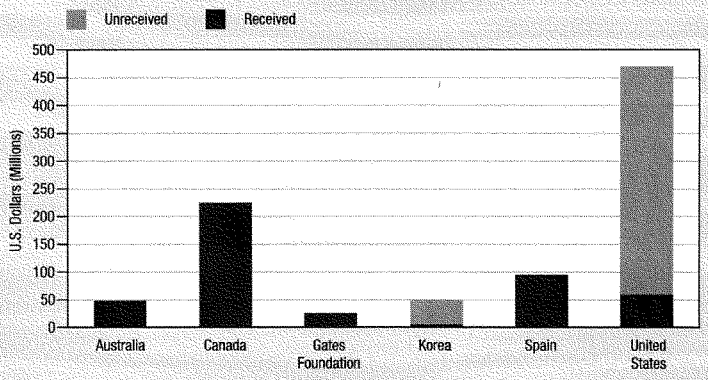
Score: 6 out of 10

Summary: *Country programs are accelerating, but GAFSP remains underfunded. Individual successes such as Nigeria's Fadama project are being scaled up across Africa.*

The World Bank has continued to increase its investment in agricultural infrastructure since the 2009 report was released; in the past several years, it has approved loans for agri-

Figure 3. The Global Agriculture and Food Security Program, Pledges vs. Contributions

(as of April 18, 2011)



Please note: Ireland also pledged in the amount of US$ .5M, all of which has been received; this chart does not include U.S. FY 2011 appropriated funds, which total $100 million.
Source: GAFSP (2011) (http://www.gafspfund.org/gafsp/content/funding)

cultural infrastructure investments in Cameroon, Liberia, Zambia, and Mozambique. Its new Africa Strategy (released in March 2011) prioritizes lending to infrastructure, including a particular focus on transport and communications that link rural areas to urban and global markets.[2] In 2009, the Bank invested a total of $3.6 billion for all African infrastructure projects,[3] but its estimate of the total needed to meet Africa's growth potential is $93 billion of which African governments are already spending $45 billion. A notable individual success of World Bank lending is the Fadama project in Nigeria, which includes significant infrastructure upgrading to make use of new technologies and develop agricultural markets for sustainable productivity growth. It is currently being expanded to include 19 more states and has already boosted the incomes of 2.3 million farm families in 12 states by an average of 60 percent.[4] The launch of the GAFSP in April 2010 signified a renewed global focus on agriculture and food security, yet its implementation has been hindered by the fact that actual contributions have been significantly lower than initial pledges.[5] The United States pledged $475 million, but has only delivered $67 million in FY 2010 and appropriated $100 million in FY 2011.[6] In 2010 $337 million in grants went to eight countries (all but two of which were in South Asia or Africa).[7] In response to concerns about the effectiveness of multi-donor trust funds, the GAFSP steering committee has set aside up to five percent of the fund's resources to conduct independent, in-depth impact evaluations on projects, as part of a broader monitoring and evaluation framework. The steering committee includes three civil society members to ensure this perspective is represented in governance discussions. A private sector window has also been established for the fund, to provide debt and equity investments in the agricultural sectors of low-income countries, particularly in market segments that have traditionally struggled to gain access to financial products. Although the fund has successfully issued grants, further successes hinge on donors fulfilling their contributions.[8]

Action 3b. Accelerate disbursal of the Millennium Challenge Corporation funds already obligated for rural roads and other agricultural infrastructure
Score: 8 out of 10
Summary: *Disbursals have grown by 26 percent from FY 2009 to FY 2010 as MCC compacts mature, but compact eligibility standards limit its reach.*

Since its inception in 2004, the MCC has signed 23 compacts totaling more than $7.82 billion, of which $2.3 billion has been disbursed as of February 2011; 12 of these compacts are in Africa.[9] While slow disbursals were a problem for MCC programs, they have increased from roughly $90 million in FY 2007 to an estimated total expenditure of $875 million in FY 2009 and $1.1 billion in FY 2010.[10] For agriculture-related infrastructure in Sub-Saharan Africa, actual disbursals during calendar years 2009 and 2010 totaled $327 million, funding projects in Benin, Burkina Faso, Cape Verde, Ghana, Mali, Mozambique, Namibia, Senegal, and Tanzania.[11] The MCC has requested to Congress that its operational model be changed to include concurrent compacts; extensions of the five-year compact duration; and adjustments to the candidate income categories.[12] Even with these changes, however, MCC compacts can reach only a few select countries, and other programs are needed to fulfill U.S. objectives in other locations.

Recommendation 4: Improve the national and international institutions that deliver agricultural development assistance

Grade: B+

(Simple average of numerical scores: 74%)

Summary: *The structure and effectiveness of USAID has improved and many interagency coordination efforts are underway, but staffing and budget constraints limit the magnitude of effort.*

Why is this recommendation needed?

In the years before the world food crisis of 2007-08, an abundance of food on world markets and a shift to other priorities led to underinvestment and decline in the staffing levels of agricultural development organizations in the U.S. and abroad. This coincided with low investment and decline in staffing for USAID in general, as illustrated by the decrease in total U.S. personnel from about 7,000 in 1965-1970 to just above 2,000 in 2000-2005.[1] In the 1990s there was a surge in employment of local hires at USAID missions, but total staffing remained about half of what it was during the green revolution era of foreign aid. The neglect of agriculture and of USAID in general did not mean that foreign assistance disappeared. Interventions and staffing simply shifted from core investments in economic growth to emergency responses, health care and other services, with a fragmentation of capacity into diverse agencies and contractors in the U.S. and abroad.

In 2009, The Chicago Council proposed targeted reforms to the portions of U.S. foreign assistance that address hunger and poverty reduction through rural and agricultural development. If implemented, the recommended reforms would establish clear lines of

authority, rebuild the U.S. government's cadre of agricultural development experts, and link the varied institutions engaged in food security issues.

What has been accomplished?

The rebuilding of U.S. global agricultural development capabilities began with a flurry of activity in 2010, with overall foreign assistance reform being addressed through the PPD on Global Development, the QDDR, and USAID FORWARD. After almost a year of vacancy, the position of USAID Administrator was filled in January 2010 by Dr. Rajiv Shah. In an effort to both concentrate and augment its agriculture capacity, USAID created a new Bureau for Food Security in November 2010 to house Feed the Future's operations. USAID's hiring of agricultural officers has increased. Cooperation among agencies has been encouraged through the National Security Council and other efforts, and the U.S. continues to support improvement in multilateral organizations especially the Food and Agriculture Organization of the United Nations (FAO).

How can U.S. leadership be strengthened?

Despite the unpredictable financial climate, the U.S. government must continue to build upon the new structures and systems put in place in the past two years—and do so at a

Table 1. Tracking of USAID Leadership Appointments, Center for Global Development
(as of April 15, 2011)

Position	Nominee	Status	Months Vacant
Administrator	Rajiv Shah	Nominated: Nov. 10, 2009 Confirmed: Dec. 24, 2009 Sworn-in: Jan 7, 2010	11
Deputy Administrator	Donald Steinberg	Nominated: Aug. 5, 2010 Confirmed: Sept. 29, 2010	20
Assistant Administrator (AA)—Latin America and Caribbean	Mark Feierstein	Nominated: May 12, 2010 Confirmed: Sep. 16, 2010	19
AA—Asia	Nisha Desai Biswai	Nominated: Jul. 1, 2010 Confirmed: Sept. 16, 2010	19
AA—Democracy, Conflict, and Humanitarian Assistance	Nancy Lindborg	Nominated: Aug. 5, 2010 Confirmed: Sep. 29, 2010	20
AA—Economic Growth, Agriculture, and Trade	Eric Postel	Nominated: Nov. 9, 2010 Confirmed: Mar. 3, 2011	26
AA—Europe and Eurasia	Paige Alexander	Nominated: Sept. 23, 2010 Confirmed: Dec. 22, 2010	23
AA—Global Health	Ariel Pablos-Mendez	Nominated: Mar. 10, 2011	27+
AA—Africa			27+
AA—Middle East	Mara Rudman	Nominated: Feb. 16, 2011	27+
AA—Management			27+
AA—Legislative and Public Affairs			27+

Source: The Center for Global Development (2011) (http://www.cgdev.org/section/initiatives/_active/assistance/usaid_monitor/usaidstaffertracker).

pace that matches the urgency of the need. Some changes have been swift, while others have been painfully slow, as indicated in the USAID Staffer Tracker (see Table 1).[2] The commitment to restore leadership to USAID has been made explicit; the building blocks that will enable USAID to champion global agricultural development and food security are in place. To help these new efforts realize their potential, the U.S. government must concentrate resources, pledge sustained support, and ensure strong linkages between the myriad of actors involved in food security, both within the government, and with partners in the NGO, international, and private sector communities. Strong leaders are needed both in Washington and in the field to guarantee impact.

Actions to implement recommendation 4.

4a. Restore the leadership role of USAID

Score: 8 out of 10

Summary: *The QDDR, PPD and USAID FORWARD point to greater independence and innovation. New evaluation procedures and transparency can build trust and momentum.*

The 2009 report underlined the importance of restoring USAID's leadership role in development within the U.S. government—and cautioned that if USAID's authority was not reestablished, the U.S. would face difficulties in the successful implementation of the other recommendations and actions. The report mentioned two specific steps for restoring leadership: reestablish USAID's budgeting autonomy, and appoint the USAID Administrator as the board chair of the MCC and the head of the President's Emergency Plan for AIDS Relief (PEPFAR). Neither of these actions has been fully implemented; the USAID Administrator sits on the board of the MCC, but is not the chair, and while USAID may gain oversight and management of the Global Health Initiative, PEPFAR will remain under the guidance of the Office of the Global AIDS Coordinator at the State Department.[3] However—beyond the specific actions recommended in 2009—numerous events and changes have helped to strengthen USAID's leadership role while enabling reform and innovation within the Agency. The PPD on Global Development (September 2010), USAID FORWARD (November 2010) and the QDDR (December 2010), have all elevated USAID's status by strengthening its operations and making the Agency an integral part of the U.S. National Security Strategy. Both USAID FORWARD and the QDDR highlight the reestablishment of USAID's role in budget formulation. November 2010 saw the establishment of in-house budgeting, and monitoring and evaluation efforts for the new Bureau for Food Security.[4]

4b. Rebuild USAID's in-house capacity to develop and administer agricultural development assistance programs

Score: 9 out of 10

Summary: *USAID has dramatically increased its agriculture-focused staff and will continue to do so if it has adequate funding and support; however, key leadership positions remain vacant.*

Action 4b calls for restoring USAID's in-house technical capacity in agricultural development; the 2009 report specifically recommended that USAID aim to increase its agriculture-focused staff from an estimated 16 in 2008, to 70 in 2010, and 115 in 2013.[5] To that

end, USAID has set a goal of a net increase of 105 new agricultural officers by 2013; as of March 2011, it is just over halfway to meeting this goal with 56 new agricultural officers.[6] The majority is entering at the junior-level and will serve a two-year training assignment in a mission before moving to regular post. Of these 56, approximately half have already been deployed to overseas posts.[7] USAID has also stated that target countries will have a Feed the Future point person in each mission. The integration and impact of these additional capabilities is now of paramount importance and will be monitored in future progress reports. While some concrete successes have already occurred at the staff level, the Global Hunger and Food Security Coordinator position (the overall leader of the government's global agriculture and food security policy and budget) remains unfilled. The Deputy Coordinator for Development position turned over in March 2011, while the companion post of Deputy Coordinator for Diplomacy has been temporarily staffed with an Acting Deputy.[8] Moreover, the integration of food security objectives at the country-level still remains to be seen.

4c. Improve interagency coordination for America's agricultural development assistance efforts

Score: 9 out of 10

Summary: *The Administration has built new collaborations between USAID, USDA and other agencies. The present and future activities of the Feed the Future initiative exemplify this collaborative approach.*

The U.S. has made notable progress towards building improved interagency collaboration between the various government agencies involved in global agriculture and food security initiatives. The 2009 report recommended the establishment of an Interagency Council on Global Agriculture within the Executive Office to coordinate efforts; Government Accountability Office (GAO) reports show that indeed there is a National Security Council Interagency Policy Committee on Agriculture and Food Security, but there is little public information about this group.[9] Outside the Executive Office of the President, a number of initiatives have embraced a new "whole-of-government" approach; Feed the Future's planning and implementation cross-cut the State Department, USAID, USDA, MCC, the US Department of Treasury, and the Peace Corps among others. To oversee the creation of a shared results framework and indicators for Feed the Future, the initiative's leadership brought together an Interagency Working Group—comprised of representatives from USAID, Treasury, MCC, USDA, Peace Corps, the African Development Foundation, the Office of Management and Budget (OMB), and GAO.[10] The group initially focused on the development of a comprehensive results management plan; it is now working within the individual agencies to incorporate the indicators into their monitoring processes and draft practical approaches to monitoring food security spending and results.[11] The Feed the Future Research Strategy has laid out ambitious plans for interagency collaboration, including the new Norman Borlaug Commemorative Research Initiative, which establishes a partnership between USAID and USDA to leverage the expertise of USDA's research agencies.[12] There are also efforts to synchronize U.S. food security and global health initiatives. 1,000 Days, a public-private partnership launched by Secretary Clinton to support the Scale Up Nutrition movement, raises awareness about the window of opportunity for impact between birth and a

child's second birthday. The initiative integrates its nutrition programming with Feed the Future through supporting activities such as homestead food production, where families create low-cost home gardens and raise livestock to increase access to nutritious foods, in coordination with education on infant and young child feeding practices and access to health services and deworming. Ultimately, the success of these initiatives will depend on funding levels; the degree of interagency cooperation that actually occurs; and strong leadership at both the Washington and Ambassadorial levels.

4d. Strengthen the capacity of the U.S. Congress to partner in managing agricultural development assistance policy

Score: 5 out of 10

Summary: *The Select Committee on Hunger could have been reestablished under the bipartisan Roadmap Act of 2009, and food security policy objectives could have been authorized by the Global Food Security Act of 2009; neither of these pieces of legislation passed. Since 2010, Congressional focus on deficit reduction leaves limited room for action on hunger and poverty.*

Minimal progress has been achieved in Action 4d despite considerable efforts. Congress should be applauded for giving FY 2009 and FY 2010 appropriations to the government's food security initiatives; yet, within the past two years, it has missed several key opportunities to institute legislative change. The 2009 report recommended that the House reestablish the Select Committee on Hunger to inform and shape policy and legislation. Others have echoed this call as well. In February 2009, a diverse coalition of international relief and development organizations including Bread for the World, CARE, Catholic Relief Services, the Congressional Hunger Center, Friends of the World Food Program, Mercy Corps, Save the Children, and World Vision launched the Roadmap to End Global Hunger;[13] in June 2009, the bipartisan Roadmap Act to End Global Hunger was introduced to Congress. The Roadmap and the accompanying legislation included language that would create a Permanent Joint Select Committee on Hunger and establish a White House Office on Global Hunger and Food Security, but the legislation was not passed.[14] Additionally, Congress failed to pass the Global Food Security Act (also known as the Lugar-Casey-McCollum Global Food Security Bill) that would have authorized appropriations for FY 2010 to FY 2014 to provide assistance to foreign countries to promote food security, stimulate rural economies, and improve emergency response to food crises; this bill was supported by 16 Senate co-sponsors.[15] Given the current Congressional focus on deficit reduction and anticipated budget cuts, progress on Action 4d is unlikely.

4e. Improve the performance of international agricultural development and food institutions, most notably the Food and Agriculture Organization of the United Nations

Score: 6 out of 10

Summary: *Leadership and structural changes could improve effectiveness. Outcomes depend heavily on active U.S. participation, including in the recruitment of strong international organization leaders.*

The U.S. has made efforts to reestablish its leadership role among multilateral institutions working in food and agriculture, in accordance with the 2009 report's recommendations. In June 2009, the Administration appointed a new Ambassador to the U.N. Agencies in

Rome, bringing a new energy to U.S. participation in the FAO reforms,[16] and December 2010 saw the transition of the USDA's Coordinator for Global Food Security to the position of FAO Deputy Director-General for Knowledge,[17] replacing the American who previously held that position. Americans have traditionally had a limited presence at FAO, but there has been a recent, concerted effort to circulate vacancy and hiring information to a broader American audience—resulting in an increased number of American applications.[18] The U.S. has been engaged in the ongoing FAO reforms, and helped create a new advisory body—the High Level Panel of Experts on Food Security and Nutrition—in September 2010.[19] The U.S. played an especially important role in the L'Aquila Food Security Initiative (July 2009) and the World Summit on Food Security (November 2009). These successes are tempered by the U.S.' limited involvement in high-level recruiting for the UN agencies. The new Director-General of the FAO will be elected in late June 2011; the U.S. did not play an influential role in the recruitment process and has not yet endorsed a candidate, and thus missed the opportunity to ensure that the next leader will have the skill set to oversee the reform process. Selections for heads of the World Food Program and International Fund for Agricultural Development will be held between now and 2013. In light of these upcoming changes, the U.S. has an opportunity to be proactive in influencing in the direction and leadership of these organizations.

Recommendation 5: Improve U.S. policies currently seen as harmful to agricultural development abroad

Grade: D

(Simple average of numerical scores: 52%)

Summary: *The policies and issues that cross-cut U.S. domestic agriculture and global agricultural development continue to generate heated debate. While discussions continue, little action has occurred. Policies regarding emergency food aid and targeted vouchers have improved and could bring large gains, but other rules have not changed.*

Why is this recommendation needed?

American foreign policy is generally practiced independently of domestic policy, but in the area of global agricultural development there are U.S. regulations that significantly impair the government's ability to support a more stable and prosperous international environment. The 2009 report identified five key areas for reform: how food aid is administered; rules against working on specific commodities; opposition to input subsidies or vouchers as a development strategy; failure to complete negotiations to lower world trade distortions; and the use of corn for fuel instead of food. Each of these policies is widely seen as harmful to global agricultural development and food security, and they were identified in the 2009 report as examples of policies that serve only a narrow domestic political purpose and would be in the overall U.S. national interest to reform.

What has been accomplished?

Limited success has been achieved in only two of the five areas: improving the procedures used for emergency U.S. food aid, and using vouchers to promote farm input use in post-conflict and disaster situations. While these changes can be viewed as a step in the right direction, they are still a comparatively small portion of U.S. efforts. To the extent that new food aid strategies and input-supply programs are in fact scaled up over the coming years, however, it is likely that they can be implemented more cost-effectively than in the past.

How can U.S. leadership be strengthened?

The two most important weaknesses in policies affecting global agricultural development are a lack of progress in the Doha Round of international trade negotiations, which is largely outside the control of the U.S. government, and the lack of progress in reorienting U.S. biofuels policy. Each of these serves a narrow interest group in the U.S. at the expense of most American citizens and to the detriment of our global agricultural development initiatives. The reforms advocated in the 2009 report would help accelerate domestic economic growth and also improve global agriculture and food security. Looking forward, the U.S. government should seize the opportunity offered by the renewal of the Farm Bill, slated for 2012, to rethink these important issues.

Actions to implement recommendation 5.

5a. Improve America's food aid policies

Score: 6 out of 10

Summary: *Innovative new mechanisms for emergency food aid have been introduced, but there is little evidence that these strategies will be applied to other forms of food aid.*

The 2009 report stated that the U.S. should improve its food aid policies through increased funding for local purchase of commodities and decreased monetization of food aid. Local and regional procurement activities have gained some traction in both USDA and USAID. USDA's $60 million LRP project is in its third year of implementation (its duration running from 2009 to 2012),[1] and USAID's new Emergency Food Security Program (EFSP), established in early 2010, has helped to create more flexible and appropriate emergency food assistance responses.[2] Local and regional purchase strategies have been the subject of recent study by both the GAO (2009)[3] and the Congressional Research Service (2010),[4] among others; the majority concludes that local and regional procurement in Sub-Saharan Africa is both more timely and cost-effective. The issue of scaling down monetization continues to generate debate, resulting in no policy adjustments. The costs of cargo preference rules have attracted significant attention in 2010, with coverage by the media and discussion in the NGO community eliciting a formal response by the U.S. Merchant Marine.[5] Looking forward, progress in improving food aid policies will be significantly impacted by proposed funding cuts to food aid, in addition to the reduction in the quantities purchased with a given appropriation due to higher market prices.[6]

5b. Repeal restrictions on agricultural development assistance that might lead to exports in possible competition with U.S. exports
Score: 5 out of 10
Summary: *No change in this legislation.*

Section 209 of Public Law 99-349, also known as the Bumpers Amendment, prevents USAID from supporting agricultural development research in foreign countries that might lead to exports that compete in world markets with a similar commodity grown or produced in the U.S. The 2009 report suggested that this outdated measure does little or nothing to assist U.S. farmers, sends the wrong message to the world's poor farmers about America's priorities, and fails to build the new overseas markets that follow from agricultural development in low-income countries. A modification of the Bumpers Amendment, introduced in January 2010, would have allowed USAID to waive evaluations of agricultural development projects with respect to meeting the Bumpers' requirements for those countries viewed as the least developed by the World Bank, except for commodities for which those countries are already consistent net exporters.[7] The bill never became law, demonstrating that it is unlikely that the Bumpers Amendment will be modified without an internal champion and strong support among House or Senate members.[8]

5c. Review USAID's long-standing objection to any use of targeted subsidies (such as vouchers) to reduce the cost of key inputs such as improved seeds and fertilizers
Score: 5 out of 10
Summary: *Innovations in humanitarian response could be applied to use in development programs.*

The 2009 report suggested that USAID should be willing to support "smart" subsidies so long as they can be targeted, efficiently run on a large scale, and terminated when their purpose is accomplished. Such subsidies can enable quick increases in food production in the short-term. USAID has indeed supported the use of targeted vouchers in short-term relief operations following conflicts or disasters, in ways that are seen to be much more cost-effective than traditional mechanisms. However, non-emergency agriculture and food security interventions continue to emphasize linking farmers to markets rather than providing subsidized inputs.[9]

5d. Revive international negotiations aimed at reducing trade-distorting policies, including trade-distorting agricultural subsidies
Score: 5 out of 10
Summary: *No significant progress has been made; agriculture continues to be a point of contention.*

Action 5d focuses on the need to reduce trade-distorting subsidies and suggests that the U.S. provide the necessary leadership to revive World Trade Organization negotiations. A variety of media attention and public statements have addressed reviving and concluding the Doha Round of multilateral negotiations; in March 2011, President Obama reaffirmed his commitment to bring the negotiations to a "successful, ambitious, com-

prehensive and balanced conclusion,"[10] but there has yet to be any significant action. A major hurdle in the conclusion of the negotiations continues to be the language pertaining to agriculture. The negotiators warn that it would be very difficult to produce a revised text unless members show new signs of flexibility. They have cautioned that it might be easier to generate revisions on other negotiating issues, considered to be "less mature" than agriculture.[11] In the current market environment, a central concern is the periodic use of export restrictions by developing-country food producers that add to price spikes during periods of high world prices.

5e. Adopt biofuels policies that place greater emphasis on market forces and on the use of nonfood feedstocks

Score: 5 out of 10

Summary: *No significant progress.*

The 2009 report suggested that the U.S. consider waiving or reducing the 2007 mandate that 36 billion gallons of biofuels be used by 2022 (with up to 15 billion gallons from corn). No progress has been achieved in reducing the use of food crops for biofuels, which continues to be subsidized by taxpayers and fuel users through tax credits, import duties, and consumer mandates. Action 5e also recommended that the U.S. move away from its heavy dependence on corn as a feedstock for biofuels, and invest in techniques to derive energy from cellulosic biomass. In January 2011, the Environmental Protection Agency released figures showing that cellulosic biomass production was falling dramatically short of mandated levels, suggesting a lack of investment in the nascent industry.[12] That same month, the USDA announced $405 million in new loans for cellulosic ethanol activities under the Biorefinery Assistance Program.[13] The food price spikes and food price volatility in recent months, as well as very high energy prices, have again triggered a broad debate about the environmental as well as economic impacts of biofuels subsidies and mandates. Congress and the Administration should consider these issues as they evaluate these policies in the coming years, and maintain a high level of legislative and regulatory oversight.

III. Leadership Survey Results: Perceptions of U.S. Leadership in Global Agricultural Development

Why and how was the survey conducted?

An important aspect of leadership is building confidence and mobilizing the efforts of private citizens. Enthusiasm matters. If the institutions and individuals who are now or could be involved in global agricultural development believe that the U.S. government is fundamentally on the right track, then they are more likely to support U.S. government programs and leverage taxpayer resources with their own efforts.

To track these subjective opinions, The Chicago Council conducted an informal survey of self-selected participants, asking whether U.S. leadership in this field has strengthened or weakened in the past year. An invitation to the survey was circulated by email to recipients of The Chicago Council's Global Food For Thought newsletter and related social networks; the newsletter reaches approximately 2,000 subscribers from government, NGOs, business, international organizations, media and academia working on issues of international agriculture, development, and food. The email included a link to the questionnaire website that remained open from March 15 through March 22, 2011. This approach was designed to capture the immediate impressions of individuals with some knowledge and interest in global agricultural development. The survey allowed one response per person and obtained a total of 250 responses.

The survey asked respondents whether they agreed that the U.S. government was fulfilling the seven subjective "leadership tasks" identified in the 2009 report. Then the survey asked respondents for their perceptions of U.S. government performance along three other dimensions of leadership, and asked one overall right track/wrong track question before inviting open-ended answers with examples of specific leadership successes or failures. The option to disagree came first to avoid prompting agreement that each leadership task was being fulfilled, and a choice to remain neutral was always offered. Questions one through seven were asked in random order to avoid sequencing biases, followed by the three additional dimensions of leadership and then the overall right track/wrong track question.

Who were the respondents?

The demographics of the 233 respondents who chose to identify themselves are described in Table 2. This sample is not representative of any other group, but clearly spans a wide range of individuals who could potentially contribute to U.S. efforts in global agricultural development.

Table 2. Demographics of the Leadership Survey Respondents

Region of residence	Percentage	Count	Sector of employment	Percentage	Count
USA	80%	187	Education and Research	35%	82
Sub-Saharan Africa	7%	16	Government	11%	26
South Asia	1%	3	Consulting	18%	42
Other Asia	3%	7	Business	9%	20
Europe	6%	14	Other	27%	63
Oceania	0%	1			
Other	2%	5			
Total Responses	**100%**	**233**	**Total Responses**	**100%**	**233**

What was discovered?

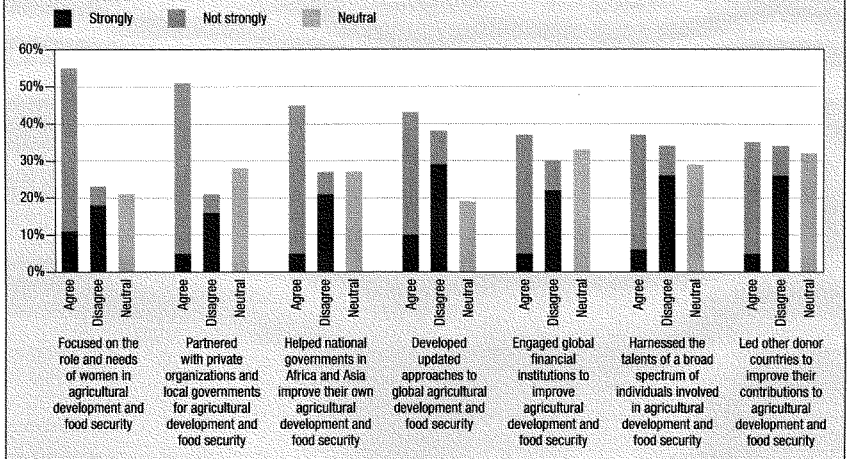
The main finding from the survey is that far more respondents agreed than disagreed that the U.S. government is successfully fulfilling the leadership tasks identified in the 2009 *Renewing American Leadership* report. Overall, in response to the summary question, is the U.S. government "on the right track" in global agricultural development, 42% of respondents agreed and only 22% disagreed with the statement (with the remainder responding neutral).

Results on that summary question and on each specific aspect of U.S. leadership are presented below (see Figures 4 and 5). An outright majority agree that the government is focused on the role and needs of women and is partnered with private organizations and local governments. More than 50% also agree that there is now more effective leadership within the U.S. government, and almost half agree that overall, the U.S. government is on the right track in this domain. There were no statements on which more respondents disagreed than agreed. But the plurality in agreement was smallest on whether the U.S. developed updated approaches, harnessed the talents of a broad spectrum of individuals, engaged global financial institutions, and led other countries to improve their contributions.

At the end of the survey, respondents were invited to describe examples of U.S. leadership successes or failures in their own words. Among the instances of leadership successes cited, 20 respondents described some aspect of the Feed the Future initiative, 11 respondents described some aspect of the high-level leadership of Administrator Shah or Secretary Clinton, and seven respondents mentioned new partnerships and coordination. Several other issues were also mentioned by a smaller number of respondents, as detailed in the Annex at the end of this report. Among the examples of leadership failures, 16 respondents mentioned the U.S. government's inability to secure funding for its initiatives, 14 mentioned a narrow conceptual approach, and 10 described USAID leadership and communications as ineffective. To show exactly how respondents articulated their answers, examples of each kind of response are provided in the Annex.

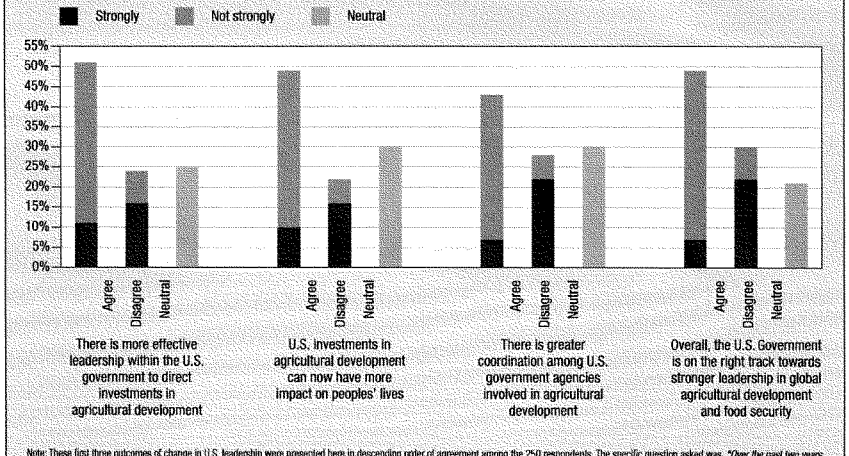
Overall, the subjective picture offered by this survey is consistent with the institutional changes and resource allocation choices described elsewhere in this progress report: observers see a clear improvement in institutional direction, but the level of effort that can be exerted in that direction is limited by funding constraints.

Figure 4. Survey Responses on Seven Objectives for U.S. Government Leadership in Global Agricultural Development



Note: These seven leadership objectives were presented in randomly varied sequence to each of the 250 respondents, and are presented here in descending order of agreement. The specific question asked was, *"The following tasks were identified as key directions for U.S. leadership by the Chicago Council in February 2009. To what extent do you think the U.S. government as a whole has achieved these objectives?"*

Figure 5. Survey Responses on Four Outcomes of Change in U.S. Government Leadership in Global Agricultural Development



Note: These first three outcomes of change in U.S. leadership were presented here in descending order of agreement among the 250 respondents. The specific question asked was, *"Over the past two years, the world has changed in many important ways. To what extent do you agree that the following changes have occurred since early 2009?"* The overall question was presented separately after the others.

About the Global Agricultural Development Initiative

The Global Agricultural Development Initiative (GADI), launched in 2008 and expanded in 2010, purposes to build support and provide policy innovation and accountability for a long-term U.S. commitment to agricultural development as a means to alleviate global poverty. It aims to maintain the policy impetus towards a renewed U.S. focus on agricultural development, provide technical assistance to agricultural development policies' formulation and implementation, and offer external evaluation and accountability for U.S. progress on food security. The Initiative is led by Catherine Bertini, former executive director, UN World Food Program, and Dan Glickman, former secretary, U.S. Department of Agriculture, and overseen by an advisory group comprised of leaders from government, business, civic, academic, and NGO sector circles. For further information, please visit thechicagocouncil.org/globalagdevelopment.

About The Chicago Council on Global Affairs

Founded in 1922 as The Chicago Council on Foreign Relations, The Chicago Council on Global Affairs is one of the oldest and most prominent international affairs organizations in the United States. Independent and nonpartisan, The Chicago Council is committed to influencing the discourse on global issues through contributions to opinion and policy formation, leadership dialogue, and public learning.

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Acronyms

AGRA	Alliance for a Green Revolution in Africa
APLU	Association of Public and Land-grant Universities
AWARD	African Women in Agricultural Research and Development
BFS	Bureau for Food Security
CAADP	Comprehensive African Agricultural Development Programme
CDCS	country development cooperation strategies
CGIAR	Consultative Group on International Agricultural Research
CRSP	Collaborative Research Support Program
DIV	Development Innovation Ventures (Fund)
DLI	Development Leadership Initiative
DOD	Department of Defense
EFSP	Emergency Food Security Program
EGAT	Economic, Growth, Agriculture and Trade (Bureau)
FANEP	Food Aid Nutrition Education Program
FAO	Food and Agriculture Organization of the United Nations
FY	fiscal year
GADI	Global Agricultural Development Initiative
GAFSP	Global Agriculture and Food Security Program
GAO	Government Accountability Office
HED	Higher Education for Development
HICD	Human and Institutional Capacity Development

LEAP	Leadership Enhancement in Agriculture Program
LRP	Local and Regional Procurement
MCC	Millennium Challenge Corporation
NARS	National Agricultural Research Systems
NGO	non-governmental organization
OMB	Office of Management and Budget
PEPFAR	President's Emergency Plan for AIDS Relief
PPD	Presidential Policy Directive
PPL	(Bureau of) Policy, Planning and Learning
QDDR	Quadrennial Diplomacy and Development Review
USAID	United States Agency for International Development
USDA	United States Department of Agriculture

Annex: Examples of U.S. Successes and Failures from the Leadership Survey

The numerical results from our leadership survey are presented in the main text of this report. We also asked respondents to cite examples of U.S. leadership successes or failures in their own words. We then counted the number of these open-ended answers that referred to similar successes or failures, and chose one representative example, which we reproduced in the list below.

Examples of leadership successes

Feed the Future initiative (20 respondents)

- "The development of Feed the Future was extremely well done, with the key agencies all on the same page, which is often not the case. The proof will be in the implementation, however, which is just getting started."

Strong High-level Leadership in the Current Administration (11 respondents)

- "The combination of Secretary Clinton and Raj Shah has stimulated hope and excitement in development circles to levels not seen for many decades."

Fostering Partnerships and Coordination (7 respondents)

- "The Ag development program created in Jakarta, Indonesia in October 2010 for Obama's visit. That was well thought out and orchestrated—bringing private industry and the two governments together to work on it jointly. It was a magnificent example of a joint effort. Leadership is now needed to implement the plans."

Emphasis on Gender Equity (5 respondents)

- "The emphasis on gender equity is strong and refreshing. This is a very important area for translating growth into real poverty reduction."

Country-led Plans and Ownership (5 respondents)

- "By focusing on country-led agriculture development plans, the United States has spurred countries like Kenya to develop new five-year agriculture strategies."

No Successes (5 respondents)

- "I work in many countries in sub-Saharan Africa, but I have no examples to share of leadership successes in agriculture related to U.S. government actions. As an American citizen, I look for them, but they seem to be very elusive."

Influencing Strategies and Commitments of Other Donors and Countries (3 respondents)

- "At a high level the U.S. Gov't has clearly focused on [agriculture] and has brought intellectual clarity to its goals and objectives, and I believe that this has helped other countries and organizations in their own establishment of goals and objectives."

Comprehensive Africa Agricultural Development Programme (CAADP) (3 respondents)

- "Support to the Comprehensive Africa Agricultural Development Programme (CAADP)—a continent-wide framework operating [at] national, regional, and continental levels."

Linking Agriculture with Nutrition and Health (3 respondents)

- "Pushing for both improvements in agricultural productivity and nutrition at the same time. It is easier to do them separately (or minimize nutrition improvements) but by pushing the envelope or linking agriculture to nutrition, we have created global momentum."

Leadership during the L'Aquila G8 Summit (3 respondents)

- "President Obama's initial efforts at L'Aquila were successful, but there was no real follow-up when donors failed to deliver on pledges and only $1 billion of $22 billion promised has so far materialized."

Examples of leadership failures

Inability to Secure Funding for Commitments and Initiatives (16 respondents)

- "The price of better inter-agency coordination has been delay in getting funds allocated. Also, like many others, I am worried that the Congress will cut the President's proposed funding for Feed the Future initiatives to shreds. That would be a leadership failure on the part of the Congress."

Narrow Conceptual Approach to Food Security Strategies (14 respondents)

- "Agriculture and food security are not the same thing, and the persistent conflation of these two concepts reflects poorly on U.S. leadership in the field."

Ineffective USAID Leadership and Communications Strategy (10 respondents)

- "Unfortunately, USAID has not effectively told the story of its existing agriculture development successes, and it has not disbursed funding quickly enough to demonstrate new successes with Feed the Future."

Insufficient Engagement of Non-Governmental Actors (8 respondents)

- "There have been many opportunities to enable a truly collaborative process with implementers and non-governmental entities, but this has been extremely limited."

Failure to Translate Plans and Commitments into Action/Implementation (5 respondents)

- "Bureaucracy and potential lack of funding for an initiative that has now taken nearly three years to develop and get off the ground, with the world experiencing now its second food shock. Too much planning and not enough action."

Too Much Emphasis on Agribusiness (5 respondents)

- "Much of the current U.S. government effort seems to be geared to helping large U.S. corporations access productions systems and/or markets overseas."

Failure to Recognize the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) (5 respondents)

- "The U.S. Government has not accepted or approved the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), despite the fact that several prominent U.S. professionals were involved in the formulation of the IAASTD recommendations."

USAID's Existing Procurement Model (4 respondents)

- "The same NGOs and private sector members are continually engaged—reinforcing preconceived beliefs rather than allowing for new ideas and engagement."

Food Aid Policy (4 respondents)

- "Food aid still uses U.S. produced food, rather than sourcing locally or from smallholder farmers. Lack of political will to liberalize food aid and move it away from commodities basis to monetary basis."

U.S. Domestic and Trade Policies (4 respondents)

- "EPA raised the blend wall for mixing ethanol with gasoline, which could have catastrophic consequences for food security."

Insufficient Involvement of Research Universities (4 respondents)

- "USAID continues to ignore the expertise available to it in research universities around the U.S."

Failure to Leverage Private Sector Investment (3 respondents)

- "Inability to translate outreach to corporations into concrete partnerships to leverage public and private investments."

Endnotes

II. Detailed Progress to Date

Recommendation 1: Increase Support for Agricultural Education and Extension At All Levels in Sub-Saharan Africa and South Asia

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Recommendation 2: Increase support for Agricultural Research in Sub-Saharan Africa and South Asia

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Recommendation 3: Increase Support for Rural and Agricultural Infrastructure, Especially in Sub-Saharan Africa

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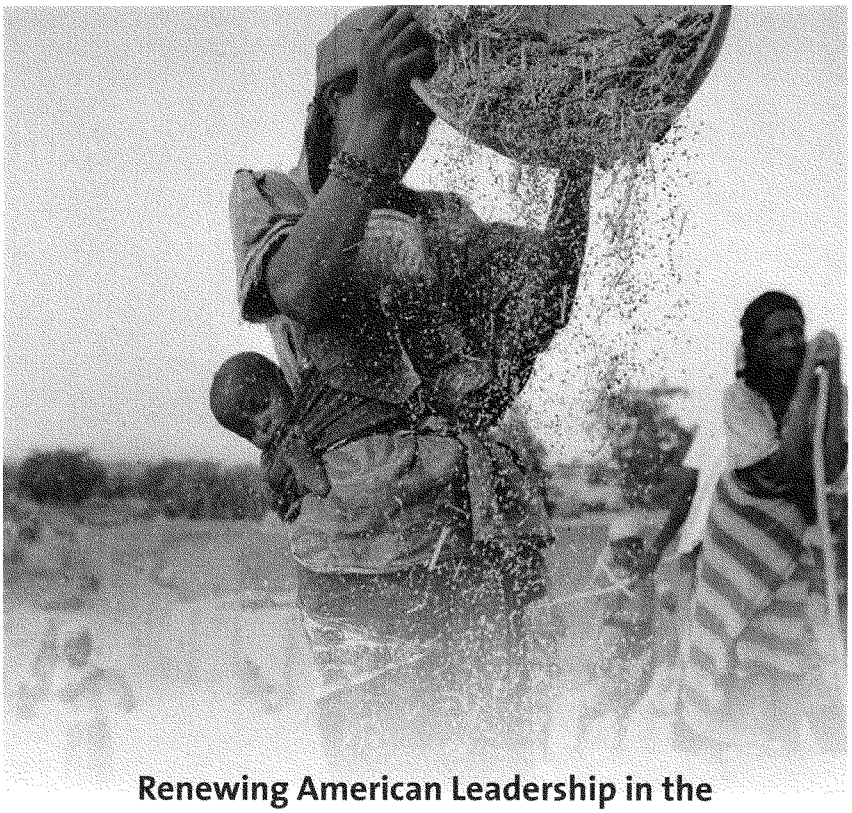

Renewing American Leadership in the Fight Against Global Hunger and Poverty

The Chicago Initiative on Global Agricultural Development

THE CHICAGO COUNCIL
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Report Issued by an Independent Leaders Group
on Global Agricultural Development

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on Global Agricultural Development

Catherine Bertini and Dan Glickman, cochairs

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Upon reaching a conclusion, a report is issued, and The Chicago Council publishes its text and posts it on The Chicago Council Web site.

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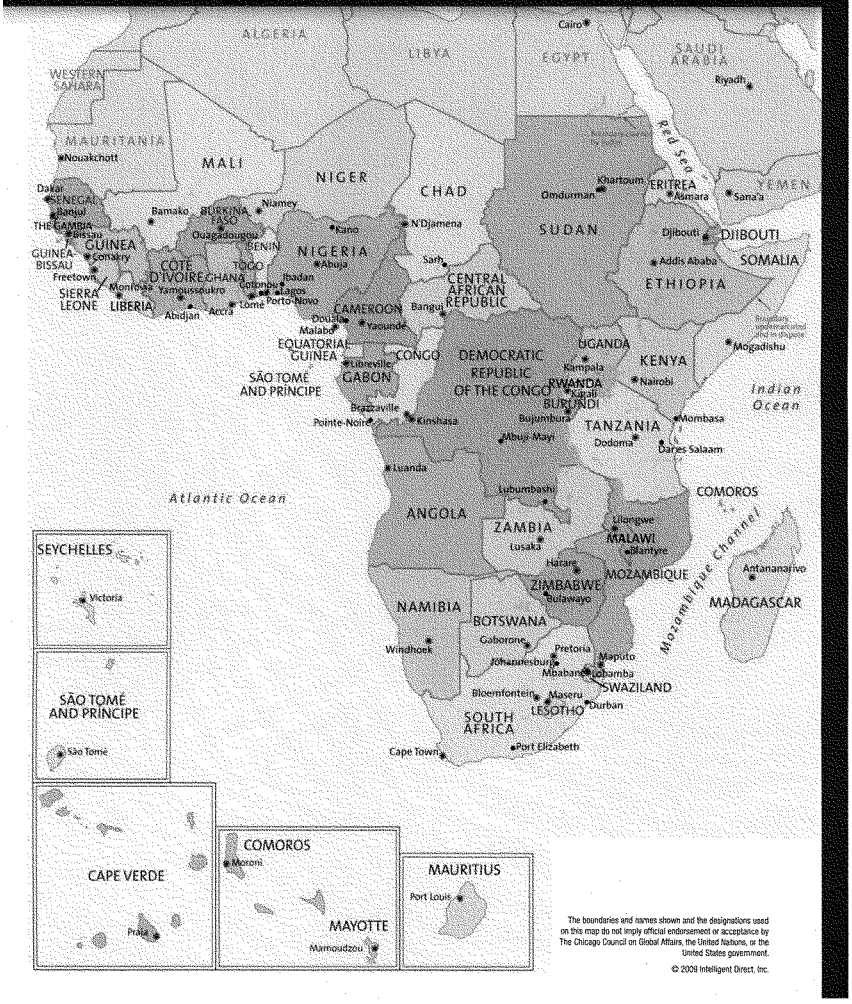

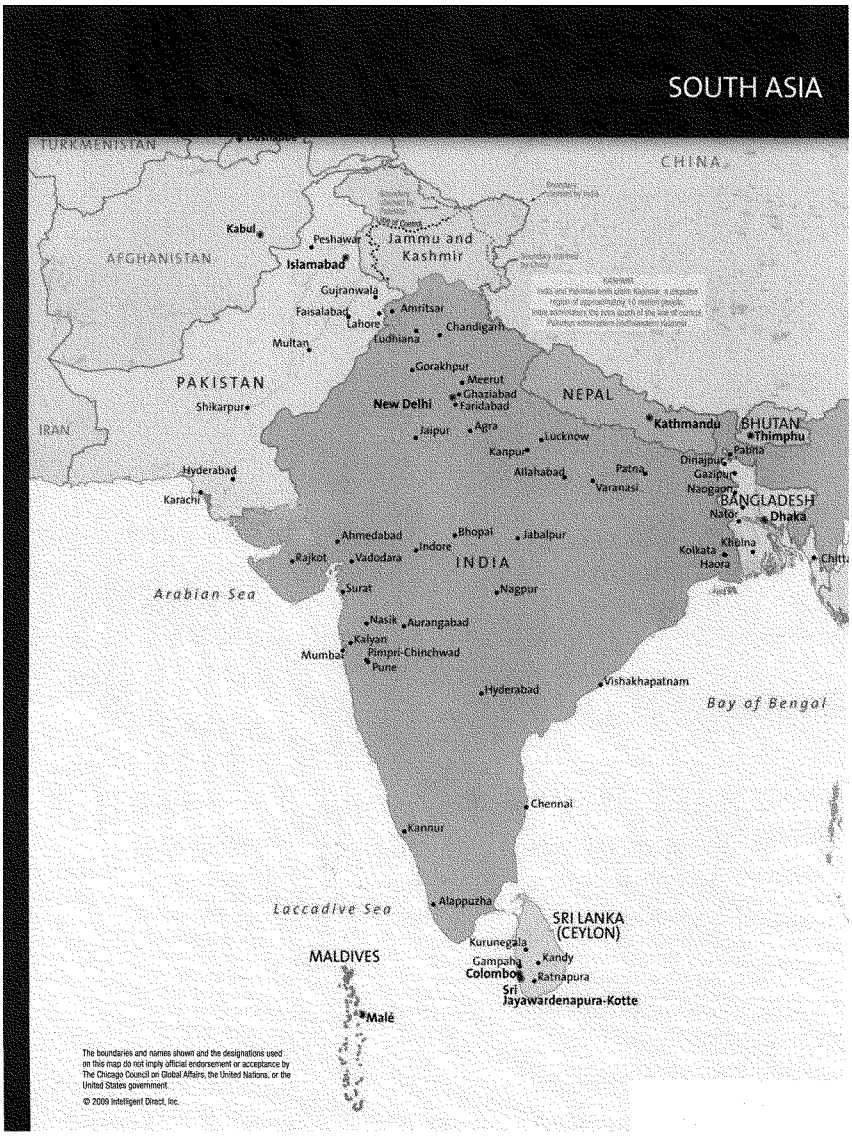
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FOREWORD

The 2008 global food crisis renewed global attention on the persistent problems of hunger and poverty in the developing world and aroused concern about global food security over the long term. Of greatest concern is the extreme plight of the approximately 600 million people who live on less than $1 per day in rural areas of Sub-Saharan Africa and South Asia and depend on agriculture for their livelihoods.

The solution to their plight lies in a sustained, long-term effort to increase agricultural productivity on smallholder farms. Yet over the past two decades there has been a steady decline in the world's support for the research, education and extension, and rural infrastructure improvements that are needed to help smallholder farmers improve their crop yields and gain access to agricultural markets. Now is the time for the United States to provide the leadership so sorely needed to support a second Green Revolution benefiting smallholder farmers in Sub-Saharan Africa and South Asia. We have compelling moral, economic, diplomatic, and security reasons to do so. Lacking for too long has been firm and sustained leadership from the U.S. president and Congress that commits America to strong partnerships with African and Asian institutions in a frontal attack on this critical cause of global poverty.

The Chicago Council on Global Affairs launched the Global Agricultural Development Project in mid-2008 to generate political, media, and public discussion of the need for U.S. international leadership in a long-term agricultural development initiative in Sub-Saharan Africa and South Asia. The Chicago Council's effort is aimed at building awareness of how the new U.S. administration and Congress can contribute to alleviating poverty and food insecurity through improved agricultural productivity and market access for smallholder farmers, with a special focus on the critical role of women in farm-level decisions. The Global Agricultural Development Project focuses on engaging U.S. decision makers and opinion makers such as prospective senior officials and advisors to the incoming Obama administration, key leaders in the 111th Congress, and nongovernmental organizations and interest groups in an effort to significantly expand U.S. development assistance programs for agriculture.

THE CHICAGO INITIATIVE

The Global Agricultural Development Leaders Group was convened in October 2008 to examine the risks posed by rural poverty and food insecurity in Sub-Saharan Africa and South Asia, the role of women in farm families in bringing about change, and the opportunities for the United States to better address the challenge of global poverty through agricultural development. Cochaired by Catherine Bertini, former executive director of the UN World Food Program, and Dan Glickman, former U.S. secretary of agriculture, the bipartisan Leaders Group brought together eleven distinguished individuals with expertise in food and agriculture, foreign policy, development, U.S. public policy, and international organizations.

A committee of experts was assembled to support the work of the Leaders Group by providing a summary of critical issues and policy options. Chaired by Robert Thompson, Gardner Endowed Chair in Agriculture Policy at the University of Illinois Champaign-Urbana, this committee consisted of twelve individuals with expertise

in agricultural research, infrastructure and agricultural development, trade, regional affairs in Sub-Saharan Africa and South Asia, and international economics.

The central outcome of the Global Agricultural Development Project is The Chicago Initiative on Global Agricultural Development, a package of specific policy recommendations for the new U.S. administration and Congress, unanimously endorsed by the Global Agricultural Development Leaders Group. This report lays out these recommendations and provides the background and the arguments for taking immediate action to implement them. The Global Agricultural Development Project also includes a major outreach effort to increase awareness and support for The Chicago Initiative. For more information on the project and this report, visit the project Web site at www.thechicagocouncil.org/globalagdevelopment.

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The Chicago Council is well positioned to facilitate dialogue on agriculture and foreign assistance issues. This effort builds upon the work of the Council's 2006 Task Force on Agriculture Policy, "Modernizing America's Farm and Food Policy: A Vision for a New Direction," which examined how to achieve meaningful sectorwide reform focused on ensuring the long-term competitiveness and sustainability of the U.S. agriculture and food systems. Moreover, many of the members of Congress active on issues of global agricultural development are drawn from the midwestern region, the agricultural center of America. The Council believes that its midwestern base and knowledge of U.S. agricultural issues contribute to the value of this report in the national discourse on development and foreign policy issues.

ACKNOWLEDGEMENTS

The Chicago Council would first like to thank the Leaders Group cochairs, Catherine Bertini and Dan Glickman, for their skillful and dedicated leadership throughout the project's very demanding eight-month process. The issues surrounding the topic of agricultural development and how to advance it are complex and require expertise from individuals from disparate disciplines and backgrounds. It speaks to the stature, insight, and energy of Ms. Bertini and Mr. Glickman that the project was able to assemble a diverse group with wide-ranging expertise on the topic; seek the views of key players from the executive branch, Congress, international organizations, advocacy groups, and research communities; and incorporate these perspectives into a thorough, well-founded report.

The Council extends its deepest appreciation to the members of the Leaders Group. Each had distinct experiences and views on the issues considered, yet worked together effectively to achieve consensus on the report's recommendations. I would like to especially thank them for their time and willingness to exchange views candidly during and following the group's deliberations.

The Council is deeply grateful to the Experts Committee chair, Robert Thompson, who adroitly assembled a committee reflecting a variety of disciplines to provide critical thinking and guidance on the full spectrum of issues under examination by the Leaders Group. Dr. Thompson offered invaluable guidance throughout the project, including the development of the final report.

The Council also thanks the members of the Experts Committee, who provided valuable knowledge and guidance to the Leaders Group, first through identifying

key issues and options for the Leaders Group to consider, and then serving as a resource throughout the report development process.

The Council extends its deep appreciation to Robert Paarlberg, who served as senior consultant and principal writer of this report. Dr. Paarlberg, one of the United States' leading scholars in the field, brought his great wealth of knowledge and insight to the framing of the project agenda and the development of this report.

The Leaders Group cochairs and the Council also acknowledge and thank the numerous senior leaders; members of Congress; congressional staff; government officials; leaders in the NGO, advocacy, and think-tank communities; African and South Asian leaders; and experts on these issues who met with the Leaders Group cochairs and The Chicago Council delegation during visits to Washington, D.C., and Des Moines, Iowa. These many individuals provided valuable information on current U.S. policy and guidance on the report.

The Council extends a special thanks to C. Fred Bergsten and the Peterson Institute for International Economics for hosting the report's release.

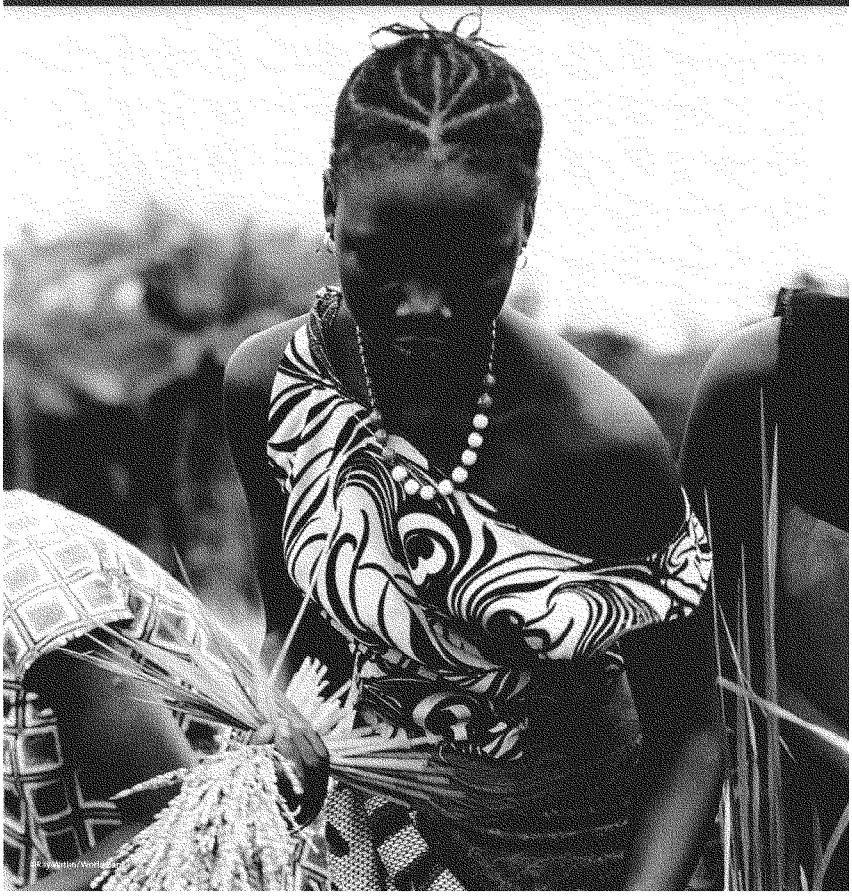
Much credit is due in particular to David Joslyn, who served as the project's director and led the entire effort with great insight, skill, and dedication. Drawing on his own training and a career working in development assistance and international organizations, David brought the talents of expert, policy specialist, diplomat, and consultant to every aspect of the project. More than any other person, he brought all the moving parts together and made the project work.

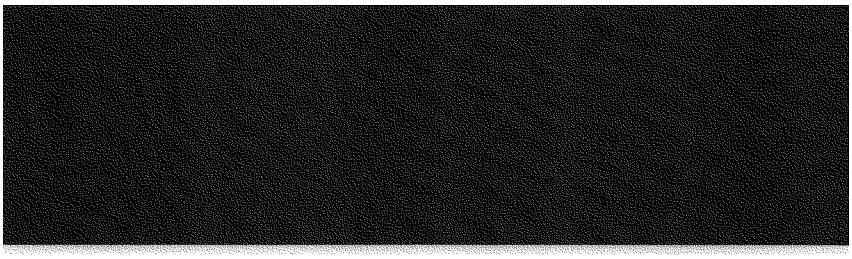
Several members of The Chicago Council staff played key parts in planning and implementing the project and creating the final report. Lisa Eakman served brilliantly as the project manager, providing key input on the project's materials and final report and managing the day-to-day operational support for all aspects and participants in the project. She brought unmatched efficiency and a level of cheerfulness that brightened the entire enterprise for the many months we have been working together. Hal Woods provided invaluable support to all portions of the project process with enormous dedication and accuracy, and played a key role providing background research and materials to the project team. Editor Catherine Hug expertly managed the editing and design of the final report. Consultant Greg Holyk oversaw the creation and execution of the public and leader opinion studies and the writing of the summary of results. Consultant Steven Kull provided valuable insight during the survey design process. Silvia Veltcheva assisted in the design of the surveys, managed the day-to-day operations throughout its execution, and contributed to the writing of the summary of results. Consultant Michele Learner fact-checked the report. Interns Zachery Gebhardt and Matthew Powers and research assistant Amber Rankin assisted with the development of final report's figures, charts, and appendices. Chicago Council staff, including Jo Heindel, Sam Skinner, and Elisa Miller, also made valuable contributions to the effort.

Finally, The Chicago Council would like to express its deep appreciation and thanks to the Bill & Melinda Gates Foundation for the generous support that made this project and report possible.

Marshall M. Bouton
President
The Chicago Council on Global Affairs

EXECUTIVE SUMMARY





"To the people of poor nations, we pledge to work alongside you to make your farms flourish..."

—President Barack Obama, Inaugural Address, January 20, 2009

The Obama administration and the new Congress have before them an historic opportunity in 2009 to restore America's global leadership in the fight against hunger and poverty. Today, hundreds of millions of people living in rural areas of South Asia and Sub-Saharan Africa are struggling without success to provide food and income for their families from farming. This report describes the magnitude of this challenge, the reasons it must be addressed now, and an effective and affordable strategy to renew American leadership in the effort.

The Chicago Initiative on Global Agricultural Development will mobilize knowledge, training, assistance, and investment to increase the productivity and income of these farmers and their families. The United States has the expertise, institutions, and experience to provide critically needed support to the nations of Sub-Saharan Africa and South Asia for a second Green Revolution. What is required is the vision and commitment of American governmental and private sector leaders, working alongside their African and South Asian counterparts in the years to come. If sustained, this Initiative will begin the process of lifting hundreds of millions of people out of poverty over the next two decades or less.

This report puts forward a set of five broad policy recommendations composed of twenty-one specific actions to refocus U.S. development policy on agriculture. If carried out, these actions would be the catalyst for significant additional support for

agricultural development. The early and strong commitment of the president of the United States and his key cabinet officers will be critical to the success of this effort.

PART I—CHALLENGE AND OPPORTUNITY: REDUCING HUNGER AND POVERTY IN SUB-SAHARAN AFRICA AND SOUTH ASIA

Why Is This Necessary?

Sub-Saharan Africa and South Asia are home to the largest numbers of poor, hungry people in the world. In Sub-Saharan Africa today, one out of every three people is malnourished. Most of these more than 200 million hungry people live in rural areas where they struggle without success to secure adequate income and nutrition from their work as small-scale farmers. In South Asia roughly 400 million rural dwellers live in extreme poverty, earning less than $1 per day from their work either on their own farms or as hired farm laborers. Most of these farmers are women.

Rural poverty in these two regions is projected to worsen in the years ahead due to continued rural population growth, growing pressures on limited land and water supplies, and climate change. In Africa food production has fallen behind population growth for most of the past two decades, and the number of undernourished people is expected to increase another 30 percent over the next ten years to reach 645 million. Under a "business-as-usual" scenario, with climate change taken into account, the number of undernourished people in Sub-Saharan Africa could triple between 1990 and 2080.

The source of these problems is not fluctuating food prices on the world market, but low productivity on the farm. The production growth needed will have to come from improved farm policies, technologies, and techniques, including those that address the effects of climate change.

How Did We Get Here?

Rural hunger and poverty decline dramatically when education, investment, and new technologies give farmers better ways to be productive. This happened in Europe and North America in the middle decades of the twentieth century, then in Japan, and then on the irrigated lands of East Asia and South Asia during the Green Revolution in the final decades of the twentieth century. The problem for Sub-Saharan Africa and the poorest areas of South Asia is that these original Green Revolution improvements had only limited reach.

The early achievements of the Green Revolution were nonetheless dramatic enough to create a false impression that the world's food and farming problems had mostly been solved. As a consequence, international donors who had provided strong support for agricultural innovation and investment in the 1960s and 1970s began pulling money and support away. America's official development assistance to agriculture in Africa declined approximately 85 percent from the mid-1980s to 2006. The United States is now spending twenty times as much on food aid in Africa as it is spending to help African farmers grow more of their own food.

What Should Be Done Now?

America must reassert its leadership in helping stimulate higher agricultural productivity in Sub-Saharan Africa and South Asia—through agricultural education and extension, local agricultural research, and rural infrastructure—so the rural poor and hungry can feed themselves and help support growing populations under increasingly challenging climate conditions. Without American leadership, little will happen.

While the United States can and must take the lead, it must base its actions on new approaches suited to new realities and on engaging partners across the spectrum of governments and institutions that can and should be playing a much stronger role. A strong American initiative will encourage America's partners to bring their own resources to the table. Governments in Sub-Saharan Africa and South Asia will also be asked to fulfill their pledges to restore the priority of rural poverty reduction. Finally, the United States must listen and respond to needs of women in these poor areas, who make up the vast majority of farmers in Sub-Saharan Africa and South Asia.

What Difference Will It Make?

A number of statistics demonstrate what the result of investments in agricultural development can be. Economists project with some confidence that every 1 percent increase in per capita agricultural output tends to lead to a 1.6 percent increase in the incomes of the poorest 20 percent of the population. According to a recent study by the International Food Policy Research Institute (IFPRI) in Washington, D.C., if total investments in agricultural research and development in Sub-Saharan Africa were increased to $2.9 billion annually by the year 2013, the number of poor people living on less than $1 per day in the region would decline by an additional 144 million by 2020. If annual agricultural research and development investments in South Asia were increased to $3.1 billion by 2013, a total of 125 million more citizens in this region would escape poverty by 2020, and the poverty ratio in the region would decrease from 35 percent to 26 percent.

Why Is It in America's Interest?

Much more than empathy or compassion is at issue here. America's diplomatic, economic, cultural, and security interests will increasingly be compromised if our government does not begin immediately to change its policy posture toward the rural agricultural crisis currently building in Sub-Saharan Africa and South Asia. Through The Chicago Initiative, America can strengthen its moral standing, renew ties and relationships in regions of heightened strategic concern, increase its political influence and improve its competitive position, hedge against the serious future danger of failed states, open the door to increased trade and cultural exchange, and strengthen American institutions.

Why Act Now?

With so many other urgent priorities confronting the new U.S. administration and Congress, why should any scarce governmental attention or resources go in 2009 to international agricultural development?

- Renewed American engagement would signal a dramatic shift in America's relations with the developing world. It would be a first but transformative step with the promise of lasting impact.
- Global food shortages triggered by much higher prices have focused greater political attention on food and hunger issues. This creates a unique opportunity for action.
- The rural poverty and hunger crisis will only grow larger with every year of inaction. Postponing action on this Initiative beyond 2009 could mean, in the reality of American politics, a delay until 2013 or even 2017, allowing an already desperate situation to deteriorate even more.

PART II—RECOMMENDATIONS: RENEWING ATTENTION TO AGRICULTURE IN U.S. DEVELOPMENT POLICY

The recommendations of The Chicago Initiative on Global Agricultural Development are based on several principles and priorities:

- Reducing large-scale hunger and poverty abroad as well as at home is consistent with America's interests and values.
- Sub-Saharan Africa and South Asia are the two regions where hunger and poverty problems are furthest from being solved.
- Women play a particularly central role in the agricultural sector in both Africa and South Asia and must be central to any new U.S. approach.
- Priority should be given to restoring U.S. leadership in agricultural development based on reciprocal partnerships. This will require the early and sustained leadership of the president of the United States, his key aides, and senior members of Congress.
- The problems of rural hunger and poverty in the developing world cannot be solved from the outside. America should always respect, nurture, and never stifle local initiatives and local leadership.
- The Chicago Initiative represents an initial and small step, but potentially a transformative one toward reducing hunger and poverty in Africa and South Asia.

RECOMMENDATION 1: Increase support for agricultural education and extension at all levels in Sub-Saharan Africa and South Asia.

- ACTION 1a. Increase USAID support for Sub-Saharan African and South Asian students—as well as younger teachers and researchers and policymakers—seeking to study agriculture at American universities.

- ACTION 1b. Increase the number and extent of American agricultural university partnerships with universities in Sub-Saharan Africa and South Asia.
- ACTION 1c. Provide direct support for agricultural education, research, and extension for young women and men through rural organizations, universities, and training facilities.
- ACTION 1d. Build a special Peace Corps cadre of agriculture training and extension volunteers who work within Sub-Saharan African and South Asian institutions to provide on-the-ground, practical training, especially with and for women farmers.
- ACTION 1e. Support primary education for rural girls and boys through school feeding programs based on local or regional food purchase.

RECOMMENDATION 2: Increase support for agricultural research in Sub-Saharan Africa and South Asia.

- ACTION 2a. Provide greater external support for agricultural scientists working in the national agricultural research systems of selected countries in Sub-Saharan Africa and South Asia.
- ACTION 2b. Provide greater support to agricultural research conducted at the international centers of the Consultative Group on International Agricultural Research.
- ACTION 2c. Provide greater support for collaborative research between scientists from Sub-Saharan Africa and South Asia and scientists at U.S. universities.
- ACTION 2d. Create a competitive award fund to provide an incentive for high-impact agricultural innovations to help poor farmers in Sub-Saharan Africa and South Asia.

RECOMMENDATION 3: Increase support for rural and agricultural infrastructure, especially in Sub-Saharan Africa.

- ACTION 3a. Encourage a revival of World Bank lending for agricultural infrastructure in Sub-Saharan Africa and South Asia, including lending for transport corridors, rural energy, clean water, irrigation, and farm-to-market roads.
- ACTION 3b. Accelerate disbursal of the Millennium Challenge Corporation funds already obligated for rural roads and other agricultural infrastructure projects in Sub-Saharan Africa and South Asia.

RECOMMENDATION 4: Improve the national and international institutions that deliver agricultural development assistance.

- ACTION 4a. Restore the leadership role of USAID.
- ACTION 4b. Rebuild USAID's in-house capacity to develop and administer agricultural development assistance programs.

- ACTION 4c. Improve interagency coordination for America's agricultural development assistance efforts.
- ACTION 4d. Strengthen the capacity of the U.S. Congress to partner in managing agricultural development assistance policy.
- ACTION 4e. Improve the performance of international agricultural development and food institutions, most notably the Food and Agriculture Organization of the United Nations.

RECOMMENDATION 5: Improve U.S. policies currently seen as harmful to agricultural development abroad.

- ACTION 5a. Improve America's food aid policies.
- ACTION 5b. Repeal current restrictions on agricultural development assistance that might lead to more agricultural production for export in poor countries in possible competition with U.S. exports.
- ACTION 5c. Review USAID's long-standing objection to any use of targeted subsidies (such as vouchers) to reduce the cost to poor farmers of key inputs such as improved seeds and fertilizers.
- ACTION 5d. Revive international negotiations aimed at reducing trade-distorting policies, including trade-distorting agricultural subsidies.
- ACTION 5e. Adopt biofuels policies that place greater emphasis on market forces and on the use of nonfood feedstocks.

The estimated total cost to the U.S. budget of the recommended actions in The Chicago Initiative is $340 million in the first year, increasing to $1.03 billion by year five and continuing at that level through year ten. Projected first-year costs are only 1.5 percent of the current annual U.S. official development assistance (ODA) budget of $21.8 billion. By year five costs would still only be 4.75 percent of current U.S. ODA.

PART III—PLAN OF ACTION: PUBLIC SUPPORT AND KEY STEPS

American Support for this Initiative

The American people will offer strong support for this Initiative. We know this from the results of two independent surveys commissioned by The Chicago Council on Global Affairs in the autumn of 2008. In these surveys both the public at large and a small but diverse sample of American leaders offered strong support for energetic U.S. action to reduce rural hunger and poverty in developing countries.

Action Priorities

The most logical starting point for implementing The Chicago Initiative are the actions under Recommendation 4 on improving institutions that deliver agricultural development assistance. These actions can be taken entirely within the executive branch at the direction of the new president.

The president should first make clear the administration's intent to give high priority to agriculture in U.S. development policy, a message that should be echoed by key members of his cabinet, in particular the secretary of state. The administration should then move quickly to restore the leadership role of USAID (Action 4a) and create an Interagency Council on Global Agriculture (Action 4c). This council would then provide the appropriate interagency venue for ensuring action on the other executive branch actions recommended in The Chicago Initiative.

The actions that require congressional appropriations are a critically needed but modest down payment on U.S. support for agricultural development. They should also be undertaken in 2009 and will depend on strong leadership from both ends of Pennsylvania Avenue.

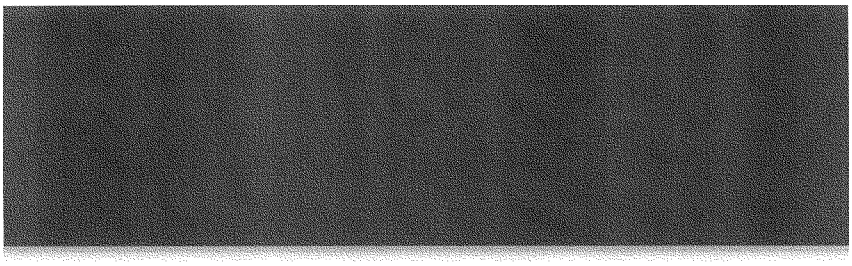
A Catalyst for Public-Private Partnership

It is important that The Chicago Initiative not be understood simply as a U.S. government program. Indeed, the recommendations extend far beyond the governmental sector. Their greatest promise derives precisely from the fact that foreign governments and nongovernmental institutions will be engaged, including universities, private companies, development organizations, and private philanthropies.

The Gain from Immediate Action and the Cost of Further Delay

It will take time for most of the recommended actions of The Chicago Initiative to produce their full impact on the ground. This is why there is no time to waste in getting started. Bringing agriculture back to the center of U.S. development policy will open a path to partnerships with the peoples and nations of Sub-Saharan Africa and South Asia, whose futures are crucial to the prospects for global peace and prosperity in the twenty-first century. New U.S. priorities and policies can strengthen cooperation with other developed nations and with international institutions in the service of shared goals. Increasing rural incomes will over time support social and political progress in Sub-Saharan Africa and South Asia and advance the national security interests of the United States. Overall, The Chicago Initiative will align America with the forces of positive change to meet the most basic of human needs and most lofty of human aspirations.

PREAMBLE



"To the people of poor nations, we pledge to work alongside you to make your farms flourish..."

—President Barack Obama, Inaugural Address, January 20, 2009

In 2009 the new U.S. administration and Congress confront daunting economic challenges in response to the most threatening financial crisis in nearly eighty years. While much of our leadership attention is rightly focused on glaring needs at home, another crisis is quietly brewing beyond our shores: the continuing rise of deep poverty and life-threatening hunger among hundreds of millions of people living in rural areas of Sub-Saharan Africa and South Asia.

This situation is not just a humanitarian disaster, but a threat to both America's values and our national interests. At a time when it would be tempting to ignore the plight of those so distant, we must realize that they are really not so far away. Our futures are tied together in a world facing formidable global challenges, including scarce natural resources and the effects of a warming climate amidst ever-growing populations.

Today, as we seek to restore our economic stability and confidence at home, we must also restore our position and influence in the world as a leader in tackling these vexing human problems. As the world's most powerful nation, we have a unique capacity—and responsibility—to leverage our substantial talent and resources to engage the world and find solutions that can lead to a better life not just for those in dire need, but for us all.

The Chicago Initiative on Global Agricultural Development is an effort by a group of a prominent Americans to generate awareness, specific policy recommendations, and support for a long-term commitment to agricultural development

in Sub-Saharan Africa and South Asia as a means of alleviating rural poverty and hunger.

Given that the United States and much of the global community has backed away from investments in agricultural development assistance over the past two decades, this report makes the case for an immediate change in U.S. policy. We know the need is great. And we know that this humanitarian crisis in the countryside is projected to worsen in the years and decades ahead.

Over the long term, a failure to enable agricultural growth will not only greatly limit the potential of Sub-Saharan African and South Asian economies to contribute to global prosperity, but likely mire us in unending regional conflicts and multiply our political and security threats. States that cannot feed their own people will tend to fail, opening the way for civil wars among armed militia groups or the development of new sanctuaries for terror groups that have sworn to do harm to America and its friends. Costly international peacekeeping interventions are a likely result.

The Chicago Initiative offers the new American administration an effective policy response to such threats. This response does not consist of flooding these poor regions either with scarce U.S. tax dollars or with even larger shipments of food aid. It focuses instead on making the discrete and affordable investments that experience shows can help poor farmers in South Asia and Sub-Saharan Africa do a better job of feeding themselves.

While these investments will require some budgetary outlays, they are relatively small and rely on a more effective mobilization of America's social and institutional assets, particularly our vast education and training complex, nongovernmental organizations and philanthropic foundations, and farmers and agricultural companies.

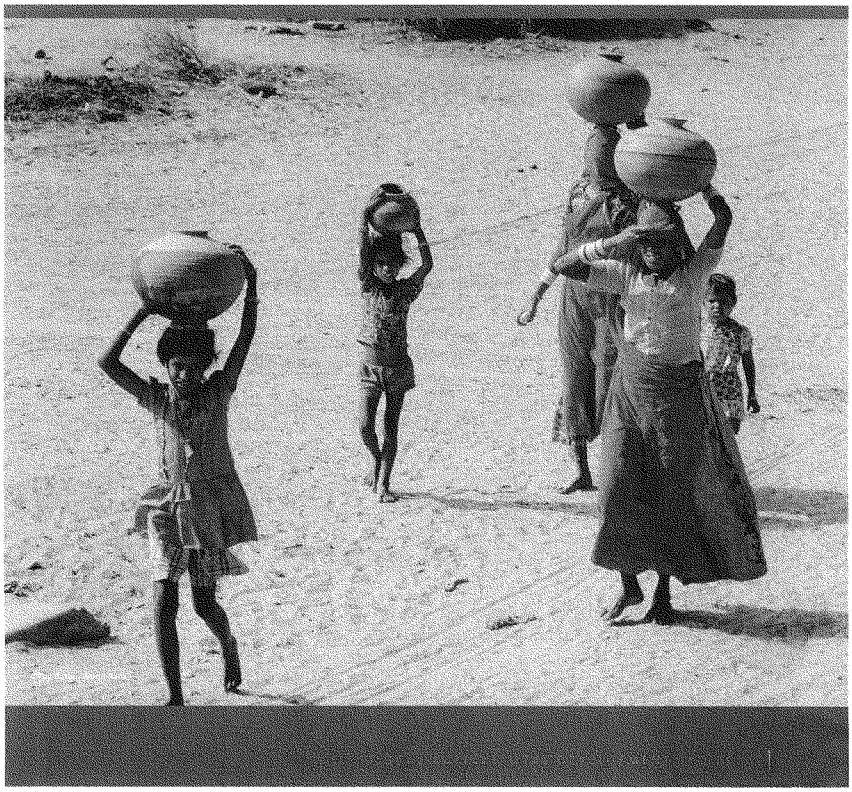
In this report we describe the challenge and lay out the arguments for making agricultural development in Sub-Saharan Africa and South Asia a U.S. policy priority. We then put forth five recommendations, encompassing twenty-one specific U.S. government actions, and their estimated costs. Finally, we set the agenda and establish priorities for implementing the recommendations beginning as early as possible in 2009. We also demonstrate that these policies and actions will be supported by a broad cross section of the American public and its leaders.

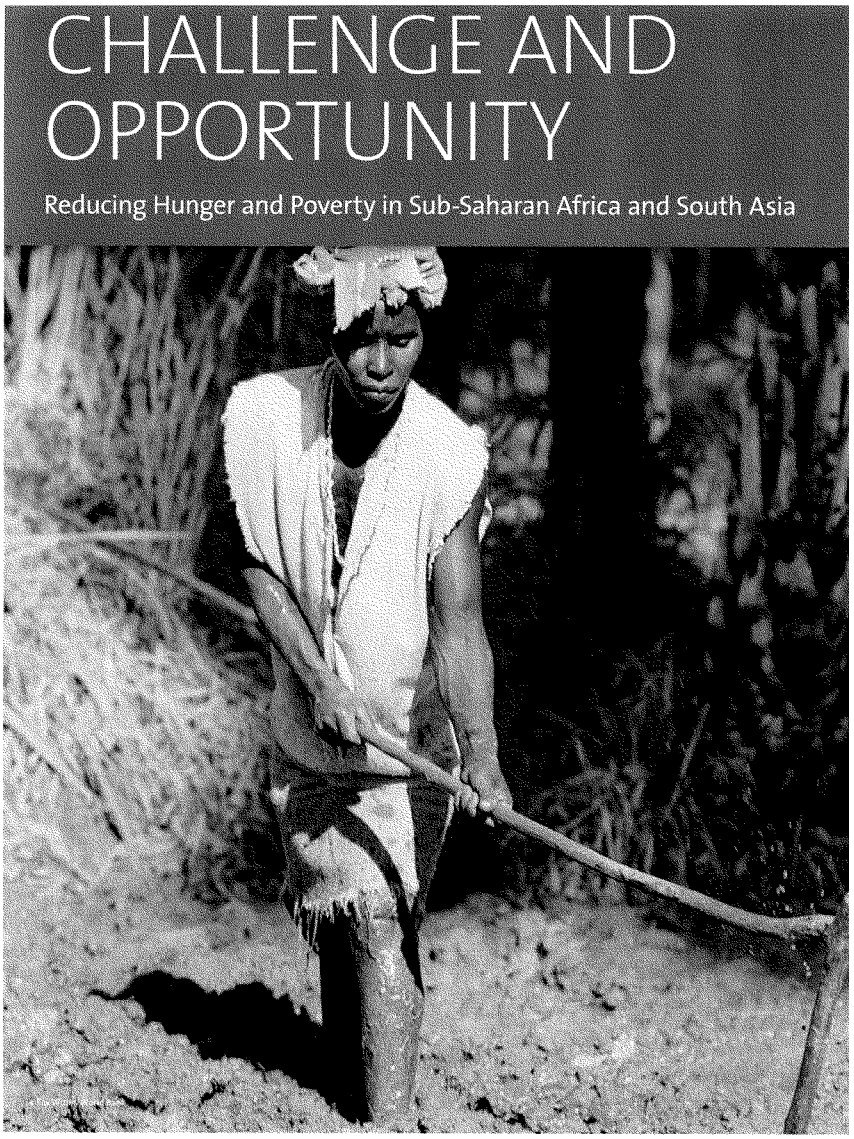
The recommendations are designed primarily to empower those in the developing world to take initiative through the support and resources of the United States and its partners. Success is predicated on the ripple effect U.S. leadership will have on other players in Sub-Saharan Africa and South Asia and on the world stage. If America begins to bring U.S. resources, knowledge, and institutions to the table, key international partners will respond with significant additional support for agricultural development. These partners will include not only those that are on the front lines of this crisis, but also our allies and friends in the international donor community.

The essential starting point for all of our recommended actions is the early, clear, and sustained commitment of the president of the United States and his key cabinet officers for the purpose of restoring American leadership in global agriculture. The statements by President Obama in his inaugural address and by Secretary

of State Clinton in her message to the "Food Security for All" conference in Madrid in January are promising signs that such a commitment is intended.

If the recommended actions are endorsed and implemented by the United States in 2009, they would constitute a dramatic change. They would mark a revolutionary turnaround in America's relationship to the rural poor in Africa and South Asia. They would replace a dangerously ineffectual "worry later" approach—which our country fell into several decades ago—with a strategic decision to begin making a difference.




CHALLENGE AND OPPORTUNITY
Reducing Hunger and Poverty in Sub-Saharan Africa and South Asia

PART I

"The President and I intend to focus new attention on food security so that developing nations can invest in food production, affordability, accessibility, education, and technology."

—Secretary of State Hillary Clinton
UN High-Level Meeting for Food Security for All, January 26, 2009

WHY IS THIS NECESSARY?

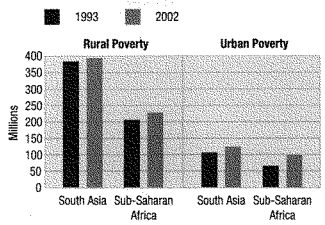
A problem of vast proportions

While rural poverty has been declining dramatically in much of the developing world in recent decades, particularly in East Asia, it remains dangerously high in Sub-Saharan Africa and South Asia. These two regions are home to the largest numbers of poor, hungry people in the world, with hundreds of millions of women, men, and children struggling to survive.*

In Sub-Saharan Africa today, one out of every three people is chronically malnourished. Nearly all of these more than 200 million hungry people live in rural areas, where they try to make a living as farmers, planting and harvesting crops or grazing animals.[1] Nearly three-quarters of all Africans live in the countryside and depend on agriculture for their employment and income.[2]

*While the great majority of impoverished small farmers are in Sub-Saharan Africa and South Asia, there are significant populations of poor small farmers in the upland regions of Southeast Asia that should be included in the agricultural development initiatives discussed in this report.

Figure 1 - Rural and Urban Poverty in South Asia and Sub-Saharan Africa (number living on less than $1/day)



Sources: Ravallion, Chen, and Sangraula 2007; World Bank 2007.

In South Asia the number of people living in deep poverty as farmers is even larger. Roughly 400 million rural dwellers in this region earn less than $1 per day from their work as small farmers or hired farm laborers.[3]

Figure 1 shows the recent increase in rural poverty in these two regions. It also shows the contrasting face of rural versus urban poverty. **While our world may be increasingly urban, the world of the poor remains overwhelmingly rural.** There are now more than twice as many rural poor as urban poor in Africa, and roughly three times as many rural poor as urban poor in South Asia.

International visitors to these two regions rarely see the rural face of poverty and hunger. Rural poverty is hard for tourists to view from a city hotel or while visiting restaurants, beaches, ancient temples, and nature parks. Even an extended car ride into the country may not suffice, since most of the rural poor live in communities that cannot be reached by ordinary passenger vehicles. Seventy percent of rural Africans live more than one mile from the nearest paved road.[4] International visitors are often shocked by the hardships they see in urban slums, yet this is not where the greatest need lies. The residents of these urban slums are primarily migrants from the countryside, and they have come to the city hoping to escape the even greater hardships they experienced as farmers.

A picture of destitution

To understand why farming provides such little income in Sub-Saharan Africa today, imagine a visit to a typical small farm. You have to arrive on foot because paved roads stop before you reach most farming communities. There is no electricity and no pumped-in water. The hard-working farmers you meet are mostly women. While curious and smart, they have only three years of formal schooling, on average, and for the most part cannot read or write in any language. The small fields of crops they tend have been prepared, planted, and weeded with wooden plows or hand hoes since they have no powered farm machinery. These women are knowledgeable about farming and highly resourceful. Because they have so little, they waste almost nothing. Yet because of their minimal tools, seeds, inputs, and marketing opportunities, their crop yields are dangerously low, and even their most persistent efforts bring little economic reward. In the words of the Nobel Prize–winning economist T. W. Schultz, they are "efficient but poor."[5]

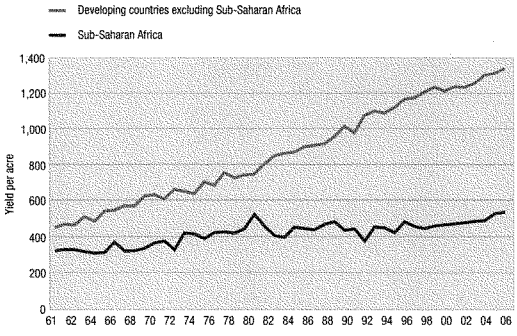
If you visit any farming community in Africa you will also notice the children. They are poorly clothed and poorly fed, small of stature, and often unusually quiet

and listless. They should be playing or in school, but instead they are tending goats, shooing birds, and pulling weeds. Many of them will die. (Of the approximately six million deaths caused annually by malnutrition among children under age five, the large majority are in Sub-Saharan Africa and South Asia.[6]) During your visit you will also see women and girls frequently walking to fetch drinking water and wood for cooking, another part of their laborious, dawn-to-dusk work schedule. You will see that before they cook a meal with their primary food crop, maize, they must first strip it by hand, winnow it, dry it, pound it, dry it again, and then build a fire to boil water and cook it.

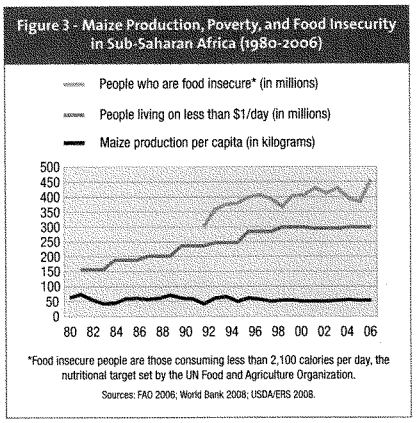
Hardships increase during what is called the hungry season just before a new harvest, when the household granaries are nearly empty. Even in a good year with adequate rainfall, the crops in the fields will produce only 20 percent of the yield typical in more developed countries (see Figure 2).[7] This is because most African farmers plant traditional seeds not improved by any scientific plant breeding, they have no infrastructure for irrigation, and they cannot afford to purchase fertilizers. Despite farming some of the most degraded soils in the world, African farmers are applying only 10 percent as much fertilizer as farmers in the industrialized world.[8] Their goats and cattle are stunted and diseased and produce low-quality meat, milk, and manure because of poor diets and an almost complete lack of veterinary services. In a bad year when crops fail due to weak or erratic rainfall, these animals—and some household possessions—have to be sold to raise cash to purchase food (at high prices due to the drought), pushing the family back into deep destitution.

A similar description would fit all too well for most of rural Pakistan and Bangladesh, and for the villages of the central Indian uplands. Past development strategies in South Asia tended to focus on more favored areas with irrigation and

Figure 2 - Cereal Yields in Sub-Saharan Africa Versus the Rest of Developing Countries (1961-2006)



Source: GAO 2008.



high potential for producing a food surplus that could feed urban populations. This strategy was largely successful in the 1960s and 1970s, but it left many highly populated but less favored rural areas behind. Roughly 40 percent of South Asia's poor live in such areas, where the great majority of farms do not even provide subsistence for the families that depend on them.[9] Larger farms in these regions can be about ten acres, but 80 percent of the holdings are smaller than 1.5 acres.[10] Many rural families in South Asia own no cropland at all and depend entirely on the sale of their labor, seasonally, to those who do.[11]

A worsening crisis

Under these conditions, not only are poor rural farmers unable to sustain themselves, they cannot keep up with the needs of the population as a whole. Food production in Sub-Saharan Africa has been falling behind population growth for most of the past two decades. Per capita production of maize in Sub-Saharan Africa has fallen 14 percent since 1980 (see the lower line in Figure 3). Because agricultural productivity is the major source of personal income growth in rural Africa, these decades of lagging farm productivity have resulted in a doubling of the number of Africans in deep poverty (those living on less than $1 per day), up from 150 million in 1980 to approximately 300 million today (see the middle line in Figure 3). There has been an even greater increase in the number of people who are "food insecure"—defined as those consuming less than the nutritional target of 2,100 calories per day—from 300 million in 1992 to roughly 450 million today (see upper line in Figure 3).

The situation in South Asia is equally troubling. In Bangladesh 60 percent of its 150 million people are food insecure.[12] More than 70 percent of the population in Pakistan lives on less than $2 per day. Nearly three-quarters of its rural inhabitants are employed in farming, yet grain production has virtually stagnated.[13] In India today, while 30 percent of urban dwellers live in extreme poverty on less than $1 per day, 37 percent of all people in the countryside live in poverty.[14] At current rates of population growth, the rural-urban gap will only widen.

The rural poverty that is already devastating these regions is projected to worsen in the years ahead due to continued population growth, growing pressures on limited land and water supplies, and human-induced climate change. **Population is expected to more than double in Sub-Saharan Africa by 2050, adding 889 million**

more people to the region.[15] This means Africa's farmers will have to more than double their current agricultural output just to ensure the percentage of hungry people does not become larger. The Food and Agriculture Organization (FAO) of the United Nations calculates that Africa will need to triple its food production by 2050 to provide adequately for a population that will then reach two billion.[16] The U.S. Department of Agriculture (USDA) projects that under a "business-as-usual" scenario, the number of undernourished people in Africa will increase another 30 percent over the next ten years, reaching 645 million.[17] In South Asia, population will grow by 55 percent by 2050, adding another 922 million people who will need food.[18]

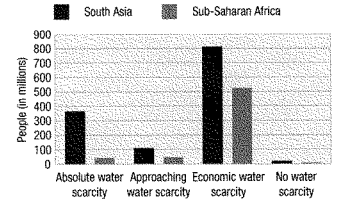
The impact of climate change

On top of the already growing pressures on land, food, and water supplies are the looming effects of climate change. The Intergovernmental Panel on Climate Change projects that as early as 2020, continued warming will expose between 75 and 250 million *more* Africans to increased water stress.[19] In 2006 the United Nations projected that 600,000 square kilometers of agricultural land in Sub-Saharan Africa currently classified as moderately water constrained would likely become severely water limited in the future.[20] Figure 4 shows how many people in Sub-Saharan Africa and South Asia are living in areas of water scarcity.

Projections suggest that the total agricultural capacity of Africa (excluding Egypt) will decline by roughly 18 percent between now and 2080 because of climate change.[21] As a consequence, under a "business-as-usual" scenario that takes climate change into account, the number of undernourished people in Sub-Saharan Africa could triple between 1990 and 2080.[22] As long as there is a possibility that climate change cannot be brought to a halt between now and 2080, investments must be made now to develop the improved seeds and farming practices needed for the prospect of even less rainfall and soil moisture.

If climate change continues and if adequate investments in agricultural science are not made, the result will be an unprecedented tragedy. **At the present time, roughly 45 percent of all agricultural production in Africa comes from lands that are hot, dry, and nonirrigated.[23]** Because of continued population growth, African farmers will not have the option of abandoning these lands. In fact, more farmers are moving onto drought-prone

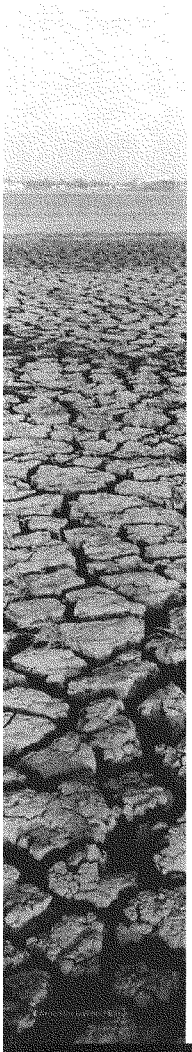
Figure 4 - People Living in Areas of Water Scarcity in South Asia and Sub-Saharan Africa



Absolute water scarcity is when a country's annual per capita fresh water availability goes below 500 cubic centimeters (30.51 in^3), threatening daily water needs.

Economic water scarcity is when a country suffers from inadequate access to water because of a lack of infrastructure or the human and financial capital to tap the available resources.

Sources: International Water Management Institute 2007; World Bank 2007.



lands in Africa every year. So the only choice, as climate worsens, will be to find ways to make such lands more productive. The prosperous countries that have done the most through carbon-intensive industrial growth to create the climate crisis, including the United States, must take some responsibility for the ameliorative measures poor countries will need—poor farmers most of all—to avoid being devastated by the crisis. Africa's rural poor have nowhere to go to escape this crisis.

Climate change also portends disaster in South Asia. For the 1.5 billion people living there today, water is destiny. The key to agricultural success in the region has always been fresh water flowing southward from snowmelt in the Himalayan Mountains down the vast river basins of the region—the Ganges, the Brahmaputra, the Indus, the Meghna. The Ganges river basin alone is now home to 500 million people, many of them farmers who depend on the river system for surface irrigation. The timely arrival and performance of the annual monsoon rains have also been essential to farmers without irrigation. India's monsoon delivers about 70 percent of that nation's annual rainfall in a period of only four months. There is a danger that climate change will reduce surface water flow and increase the variability of these important rains, stressing agriculture with greater extremes of drought and flood. Roughly 60 percent of Bangladesh is already prone to flood.[24]

Existing constraints on water

Even without the potentially devastating effects of climate change, water supplies in South Asia are being severely strained by growing demand from a rapid increase in residential and industrial water use that competes with farming. Over 28 percent of the population in South Asia already lives under conditions of absolute water scarcity.[25] Pakistan's water situation is extremely precarious. As population has increased, water availability per capita has plummeted from about 5,000 cubic meters in the early 1950s to less than 1,500 cubic meters today. Currently, 90 percent of Pakistan's highly stressed water resources are allocated to agriculture.[26] Scarcity for farmers has become a problem in part because surface water irrigation schemes have been poorly designed or maintained, leading to lower crop yields caused by water logging and soil salinization. The pumping of ground water for irrigation is unsustainable in many regions where natural recharge rates are low.

Problems such as these require both technical and policy solutions. Policies that subsidize irrigation and electricity for pumps must be corrected because they encourage wasteful water use. New technologies must be considered such as improved water harvesting during the rainy season or improved canal construction and modern drip irrigation. Partnering with governments in South Asia to develop and extend such policies and technologies should be seen as an opportunity for the United States since American farmers are also facing increasingly acute water constraints. Americans will share in the benefits of institutional and technical cooperation in this area.

ACUTE WATER SCARCITY IN SOUTH ASIA AND SUB-SAHARAN AFRICA

Agriculture uses 85 percent of fresh water withdrawals in developing countries, and irrigated agriculture accounts for about 40 percent of the value of agricultural production in the developing world. Without irrigation, the increases in yields and output that have fed the world's growing population and stabilized food production would not have been possible.

Demand for water for both agricultural and nonagricultural uses is rising, and water scarcity is becoming acute in much of the developing world, limiting the future expansion of irrigation. The water available for irrigated agriculture in developing countries is not expected to increase because of competition from rapidly growing industrial sectors and urban populations. New sources of water are expensive to develop, limiting the potential for expansion, and building new dams often imposes high environmental and human resettlement costs.

According to the Comprehensive Assessment of Water Management in Agriculture, approximately 1.2 billion people worldwide live in river basins with absolute water scarcity, 478 million live in basins where scarcity is fast approaching, and a further 1.5 billion suffer from inadequate access to water because of a lack of infrastructure or the human and financial capital to tap the available resources.

Large areas of South Asia are now maintaining irrigated food production through unsustainable extractions of water from rivers or the ground. For instance, the groundwater overdraft rate exceeds 56 percent in parts of northwest India. With groundwater use for irrigation expected to continue rising, often driven by subsidized or free electricity, the degradation of groundwater aquifers from overpumping and pollution is certain to become more severe.

Sub-Saharan Africa has large untapped water resources for agriculture. Yet almost one-quarter of the population live in water-stressed countries, and the share is rising, with 75 to 250 million people expected to experience increased water stress in the future (see Figure 4). Even so, there are many opportunities for investing in irrigation in Sub-Saharan Africa, and the irrigated area there is projected to double by 2030.

In other regions, the emphasis on water for irrigation has already shifted to increasing the productivity of existing water withdrawals by reforming institutions and removing policy distortions in agriculture and in the water sector. With productivity growth and a modest growth in irrigated area of 0.2 percent annually, irrigated production is projected to account for nearly 40 percent of the increased agricultural production in the developing world by 2030.

Sources: World Bank 2006 and 2007; Comprehensive Assessment of Water Management in Agriculture 2007; United Nations Development Program 2006; Intergovernmental Panel on Climate Change 2007.

The role of food prices

Food price increases during 2007 and the first half of 2008 contributed to a worsening of hunger and malnutrition in many parts of the world. Recent price declines are providing breathing room for action to change the underlying causes of widespread hunger and poverty, particularly low productivity on the farm, and to avoid new food crises in the future. Even when world food prices were low in the 1980s and 1990s, poverty and hunger problems in these two regions were steadily worsening. International food prices can be extremely important to poor people in both urban and rural areas of developing countries, but productivity increases that reduce unit costs of production on small farms are the key to maintaining both reasonable consumer prices and reasonable incomes for small farmers. Without such productivity increases, the world will experience more food crises, increasing price fluctuations, and continued increases in poverty, hunger, and malnutrition. The high food prices during 2007 and the first half of 2008 were a symptom of failed policies that need to be corrected.[27]

HOW DID WE GET HERE?

Rural population growth

Rural poverty is, unfortunately, nothing new in Sub-Saharan Africa and South Asia. What *is* new is the current magnitude of the problem. During the second half of the twentieth century, improved public health systems and child inoculations significantly reduced infant mortality rates. While this remains a major triumph, it also resulted in much higher rates of rural population growth. While the rate of population growth is now slowing in both Africa and South Asia as families have adjusted, it is still historically high, at 2.5 percent and 1.6 percent, respectively.[28]

Inadequate productivity on farms

Despite this high growth rate, what keeps rural poverty high in Sub-Saharan Africa and South Asia today is not excess numbers of people. It is, instead, an inadequate opportunity for people to earn sufficient income from their labor as farmers. For most, growing crops and grazing animals is the only income-earning occupation locally available. Yet between 1980 and 1997, the value added per farm worker in Africa actually declined from $418 annually to just $379 on average, or just slightly more than $1 per day.[29] Until the productivity of labor in farming can be increased in Africa and on the drylands of South Asia through access to education, improved crop varieties and animal breeds, essential inputs such as irrigation water and fertilizer, and a rural infrastructure that connects them to urban markets, these poor farmers will remain poor—and hungry—no matter how long and hard they work.

A simple out-migration from the countryside into cities is not the solution to this problem. Societies that try this shortcut get the worst of both worlds: persistent poverty among those who remain in the country, plus urban slums. The problem of rural poverty has been largely solved in numerous countries around the world, including in Europe, North America, and East Asia. In these countries success always began with increased productivity on the farm. All of these regions built their industrial revolutions on the solid base of a previously achieved "green revolution" in agricultural productivity.

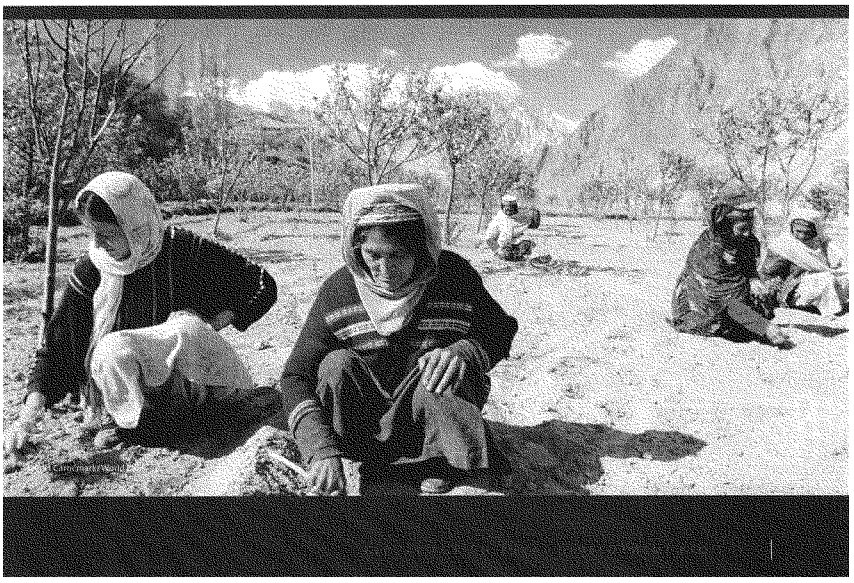
Economists who study rural poverty and hunger now say that **rural poverty cannot be reduced by relying entirely on economic growth in urban areas.** When rural poverty declined rapidly in East Asia and Southeast Asia between 1993 and 2002, it was mostly attributable to better conditions in the countryside rather than out-migration to cities. The World Bank's *World Development Report 2008* shows that more than 80 percent of the decline in rural poverty during this period was attributable to better conditions in rural areas, where agriculture was a source of livelihood for 86 percent of all rural people.[30] Higher agricultural productivity is the key to higher rural income and improved nutrition.

Limited reach of the Green Revolution

This high productivity and declining poverty in Asia and elsewhere was possible because of a long-term, sustained commitment by governments and private

foundations to agricultural research, education, and infrastructure development, which ushered in the Green Revolution. Yet while this Green Revolution has lifted millions out of poverty, the problem for Sub-Saharan Africa and the nonirrigated farmlands in South Asia is that its achievements only had limited reach. All farm productivity problems are local and must be solved with localized adaptations, investments, and innovations. Most of the Green Revolution breakthroughs worked only for a few crops (such as wheat and rice, widely grown in Asia) or only for crops grown on irrigated lands in settings with adequate road systems that connected farmers to the market. This left out much of Africa and the drylands of South Asia. The *World Development Report 2008* emphasizes that the success recently seen in East and Southeast Asia has not yet been extended adequately to South Asia and Africa. "In these regions," it concludes, "a high priority is to mobilize agriculture for poverty reduction."[31]

The lessons of the Green Revolution are powerful and can be adapted to these neglected regions. For example, the experience of East and Southeast Asia shows that poor farmers with small land holdings can become productive and escape poverty once they gain access to education; markets; essential supplies such as improved seed and fertilizer; and improved techniques appropriate to their climate, soil, and water endowments. Even small farmers in supposedly "less favored" areas can move ahead if appropriate investments are made. In fact, one study in India in the 1990s found that the total factor productivity of farming in some low-potential,



THE GREEN REVOLUTION

From the 1950s to 1980s the Green Revolution transformed agriculture around the world through the development of improved crop varieties, specifically wheat and rice, and the widespread adaptation of pesticides, fertilizers, irrigation systems, and other agricultural technologies. In developing countries such as India and Mexico, agricultural productivity nearly doubled during this period. However, while the most growth occurred in Latin America and Asia, parts of South Asia and Sub-Saharan Africa saw few improvements in agriculture due to poor infrastructure, limited investment in irrigation, and diversity in soil types and climate that made new crop varieties inappropriate for these regions.

The Green Revolution was possible as a result of agricultural research, education, and infrastructural development in developing countries funded both by governments and private foundations. The Ford and Rockefeller foundations established an international agricultural resource system that included the International Center for Wheat and Maize Improvement (CIMMYT) in Mexico and the International Rice Research Institute (IRRI) in the Philippines to adapt high-yield wheat and rice varieties to conditions in developing countries. These new varieties were introduced in Mexico and northwest India in the 1960s and rapidly spread through extension services to other areas with similar geographies and climates. By 1970, 20 percent of wheat areas and 30 percent of rice areas in developing countries were planted with high-yield varieties, and by 1990 these numbers reached 70 percent.

Sources: USDA 2008; FAO 2009; Hazell 2002.

nonirrigated areas had been increasing at 3 percent per year, a higher rate than in some irrigated areas.[32]

There will always be some who argue that poor farmers cannot respond. It was not too long ago that these same people dismissed entirely the possibility of launching a revolution in farm productivity anywhere in Asia. In 1967 William and Paul Paddock wrote a widely credited best-seller, *Famine 1975!*, that dismissed the likelihood that Asia could ever feed itself.[33] Fortunately, thanks to the development of improved rice and wheat seed varieties at precisely this moment, large parts of Asia were actually on the verge of a dramatic enhancement in farm productivity. Asia's annual rate of growth in rice output had been only 2.1 percent between 1955 and 1965. Over the next two decades it increased to a significantly higher rate of 2.9 percent. Indian farmers began planting new wheat varieties in 1964, and by 1970 production had nearly doubled. India's rice production then doubled as well in the states of Punjab and Haryana between 1971 and 1976.[34]

This successful technology upgrade was later criticized by some for benefiting only larger and more prosperous farmers in Asia. Yet this view proved to be false, as careful studies soon revealed that small farms shared equally in the benefits of the new seeds, providing they had comparable access to adequate rainfall or irrigation, credit for the purchase of fertilizer, and transport infrastructure to deliver their larger harvest to the market. Landless rural laborers also made dramatic income gains because of the greater availability of work associated with larger crop yields. One survey in southern India concluded that between 1973 and 1994 the average real income of small farmers rose 90 percent, while the incomes of the landless actually rose 125 percent.[35]

Still others worried that the upgrading of farm technologies in Asia in the 1960s and 1970s would be environmentally unsustainable. That was forty years ago, and

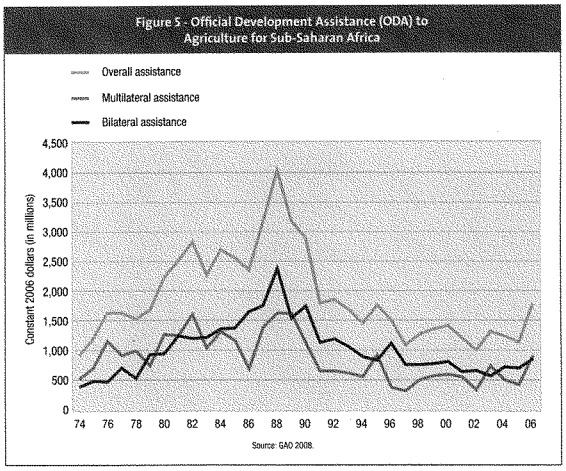
crop production in the countries that shared in the Green Revolution continues to increase. The real sustainability risk would have been for farmers to try to boost production to feed growing populations using only their traditional farming technologies. Higher crop yields made possible by improved seeds reduced the pressure to cultivate more land. Between 1964 and 1993, thanks to new seeds, India managed to increase its wheat production fourfold, while increasing cropland devoted to wheat only 60 percent. Using traditional techniques, India would have had to increase its wheat cropland fourfold by moving farmers onto fragile lands, cutting down more trees, and destroying more wildlife habitat.[36]

Similar gains from these new Green Revolution technologies in Asia were seen in Taiwan, Indonesia, Malaysia, the Philippines, and Thailand. Higher agricultural productivity also produced a dramatic reduction in rural poverty in China. Between 1978 and 1999 more than 200 million people in rural China escaped poverty, thanks to a combination of new farming technologies (e.g., hybrid rice developed by China's own scientists), investments in rural infrastructure, and new land policies based on household control. China's dramatic agricultural success led to the single greatest mass decline of rural poverty in human history.[37]

A collapse of funding

Over time, however, the Green Revolution became a victim of its own success. Although it had not yet reached large regions of Africa and Asia, its early achievements were nonetheless dramatic enough to create a false impression that all the world's food and farming problems had mostly been solved. As a consequence, international donors who had provided strong support for agricultural innovation and investment in the 1960s and 1970s began pulling money and support away. The share of official development assistance (ODA) that went to agriculture declined from its 1979 level of 18 percent down to just 3.5 percent by 2004. Assistance even declined in absolute terms from a high of about $8 billion (in 2004 U.S. dollars) in 1984 down to just $3.4 billion by 2004. In real terms, external assistance to agriculture in the developing world declined by 24 percent in a single decade between 1990-91 and 1999-2001.[38] These cuts did not spare the poorest regions of South Asia and Africa. Overall ODA to Sub-Saharan Africa declined from $4.1 billion annually in 1988 to $1.25 billion in 2001 (see Figure 5). Assistance to agriculture in countries with the highest prevalence of undernourishment actually declined by 49 percent during this same decade.[39]

When the international donor community cut back on assistance to agriculture, the poorest aid-dependent countries of Africa and South Asia found that they had to cut back their own agriculture investments accordingly. Public spending on agriculture as a share of total public spending in the most agriculturally based developing countries declined from roughly 7 percent in 1980 to only 4 percent by 2004.[40] Even otherwise progressive governments in Africa cut back sharply on investments in agriculture when donor support disappeared. Uganda had devoted 10 percent of its budget to agriculture in 1980, but after international aid collapsed in 1990s, spending on agriculture fell to just 3 percent. In some years it fell below 2 percent, even though two-thirds of all Ugandans live in the countryside and depend on farming or grazing animals for a living.[41] With public investments at



this low level, it is no wonder that agricultural performance in regions not reached by the original Green Revolution began to falter.

A lack of leadership

The United States was among those in the international donor community who backed away from providing assistance to agriculture in poor countries after the 1980s. In fact, the United States cut its assistance to farming more than most. This was partly because the United States was doing more in the first place, but also because of cuts in its development assistance in all areas immediately following the end of the Cold War. Yet when U.S. assistance in other areas recovered after 1997, U.S. assistance to global agriculture just kept going down. The share of total U.S. development spending that went to agriculture fell steadily and sharply from 25 percent in 1980 to just 6 percent in 1990 and only 1 percent in 2003.[42] In 2003 when the United States Agency for International Development (USAID) presented a new sixty-three-page, five-year joint strategic plan to guide its assistance work in poor countries, the document never even directly mentioned agriculture.

Americans have become far more aware of the crisis in Africa in recent years, and overall U.S. assistance to Africa has increased sharply, roughly tripling after 1997 to reach a level above $4 billion by 2006.[43] Much of this spending has gone for worthy projects in the areas of health and education. But America's development assistance to farming in Africa has only continued to slide.

The long and damaging decline in U.S. aid to African farming is shown in the blue trend line at the bottom of Figure 6. Notice that **America's official development**

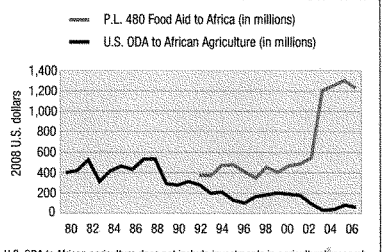
assistance to agriculture in Africa had reached significant levels in the 1980s, hovering above $400 million annually in real 2008 dollars. Then it began to fall, dropping all the way down to just $60 million by 2006, a decline of approximately 85 percent.

Spiking food aid

The other trend line in Figure 6 shows American food aid shipments to Africa under Public Law 480 (P.L. 480), our most important food aid program dating to 1954. The American government has been more than willing to provide significant relief to Africans suffering from local food emergencies, often due to drought or civil conflict, at an annual cost of more than $1 billion. These American expenditures on food aid have been essential to keeping tens of millions of Africans alive. Yet without a parallel revival of assistance for agricultural development, Africa's need for food aid may only continue to grow and never go away.

In recent years the United States has been spending twenty times as much on food aid to Africa as it spends on agricultural development to help Africans feed themselves.[44] In Ethiopia, for example, as of 2007 only 1.5 percent of U.S. assistance went to agriculture, while 38 percent went to emergency food aid, a ratio of 25 to 1.[45] Ethiopia's small farms have significant production potential, as demonstrated by a foundation-funded project in the 1990s, the Sasakawa-Global 2000 project.[46] Until more of this potential is tapped through larger investments in agricultural research, education, extension, and infrastructure, Ethiopia's farmers will remain poor, and Ethiopia's cities will continue to depend too much on food aid. This is a policy posture that cannot and should not continue.

Figure 6 - U.S. Official Development Assistance (ODA) to African Agriculture versus P.L. 480 Food Aid to Africa (1980-2006)



U.S. ODA to African agriculture does not include investments in agricultural research or contributions to intergovernmental organizations with agricultural programming.

Sources: OECD; USAID.

WHAT SHOULD BE DONE NOW?

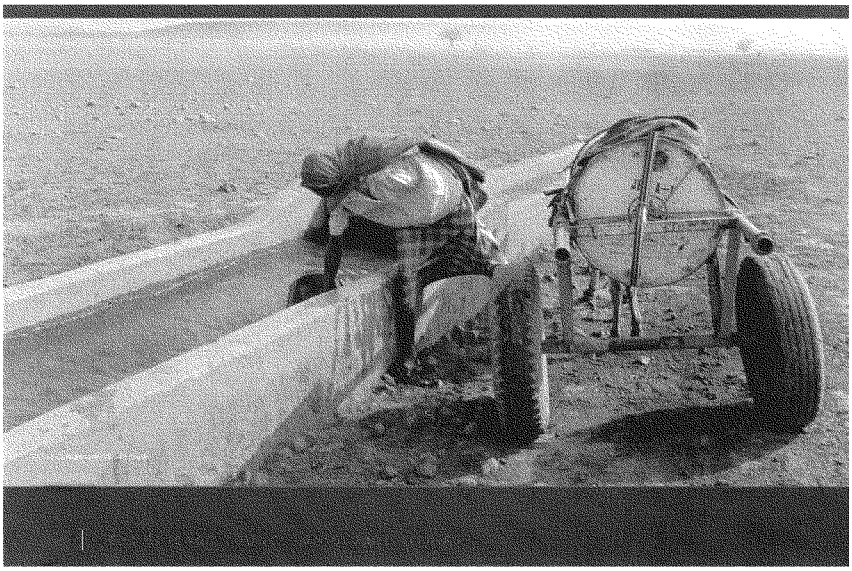
The challenge today is to revive governmental support for agricultural development. This proposition is no longer controversial. The World Bank, a strong champion of market-led growth, now agrees that much stronger governmental leadership is needed on this issue. In its *World Development Report 2008* the World Bank states, "Agriculture thus offers great promise for growth, poverty reduction, and environmental services, but realizing this promise also requires the visible hand of the

state—providing core public goods..."[47] The United States must adopt new policies today to help catalyze these much-needed state actions.

In nearly every international policy arena—including agricultural development—America's leadership is essential. It was when America's leadership in global agricultural development faltered at the end of the 1980s that the efforts of most others faltered as well. The lesson of the past two decades is that without American leadership, little will happen.

The Chicago Initiative is a call for America to reassert its leadership in agricultural development to reduce rural poverty in Sub-Saharan Africa and South Asia, as these are the regions in greatest need. The recommendations are designed to help stimulate higher agricultural productivity in these regions—through agricultural education and extension, local agricultural research, and rural infrastructure—so the rural poor and hungry can feed themselves and help support growing populations under increasingly challenging climate conditions.

The United States government cannot achieve these objectives alone. While it can and must take the lead in implementing the recommendations of this Initiative, it must base its actions on new approaches suited to new realities and on partnerships across the spectrum of governments and institutions that can and should be playing a much stronger role. These include national governments in Sub-Saharan Africa and South Asia, other donor governments, and the various international financial and technical institutions such as the World Bank and the



U.S. Leadership

Most countries in Asia are population rich, but land hungry. Farmers with small holdings have to produce more food and other agricultural commodities from diminishing sources of arable land and irrigation water. This is why it is important to convert the Green Revolution into an "Evergreen Revolution," leading to enhancement of productivity in perpetuity without associated ecological harm.

The United States has played a very important role in spreading new technologies and assisting the development of agricultural universities based on the land-grant model. Such universities have provided the human resources essential for agricultural research and development. I therefore hope that the U.S. government will increase its support for agricultural research in and for South Asia and Sub-Saharan Africa. This is the need of the hour.

—M. S. Swaminathan, Member of Parliament (Rajya Sabha) and Chairman, M.S. Swaminathan Research Foundation (India)

Food and Agriculture Organization of the United Nations. Following are the key tasks that underpin the recommendations of The Chicago Initiative.

Develop updated approaches

A new U.S. focus on agricultural development must go beyond the approaches and programs of the past. Earlier schemes were adopted in the 1960s and 1970s when many countries in the developing world were weak, not yet democracies, and comfortable using public sector planning agencies to run economies that offered little space for private markets or for civil society. Many of these countries were heavily dependent on foreign aid, had little self-confidence, and were willing to defer to initiatives that came entirely from the rich countries in the donor community. Fortunately, we are no longer in this world. Governments in Africa and South Asia today expect to be full players on most policy initiatives. They want ownership and partnership in place of dependence and donor dominance. Civil society organizations, opposition parties, and business firms are also important players on the political landscape alongside national governments. In addition, globalization has increased the role that international nongovernmental organizations (NGOs) and international business firms can and should play.

Partner with private organizations and local governments

At a time when much American attention is properly focused at home and resources are limited, an agricultural development strategy that rests on partnerships with private organizations at home and the governments of developing nations abroad is not only appropriate to new realities, it is necessary. Putting the goals, responsibilities, and initiatives of local governments and institutions first should be at the center of a new U.S. agricultural development policy. Having the institutional and financial assets of NGOs and the private sector on the table alongside official development assistance from traditional donors will be critical to implementing these policies effectively over time. America's approach must take advantage of more frequent partnering arrangements, including partnerships that span across both the public and private sectors.

Need for U.S. Support for Agricultural Education, Research, and Extension

I have had the privilege of knowing many dedicated Americans who have contributed valiantly to the global fight against hunger and poverty. Throughout that time it has been sad to observe their efforts being over and over again frustrated by a lack of overall coherence in the approach to development assistance and the intrusion of extraneous ideological constraints and externalities.

The Chicago Initiative on Global Agricultural Development is refreshing and encouraging because it is evidently based on a nonpolitical, impartial analysis of real development needs, and the recommendations are structured to be mutually reinforcing and comprehensive.

The Forum for Agricultural Research in Africa (FARA) fully endorses the intention to support agricultural education, extension, research, and infrastructure, which together form the foundation for sustainable agricultural development. FARA also applauds the intention to underpin USAID's support with institutional reform and the creation of an enabling policy environment for U.S. development assistance.

We believe that The Chicago Initiative is well founded, and we look forward to the restoration of America's global leadership in the fight against hunger and poverty.

—Monty Jones, Executive Director, Forum for Agricultural Research in Africa

Lead the way for donor countries

The United States and the American taxpayer will not be asked to undertake The Chicago Initiative alone. A sustained international effort in this area will only work if U.S. leadership can be used to leverage parallel efforts by others. Other donor countries will be asked to do their part. When the United States began cutting back on assistance to agriculture in poor countries, many other important donors followed our lead. Between 1983-84 and 2003-04, the share of bilateral aid from the United Kingdom that went to agriculture fell from 11.4 percent to 4.1 percent. For France it fell from 8.5 percent to 2.2 percent; for Germany from 9.1 percent to 2.9 percent. Reviving the agricultural efforts of these important foreign partners will be particularly crucial for Africa, where Europe continues to enjoy considerable influence for reasons dating back to colonial rule. Total development assistance from Europe to Africa is roughly three times as great as assistance to Africa from the United States.[48] A strong new American initiative in the area of agriculture and rural poverty in Africa and South Asia will challenge these European partners to bring new programs of their own to the table, lest they be seen as yielding initiative and influence to the United States.

Engage global financial institutions

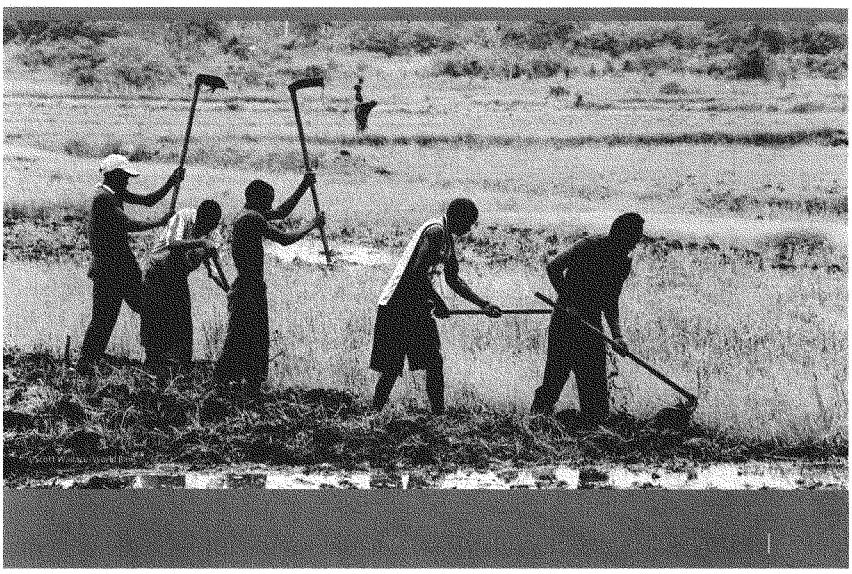
The resources of international financial institutions such as the World Bank will also be leveraged by this Initiative. In 2008 the World Bank made $24.7 billion in loans, nearly half of which ($11.2 billion) had generous payback terms and were without interest to very poor countries. This was done through the concessionary lending window of the International Development Agency (IDA). The problem since the 1980s has been that very little of this lending has gone to the agricultural sector. In 1978 a very large share (30 percent) of World Bank lending went to agricultural

development, but by 1988 that share had fallen to just 16 percent. As of 2008 it was down to just 6 percent.[49] In 2005 Paul Wolfowitz, then World Bank president, admitted in an offhand comment in a public forum, "My institution's largely gotten out of the business of agriculture."[50]

This can now change. The current World Bank president Robert Zoellick has begun to make strong new commitments in the area of agricultural development. In the spring of 2008 when international food prices were spiking sharply upward, he pledged that the World Bank would double its lending for agriculture in Africa in the year ahead to a level of $850 million.[51] If the U.S. government also begins making a larger commitment in 2009, this important turnaround in World Bank lending policy will stand a greater chance of being sustained and perhaps enhanced. The United States provides essential budget support for IDA, so the new administration and Congress, if committed to the task, will be in a position to urge strongly that more World Bank resources begin moving in this direction.

Reinvigorate government support in recipient countries

Governments in Sub-Saharan Africa and South Asia will also be asked to do more. As noted above, when international donors began cutting back on support for agriculture after the 1980s, most governments in Africa did the same. This trend can be reversed if the United States takes a strong leadership position. We have seen in the area of health policy, where the United States has taken a lead, that when



international assistance increases, Africa's national efforts increase as well. As recently as the 1990s, governments in Sub-Saharan Africa were typically spending less than 3 percent of their national budgets on public health. By 2003 Tanzania was spending 13 percent, Namibia and Zambia 12 percent, and Uganda 11 percent.[52]

At an African Union summit meeting in Mozambique in 2003, Africa's heads of government optimistically pledged to increase their spending on agriculture to 10 percent of total national spending within five years in order to reverse the looming rural crisis.[53] But international support for agriculture was still falling, so most African governments have failed to meet this important goal. According to one survey of their performance in 2007, only seven out of thirty-five countries providing budget information in Africa had raised their investments in agriculture to 10 percent of spending, and fifteen of those thirty-five were still spending less than 5 percent.[54] A policy change in America that recognizes the importance of investments in agriculture will provide Africa's leaders with the external support and encouragement they need to do better, just as it did in the area of health policy.

Focus on the role and needs of women

Renewed U.S. government leadership in agricultural development must consistently take into account the critical role of women in agriculture in these regions. Eighty percent of farmers in Sub-Saharan Africa and more than 60 percent of farmers in

Asia are women. Yet women are not found in leadership roles.[55] If new agricultural initiatives are to be successful, they must respond to the needs of women and with programs designed around the needs of the vast majority of farmers.

Harness the talents of a broad spectrum of individuals

The Chicago Initiative will be led by the government of the United States in close partnership with governments and financial lending institutions abroad. However, its success will also depend on large numbers of Americans outside the public sector. Many of the recommended actions will be implemented not by government officials, but by private American citizens working as teachers and researchers at universities, program officers at America's great philanthropic foundations, organizers and field workers employed by America's energetic development assistance NGOs, and scientists or managers inside private business firms. American farmers will also be involved, volunteering to extend their technical knowledge and experience abroad. The Chicago Initiative invites and requires Americans from every sector and region to play a role. The private American institutions called upon to act are among our nation's strongest and most capable, and they are ready to join in a renewed U.S. effort to reduce hunger and poverty through agricultural development.

WHAT DIFFERENCE WILL IT MAKE?

If America's leadership can now be restored, the unfortunate international inertia of the past can quickly be overcome. The result will be substantial progress, at last, in helping the rural poor in Sub-Saharan Africa and South Asia to find broader pathways of escape from the tragedy and indignity of persistent poverty and hunger.

Economists are able to project with some confidence the reductions in poverty that will occur if agricultural productivity is stimulated. Gallup et al reported in 1997 that every 1 percent increase in per capita agricultural output tends to lead to a 1.6 percent increase in the incomes of the poorest 20 percent of the population.[56] Based on a major cross-country analysis, Thirtle et al reported in 2001 that, on average, every 1 percent increase in agricultural yields reduces the number of people living in poverty (on less than $1 per day) by 0.83 percent.[57] This is because in agricultural societies the growth linkages, or "multipliers," between agriculture and the rest of the economy are so powerful. In Asia every added $1 of income in the farming sector creates a further $0.80 in income in the nonfarm sector.

The multiplier effects of agricultural productivity growth for reducing poverty in Africa are known to be particularly strong. Every added $1 of farm income in Niger leads to a further income increase of $0.96 elsewhere in the economy. In Burkina Faso every $1 of farm income adds an income increase of $1.88 elsewhere in the economy. In Zambia estimates suggest that for every $1 of added farm income, an added $1.50 in nonfarm income will be created. Models of the Kenyan economy show that the multipliers from agricultural growth are actually three times as powerful as those for nonagricultural growth.[58] This means if the goal is a broad reduction of poverty, the farming sector is the place to begin.

How much added income of this kind might be created by The Chicago Initiative's recommendations? One recent study by the International Food Policy

Research Institute (IFPRI) in Washington, D.C., provides a partial answer. The study looks only at the impact of investments in agricultural research and development, which is one of the five areas addressed by The Chicago Initiative. Using economic modeling, the report estimates that if total public investments in agricultural research and development in Sub-Saharan Africa—in both national research centers and international institutes—could be increased to $2.9 billion (measured in 2005 dollars) by the year 2013 (up from the 2008 estimated level of $608 million), agricultural growth rates in Africa would increase enough to reduce the number of poor people in Africa living on less than $1 per day by an additional 144 million by 2020. The rate of poverty in Africa would decrease from 48 percent currently to 25 percent. If annual agricultural research and development investments in South Asia were increased to $3.1 billion by 2013, a total of 125 million more citizens in this region would escape poverty by 2020, and the poverty rate would decrease from 35 percent to 26 percent.[59]

The Chicago Initiative does not propose that the United States finance agricultural research and development investments in Sub-Saharan Africa and South Asia on this scale by itself. Yet it does call for roughly a tripling of America's current annual investments in this area over the next five years. If other donors and African governments were to follow America's lead and increase their investments, the target figure used by IFPRI in this study could be approached by 2013.

We know that even small investments in research and development in Africa can produce highly useful results. For example, the International Maize and Wheat Improvement Center (CIMMYT) of the Consultative Group on International Agricultural Research (CGIAR) has been working in Africa since the mid-1990s to develop varieties of maize better able to tolerate drought. This is a challenging task, but CIMMYT has established 120 separate sites in Africa to test maize varieties, including five sites fully equipped to screen for managed drought stress. This program operated for years with only a small budget—$3.5 million overall between 1996 and 2004—yet it was able to make significant progress in breeding local drought-tolerant maize varieties. By 2002 this project had developed hybrid maize varieties with 20 percent higher average yields under drought conditions than local hybrids not improved with any stress breeding. The best-performing varieties showed even greater gains. Just as important, these improved hybrids experienced no yield loss (in fact a small gain) under normal conditions.[60]

Looking beyond investments in research and development, how much more can poverty be reduced by other components of The Chicago Initiative, including the recommendations for increased investment in education, extension, and rural infrastructure? Economic modeling by IFPRI provides a partial answer here as well. A 2008 study of Uganda found that if the agricultural spending in that country could be increased to just 14 percent of its total budget by 2015, an agricultural growth rate of 6 percent per year could be attained and sustained. The result would be an increase in overall GDP growth in Uganda from 5.1 percent to 6.1 percent per year, enough to reduce the national poverty rate to just 18.9 percent by 2015, much lower than the 26.5 percent rate that would prevail without the added agricultural growth. In absolute terms, an additional 2.9 million Ugandans would be lifted permanently above the poverty line by 2015.[61] These results could be replicated in most of the other countries of Africa if broad investments were to increase.

Is it unrealistic to imagine that African governments would start investing 10 to 15 percent of their budgets in agriculture? We think not, in view of the 2003 African Union pledge to increase agricultural spending to a 10 percent level and given that prior to the collapse in donor support, a number of African governments—including Uganda—were already spending 10 percent. With U.S. leadership and coordinated action as envisioned in The Chicago Initiative, poverty-reducing investments on this scale would be possible once again.

WHY IS IT IN AMERICA'S INTEREST?

Moral standing

The Initiative we propose here is consistent with our nation's highest values and aspirations. Americans are deeply uncomfortable with human poverty and hunger, whether they see it face to face in their own neighborhoods or broadcast from Asia and Africa on a television screen. The *Agricultural Development 2008: Public and Leadership Opinion Survey* specially commissioned for this report found that 42 percent of the American people believe it is not just "important" but "very important" that the United States make combating world hunger a priority in the conduct of foreign policy.[62] This finding is consistent with the decades-long American public response to hunger at home and abroad. Americans are thankful for the abundance provided by the farming sector at home every year, and are rightly offended by the persistence of malnutrition and hunger elsewhere. It troubles their sense of decency to know that so many who are suffering under these circumstances are very young children, nursing mothers, and older women.

Compassion for people in distant lands facing trouble is the essential starting point for The Chicago Initiative. Yet much more than empathy or compassion is at issue. Important national interests are also at stake. America's diplomatic, economic, cultural, and security interests will be increasingly compromised if our government does not begin immediately to change its policy posture toward the rural agricultural crisis currently building in Africa and South Asia.

Renewed relationships

Diplomatically, both Africa and South Asia are already regions of heightened concern for the United States. Finding a constructive new way to engage governments in these two regions can help restore America's policy influence. An initiative that mobilizes the talent and influence of some of our best institutions—especially our universities—to address rural poverty and hunger in these regions is a wise and efficient deployment of America's "soft power." National leaders in Africa and South Asia are fully aware of the peril they now face from growing rural hunger and poverty, and they will welcome a new American policy initiative that takes these concerns seriously. The recommendations of The Chicago Initiative will allow America's diplomats to reintroduce themselves to counterparts abroad with a message of hope and cooperation.

The leaders, scientists, and educators responsible for agricultural development in Sub-Saharan Africa and South Asia have repeatedly stated they would welcome

INSTITUTIONAL FRAMEWORK FOR ADVANCING AGRICULTURAL DEVELOPMENT IN AFRICA

The **New Partnership for Africa's Development (NEPAD),** established in 2001 by the Organization of African Unity (OAU), aims to accelerate economic cooperation among African countries. NEPAD's primary objectives are to eradicate poverty, place African countries on a path of sustainable growth and development, and enhance integration into the global economy. The Pan African Infrastructure Development Fund, one of NEPAD's current projects, finances much-needed basic infrastructure, including transport, telecommunications, water, and power.

The **Comprehensive Africa Agriculture Development Program (CAADP),** developed by NEPAD in 2003, aims to assist African countries in achieving economic growth through agricultural development. CAADP's objectives are to increase sustainable land management; improve rural infrastructure and market access; and increase the food supply through agricultural research, technology dissemination, and adoption. CAADP has agreements with African governments to increase public investment in agriculture by 10 percent of their national budgets and to raise agricultural productivity and growth by 6 percent per year.

The **African Union (AU)** is a continental organization that replaced the Organization of African Unity in 2002 to accelerate the political and socioeconomic integration of the continent. The goals of the AU are to achieve greater unity and solidarity between African countries and peoples and to protect the security of the continent. It focuses on the promotion of peace, security, and stability on the continent by intervening in member states on humanitarian and human rights grounds.

The **African Development Bank (AfDB),** established in 1964, has a mission to promote sustainable economic growth and social development to improve living conditions in Africa. The AfDB mobilizes resources for the economic and social progress of its fifty-three member states in Africa through loans, equity investments, and technical assistance. Two entities of the AfDB, the African Development Fund and the Nigeria Trust Fund, provide assistance for projects, programs, and capacity-building activities that aim to reduce poverty and aid development in low-income member states.

Sources: CAADP 2008; AfDB 2008; AU 2003; NEPAD 2006.

a bold new American initiative to cooperate in support of increased local food production.

Since the 2003 meeting of African Union governments, where the heads of nations pledged to increase investments in agricultural productivity, the New Partnership for Africa's Development (NEPAD) established the Comprehensive Africa Agriculture Development Program (CAADP) to provide an operational framework to coordinate donor investments in agricultural development. If the United States were to become a leader in support of these efforts, stronger political ties would be established with dozens of African states.

Political influence

A significant new American initiative in agricultural development in Africa would also improve America's competitive position in the region vis-à-vis China. More than 800 state-owned Chinese enterprises are currently active in Africa, many working in infrastructure projects greatly appreciated by the Africans, even though they are linked heavily to petroleum and mineral extraction.[63] The United States has recently invested a great deal in Africa's health needs and in the provision of humanitarian relief. But the United States would have far more political influence in Africa if it also provided stronger support for the fundamental investments needed to stimulate economic growth.

In South Asia The Chicago Initiative will help the United States strengthen its relations with the governments of this region beyond geostrategic or security issues. In Pakistan, for example, the United States needs urgently to find a way to stabilize and gain influence in a nation beset by economic distress (especially in rural areas), social fragmentation, political instability, and now insurgency. A new agricultural development initiative would be an effective tool for improving livelihoods and diminishing the appeal of extremism in Pakistan's countryside. Out of the large total of $1.9 billion in overt U.S. aid to Pakistan in fiscal year 2008, only $30 million was economic development assistance.[64] This area needs urgent attention. A new initiative to support agricultural research and education in Pakistan would be one way to implement the valuable 2008 Biden-Lugar vision for increasing nonmilitary aid to Pakistan. Agriculture accounts for 25 percent of the gross domestic product in Pakistan and employs more than half the total population.[65] Currently only half of Pakistan's population enjoys adequate nutrition, and two-thirds of rural women in Pakistan cannot read or write.[66]

> *"Food insecurity is a global tragedy, but it is also an opportunity for the United States... A more focused effort on our part to join with other nations to increase yields, improve food distribution, and broaden agricultural knowledge could begin a new era in U.S. diplomacy. Such an effort could solidify relationships with nations where, up to now, we have had few positive contacts. It could improve our broader trade relations and serve as a model for similar endeavors in the areas of energy and scientific cooperation. Achieving food security for all people also would have profound implications for peace and U.S. national security. Hungry people are desperate people, and desperation often sows the seeds of conflict and extremism."*
>
> Senator Richard Lugar, Press Release, "Lugar and Casey Introduce Global Food Security Bill," September 23, 2008

In India a new U.S. development focus on agriculture would be a welcome new path for bilateral cooperation. The persistence of rural poverty and the lagging performance of the agricultural sector in India remains a deep economic and political concern. Closer partnerships with India's own highly accomplished agricultural leaders and scientists would pay political and diplomatic dividends for America. A renewed U.S. commitment to agricultural development would breathe life into the stalled U.S.-India Agricultural Knowledge Initiative that Prime Minister Manmohan Singh and President Bush agreed to in 2005 and build on the promise of closer ties made possible by the recently completed U.S.-India nuclear agreement.

Increased trade and cultural exchange

An initiative to address rural hunger and poverty in Sub-Saharan Africa and South Asia will also bring long-term economic and cultural benefits to the United States, as our nation steadily develops much closer ties to both of these regions. Americans and Africans are becoming far more closely connected every year in areas such

as trade, investment, health, and the arts. Rapidly growing numbers of Americans of African descent now travel on a regular basis to Africa to remain close to their families and their cultural heritage. In 2007 U.S. total exports to Sub-Saharan Africa totaled $14.4 billion, more than double the amount in 2001.[67] The United States is also a significant provider of foreign direct investment to Africa. At year-end 2006 the U.S. direct investment position rose 52 percent from 2001 to $13.8 billion.[68]

Faster economic growth in Sub-Saharan Africa and South Asia will create new trade and investment opportunities for American business. Already in South Asia, where annual GDP growth averaged above 8 percent between 2005 and 2008, American investors and exporters are making important gains.[69] A new American initiative to support further poverty reduction in rural areas will pay significant economic dividends in the long run. At the very least, once agricultural productivity on small farms in Sub-Saharan Africa and South Asia is significantly improved, the $2.1 billion the United States spends each year on food aid can begin to decrease.

A hedge against failed states, violence, and extremism

National security interests are also impacted. The Chicago Initiative will provide a valuable hedge against the serious future danger of more failed states—more Somalias, more Zimbabwes, more Sudans, and more Afghanistans. When states fail, extremist groups and terror networks hostile to the United States find sanctuary, increasing the security threat (see Figure 7). The budget costs of such interventions, not to mention the human costs to those caught up in the turmoil, are vastly greater than the costs of the preventive actions being proposed here.

Hunger and poverty are humanitarian issues, but they can quickly become political flash points. We saw during the 2007-08 interlude of extremely high world food prices that human distress in this area can lead to violent political confrontation. When international rice and wheat prices spiked in April 2008, violent protests broke out in a dozen countries, resulting in nearly 200 deaths and helping to unseat governments in Haiti and Mauritania. In Cameroon in February 2008, riots left twenty-four dead. In Yemen, five days of riots over high wheat prices resulted in four deaths after tanks were called in. In India at least six died in a mob attack on West Bengali rice sellers in rationing protests. In Bangladesh in April 2008, 20,000 textile workers rioted over wages and food prices. It is in America's security interest to take actions now to help avoid the spread of such violent confrontations in the future.

Strengthened American institutions

Finally, The Chicago Initiative will deliver benefits to key institutions in the United States, including American NGOs working in agriculture and rural development, America's land-grant universities, and America's private philanthropic foundations.

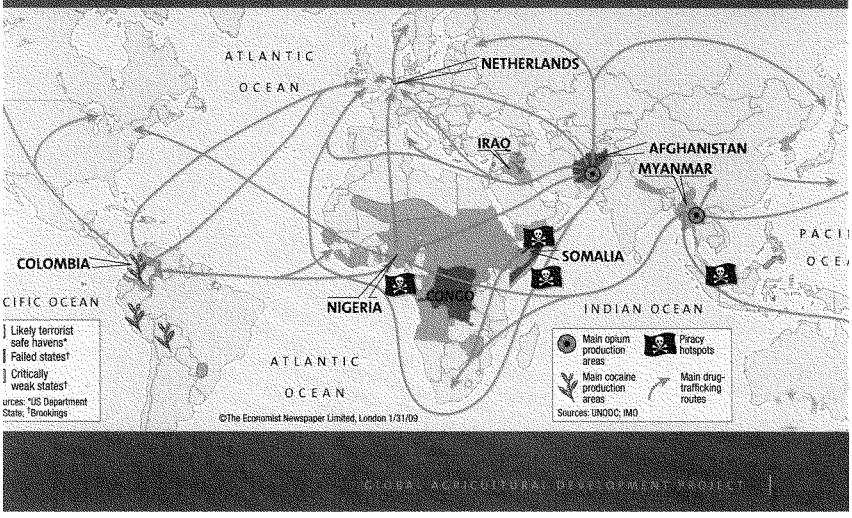
Nongovernmental organizations in particular will be important partners in developing and implementing the education and infrastructure components of this Initiative. In recent decades American NGOs interested in reducing hunger and poverty in Sub-Saharan Africa and South Asia through agriculture sector development have received little support from the U.S. government. Too often they

have been forced to rely on second-best methods for financing their work such as the untargeted sale of food aid to local markets. By reviving America's spending on agricultural development assistance, The Chicago Initiative will give NGOs greater opportunities to undertake development work in South Asia and Sub-Saharan Africa, and it will allow them to better target food aid to hungry people.

University leaders in the United States will strongly welcome revitalized support for educational exchanges and research ties to Sub-Saharan Africa and South Asia. A secondary benefit will be the growth of much closer society-to-society connections, ensuring an improved American understanding of contemporary social realities in both South Asia and Sub-Saharan Africa. The 150th anniversary of the founding of the U.S. land-grant university system in 2012 should be a time to celebrate, once again, the large contributions this powerful system can make to social betterment and transnational understanding.

American-based philanthropic organizations will also benefit. The Green Revolution of the 1960s and 1970s was launched through a practical partnership between the American-based Rockefeller and Ford Foundations—led by the vision of Norman Borlaug, who won the Nobel Prize for his achievement—then later through USAID and the international research systems of the CGIAR. Recently, because USAID has largely been on the sidelines in Africa, it has been left to the Rockefeller Foundation—and now also the Bill & Melinda Gates Foundation—to provide initiative and resources for a Green Revolution in Africa. A revival of USAID's role in agriculture would generate a new range of options for launching creative public-private partnerships involving America's world-leading private

Figure 7 - Global Security Threats, Concentrated Largely in Poor Regions of Sub-Saharan Africa and South Asia



philanthropies. The United States would once again—with all its significant institutional assets fully engaged—be at the center of a cooperative international effort to reduce hunger and poverty in two critical regions with the greatest share of world poverty and the fastest-growing populations.

WHY ACT NOW?

As the new U.S. president noted in his inaugural address, policy change for poverty and hunger reduction in Africa and South Asia is in America's interest. Yet with so many other urgent priorities confronting our new leaders, why should any scarce governmental attention or resources go to the issue of international agricultural development in 2009? There are at least four powerful responses to this question.

Proof of policy shift

First, The Chicago Initiative is precisely what the new administration needs to confirm that it is embarking on a new approach to America's relations with the developing world. Initiatives in several other worthy areas such as health or education would not have the same impact, as these areas have suffered far less American neglect over the past two decades. If the new administration and Congress were to adopt this Initiative in 2009, it would be a dramatic change from the recent past.

America would again become the central global leader and partner in this important arena. In part because so much attention will be focused on issues at home in 2009, the new government needs a resource-effective way to confirm they are also ready to join, in partnership with others, in bringing important changes abroad. The Chicago Initiative provides such a way.

Big bang for the buck

Second, the actions proposed under this Initiative should be taken in 2009 because they will produce a highly visible change in America's policy posture toward the developing world at relatively little cost to U.S. taxpayers. In fact, many of the recommended actions will cost nothing. The Initiative has been designed to use U.S. leadership and resources to leverage action and support from other governments, donors, and institutions that can make a difference, making this a truly global effort.

Our budget estimate for this Initiative, all of which would be U.S. government-appropriated funds, totals only $340 million in the first year, an increase of $255 million from the current $85 million spent on activities included in this Initiative now. The first-year cost is 1.5 percent of the current annual official development assistance budget of $21.8 billion.[70] The proposed increases over the first five years of this Initiative would bring the annual cost to $1.03 billion in year five, to be sustained at that level through year ten. Again, this annual level at year five is only 4.75 percent of the present annual ODA budget. An initiative of this kind, calling for relatively small but sustained annual budget commitments rather than large and heavily front-loaded commitments, is well suited to the current fiscal environment (see Part II and Appendix A for detailed information on the costs of each action in The Chicago Initiative).

Unique timing

Third, action on this Initiative is important in 2009 in response to concerns over global food shortages triggered by the much higher wheat, corn, and rice prices seen on the world market in 2007-08. These much higher international food prices, which were part of a more general upward spike in world commodity prices that peaked just prior to the financial crisis that struck later in 2008, were not the source of the much larger and more persistent rural poverty and hunger problems we address in this Initiative. However, they did serve to alert the international policy community to long-neglected food and hunger issues, and they helped trigger some significant new commitments to agricultural development spending, for example by the World Bank in Africa. The greater political attention food and hunger issues are receiving today creates an enhanced opportunity for action that may prove temporary. America should seize this opportunity now.

Urgency of the problem

Fourth, prompt action on this Initiative is important because the rural poverty and hunger crisis in Africa and South Asia will only grow larger with every year of inaction. Because there is no quick fix to the problems that need correction, there is no

Senator Tom Harkin, Statement at the Confirmation Hearing of Thomas J. Vilsack, January 14, 2009

"With the number of hungry people in the world now reaching nearly one billion, we must instill hope by investing more in food and agriculture research and helping developing countries improve agricultural productivity so they will be better able to feed themselves."

time to waste in getting started. The new administration and Congress in 2009 have a major opportunity now for a new departure from old ways. Postponing action on this Initiative beyond 2009 could mean, in the reality of American politics, a postponement until 2013 or even 2017. In the intervening years of inaction, levels of hunger and poverty in South Asia and Sub-Saharan Africa that might otherwise have begun to come down would tragically continue to increase.

The actions recommended in this report will not change realities for the rural poor in Africa and South Asia overnight, or even noticeably in the first year or two. While progress will begin immediately and a healthy optimism can be revived, recent historical experience in East Asia—and for that matter, the experience of the United States in the mid–twentieth century—suggests that even the most rapid and significant reductions in rural poverty are normally achieved over a period of several decades rather than just several years. The recommendations in this report rest on taking the longer view. Because rural poverty is projected to worsen in the coming decades, if "business as usual" continues, the need to end "business as usual" will become far more urgent. Time is not on our side. If we decide to worry later about the agricultural development problem in Africa and South Asia, it will grow far worse. Precisely because decisive results will take time, the time to take decisive action is now.

ANSWERING THE SKEPTICS

The actions proposed by The Chicago Initiative will be challenged from some quarters. There will be doubters raising questions of several kinds. In this section we anticipate and respond in a preliminary way to some of those questions.

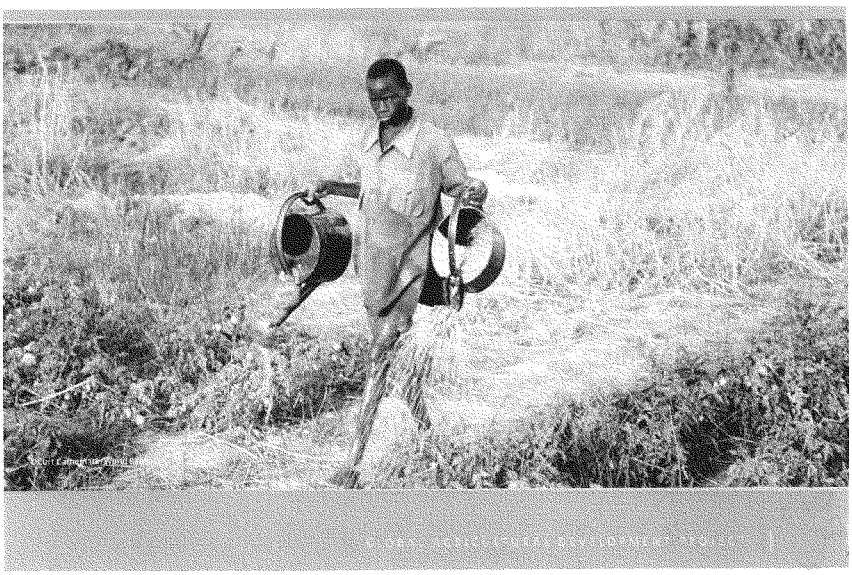
Hasn't development assistance always failed in the past?

The answer is "No." In fact, in the case of the original Green Revolution on the irrigated lands of Asia, it was a spectacular success. Patient development assistance from USAID for at least a decade played a large role in helping spread new wheat and rice seed varieties and the associated technologies that saved at least 100 million people from continuing destitution and hunger in the subsequent decades. U.S. assistance to India was provided through signed agreements to improve agricultural education and to launch a successful agricultural extension service. At the same time, America's universities welcomed a corps of Indian agricultural specialists to campuses in the United States. The United States also helped supply fertilizers, helped finance the building of fertilizer plants, supported infrastructure for electricity in rural areas, and helped build irrigation systems. These measures

made it possible for India to increase its food grain production from 70 million tons in 1954 to more than 200 million tons today.[71] The rural poverty rate in India declined from 60 percent in the late 1960s to just 27 percent today.[72] This was a foreign aid success.

Other foreign assistance success stories include Indonesia's government-planned school expansion program, Egypt's effective oral rehydration program, and Mozambique's astonishing recent record of nearly 8 percent annual economic growth. Steven Radelet of the Center for Global Development points out that the African countries that have qualified for significant aid flows (equal to roughly 12 percent of GDP) based on their close work with donor countries to develop poverty reduction programs, have as a result registered growth rates in recent years averaging an impressive 5.7 percent.[73]

The longer record shows that millions of people have been lifted out of poverty in countries that have received large flows of foreign assistance, including in South Korea, Taiwan, Botswana, Indonesia, and more recently Mozambique and Tanzania. Health outcomes have also improved dramatically, thanks to aid-financed child immunizations. The eradication of small pox and the near eradication of polio in many countries has been a foreign assistance success story. In Africa, infant mortality rates have dropped sharply and educational attainment has shown strong improvement, made possible to a significant extent by foreign assistance. In the nonirrigated regions of Asia and Africa, agricultural development continues to lag, but this is not because foreign aid has failed. It is in large part because foreign aid

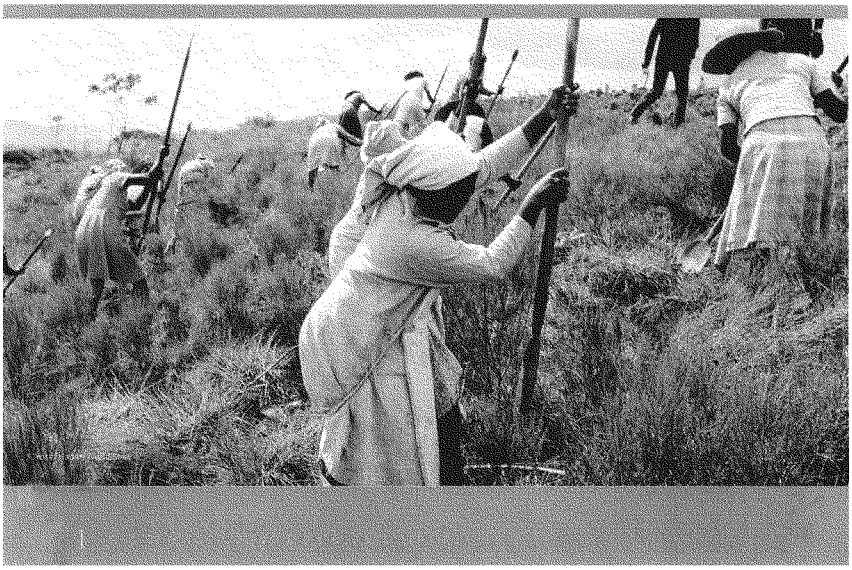


to the farming sector has been withdrawn for most of the past two decades. Over the past two decades the United States cut its assistance to agriculture in Africa by 85 percent. This recent underinvestment in assistance, not any inherent limitation of the assistance, is what ought to be questioned.

Aren't governments in Africa and South Asia too corrupt and undemocratic to use assistance effectively?

Governments in Africa are highly diverse, but the continent is no longer dominated by military dictators and autocrats. Freedom House now rates twenty-two countries in Sub-Saharan Africa as "electoral democracies," and in the most recent 2007 World Bank assessment of governance around the world, Africa's ratings were not dramatically different from the rest of the developing world.[74] A number of African countries—including Tanzania, Liberia, Rwanda, Ghana, and Niger—showed particularly strong improvements in governance over the past decade.

Some governments in Sub-Saharan Africa and South Asia still cannot be trusted to use foreign assistance with integrity and competence. Yet this is a problem much diminished in recent years. Earlier during the Cold War, when donor governments (including the United States) cared mostly about the diplomatic orientation of developing nations as pro-Western or pro-Soviet, assistance frequently went to incompetent, corrupt, undemocratic rulers. Today, however, donor governments and international financial institutions are doing a much better job of insisting on



good governance and policy transparency as conditions for assistance, and the results have been significant.

One innovative approach to the troublesome variability of governance in Africa has been pioneered by America's own Millennium Challenge Corporation (MCC), which negotiates compacts to provide assistance to poor countries only after those countries have been scrutinized according to a demanding set of measures. These measures include seventeen different performance indicators in areas such as anticorruption efforts and democratic governance. A number of governments in Africa have recently passed all of these MCC tests, including Benin, Burkina Faso, Cape Verde, Ghana, Lesotho, Madagascar, Mali, Mozambique, Namibia, and Tanzania.[75]

The Chicago Initiative avoids most corruption risks because it does not transfer money blindly into the treasuries of foreign governments. The three primary investment components of the Initiative—for education and extension, research, and infrastructure—are calibrated to minimize the chance that funds will be misspent. The education component is funded primarily through easily monitored partner universities in foreign countries, cooperating with universities in the United States. The research component is funded either through thoroughly audited research centers of the CGIAR; through national agricultural research systems in Africa and South Asia, where expenditures will be easy to monitor and confirm; or through U.S. universities. Infrastructure investments are traditionally most subject to corruption, but the infrastructure component of The Chicago Initiative is to be funded primarily through the contracting mechanisms of the MCC, which, as noted above, carefully screens countries for noncorrupt governance before extending a contract.

Won't an introduction of new farming techniques into Sub-Saharan Africa and South Asia be bad for the natural environment?

It is not environmentally sustainable for Africa to continue trying to feed its rapidly growing population with farming techniques that produce only one ton per 2.5 acres. That would require a continued extension of cropping (and grazing of animals) over an ever-wider expanse of land. This would imply, in turn, the plowing up of more fragile lands (such as dry and sloping lands), the cutting of more trees, and the destruction of even more, already dwindling wildlife habitats. This is already a severe problem in Africa. Land clearing for agriculture has been estimated as the cause of approximately 70 percent of all deforestation on the continent.[76]

Perhaps the greatest environmental damage done by Africa's current style of low-yield farming is the damage to farmland itself. In the past, before the country's rapid population growth, farmers had the option of leaving cropland unused and under natural vegetation for extended periods of time—sometimes for a decade or longer—to allow the soil to gradually rebuild its nutrient content. Today, this system of "rotational cultivation" is malfunctioning because population pressures mean the soil cannot be left fallow long enough. African farmland today is experiencing a severe and progressive depletion of nutrients as fallow times have shortened, damaging yields. Annual soil nutrient balances throughout Africa are now negative, causing crop losses every year estimated between $1 billion and $3 billion.[77]

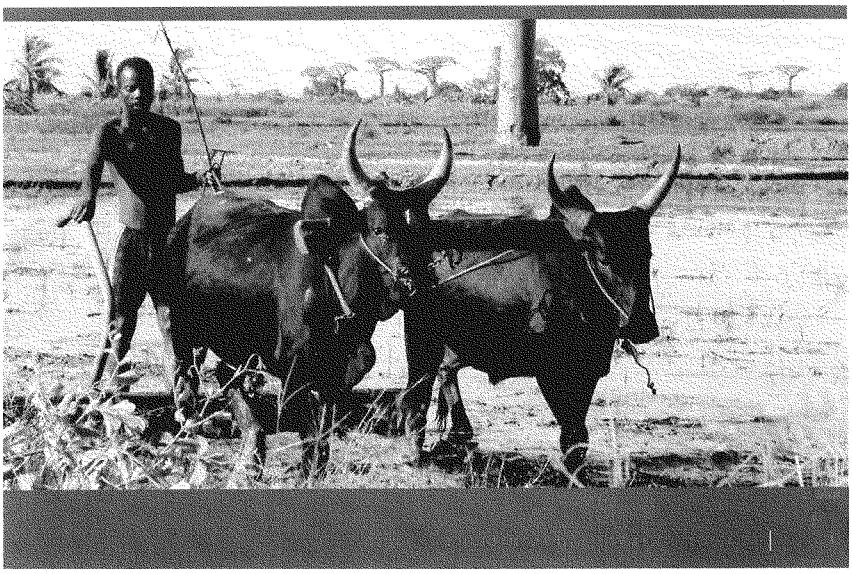
Environmentalists who study farming in Europe, North America, and East Asia are correct to criticize the excessive use of nitrogen fertilizers and pesticides and the wasteful use of scarce surface water and groundwater supplies for crop irrigation. It is an error, however, to attach equal priority to these same concerns on the drylands of Africa and South Asia. In these regions most farmers do not use improved seeds, fertilizers, pesticides, or irrigation. To protect the environment in these regions, farmers will need much greater access to productivity-enhancing inputs. The environment is under threat not because input use is excessive and crop yields are too high, but because very few purchased inputs are being used at all, soil nutrients are being depleted, and crop yields are too low. As a result, fragile new lands have to be cleared.

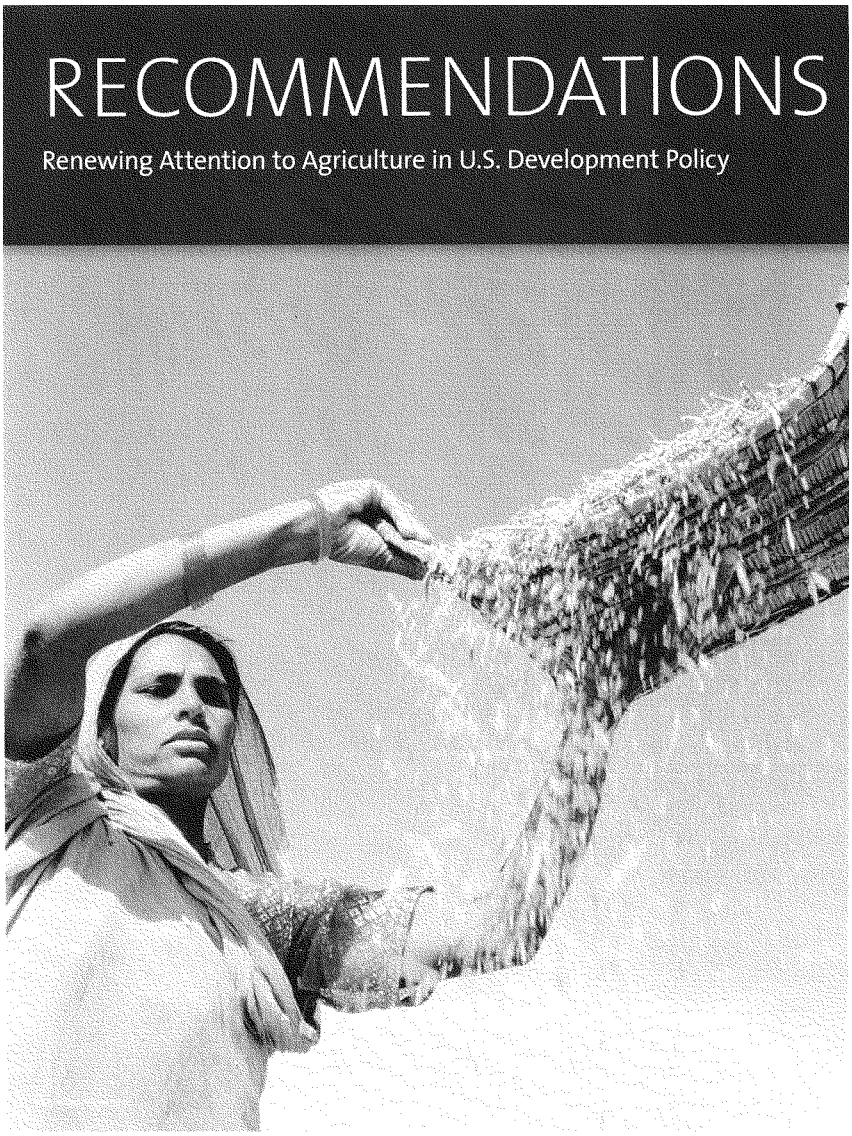
If this Initiative works to boost agricultural production in Sub-Saharan Africa and South Asia, won't that just produce new competitors for farmers in the United States?

This was a legitimate commercial concern in the case of Brazilian soybeans in the 1980s, although America's agricultural exports were hurt far more by macroeconomic factors such as high dollar exchange rates than by USAID support for potential competitors. In the matter of providing assistance to smallholder farmers in South Asia and Sub-Saharan Africa, there is little or no chance commercial export competition will grow as a result. Most of the small farmers struggling to gain higher productivity in these regions today are not export oriented, and most of the crops that are exported by African and South Asian farmers (e.g., cocoa, mango, coffee, tea, jute) do not compete with U.S. production. If The Chicago Initiative is successful, then perhaps at some time in the future America's food aid shipments to Africa will decline, but this should be welcomed as a reduced burden for American taxpayers rather than as an imagined harm to American farmers. America's $1 billion to $2 billion food aid budget is quite small relative to our nation's $60 billion commercial farm export market, not to mention our massive $900 billion domestic market for food.

What American farmers need are not more hungry people abroad, but people with higher incomes to create better commercial customers. Income, not hunger, drives commercial food imports. This is why it is the agriculturally successful parts of the developing world (especially East Asia) that are the most lucrative foreign markets today for American producers, thanks to the economy-wide income "multipliers" mentioned earlier that accompany agricultural success. Once these multipliers begin to deliver higher income growth in the urban sector, commercial demands for food begin to grow, and imports then grow as well. This paradox—that agriculturally successful countries import the most food—has been well studied for years. In one early study, the sixteen developing countries with the highest growth rates in staple food production between 1961 and 1976 increased their net staple food imports by 133 percent during this same period.[78] In another study, the group of eighteen developing countries with the most rapid growth rates in per capita food production between 1970 and 1982 also increased their total agricultural, corn, and soybean imports (at respective rates of 34 percent, 97 percent, and 257 percent) faster than a group of thirteen developing countries with the slowest growth in per capita food production.[79]

We expect that some groups with reflexive doubts about foreign development assistance, the competence of foreign governments, the environmental consequences of technology change in agriculture, or market impacts on American farmers may not at first strongly support this Initiative. Yet the results of our commissioned survey, more fully reported in Part III, suggest that the underlying domestic political support base for an initiative of this kind is strong, not weak. We hope that a careful review of each of the policy actions we recommend will strengthen that support base.




RECOMMENDATIONS
Renewing Attention to Agriculture in U.S. Development Policy

PART II

PRINCIPLES AND PRIORITIES

The bipartisan group of leaders that developed the five recommendations and twenty-one actions of this Chicago Initiative brought differing backgrounds and perspectives to the table, and they did not agree on every detail. Yet they worked from a set of shared assumptions, principles, and priorities:

- A high priority must be attached to reducing large-scale hunger and poverty abroad as well as at home, consistent both with America's interests and its values.
- Sub-Saharan Africa and South Asia are the two regions where hunger and poverty are the furthest from being solved and where they will continue to worsen in the years and decades ahead under a "business-as-usual" scenario.
- Women play a particularly critical role in the agricultural sector in both Africa and South Asia and must be central to any new U.S. approach. Women provide labor and innovation in the fields as farmers, a lead role in household transport and in the marketing of farm products, and constant care in the rearing of children and provisions for the elderly. Giving women and girls opportunities for improved education, health, technology, microcredit, legal protection, and political voice will be the key to progress in most impoverished rural communities and to the success of this Initiative.
- American leadership in the area of agricultural development must be restored. This leadership should be built not on know-it-all, top-down unilateralism, but on listening to the needs and aspirations of those we seek to support and on reciprocal partnerships with national governments in Sub-Saharan Africa

and South Asia, other donors, intergovernmental organizations, NGOs, and private firms.

- The problems of rural hunger and poverty in the developing world cannot be solved from the outside. The United States can support change from the outside, but the essential ingredient is always strong local responsibility and ownership. America's own initiatives and leadership are important, but they should always respect, nurture, and never stifle local initiatives and local leadership.
- The focus of U.S. policy should be on improving smallholder agriculture in Sub-Saharan Africa and South Asia. While there must be other development assistance objectives supporting rural and overall growth in these nations, the history of economic development tells us that broad-based agricultural change is an essential and early step that must be taken across societies.
- The proposals of The Chicago Initiative represent **only an initial and small step, but potentially a transformative one toward reducing hunger and poverty in Sub-Saharan Africa and South Asia**.

ESTIMATES OF COSTS

Not all of the actions proposed here will require new budget outlays, but many will. For each action discussed as part of the recommendations that follow, we provide the following estimates:

- USG costs required in the first year
- Annual USG costs at full funding, usually at year five
- Total USG budget required over five years
- Total USG budget required over ten years

Our budget calculations are limited to the costs required to implement the twenty-one actions we recommend for smallholder agricultural development in Sub-Saharan Africa and South Asia as described in our five recommendations. These figures must not be misconstrued as representing budget requirements for the overall agricultural development assistance program of the United States for all purposes and regions. The costs estimated for The Chicago Initiative are a subset of that broader program and that larger budget.

These cost calculations were in some cases based on actual current costs for smaller versions of programs that we recommend be scaled up. In other cases the cost estimates were constructed from scratch, based on consultation with individuals with appropriate firsthand knowledge. In still other cases our cost estimates are borrowed from the work of others who are generating parallel proposals. A more detailed explanation of how costs were calculated is provided in Appendix A.

We estimate the total cost of implementing our recommendations to be approximately **$340 million** in year one, compared to the approximately $85 million being spent now on these activities, a first-year increase of **$255 million.** In year five, when all of the proposed actions have reached scale, total annual costs

would reach **$1.03 billion** annually, or roughly **$950** million more than current expenditure levels. This is a significant new commitment, but clearly an affordable one since the total annual cost by year five would require only a 4.75 percent increase in annual assistance spending from the current level of $21.8 billion.

If President Barack Obama's 2008 campaign pledge to double U.S. assistance spending to $50 billion were carried out, The Chicago Initiative would take up only **3.6 percent** of the $28.8 billion increase.[1] The total cost of this Initiative will in any case remain significantly lower than the $1.2 billion the nation has recently been spending annually on food aid to Africa alone.

The Chicago Initiative is not being offered as a quick fix to be completed in a brief flurry of action in the first one hundred days of the new administration. Many of the actions described here should begin immediately in 2009, but most can be built to full strength only over a multiyear period, and they must then be sustained at full strength for at least a decade. The Chicago Initiative will not require large annual federal budget outlays, but it will require unusual governmental focus, persistence, and patience.

The recommendations address five key areas: education and extension, research, infrastructure, institutional reforms, and policy reforms in the United States. The discussion of these recommendations goes beyond simple goals and aspirations to a discussion of actual programs, institutions, and estimated costs. The level of detail provided is meant to strike a balance between not saying enough and thus blurring hard choices, and being too prescriptive. The goal is to chart a clear course that is flexible along the way.

RECOMMENDATION 1

Increase support for agricultural education and extension at all levels in Sub-Saharan Africa and South Asia.

Education and training are essential to successful agricultural development. In the United States, farming did not become highly productive until average rates of public high school completion in rural America began approaching the urban level. These better-educated American farmers prospered by leading the world in the uptake of improved farming technologies, many of which were developed by agricultural researchers at America's publicly funded land-grant universities. Researchers at these universities were also classroom teachers, and they were closely linked to extension teachers who made regular training visits to ordinary farms to demonstrate and communicate the latest agricultural improvements.

The powerful nexus of public investments in agricultural research, education, and extension was an important factor in reducing the burden of poverty in rural America. Between 1959 and 2000 the percentage of farm-dwelling Americans living below the official poverty line dropped from more than 50 percent to 10 percent, a lower poverty rate than for nonfarming Americans.[2] Public investments in agricultural research, education, and extension have also increased farm productivity and reduced rural poverty in other countries and regions. Yet in the impoverished rural communities of South Asia and Sub-Saharan Africa, this important tool has hardly been put to use (see Table 1).

Table 1 - Average Years of Education of Rural 18- to 25-Year-Olds, Selected Countries

	Sub-Saharan Africa	South Asia (excl. India)	East Asia and the Pacific (excl. China)	Middle East and North Africa	Europe and Central Asia	Latin America and the Caribbean
Urban						
Men	8.5	7.3	10.1	9.3	10.6	8.7
Women	7.6	6.5	10.1	9.2	11.1	8.9
Rural						
Men	5.5	5.3	8.0	6.8	9.7	5.7
Women	4.3	3.0	7.7	5.0	10.0	5.8

Note: Calculations of average education levels for 18- to 25-year-olds is based on fifty-eight countries (excluding China and India) with recent household survey data information on years of education, weighted by 2000 populations.
Source: World Bank 2007.

Building on its own institutional experience in this area, the United States should now play a central role in helping Sub-Saharan Africa and South Asia improve agricultural education and extension to benefit the rural poor. The goal should not be a simple transplant of American-style institutions into these two highly diverse regions. Africans and South Asians must develop their own institutional models suited to the differing economic, legal, and cultural environments of their societies. America's goal should be to help Sub-Saharan Africa and South Asia in the development and support of such institutions through increased sharing of the talent and resources within America's own highly capable agricultural education and extension complex.

U.S. land-grant universities are one obvious source of external support, along with America's private institutions of higher learning, its many energetic NGOs and civil society networks devoted to rural training and education, and its knowledge-rich private agricultural companies. All of these are among America's most successful institutions and are therefore a significant source of "soft power." Yet in recent years they have been underutilized in the struggle to reduce rural poverty and increase food security in both Sub-Saharan Africa and South Asia.

We propose a strategy for leveraging those American strengths once again for the long-term benefit of the rural poor in the developing world. In the area of agricultural education and extension, and also in research, it is not enough for the United States to make investments in individuals. We must also make investments in institutions. Consider the example of a young university graduate from Malawi who spends a year at an American university working toward a masters degree in soil science. If this graduate then returns home only to find that the university or extension system in her own country lacks an administrative capacity to make use of her new skills, the investment in her education will not be multiplied to its full potential. Strengthening educational institutions abroad is something Americans know how to do. American universities were highly successful in the past when asked to do this job in Latin America and in parts of Asia. They will also be eager to do this in Sub-Saharan Africa and South Asia once adequate resources are provided.

American NGOs and philanthropies can lead in this area alongside universities. Many are familiar with the innovative work of Heifer Project International, an Arkansas-based organization that helps poor farmers in developing countries by providing them with animals such as cattle and goats, along with the support they need to breed the animals. This is done with the understanding that the farmers will then extend animal gifts to others. Faith-based private U.S. organizations such as Bread for the World and World Vision have also led in extending agricultural development assistance as well as food assistance to poor countries. More recently, the Bill & Melinda Gates Foundation, together with the Rockefeller Foundation, has launched an Alliance for a Green Revolution in Africa (AGRA), an innovative, African-led initiative dedicated to creating a new Green Revolution. This is another example of what can be created without waiting for public sector support. Yet the work of private NGOs and efforts such as AGRA will become much easier once a wider range of synergistic efforts are launched using public funding. The recommendations made here are intended to reinforce, not replace, the work of privately initiated and sustained efforts such as AGRA. The original Green Revolution in India and Pakistan in the 1960s and 1970s was successful because private foundation and public sector energies reinforced one another.

Due to the importance of women in all aspects of agriculture, all programs should recognize the unique challenges facing women farmers and must be adapted and expanded to increase opportunities for education and training of

women at all levels in Sub-Saharan Africa and South Asia. This is a central thrust of our recommendation.

The Chicago Initiative on Global Agricultural Development recommends five specific actions to implement Recommendation 1.

Advanced Training in the United States

It is a great honor for me to express my support for The Chicago Initiative on Global Agricultural Development's recommendation to increase the number of agricultural students, scholars, and policymakers from South Asia that receive advanced training in American universities and institutes through support by USAID. Poverty alleviation and food security are undoubtedly the major challenges of the day, and these can only be solved through advanced agricultural education and technology to make the world secure from food shortage. I appreciate the step taken by The Chicago Initiative—it is a step forward in the right direction. I hope this will go a long way in improving the lot of humanity.

—Iqrar Ahmad Khan, Vice Chancellor, University of Agriculture, Faisalabad (Pakistan)

ACTION 1a. Increase USAID support for Sub-Saharan African and South Asian students—as well as younger teachers and researchers and policymakers—seeking to study agriculture at American universities.

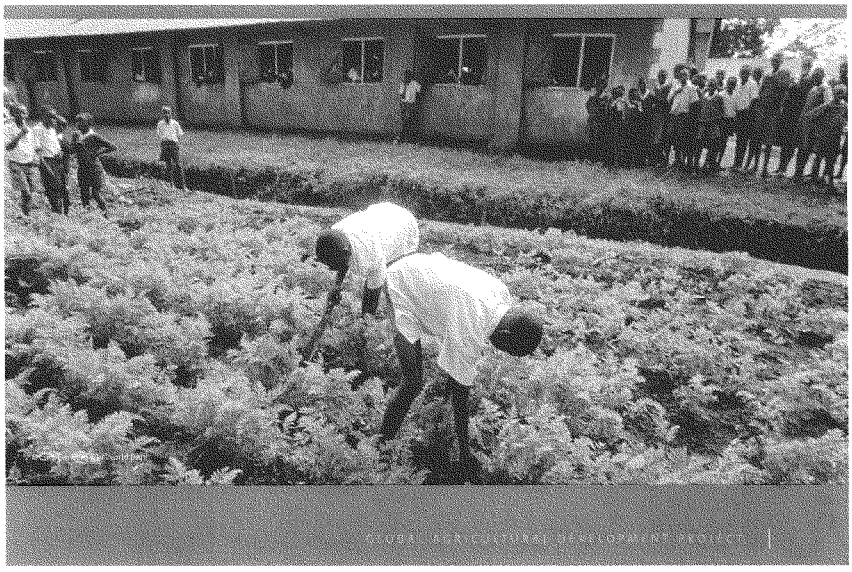
The United States in the past was generous in its support for international agricultural students, and with a successful result. In support of the original Green Revolution in the 1960s and 1970s, roughly 800 Indian agricultural scientists were supported in the United States for advanced training in agriculture and natural resource protection.[3] Agricultural students from Latin America and East Asia also benefited. At one point in 1970-71 there were more than 1,300 students from East Asia and more than 900 students from Latin America studying agricultural science at U.S. universities.[4] This early policy of supporting foreign agricultural students for long-term training in the United States and for short-term technical training continued on a significant scale through the 1980s.

We can trace much of the strong performance of Indian, Brazilian, and East Asian agriculture directly to the trained cadres of national agricultural educators and scientists who spent time at universities in the United States. To the present day, particularly in India and Brazil, a strong cohort of senior agriculturalists maintains close ties and continues to hold warm feelings toward the United States based on the life-changing opportunity they enjoyed early in their careers to study at one of America's exceptional land-grant universities. Some African countries also participated, and early graduates from these training programs are found today in prominent senior positions in government, academia, and business in countries such as Egypt, Senegal, Malawi, Cameroon, and Kenya. American agricultural policy officials visiting Africa often encounter senior counterparts who have fond memories of the time they spent studying at Purdue, the University of Wisconsin, the University of Georgia, and elsewhere. The personal ties and common loyalties

that derive from American training provide valuable social capital for the United States in these countries.

As recently as 1990, USAID was still funding 310 students annually from developing countries to study agriculture and rural development at American universities. But then the long-term training approach began to lose favor. USAID moved to a new system for evaluating the impact of its projects, employing a shortened five-year time frame that seriously devalued the benefits of long-term training. USAID's budget for international education and training consequently began to decline, and agricultural training programs were hit particularly hard. Within a decade, the number of international agricultural students supported had fallen from 310 to just 82.[5] USAID-sponsored scholarships to Africans for overseas postgraduate training in agriculture fell from 250 in 1985 to just 42 by 2008.[6]

There were a variety of reasons for these cutbacks. Costs per student were said to be too high, and rates of return to the home country and professional employment were said to be too low. Also, fashions changed in the assistance community after a World Bank study suggested that primary and secondary education contributed more to economic growth than university and graduate training. Yet, the drift away from supporting higher education was never adequately justified. The low rate of return argument was largely undercut by one study of African participants in a USAID Advanced Training for Leadership and Skills Project (ATLAS) that showed 85 to 90 percent of participants completed their degree programs and then returned to their countries of origin.[7] Successful postgraduate employment was



especially high for students in the agricultural sector (along with the educational sector). More recent evidence from the World Bank has also confirmed that higher education is important to economic growth, particularly through technological advancement and innovation. Nowhere more than in the agricultural sector are the poor countries of Sub-Saharan Africa and South Asia in need of this.

As for the costs, these have been addressed through innovative new training methods. Since 2004 USAID has piloted several less costly approaches to international agricultural education and training, including long-term training for regional agricultural development in East Africa and in Mali using the "sandwich" degree method, where time spent at a U.S. university is sandwiched between initial class work and degree completion in Africa. Masters degree students have now been supported successfully with such programs at Ohio State, Michigan State, Montana State, and the University of St. Thomas in Minnesota. With added resources, these innovative new approaches could be expanded.

Expanding such programs and ensuring adequate inclusion for women is entirely affordable. For example, with the sandwich program, high-quality advanced degree training in the United States can be provided at a cost of only $30,000 per student.[8] Using this program, USAID might return to the 1990 funding level of international agricultural students (310) at a total annual cost of less than $10 million. We recommend an expanded budget phased in over five years for hosting African and South Asian agricultural students at American universities that is at least this large.

COST

First year:	$6 million
Fifth year, when fully funded:	$10 million
Total over five years:	$40 million
Total over ten years:	$90 million

ACTION 1b. Increase the number and extent of American agricultural university partnerships with universities in Sub-Saharan Africa and South Asia.

Sub-Saharan Africa and South Asia urgently need to develop their own educational institutions to take over agricultural leadership training in the long run. In Africa currently, enrollment rates for higher education are by far the lowest in the world. The gross enrollment ratio in the region for 18- to 23-year-olds currently stands at only 5 percent, compared to 19 percent for East Asia.[9] The enrollment ratio in South Asia is only slightly better at 10 percent.[10] The donor community is in part to blame for this underdevelopment of higher education because (as noted above) it became fashionable two decades ago within institutions such as the World Bank to argue that higher education was much less important to economic growth than primary and secondary education. As a consequence, over the decade of the 1990s the share of World Bank education lending to poor countries going to higher education fell from 17 percent to just 7 percent.[11]

Economists have more recently calculated that higher education is a good investment. A one-year increase in tertiary education stock can boost per capita

income by a potential 3 percent after five years and eventually by 12 percent.[12] Considering that per capita incomes have recently been falling in some African countries, an increase of this magnitude would be a major achievement.

Africa's systems for higher education are struggling. They are typically short of trained faculty. Often 30 to 70 percent of required faculty posts are not filled, in part because wages are so low and working conditions so poor.[13] Trained faculty is in short supply also because Africa's universities have so few graduates at the masters and doctoral levels. Rundown facilities and a lack of classroom space, laboratories, laboratory supplies, and adequate Internet access are all serious roadblocks. Poor facilities contribute to underenrollment in key science-based fields in particular, especially agriculture, health, engineering, and technology. Less than 30 percent of students in higher education in Africa are enrolled in these fields, even though this is where the need for trained talent is most acute.[14] In addition, women are often excluded (the proportion of female teaching staff is only 4 percent).[15] This is particularly damaging for progress in the food and farming sectors in Africa, where women traditionally play such a critical role.

Africa's Human Capacity in Agriculture

Africa cannot have an efficiently functioning agricultural market economy to address food shortages and crisis without the necessary market infrastructure. It is time now that African countries and their agricultural development partners such as the United States initiate collaborative programs that will develop human capacity and allocate more resources to agricultural universities and to the rural and regional infrastructure required to facilitate movement of agricultural products and resources between rural and urban areas.

Africa also needs to create centers of excellence in cutting-edge agricultural science, technology, and innovation. To achieve this, agricultural universities in Africa must partner with American agricultural universities, who can serve as mentors for capacity building in these areas. Such partnerships will create networks linking research groups and agricultural policymakers, allowing them to effectively fight the war against hunger and poverty and create an environment in which high-quality training and research can flourish in Africa.

I am proud that I am, like many of my colleagues at Sokoine University of Agriculture, a product of the USAID Collaborative Research Support Program (Title XII) of the 1980s, which was managed by Michigan State University and Sokoine University of Agriculture, Morogoro, Tanzania.

—Robert B. Mabagala, Professor, Plant and Seed Pathology, and Founder and Coordinator, African Seed Health Center, Sokoine University of Agriculture (Tanzania)

Africa's governments have recognized the need to improve higher education. In January 2007 the heads of state of the African Union issued in Addis Ababa the "Declaration on Science and Technology and Scientific Research for Development" that affirmed the priority of the issue. USAID has begun recognizing that large gains can be made from new investments in higher education, particularly in the agricultural sector. In April 2008 USAID announced plans to collaborate with America's National Association of State Universities and Land-Grant Colleges (NASULGC) on a new Africa–U.S. Higher Education Initiative to build African university capacity. African universities will be more than happy to initiate and guide such partnerships based on their superior understanding of what is most needed.

While the partners are willing, they need adequate resources. When such resources were available in the past, USAID was highly successful in boosting the performance of agricultural education abroad, particularly in Southeast Asia and Latin America. The key, once again, is to make use of the experience and talent within America's agricultural education institutions. For example, Cornell University used USAID funding to help elevate a Philippine college of agriculture (Los Banos) to its current status as a leading regional training center. With USAID funding, four American land-grant universities helped build agricultural education capacity at four Brazilian universities. Also in South Asia in the 1960s and 1970s, USAID helped the government of India design and finance a new model of state agricultural universities (SAUs) that were directly land-grant inspired. By 1997 India had thirty-four SAUs with an annual intake of 13,500 students at the undergraduate level; 6,000 at the masters level; and 1,550 at the PhD level.[16]

USAID also initiated an upgrade of Africa's agricultural education capacity in a half dozen countries in the 1960s and 1970s. But then in the late 1980s, USAID virtually withdrew from university capacity building in Africa. These efforts now must be revived.

A simple return to the past is not what we are recommending. USAID must not rely on simple transplants of American-style institutions that are not appropriate to local circumstances or do not offer enough local ownership. New models are available, including twinning agreements, joint research programs, postdoctoral

WEST AFRICA CENTER FOR CROP IMPROVEMENT

The West Africa Center for Crop Improvement (WACCI) is a partnership between the University of Ghana Legon (UGL) and Cornell University funded by the Program for African Seed Systems (PASS), a component of the Alliance for a Green Revolution in Africa supported by the Bill & Melinda Gates Foundation and the Rockefeller Foundation. WACCI was designed to train and retain African plant breeders in West Africa.

During the five-year program, roughly eight students per year from West African countries come to WACCI for two years to complete coursework and develop research proposals. Core coursework is provided by the faculty of UGL, while Cornell provides supplementary digitized lectures through its Transnational Learning Program and works with the students via video conferencing to help in the development of their research proposals. In addition, a Cornell faculty member is stationed at WACCI for a total of six months per year, contributing to key courses. Guest lecturers from Cornell and elsewhere travel to WACCI throughout the year to deliver modules.

After the first two years, WACCI students return to their home countries for three years to conduct their PhD research under local university supervision, supplemented by UGL and Cornell. Students return to the University of Ghana in the last quarter of the fifth year to complete and submit their theses. Three of the students who started in January 2009 were women, with the goal of having a male-female ratio of 60:40 by 2010.

Cornell provides access to its Mann Library along with any necessary electronic communication infrastructure such as cellular modems and satellite modems to maintain continuous contact. UGL has a major grant from PASS to support the activities in West Africa, and Cornell has a supplementary grant to support its activities with WACCI. WACCI is modeled after an earlier, successful, ongoing partnership between the University of Kwazulu-Natal in South Africa and Cornell, originally supported by the Rockefeller Foundation and now supported by PASS.

Source: Personal communication.

University Partnerships

The need for plant scientists with the necessary skills to develop new plant varieties for Sub-Saharan Africa has become very urgent. Brain drain in this area has taken a severe toll, as young scientists who leave for several years of training do not return home, often because their training is not oriented to the needs in their home countries. I believe we can take the necessary steps to change this undesirable situation. Thanks to excellent collaboration with Cornell University, the West Africa Center for Crop Improvement has shown in its first year that with the necessary support, universities in Africa can turn out the quality graduates needed to address the critical brain drain problem. WACCI's philosophy—to train plant breeders in centers of excellence in their subregion on the crops that feed the peoples of that subregion—is currently the best model for training the next generation of plant breeders for Africa. Over five years we shall have forty PhD students in the pipeline, all of whom will graduate by the tenth year. This will be the first time that a single unit in the University of Ghana will turn out forty PhDs in a decade. Unquestionably, the students will form a strong network in the subregion and with Alliance for a Green Revolution in Africa's promise of start-up grants, the students will have a jump start in the workplace and will deliver varieties soon after their PhD research.

—Eric Danquah, Director, West Africa Center for Crop Improvement (Ghana)

scientist exchange programs, and distance learning. One size will not fit all. African partners will need significant local capacity investments, but in parts of South Asia (especially India) the greater need may be improved networking with "knowledge systems" from beyond the region. A key difference will be that while the United States would fund the American institutions to provide expertise, the assessment of self-needs and requests for support would come from the African and Asian institutions themselves.

USAID is currently piloting several new models for enhancing university-level training in agriculture. One example is a distance learning model supported through the University of Florida, offering masters degrees in soil science and entomology at the University of Nairobi in Kenya and Makerere University in Uganda. Course content and methods are team developed, ensuring a sense of ownership by local faculty. This model could be scaled up in other countries in Sub-Saharan Africa and South Asia through other participating U.S. universities.

Another promising model is a new partnership between Cornell University and the University of Ghana Legon (UGL), supported under AGRA by the Bill & Melinda Gates Foundation and the Rockefeller Foundation. This partnership brings students from different countries in the region (currently from Burkina Faso, Mali, Niger, Nigeria, and Ghana) to the West Africa Center for Crop Improvement (WACCI). Students take courses taught by UGL faculty with supplemental library and distance learning support from Cornell, backed by an on-site Cornell faculty member. Over its first five years this program expects to have forty PhD students in the pipeline, all expected to graduate by the tenth year. This is the first time a single unit of the University of Ghana has ever turned out forty PhDs in just one decade. This model could be replicated at agricultural universities in East Africa and in South Asia, were adequate funding available.

USAID has started to develop improved models for partnering in the area of agriculture with educational institutions in Africa. It has recently obligated

$1 million to fund twenty partnership planning grants of $50,000 each.[17] The grants support the planning of long-term collaborations between African and U.S. institutions focused on building instructional and problem-solving capacity in areas of agriculture, health care, science and technology, business, and other disciplines.

COST

See Action 1c.

ACTION 1c. Provide direct support for agricultural education, research, and extension for young women and men through rural organizations, universities, and training facilities.

Young women and men in South Asia and Sub-Saharan Africa yearn for education and training both inside and outside a university setting. Institutions are often available to provide this sort of training, but many have difficulty building strong programs and retaining qualified instructors due to minimal operating resources. USAID should do more to help provide such resources.

A number of successful agricultural education and training institutions have been created by NGOs. One example is the African Rural University, an all-women's university associated with the Uganda Rural Development and Training Program in Kagadi, Uganda, where girls and women are taught traditional school subjects along with the latest agricultural practices, locally appropriate energy technologies, and entrepreneurship skills. USAID missions in Sub-Saharan Africa and South Asia should have a small grants programs available to support such institutions.

Another approach is the Farmer-to-Farmer (FTF) volunteer program, which has been operating through USAID since 1985. To date over 12,000 volunteer assignments have been completed, providing more than $34 million worth of contributed volunteer time.[18] This program sends volunteers from the United States (persons with experience not just in farming but also in farm-to-market operations) to provide training in developing and transitional countries, typically for a twenty- to thirty-day stay. In Africa these volunteer programs have been operated through NGOs such as the Citizens Network for Foreign Affairs. Approximately 19 percent

High-Level Training for Women

I strongly believe that food security in Africa cannot be achieved without investing in the development of skilled human capital for each link in the agricultural value chain, bearing in mind that women are an integral part of each link. As a beneficiary of the USAID sponsored AFRGRAD fellowship in the 1990s, I can testify to the impact and ripple effect that the provision of funds to women to pursue higher education in the agricultural sciences can have. My leadership role in the USAID-funded, collaborative research programs that have directly benefited women involved in food processing can be linked to the high-level training I have received.

—Esther Sakyi-Dawson (PhD), Professor, Department of Nutrition and Food Sciences, University of Ghana, Legon

IMPACT OF FARMER-TO-FARMER SUPPORT IN NEPAL

Nepal is one of the poorest and least developed countries in the world, with almost one-third of its population living below the poverty line. The economy suffers from a lack of technology, a remote and landlocked geographic location, civil strife, and vulnerability to floods and other natural disasters. Roughly three-quarters of the population earn their livelihoods from agriculture, but these farmers suffer from low revenues due to their remote locations and limited technology in production and pest management.

From 1997 to 2002 the USAID Farmer-to-Farmer Program provided assistance to apple growers in the remote Himalayan mountain district of Mustang, home to roughly 9,000 rural dwellers, most of whom were farmers. Volunteer John M. Aselage, who owns and operates an orchard, nursery, and roadside market in Arkansas, worked with apple growers to increase production; raise income from increased sales revenues; and improve the capabilities, practices, and technology of apple production.

With Aselage's knowledge and experience, the program helped to train apple growers in such areas as pruning, storage, pest and disease control, and management. As a result, productivity increased by 48 percent on average from 1998 to 2002, and sales increased by 20 percent from 2001 to 2002 for apple growers in Mustang. These developments have made apple farming more profitable for these farmers and have been large contributors to raising farm family incomes, improving health, and enhancing farms in the region despite problems due to their remote location and inaccessibility.

Source: USAID 2009.

THE GLOBAL FOOD SECURITY BILL

The Global Food Security Bill is a five-year authorization to focus U.S. development assistance on long-range agricultural productivity and rural development. It establishes a Special Coordinator's Office for food security within the Executive Office of the President and charges the office with developing a whole-of-government food security strategy. The bill authorizes nearly $10 billion over five years for programs focused on improving the rural environment for farming. It creates a new program, the Higher Education Collaboration for Technology, Agriculture, Research, and Extension (HECTARE), to improve research capacity at foreign universities and the dissemination of technology through extension services.

Source: Personal communication.

of volunteers worldwide have been women, and about 39 percent of all individuals trained by FTF volunteers are women.[19] With more resources, this program could expand its operations, particularly in the area of farm marketing and farm business management, in both Sub-Saharan Africa and South Asia.

All of these less formal rural training efforts for young men and women are linked, in concept, to the successful approaches pioneered in the United States by the Future Farmers of America (FFA) and 4-H, when America was still primarily an agricultural country. USAID should look for ways to incorporate the energetic and progressive spirit of the FFA and 4-H approach through exchanges, leadership training, and organizational development when supporting agricultural institutions and activities in Sub-Saharan Africa and South Asia.

The total cost for implementing Actions 1b and 1c would not be large. The education and training goals of The Chicago Initiative will require sustained executive attention and leadership, but not massive new budget resources. One representative

estimate of the cost of developing an adequate response in this area can be found in the proposed budget for the second title of the Global Food Security Bill introduced in February 2009 by Senators Dick Lugar and Bob Casey. The National Association of State Universities and Land-Grant Colleges proposes that outlays for partnerships between U.S. and developing country universities, vocational partnerships, South-South collaborations, and leadership training programs should total $126 million in the first year, increasing to $630 million annually by year five.[20] Actions 1b and 1c of The Chicago Initiative could be funded at that level:

COST FOR ACTIONS 1B AND 1C

First year:	$126 million
Fifth year, when fully funded:	$630 million
Total over five years:	$1.9 billion
Total over ten years:	$5.05 billion

ACTION 1d. Build a special Peace Corps cadre of agriculture training and extension volunteers who work within Sub-Saharan African and South Asian institutions to provide on-the-ground, practical training, especially with and for women farmers.

Peace Corps volunteers are particularly valuable assets at the local field level of agricultural development. If new resources were available, The Chicago Initiative could help inspire a new generation of Americans to reconnect with their nation's legacy of helping people around the world. Volunteers can be recruited based in part

VEGETABLE GARDEN COOPERATIVES WORKSHOP IN MALI

While volunteering for the Peace Corps in Mali, I organized a training workshop on basic and improved gardening techniques for forty-five leaders of garden cooperatives, including fifteen men and thirty women from fifteen different villages. They learned about techniques such as natural pesticides, bed preparation, transplanting, composting, seed saving, and companion planting over the course of five days. The workshop included Peace Corps volunteers from five different villages and was coordinated with a German-sponsored Malian NGO.

After the workshop, my counterpart and I met with about thirty women and five men to talk and share ideas learned at the workshop. These meetings were a follow-up in five individual villages in order to share new information with additional cooperative members who did not attend the workshop.

— Laura Schairbaum, Peace Corps Volunteer, Kabe, Kayes Region, 2006-2009 (Mali)

on their familiarity with rural life and food production, but also their knowledge of processing or marketing. They could then work side-by-side with their African and Asian counterparts in extension services, train-the-trainer programs, and NGO community development programs in rural areas. The Peace Corps' presence goes a long way toward convincing people in these very poor areas that America knows about their circumstances, is committed to partnership efforts to help lift them out of poverty, and is willing to send hard-working young people as well as older, more experienced agriculture practitioners to live and work with them for an extended period.

We propose doubling the present level of agricultural sector volunteers in Sub-Saharan Africa from 300 to 600 volunteers. The United States should also consider placing volunteers in South Asia, where currently there is no Peace Corps presence.[21]

COST

First year:	$10.8 million
Fifth year, when fully funded:	$18 million
Total over five years:	$72 million
Total over ten years:	$162 million

ACTION 1e. Support primary education for rural girls and boys through school feeding programs based on local or regional food purchase.

Providing meals to schoolchildren is a proven method for enhancing school attendance. World Food Program (WFP) data show that during a school feeding program's first year, average enrollment increases by 28 percent for girls and 22 percent for boys.[22] School feeding has shown dramatic results, specifically in Africa. In Niger during an acute drought in 2005, schools with feeding programs saw enrollment increases of 66 percent for girls and 23 percent for boys.[23] In Rwanda in 2005 schools with feeding programs saw an attendance increase from 73 percent to 94 percent.[24] Results are also impressive in South Asia. In Pakistan between 2001 and 2005 enrollment for girls nearly doubled when feeding programs were introduced. The director of schools and literacy in the provincial education ministry in Peshawar noted that "of all the programs operating in the North-West Frontier Province, school feeding has made the most visible impact."[25]

School feeding programs targeted toward the rural poor can also help local farmers as long as the programs make use of locally or regionally purchased foods. The USDA, through the McGovern-Dole Food for Education and Child Nutrition Program, and USAID, through P.L. 480, should support more locally and regionally sourced school feeding activities in Sub-Saharan Africa and South Asia, including take-home rations for infants and support for the local manufacture of safe and nutritious baby foods. This recommended action would achieve a trio of high-priority objectives: improved nutrition and health, enhanced education, and increased agricultural development.

A technical assistance program should also be fielded in countries in Sub-Saharan Africa and South Asia to assist local governments in the design and expansion of efficient safety-net school feeding programs. The professionals of the Food and Nutrition Service of the USDA and the School Nutrition Association, with its Global Child Nutrition Foundation training, can be recruited to provide institution-building assistance. A small staff might be assembled within USAID or USDA to identify countries' needs and capacities; to design a model process; and to set up assessment teams, long-distance communication for ongoing support and technical assistance, and monitoring systems.

One additional step would be to build a South-South technical assistance dimension into the program, utilizing experts from Chile, Mexico, and other countries with advanced school feeding programs. Latin America has a well-developed

MCGOVERN-DOLE FOOD FOR EDUCATION AND CHILD NUTRITION PROGRAM

Today, roughly 120 million school-age children worldwide are not enrolled in school, partly due to hunger and malnutrition. Poverty, the need to earn a living, and the need to look after family members can result in children—mostly girls—missing school. The McGovern-Dole Food for Education and Child Nutrition Program (FFE) provides meals, teacher training, and related support in developing countries to improve poverty, hunger, literacy, and academic performance. The program gives special attention to girls who tend to have lower attendance than boys and whose education benefits the entire family. Some schools reward girls who attend regularly with take-home food rations for their families.

Support for an international school lunch program evolved from the success of the National School Lunch Program established in 1946 that provides nutritionally balanced, low-cost or free lunches to school children in the United States. In 2003 the FFE program replaced the Global Food for Education Initiative that fed nearly seven million children throughout the world from 2001 to 2003. Through this program, USDA donates surplus U.S. agricultural commodities to school feeding programs in developing countries in order to improve school attendance and childhood development. The ultimate goal is to contribute to more self-reliant, productive societies by fostering universal access to primary education.

In fiscal 2007 FFE provided $99 million for feeding programs in fifteen developing countries in Africa, Asia, Latin America, and Eastern Europe that benefited over 1.5 million children. These efforts led to higher average attendance in school, improved student performance, and greater community involvement in education.

Enrollment and attendance rates for girls increase significantly in areas where school meal programs are offered. During a school feeding program's first year, average enrollment increases by 28 percent for girls. In schools with feeding programs operating for more than one year, average attendance for girls increased to 93 percent.

In areas where enrollment rates for girls are particularly low, organizations like the World Food Program (WFP) work with families and communities to help make it possible for girls to attend school. Realizing that traditional school feeding was often insufficient to reach girls and close the gender gaps in education, the WFP has developed an innovative way of using food aid to help educate girls: "take-home rations." Basic food items are distributed to families in exchange for the schooling of their daughters. The take-home rations can be an important source of food for the family or sold to compensate for the loss of the girl's labor at home. Currently, half of all WFP school feeding programs offer take-home rations. Programs that combine take-home rations for girls with on-site feeding for all students saw sustained increases in girls' enrollment of at least 50 percent. For instance, results from WFP surveys conducted in Cote d'Ivoire, Gambia, Kenya, Malawi, and Mozambique from 2001 to 2004 indicate school feeding programs led to an over 80 percent enrollment increase for girls. In Niger, schools with feeding programs saw enrollment increases of 66 percent for girls, and attendance reached record rates of 98 percent for girls in 2005. In Pakistan between 2001 and 2005, enrollment for girls nearly doubled. The director of schools and literacy of the Provincial Education Ministry in Peshawar noted that "of all of the programs operating in the North Western Frontier Province, school feeding has made the most visible impact."

Sources: USDA/FAS 2009; Friends of the World Food Program 2009; Lewis and Lockheed 2007.

school feeding network capable of providing experienced school feeding professionals at all levels to help other developing countries build their programs.

The anticipated annual cost of providing school feeding technical assistance programs of this kind is approximately $10 million per year.[26] This does not include the costs of food aid purchases for the school feeding programs.

COST

First year:	$10 million
Fifth year, when fully funded:	$10 million
Total over five years:	$50 million
Total over ten years:	$100 million

RECOMMENDATION 2

Increase support for agricultural research in Sub-Saharan Africa and South Asia.

Basic and adaptive agricultural research must be at the foundation of any serious effort to increase agricultural productivity. Studies that calculate annual rates of return on alternative investments for increasing growth and reducing poverty in poor countries find that investments in agricultural research have either the highest or second highest rates of return, in some cases only exceeded by investments in rural infrastructure and education.

The International Food Policy Research Institute estimates that if public investments in agricultural research are doubled during the next five years and those levels then sustained, and if the increased investments are allocated specifically to meet needs in Sub-Saharan Africa and South Asia, the resulting improvements in agricultural output would lift 282 million people out of poverty by 2020.[27]

Agricultural research and development is a good investment. The World Bank's *World Development Report 2008* has documented rates of return on investments in agricultural research in Africa averaging 35 percent per year, accompanied by significant reductions in poverty.[28] Agricultural science is also strongly supported by the public in the United States. In fact, The Chicago Council's 2008 survey revealed that 77 percent of Americans favor supporting research to develop new farming methods that would increase agricultural productivity. Africa's leaders have also accepted the importance of agricultural research. The Comprehensive Africa Agriculture Development Program, which was adopted in 2003 by the African Union's New Partnership for Africa's Development, identified "agricultural research and technology dissemination and adoption" as one of its four pillars necessary for progress in the region.

New research is sometimes described as unnecessary by critics who notice that many farmers in Africa and South Asia fail to make use of available science-based technologies already on the shelf such as hybrid maize seeds or nitrogen fertilizer. With appropriate investments in agricultural education and extension to stimulate the use of these existing technologies (see Recommendation 1) and with investments in rural infrastructure to make their use more affordable (see Recommendation 3), productivity and crop yields could increase significantly without any new research at all.

Yet for many of Africa's local food crops such as millet, cassava, and cowpea, past research investments have either been inadequate or have not been adequately tailored to the local agroecologies and climate zones of Africa, where these food crops are grown. In addition, anticipating significant climate change in both Africa and South Asia in coming decades, the agricultural research solutions of the past will no longer suffice. Increased heat and drought will require new breakthroughs in crop and animal science simply to protect vulnerable farming and herding populations in hot and dry areas from falling farther behind.

Fortunately, the gains that can be anticipated from increased research investments are enormous. Whether the problem is a shift in local pest populations, a drop in soil nutrients, a reduction in reliable rainfall, or a need to develop food crops with more micronutrient value (such as more iron or vitamin A), modern agricultural research is a powerful tool for providing solutions. Crop improvement can now be pursued not only through traditional plant breeding, but also through marker-assisted selection at the molecular level, which also speeds the development of improved animal vaccines. Such techniques are now in widespread use throughout the advanced industrial world and should be brought more frequently to bear in solving local problems in Africa and South Asia.

The use of genetic engineering in agriculture deserves separate comment. Genetically engineered seeds have performed well for more than a decade now, not just on commercial farms in the United States, Canada, Argentina, Brazil, and South Africa, but also in the hands of small farmers (e.g., cotton farmers) in China and India. All of the world's most respected science academies, including those in the United Kingdom, Germany, and France, have concluded in recent years that the genetically engineered crops currently on the market present no new documented risk either to human health or to the environment. Particularly when financed by the public sector to solve problems facing the poor, genetic engineering can be a crop improvement method of substantial help to small farmers in Africa who need new and sustainable methods to protect against insects, plant disease, and drought. The United States should thus remain willing to support research on all forms of modern crop biotechnology by local scientists in Sub-Saharan Africa and South Asia, while also providing technical assistance to help develop adequate regulatory and approval systems to protect the public interest.

THE GHANA GRAINS DEVELOPMENT PROJECT

The Ghana Grains Development Project, launched in 1979, is an example of how long-term donor support can significantly strengthen national research and extension for agriculture production.

The purpose of the project was to develop and diffuse improved technology for maize and grain legumes. The Ghanaian Crops Research Institute and the International Maize and Wheat Improvement Center served as the primary executing bodies; several other organizations provided support. The project's funding was terminated in 1997.

The project's structure integrated farmers in all levels of research to ensure that the recommendations developed were appropriate for farmers' circumstances. For example, technological design and development was based on extensive farm-level testing. Moreover, once recommendations had been formulated, technologies were publicized through a national program of demonstration trials.

Technological development efforts, complemented by large-scale extension programs, led over half of the maize farmers in Ghana to adopt improved varieties, fertilizer, and planting methods by 1997. The project also provided graduate-level training for nearly fifty scientists. Annual maize production jumped from 380,000 tons in 1979 when the project started to more than one million tons by the project's end. Maize yields increased by 40 percent from 0.4 tons per acre to 0.6 tons per acre.

Sources: World Bank 2007; Morris, Tripp, and Dankyi 1998.

THE DROUGHT TOLERANT MAIZE FOR AFRICA PROJECT

The Drought Tolerant Maize for Africa Project (DTMA) combines the efforts of farmers, national governments, private seed companies, community-based seed organizations, NGOs, and donor organizations to support the development and dissemination of drought-tolerant maize in Sub-Saharan Africa.

Maize is vital to the lives of more than 300 million of Africa's most vulnerable. When recurrent droughts in Sub-Saharan Africa ruin harvests, lives and livelihoods are threatened, even destroyed. Experts say that the situation may become even worse as climate change progresses. Developing, distributing, and cultivating drought-tolerant maize varieties is a highly relevant intervention for reducing food insecurity in Sub-Saharan Africa.

The International Maize and Wheat Improvement Center (CIMMYT) and the International Institute of Tropical Agriculture (IITA) have been working for over ten years with national agricultural research institutes to adapt these breeding techniques to Sub-Saharan Africa. Thanks to their efforts, over fifty new maize hybrids and open-pollinated maize varieties have been developed and distributed to seed companies and NGOs for dissemination, and many of them have reached farmers' fields. These drought-tolerant maize varieties generate about 20 to 50 percent higher yields than other maize varieties under drought conditions.

The future objective of the DTMA Project is to significantly scale up efforts to reach a greater number of poor farmers in Sub-Saharan Africa with maize varieties that have proven to increase levels of drought tolerance. Over the next ten years, CIMMYT and IITA's goals are to generate maize varieties with 100 percent superior drought tolerance, increase productivity on smallholder farms by 20 to 30 percent, and reach 30 to 40 million people in Sub-Saharan Africa.

Source: CIMMYT 2009.

The Chicago Initiative on Global Agricultural Development proposes five separate actions to implement Recommendation 2.

ACTION 2a. Provide greater external support for agricultural scientists working in the national agricultural research systems of selected countries in Sub-Saharan Africa and South Asia.

All agricultural research must ultimately be local, involving scientists from local institutes and universities who can work with small farmers in their fields to solve productivity problems. Most of the researchers tasked with such efforts in Africa and South Asia work within public National Agricultural Research Systems (NARS). These are institutions with huge potential, but they have recently been starved for resources.

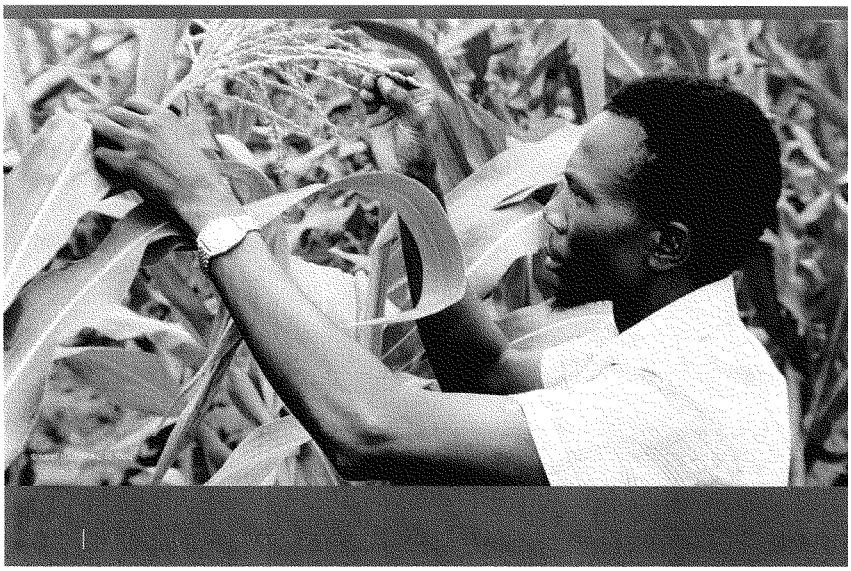
The potential for local scientists to solve problems is high. On average, the annual rate of return on national agricultural research investments in developing countries as a whole is 60 percent, higher than for investments in rural education or roads. Even in the relatively weak NARS of Africa, rates of return are high, estimated recently by the International Food Policy Research Institute to be roughly 50 percent.[29] Unfortunately, much of the potential of these national research systems has recently gone to waste, in part because of declining international donor support.

The United States has not provided adequate assistance to agricultural science through the NARS of South Asia and Sub-Saharan Africa for most of the past two decades. From the mid-1980s to 2004, USAID funding directed toward agricultural research conducted by national agencies in the developing countries as a whole

declined by 75 percent, adjusted for inflation. In Asia annual funding fell from $45 million (in 2000 dollars) to zero.[30] In Africa annual funding was cut by 77 percent in real terms.[31] By 2004 in the whole of Sub-Saharan Africa, USAID was committing only $15 million to national agricultural research and development.[32]

The Chicago Initiative recommends that the United States restore the levels of support provided routinely to NARS in Sub-Saharan Africa and South Asia two decades ago. This would be approximately $100 million annually in 2009 dollars. These restored contributions would revive the centrality and dynamism of pro-poor, public sector agricultural research and encourage closer links between NARS, local universities, private innovators, farmers' organizations, nongovernmental organizations, and extension agencies.

Of course, it would not be wise to create duplicate research capacities in every separate small state of Sub-Saharan Africa. The African states themselves understand the need for regional coordination when investing in national agricultural research. In Eastern and Southern Africa for the past dozen years, governments have supported regional strategic planning through the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA). Working through Africa's own regional associations, including ASARECA, the United States should begin now to put greater financial resources behind local agricultural science efforts. The goal should be to create strong national agricultural research systems in leading states that can also serve as regional centers of excellence to serve the needs of smaller neighboring states.



COST

First year:	$60 million
Fifth year, when fully funded:	$100 million
Total over five years:	$400 million
Total over ten years:	$900 million

ACTION 2b. Provide greater support to agricultural research conducted at the international centers of the Consultative Group on International Agricultural Research.

Important agricultural research takes place at international centers as well as within separate national institutes. The Consultative Group on International Agricultural Research (CGIAR) is the leading network of international research centers responsible for developing innovations in agricultural science useful to poor farmers in the developing world. This Consultative Group system was originally created in 1971 with strong USAID support. It eventually expanded to include fifteen separate international agricultural research centers, mostly located in the developing world and funded by a collection of bilateral donors, private foundations, and the World Bank. Total annual funding for the system increased tenfold during the 1970s and then doubled once again in real terms during the 1980s, eventually reaching an average annual level of $337 million by the end of that decade.[33]

The achievements of this international research system have been considerable. As of 2002, 68 percent of the developing world's total wheat area was sown to varieties of wheat that contained germplasm developed by the CIMMYT, the CGIAR's wheat and maize breeding center. The additional annual wheat production made possible by these improved varieties has a value between $1 to $4 billion, which is somewhere between 50 and 390 times the original cost of wheat breeding research. At the same time, improved varieties of rice developed by the CGIAR's International Rice Research Institute (IRRI) have now been released in more than seventy-seven countries. The adoption of semidwarf varieties such as those developed by IRRI has more than doubled rice production from 256 million tons in 1965 to more than 630 million tons by 2007. Shifting to these modern varieties increased farmers' yields by 0.85 tons per acre, on average, resulting in an annual benefit estimated at $10.8 billion. Since the 1990s, a new rice variety for Africa (named New Rice for Africa, or NERICA) developed by the Africa Rice Center (WARDA) in West Africa has benefited smallholder women farmers in Benin, Cote d'Ivoire, and Uganda. In some instances it has provided income gains of $109 to $192 per acre.[34] Rates of return on CGIAR research investments focused in Africa have recently been estimated at 68 percent, even higher than the rate of return on research investments made at the national level through NARS.[35]

Nevertheless, the CGIAR system has struggled for two decades to hold onto adequate donor funding. Some donors believe the system spends too much time doing crop science under artificial conditions rather than in actual farmers' fields and that the system suffers from poor coordination and duplication. Further, the centers have varying degrees of success and competence. Yet the struggle for funding has also been a result of the CGIAR's early success in boosting the productivity of farms in East and Southeast Asia and parts of South Asia, which led by the

1980s and 1990s to an erroneous impression that the world's food problems had been solved. It seemed to some that support for more productivity was no longer needed; food problems came to be understood in some circles as only problems of "distribution."

Between the early 1980s and the late 1990s, U.S. contributions to the CGIAR were cut by 47 percent. As late as 1996 USAID was still providing $90 million annually in unrestricted funding to the CGIAR. By 2007 that number was down to only $22.5 million (see Figure 8). The CGIAR had to respond to this weakened donor support by cutting back on its agricultural research. CGIAR spending on productivity-enhancing agricultural research was cut in real terms by 6.5 percent annually between 1992 and 2001.[36]

America's cutback in support for the CGIAR also left the system far more heavily dependent than ever before on money from Europe. By 2004 the European nations were providing 41 percent of total funding for the system.[37] This tended to marginalize American influence inside the CGIAR. Under European influence, for example, the CGIAR system has been constrained from making adequate investments in modern agricultural biotechnology. As of 2007 only 7 percent of the budget of the CGIAR system ($35 million) was spent on any kind of modern biotechnology, and only 3 percent was going to work on crop improvements using genetic engineering.[38]

In the spring of 2008, just as the world's attention was refocusing on the need for greater farm productivity due to high international food prices, reduced funding

CGIAR ROLE IN COMBATING WHEAT RUST

Wheat stem rust is a fungal disease that causes cereal plants to produce fewer tillers, set fewer seeds, and, in serious cases, die. Past outbreaks of the disease have been managed by planting wheat varieties immune to the fungus. However, in 1999 a new strain, Ug99, surfaced that is resistant to the three major antirust genes used in nearly all the world's commercially grown wheat.

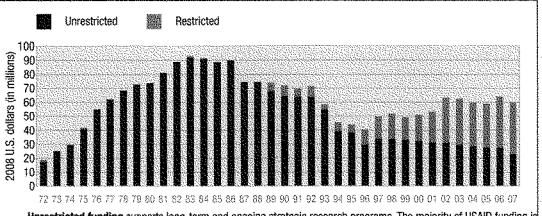
Ug99 has affected farms in Africa, Asia, and the Middle East. Farmers in Africa have been hardest hit, with the majority of wheat farms in Uganda, Kenya, and Ethiopia suffering from the epidemic. Kenyan smallholder farmers, who account for 20 percent of the country's total wheat production, have lost as much as 50 percent of their wheat in a year because of the disease. If new wheat varieties are not created, as much as 10 percent of the world's wheat crops, an estimated value of $9 billion, could fail. Moreover, aided by natural wind currents, wheat rust pathogen spores have spread to Yemen. There is concern that the epidemic could spread to Pakistan and India, where millions of people depend on wheat for their livelihoods.

The Consultative Group on International Agricultural Research (CGIAR) created the first rust-resistant, high-yielding wheat varieties that stemmed the wheat rust crisis of the 1950s. The institution is again best positioned to lead the efforts to solve this crisis. In 2005 two CGIAR organizations—the International Center for Agricultural Research in the Dry Areas and the International Maize and Wheat Improvement Center—launched the Borlaug Global Rust Initiative (BGRI) in cooperation with the Kenyan Agricultural Research Institute and the Ethiopian Agriculture Research Institute. BGRI is an interdisciplinary research and development consortium through which wheat varieties that bear resistance to the new stem rust races will be developed and deployed, thereby containing the danger of wheat rusts and continuing the improvements in productivity required to endure future global threats to wheat.

Sources: CGIAR 2005; McKenzie 2008.

levels inside USAID, along with budgeting rigidities, obliged USAID to briefly cut its annual funding to the CGIAR to only $5 million, a 75 percent drop from already reduced funding levels. At this point, alarm bells went off and a number of American food and farm groups that had benefited from CGIAR research came forward to complain. Complaints from these groups, plus a mobilization of protest from development advocates, helped supporters of research inside USAID find enough funding for 2008 to restore funding levels to $18.5 million, but this was still a cut of almost $4 million from the 2007 level. Despite the 2008 food crisis and much larger U.S. support for food assistance in poor countries, USAID core funding for long-term CGIAR research thus remained in decline in 2008 and uncertain for 2009.

Figure 8 - U.S. Government Support to the Consultative Group on International Agricultural Research (1972-2007)



Unrestricted funding supports long-term and ongoing strategic research programs. The majority of USAID funding is to this stream. **Restricted funding** supports short-term, development-oriented projects.

Source: Personal communication.

CGIAR centers have recently adopted a research agenda designed to deliver strong additional benefits to the rural poor, particularly through increased yields for staple food crops, development of drought-resistant crops, organic and inorganic soil nutrient combinations to increase crop productivity, and an expanded role for women in agricultural innovation. To carry out this agenda, the CGIAR calculates that it needs to roughly double its current budget.[39] The United States should take the lead in helping the CGIAR reach this funding goal by restoring its own unrestricted support for the core research missions of the CGIAR to an annual level of $100 million, more than a tripling of U.S. support. If announced in 2009, a U.S. commitment at this level would be the clearest possible signal that the long era of America's relative neglect for publicly funded, agricultural research for the benefit of smallholder farms is over. It would serve notice to other donors, including the European Union (EU), that a new era of American leadership is about to begin.

The timing for such a revived commitment to the core research budget of the CGIAR system could not be better. In 2008 the leadership of the CGIAR heard findings from an independent review panel and launched a new "Change Management Initiative" designed to tighten the structure of the system, reduce organizational complexity, and clarify overlapping research mandates. A new "Consortium of

Centers" will unite the separate research centers under a chief executive officer, supported by a consortium office reporting to a consortium board. Concurrently, research funders will be organized under a new "Fund Council." This redesign was intended to increase strategic flexibility inside the system and eliminate redundancies. An enlarged U.S. contribution to unrestricted core funding would be a strong complement to this internal reorganization effort. But this level of commitment requires aggressive management oversight by the relevant U.S. government agencies and continued involvement in programmatic priority setting over time. The U.S. government has to stay actively involved in the governance of the CGIAR at appropriate levels, with a commitment to ensuring the efficiency of operations and effectiveness of programs.

COST

First year:	$50 million
Fifth year, when fully funded:	$100 million
Total over five years:	$365 million
Total over ten years:	$865 million

AFRICAN WOMEN IN AGRICULTURAL RESEARCH AND DEVELOPMENT (AWARD) PROGRAM

While women in Africa produce 60 to 80 percent of Africa's crops, less than 20 percent of agricultural researchers in Sub-Saharan Africa are female. Many women enroll in agricultural science programs, but few reach leadership positions due to their minority status.

The African Women in Agricultural Research and Development (AWARD) Program, established by the Gender & Diversity Program of the Consultative Group on International Agricultural Research, is a program designed to boost the careers of promising African women scientists. The program offers a series of two-year fellowships intended to support the professional growth of high-performing women scientists upon completion of their BS, MS, and PhD degrees. While other initiatives focus on the need for academic support, AWARD aims at strategic career enhancement through increasing skills, visibility, networks, and contributions in the service of fighting hunger and poverty in Sub-Saharan Africa.

Based on its successful pilot programs conducted from 2005 to 2008, AWARD is built on three cornerstones:

- **Mentoring:** AWARD matches each fellow with a senior scientist mentor, and MS- and PhD-level fellows pass on their knowledge by mentoring junior women scientists.
- **Building science capacity:** AWARD offers opportunities such as competitive research placements at research institutions and support for attending science conferences and joining professional associations.
- **Developing leadership:** Leadership training courses teach fellows to address organizational gender issues, leverage team talents, and manage conflict.

Currently, AWARD envisions supporting 360 women fellows, 220 women junior mentees, and 360 women and men mentors in African countries, including Ethiopia, Ghana, Kenya, Malawi, Mozambique, Nigeria, Tanzania, Uganda, and Zambia. The program aims to increase the number of young women inspired to pursue careers in agricultural research and development as well as to increase the number of people aware of the importance of women's contributions in Africa.

Source: CGIAR 2006.

CGIAR and Maize Improvement Programs

Gross benefits from use of improved varieties generated by the Consultative Group on International Agricultural Research centers that work on maize—International Center for the Improvement of Maize and Wheat and International Institute of Tropical Agriculture—are estimated at between US$1.9 and $5.6 billion per year for increased yield alone, with an additional US$149 million per year attributable to more stable yields. CGIAR germplasm figures in more than half the improved maize varieties used in Africa, and new drought-tolerant varieties provide 20 to 30 percent higher farm yields.

Approximately US$5 million per year is available to the CGIAR centers as core funding for maize. This is only about one-tenth of the funding needed to ensure delivery on key challenges faced by the developing world—exploding demands for maize, climate change, fertilizer, and water scarcity. Scientific and technological solutions are available to develop more productive maize cultivars that can withstand drought and reduce natural resource degradation, but they will not become available to the poor unless we increase our investment in international public maize improvement programs and enable them to effectively link with seed companies and national research and extension institutes.

—Marianne Bänziger, Director, Global Maize Program, International Maize and Wheat Improvement Center (Kenya)

ACTION 2c. Provide greater support for collaborative research between scientists from Sub-Saharan Africa and South Asia and scientists at U.S. universities.

America's land-grant universities are home to some of the world's best agricultural scientists, and many are eager to engage in collaborative research to bring improved farm crops and farming practices to the rural poor in Sub-Saharan Africa and South Asia. Since 1975 USAID has financed this kind of mutually beneficial international research through its Collaborative Research Support Programs (CRSPs). These programs fund team research by American and international scientists in partnership with NARS, the CGIAR, U.S. agricultural companies, and nongovernmental organizations. The traditional research focus has been precisely on improving crops important to poor farmers in Sub-Saharan Africa and South Asia such as sorghum, millet, beans, cowpeas, and groundnuts. There are currently eight separate CRSPs in operation, with research areas that also include livestock, fisheries, integrated pest management, and sustainable agriculture.

The collaborative CRSP approach has multiple advantages. With its problem-oriented focus, it directs research at America's best universities toward solving agricultural problems in poor countries that would otherwise be ignored. Second, it builds valuable research networks between American researchers at different universities and between institutions with counterparts in the developing world. For developing countries, the CRSPs are also an extremely valuable source of long-term training. One calculation done in 1995 showed that more than 1,700 international scientists had at that time completed their academic degrees with some level of CRSP support.[40] The CRSP model leverages resources. While USAID provides core funding, universities provide cost share. CRSP funding also leverages contributions from host countries. For degree training inside the CRSP system, only 25 percent of total costs are paid by USAID.[41]

Most importantly, the CRSP approach builds institutional capacity inside the developing world because under the CRSP model, significant funds are always spent

Importance of Collaborative Research Support Programs

The Collaborative Research Support Programs are among the most innovative technical assistance programs that the U.S. government has ever implemented. The CRSPs were created to mobilize the scientific prowess of U.S. universities in the fight against hunger, alleviation of poverty, and conservation of natural resources in developing countries. CRSP contributions to both U.S. and developing country agriculture have been immense, with high calculated returns on program investments and lasting impact on research, education, and institutional capacity building. Numerous agricultural professionals, trained and mentored under CRSP programs, now hold key academic, private, and institutional leadership positions around the world.

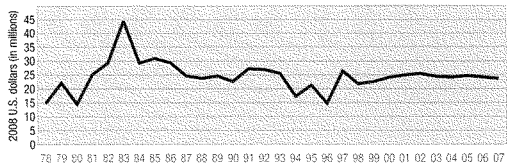
—Gebisa Ejeta, Distinguished Professor, Plant Breeding & Genetics, International Agriculture, Purdue University (Ethiopia)

supporting research activities inside the institutions of partner countries. This makes the CRSP model ideally suited to low-capacity regions such as Africa and some of the countries of South Asia. The past achievements of this model include developing crop management techniques able to reduce the use of pesticides for insects, weeds, and diseases by 50 percent, 60 percent, and 25 percent, respectively; teaching farmers in Africa how to manage soil resources under adverse conditions likely to increase due to climate change; developing millet cultivars and hybrids with increased yields and resistance to abiotic and biotic stresses; improving cowpea processing techniques for use by female microentrepreneurs in Niger and Ghana; and creating a Livestock Early Warning System (LEWS) to help predict forage conditions in pastoral regions in East Africa grazed by 100 million cattle, sheep, and goats.[42]

The CRSPs have also been forced in recent years to operate under severe budget constraints. In their peak year of operation in 1983, the CRSPs received nearly $45 million (in current 2008 dollars) from USAID. By 1991 that total had fallen to just $27 million. As of 2007 total USAID core support for the CRSPs was down to less than $25 million (see Figure 9).

The CRSPs are not the only available model for funding collaborative research through American universities under Title XII of the Foreign Assistance Act. USAID

Figure 9 - USAID Core Support to Collaborative Research Support Programs



Source: Personal communication.

CURRENT COLLABORATIVE RESEARCH SUPPORT PROGRAMS

Sorghum, Millet, and Other Grains CRSP
University of Nebraska, Lincoln
Enhances production and use of sorghum, millet, and other grains to improve nutrition and increase income in developing countries and the United States.

Dry Grain Pulses CRSP
Michigan State University
Provides research and training to support international partnerships that increase the availability of beans and cowpeas and related pulses.

Peanut CRSP
University of Georgia
Provides technical knowledge to boost productivity of peanut crops and increase the economic advancement of small-scale farmers in the developing world, particularly for women in Sub-Saharan Africa.

Global Livestock CRSP
University of California, Davis
Works to increase food security in developing countries through collaboration between U.S. land-grant institutions and national and regional institutions abroad that are active in livestock research and development.

Aquaculture & Fisheries CRSP
Oregon State University
Cultivates international partnerships that advance science, research, education, and outreach in aquatic resources.

Integrated Pest Management CRSP
Virginia Polytechnic Institute and State University
The IPM CRSP develops and implements approaches to integrated pest management that help raise the standard of living and improve the environment in countries around the world.

Sustainable Agriculture & Natural Resource Management (SANREM) CRSP
Virginia Polytechnic Institute and State University
Supports sustainable agriculture and natural resource management between decision makers in developing countries by providing access to appropriate data, knowledge, tools, and methods of analysis and by enhancing their capacity to make better decisions to improve livelihoods and the sustainability of natural resources.

Broadening Access & Strengthening Input Systems (BASIS) CRSP
University of Wisconsin, Madison
Researches the poverty and income distribution dynamics of rural economies and crafts creative policies and programs that broaden the base of economic growth and offer sustainable pathways out of rural poverty.

Sources: CRSP's Web sites and personal communications.

should consider alternatives to current CRSP system and should also look for ways to energize and modernize the CRSPs. Additional resources will make it easier to innovate new approaches. The Chicago Initiative recommends that annual USAID contributions to the CRSPs and to other collaborative research programs be increased to $100 million. This restoration of American support for collaborative research to approximately the 1980 level would immediately be welcomed by

researchers in Sub-Saharan Africa and South Asia who partner with American universities to carry out collaborative research agendas.

COST

First year:	$50 million
Fifth year, when fully funded:	$100 million
Total over five years:	$365 million
Total over ten years:	$865 million

ACTION 2d. Create a competitive award fund to provide an incentive for high-impact agricultural innovations to help poor farmers in Sub-Saharan Africa and South Asia.

Restoring support for agriculture and food systems through conventional and already proven institutional arrangements may not be enough. To overcome the particularly challenging obstacles to growth in Africa and South Asia, we should also experiment with innovative new funding mechanisms. A particularly promising approach involves royalty-like award funds, disbursed to innovators in proportion to measured benefits from adoption of their new technique. The United States should partner with private foundations to offer such awards, which would recognize and accelerate the spread of the highest-impact innovations. Payments would be made proportional to a clearly defined objective, measured through controlled experiments and household surveys in the target areas. This would

encourage all types of improvement and avoid the disincentive effects associated with winner-take-all competitions. There could be one large award competition or many smaller ones targeting specific technologies or regions. An independent award secretariat would solicit submissions, audit the data, and compute measured value. This approach would provide a uniquely powerful signal of success, rewarding and recognizing new technologies in proportion to their value to actual farming households.

The awards, offered to African and Asian scientists based in their home regions, would be designed to guide and stimulate other investments, both private and public. Payments would cover only a small fraction of the large fixed costs of conducting agricultural research and extension and just enough of the variable costs to inspire the pursuit of innovations most likely to help the poor. The Chicago Initiative proposes testing this approach at first by offering two annual cycles of $1 million in rewards, with a focus on African agriculture. Administering such a program in a transparent and credible manner would cost about $500,000 per year.[43] These costs could be shared by USAID and an appropriate private foundation.

COST:

One-time cost per research topic to USAID: $2.5 million

RECOMMENDATION 3

Increase support for rural and agricultural infrastructure, especially in Sub-Saharan Africa.

Improved infrastructure must be an essential component of any serious effort to increase the productivity and income of poor farmers. The rural poor in Africa and South Asia need improved access to low-cost irrigation, transportation, electrical power, and storage and marketing systems for their crops. Rural infrastructure programs were important to the development of American farming in the twentieth century (e.g., the Rural Electrification initiative launched during the Great Depression of the 1930s). Particularly in rural Africa today, poverty and hunger persist because the rural infrastructure needed by farmers is sparse, seldom improved, and often poorly maintained.

Even in the more advanced countries in Africa, rural infrastructure remains seriously underdeveloped. Visitors who leave capital cities notice this immediately. It is easy to travel in town by passenger car, but a trip into the country will require a 4x4 with an extra-high wheel base to navigate the frequent washouts and potholes. Heading into agricultural communities, the pavement will end entirely, along with roadside electricity poles. The result is substantial rural isolation that inhibits market-led development. Because of high rural transport costs, fertilizer is too expensive to bring in, and surplus production is too costly to send out to market.

In Sub-Saharan Africa today roughly 70 percent of all rural dwellers live more than a thirty-minute walk from the nearest all-weather road (see Figure 10a). As a result, most rural transport still takes the form of walking and carrying, a physically punishing task typically assigned to women and girls.

Because of the absence of improved roads, other essentials are also missing in rural Africa. Only 10 percent of the land in Sub-Saharan Africa is irrigated (see Figure 10b). In Kenya, for example, only 46 percent of the rural population has access to an improved water source (versus 83 percent of urban Kenyans), only 4 percent have access to electricity (versus 51 percent for urban Kenyans), and only 6 percent have access to a telephone (versus 37 percent of urban households).[44] In Ethiopia only 11 percent of rural dwellers have access to an improved water source, and only 2 percent have access to electricity. Telephones are essentially absent. This is mostly because only 17 percent of rural dwellers in Ethiopia live within one mile of an all-season road.[45]

Without roads, safe water, electrical power, and communications, the countryside becomes a poverty trap. No matter how hard poor farmers work, they will be held back because they lack affordable access to innovative new technologies, essential inputs, and markets for their output. They also lack affordable access to schools, health clinics, and public political institutions, which as a consequence often ignore their needs. Without much larger public-sector investments in rural and agricultural infrastructure, these circumstances will not change. Profit-making private companies have little incentive to do this job. Private investments go into the countryside only after the better roads are built or repaired, only after the water supply is cleaned up, only after telephone service has been established, and only after electrical power lines have been put up.

Public investments in rural infrastructure are a proven key to poverty reduction. In India, according to calculations done by IFPRI, investments in rural roads were even more powerful than investments in agricultural research and development for the purpose of lifting people out of poverty.[46] Similar impacts have been measured in Uganda and Ethiopia. A recent IFPRI study found that spending on rural roads

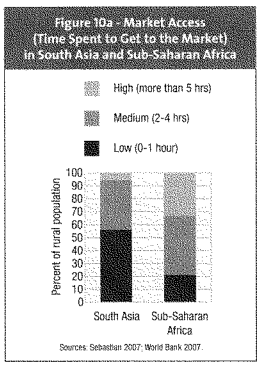
EXPANDING IRRIGATION IN SUB-SAHARAN AFRICA

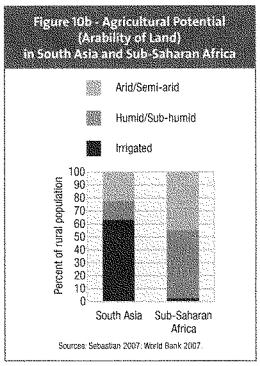
Sub-Saharan Africa has a large untapped potential for irrigation. Only 4 percent of the total cultivated area is irrigated, with a mere ten million acres added in the last forty years, far less than in any other region.

Investment in irrigation projects steadily declined in the 1980s, partly in response to the many failed irrigation investments, and partly because of poorer market opportunities and higher investment costs than in other regions. But with the new generation of better-designed irrigation projects, costs in Sub-Saharan Africa are now comparable to those in other regions, thanks to improvements in institutions, technology, and market opportunities for high-value products. For instance, the average economic rate of return for irrigation projects in Sub-Saharan Africa from 1995 to 1999 was 30 percent. For irrigation projects during the same time period that were not implemented in Sub-Saharan Africa, the average economic rate of return was 17 percent.

These economic returns can be realized only if a significant share of the area is sown with higher-value crops. This underlines the need for complementary investments in roads, extension services, and access to markets. Small-scale irrigation is also showing recent successes, especially in Nigeria's Second National Fadama Development Project. The Fadama Project invested in irrigation equipment, other farm assets, rural infrastructure, and advisory services. Incomes of the participants of this community-driven project increased by more than 50 percent on average between 2004 and 2006. In the dry savannah zone, where farmers invested mainly in small-scale irrigation, average incomes increased by nearly 80 percent.

Sources: World Bank 2007; AfDB and others 2007.

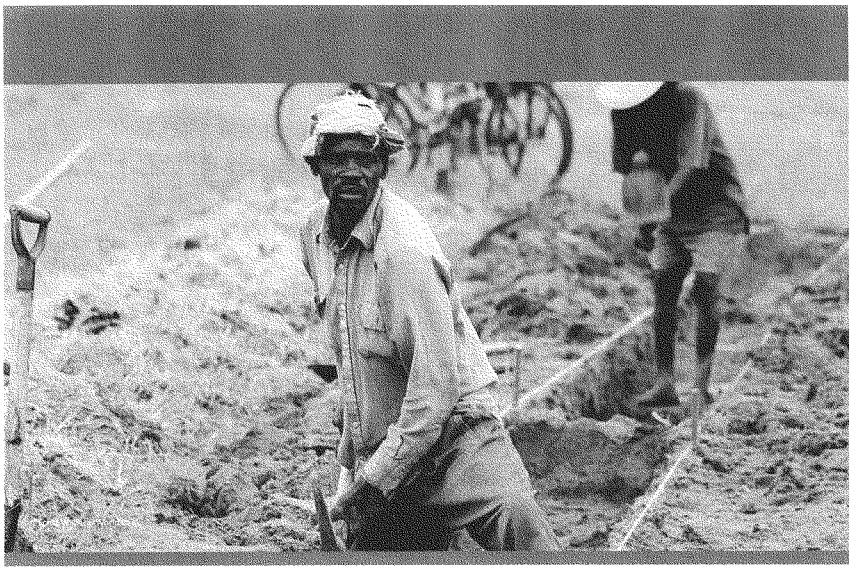




in Uganda had better than a 9 to 1 ratio of benefits (in terms of agricultural growth and rural poverty reduction) relative to costs.[47] The World Health Organization has calculated that if all Africans were simply provided with improved water and sanitation services, along with household water treatment at point of use, the annual health, financial, and productivity benefits would exceed the annual costs by a ratio of about 14 to 1.[48]

Africa's total rural infrastructure needs are substantial, far more than the United States can or should attempt to finance on its own. The African Development Bank (AfDB) has cited an estimate by the Commission for Africa that Africa's total infrastructure needs (not just rural infrastructure) will require roughly a doubling of current external assistance to the region, up from the 2006 level of $7.7 billion to somewhere between $10 and $14 billion per year.[49] The needs are large, in part, because in recent decades the donor community cut back on support for infrastructure development. Infrastructure's share of bilateral development assistance in Sub-Saharan Africa fell during the 1990s from about 25 percent to just 10 percent.[50] World Bank lending for infrastructure fell from about 40 percent of total lending to just 21 percent by 1999.[51]

Since 2000 external support from the G8 countries for infrastructure worldwide has increased, from $2 billion in 2000 to about $5.1 billion by 2006, but not specifically for rural infrastructure.[52] The goal of the United States should be to lead the way for support for infrastructure development, raising this issue in all appropriate international fora and ensuring that an adequate share of external assistance goes not only to South Asia and Sub-Saharan Africa, but is specifically targeted to the needs of the rural poor. New international airport terminals and repaved streets in the capital city are politically popular, but they do little to help the rural poor. The United States should also use its considerable funding commitments in the area of infrastructure, recently made through the Millennium Challenge Corporation, to leverage larger and better-focused rural infrastructure efforts by others. Africa's

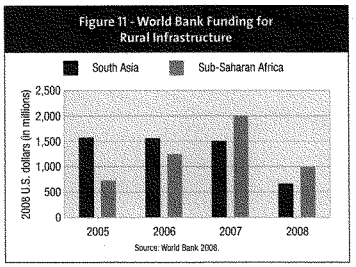


own regionally developed plans and priorities for rural infrastructure development should be the starting point.

The Chicago Initiative proposes two complementary actions to implement Recommendation 3.

ACTION 3a. Encourage a revival of World Bank lending for agricultural infrastructure in Sub-Saharan Africa and South Asia, including lending for transport corridors, rural energy, clean water, irrigation, and farm-to-market roads.

Multilateral institutions such as the World Bank have long taken the lead in funding infrastructure development, based on many decades of technical experience in this area and their institutional capacity to raise substantial sums from multiple donors. The World Bank in recent years has taken a revived interest in infrastructure, including in Africa. In 2005 at the time of the fourteenth replenishment of the World Bank Group's International Development Association (IDA), it was determined that half of all resources would go to Sub-Saharan Africa and that the share of IDA projects in Africa committed to infrastructure would be increased to 40 percent (up from 34 percent previously). By 2007 IDA was allocating $2 billion annually to infrastructure projects in Africa, a substantial commitment (see Figure 11).[53] These important new World Bank commitments were to go in roughly comparable proportions to water supply and sanitation, energy, and transport and to a lesser extent communications.



The challenge is to ensure that such multilateral commitments continue to grow and that a significant share goes to the creation and maintenance of new infrastructure in the countryside rather than primarily to urban areas, as was so often the case in the past. It is sometimes argued that rural infrastructure is a bad investment, particularly in Africa, because of the low density of rural populations. However, since the countryside is starting from such a low initial level, payoffs from initial investments in rural areas are often greater than from additional investments in urban areas. The African Development Bank adopted a policy late in 2003 to emphasize water investments in rural areas because costs were actually lower there than in urban areas, per person newly served. Africa's own leaders clearly want rural infrastructure to receive greater emphasis. NEPAD's 2003 Comprehensive Africa Agriculture Development Program specified that almost two-thirds of the resources planned for investment in agricultural development go either to irrigation or to the building and maintenance of rural roads.

Working in consultation with these African institutions and with partner donors from the EU and Japan, the United States should now insist upon a sustained increase in World Bank lending for rural and agricultural infrastructure. The effective delivery of this message will require close and sustained cooperation between the administrator of USAID (including MCC) and the Treasury Department, traditionally the agency responsible for representing U.S. interests with the World Bank. Bipartisan congressional support for this priority will also be essential since World Bank leadership is sensitive to the importance of congressional support for the funding of IDA loans in particular.

Fortunately, the leadership at the World Bank has committed to using its significant lending resources to address Africa's rural hunger and poverty problems. In the spring of 2008 when concern over high international food prices was peaking, World Bank president Robert Zoellick announced plans for a significant increase in bank lending for agricultural development in Africa, roughly a doubling from current levels to an eventual total of $850 million. This was before the bank's attention was drawn away later in 2008 to the worsening global financial crisis. The new U.S. administration and Congress should strongly urge in 2009 that the World Bank's important African agricultural development pledge be carried out, even though the earlier panic over high international food prices may have now passed. International food prices have come down, but the real hunger crisis will not have passed until productivity on farms in the poor countries of Sub-Saharan Africa and South Asia has been increased.

COST: $0

PROMOTING AGRICULTURAL DEVELOPMENT THROUGH COLLABORATION: THE MILLENNIUM CHALLENGE CORPORATION AND ALLIANCE FOR A GREEN REVOLUTION IN AFRICA

On June 11, 2008, the Millennium Challenge Corporation (MCC) and the Alliance for a Green Revolution in Africa (AGRA) signed a memorandum of understanding (MOU) to formalize their collaboration to assist African countries in confronting hunger and poverty through viable solutions that increase the productivity and earnings of rural smallholder farmers.

The agreement seeks to establish long-term, country-based solutions that promote agricultural growth. Through their partnership, the organizations will strive to stimulate rural development to foster economic growth, quell poverty and hunger, and protect the environment in a sustainable manner. AGRA's current programs to provide agricultural education, develop improved seed varieties, and improve the health of Africa's soils complement MCC Compacts and Threshold Programs that focus on infrastructure, access to credit, and land tenure systems.

AGRA and the MCC have already demonstrated their commitment to African agriculture through substantial investments. The MOU could strengthen their current efforts, while also offering the capacity to integrate research and development "best practices" that reduce the infrastructure gap and accelerate agricultural productivity through the dissemination of technical assistance and improved crop varieties to smallholder farmers. Mali, Ghana, and Madagascar will be the initial countries to bring the alliance into operation through their respective country-based institutions.

Producing positive results through this partnership would demonstrate the power of pairing public and private institutions with corresponding objectives and thereby help end the trend of reduced funding for agricultural research institutions.

Sources: MCC 2008 and 2009.

ACTION 3b. Accelerate disbursal of the Millennium Challenge Corporation funds already obligated for rural roads and other agricultural infrastructure projects in Sub-Saharan Africa and South Asia.

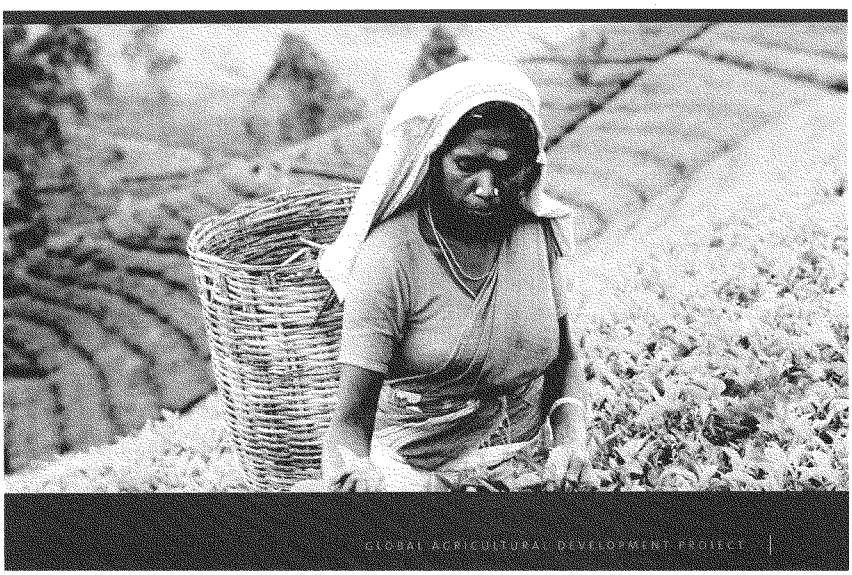
The United States has recently made significant commitments to support agricultural and other rural infrastructure projects in Africa through the MCC. Yet the implementation of these commitments has moved at a slow pace. The new U.S. administration must assign higher priority to the timely disbursal of America's MCC commitments to increase the vitality and credibility of this important assistance.

As explained in Part I, the MCC was established in January 2004 as an instrument for providing development assistance to poor countries that qualify by meeting a demanding set of performance standards (seventeen different performance indicators in all) in areas such as democratic governance, anticorruption efforts, investments in health and education (especially for girls), and economic market reforms. MCC then works with eligible countries to design and propose multiyear grants, called "compacts," outlining the specifics of the programs to be funded and the anticipated consequences for growth and poverty reduction. The goal is to ensure that only well-functioning governments with a sense of ownership over their own development plans will receive the bilateral grants. Benefits can be realized even before any funds are transferred, as aspiring recipient countries undertake the reforms necessary to qualify.

As of 2008 the MCC had awarded eighteen grants, eleven of which are to African countries (Benin, Burkina Faso, Cape Verde, Ghana, Lesotho, Madagascar, Mali, Morocco, Mozambique, Namibia, and Tanzania). The total dollar commitment of these grants is significant—$4.5 billion.[54] Also significant is the fact that a majority of the African countries receiving these grants have requested a strong focus on infrastructure, including in some cases rural and agricultural infrastructure.

- Ghana's $547 million compact, signed in August 2006, includes road infrastructure, school construction, rural electrification, and rural water supply.
- Mali's $461 million compact, signed in November 2006, includes several projects to improve farmer income, including an irrigation project plus road rehabilitation and increased access to financial services.
- Mozambique's $507 million compact, signed in July 2007, focuses on water, sanitation, and transport infrastructure, including rehabilitation of key segments of the nation's most important road system.
- Tanzania's $698 million compact, signed in February 2008, includes strategic investments in transport, energy, and water, including both high-traffic roads and rural roads.[55]

These are important commitments. When fully implemented, they could reestablish the United States as a leading supporter of broadly based development projects

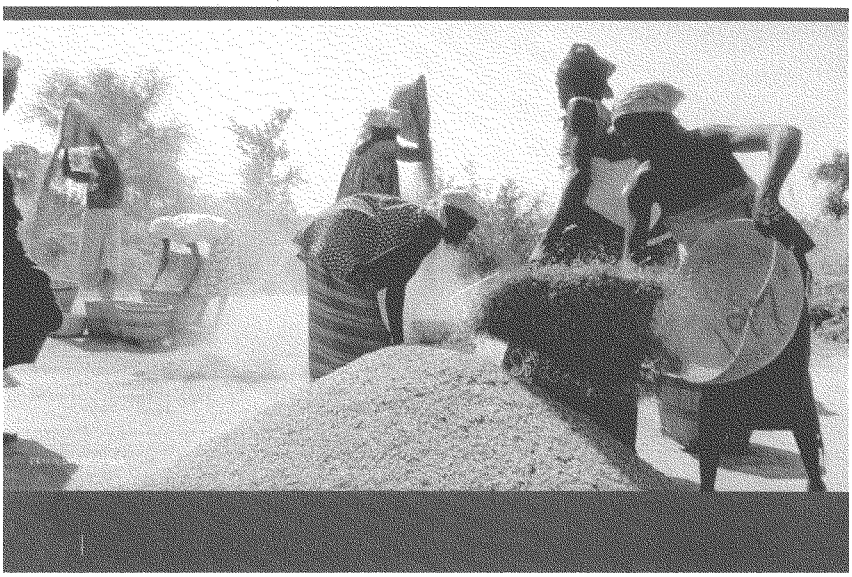


GLOBAL AGRICULTURAL DEVELOPMENT PROJECT

in Africa, especially rural Africa, where poverty is most extreme. As mentioned, however, concerns persist over the slow pace of progress in the implementation of these commitments. For example, the MCC signed its compact with Benin in February 2006, but nearly three years later only 8 percent of funds have been disbursed. The MCC compact with Ghana was signed in August 2006, and more than two years later only 6 percent of funds have been disbursed.[56]

There are good reasons to go slow when developing and implementing significant infrastructure investments, but worries have arisen that the MCC process leads to some unnecessary delays. Beyond the need to meet seventeen different performance indicators to qualify, MCC recipient countries must then create and operate their own implementing agencies, hire staff, and set up systems to ensure transparency. For many governments in Africa with limited technical and administrative capacity, such requirements can slow the process to a crawl.

Supporters of development assistance in Congress have grown impatient with the slow pace of implementation because undisbursed MCC commitments show up in the assistance budget as funds that have been appropriated but remain "unexpended." It is hard to justify allocating so much of the assistance budget to what seems a relatively inactive program. It is particularly painful to see so much of America's commitment to support rural infrastructure in Africa held hostage to such a slow-moving process. A means must be found to shorten the time frame between country selection and project implementation. Otherwise, it may be nec-



essary to relax the requirement that the MCC have appropriated money in hand before committing to fund a compact.

Resolving these dilemmas surrounding the MCC compact implementation process must be a high priority for the new administration and Congress in 2009. Congress should consider the need for multiyear assistance commitments of the kind incorporated into MCC work. At the same time, the MCC must ensure more timely and efficient implementation. The sooner the MCC can show results on the ground, the sooner America can leverage this success to demand parallel investments from the World Bank and other donor countries.

COST: $0

RECOMMENDATION 4

Improve the national and international institutions that deliver agricultural development assistance.

Successful assistance policies cannot emerge from inadequate institutions or from institutions that do not coordinate with each other and lack strong political leadership at the top. Good ideas and adequate budget resources are not enough. A strong institutional framework is required to turn good ideas into operational policies and to ensure that any added budget resources appropriated by Congress will be put to proper and effective use.

America's institutional arrangements for making and implementing foreign assistance policy have long been a target for criticism. Sometimes the issue is disagreement over the fundamental purpose of foreign aid (e.g., should it be used for economic development or for diplomatic and security purposes). Precisely because U.S. foreign assistance is used for so many different purposes, multiple federal agencies become involved on a regular basis, creating problems of coordination. It is not the purpose of The Chicago Initiative to propose a comprehensive reform of America's entire foreign assistance system. What we propose is only the reform that will be required to develop and administer the new actions called for in the specific area of assistance for hunger and poverty reduction through rural and agricultural development.

Several different kinds of institutional reform will be required. As a start, clear lines of authority and command must be established inside the executive branch, emanating first from the White House, then through a single lead agency for international rural and agricultural development and hunger reduction. We believe a revitalized and strengthened USAID, with its own budget, should be that lead agency. Second, in order to play this enlarged role in the area of agricultural development, USAID must be given enhanced professional staff resources in addition to an increased budget. Third, an adequate interagency coordination mechanism must exist to enhance opportunities and avoid duplication or conflict with other agencies. Fourth, institutions must be developed to ensure and maintain a strong congressional focus on agricultural development assistance. And finally, initiatives must also be taken to sharpen and strengthen America's use of international institutions working in the area of food, poverty, and agriculture.

Senator Richard Durbin, Press Release, "Durbin, Casey Link Food Crisis to Global Security," April 28, 2008

"This is the worst food crisis in more that thirty years. With food prices soaring, millions of the world's poor risk deprivation and starvation—many of them children. Feeding the hungry is no longer just a moral issue, but one of global security. It is not only the right thing to do, it's the safest thing to do."

The Chicago Initiative on Global Agricultural Development proposes five specific actions to meet the objectives of Recommendation 4.

ACTION 4a. Restore the leadership role of USAID.

USAID has suffered significant demotions in recent years. As one symptom of its diminished status, most new American initiatives for providing economic assistance—including the MCC, the President's Emergency Plan for Aids Relief, the Middle East Partnership Initiative, and various new efforts within the Department of Defense—have intentionally been created outside of the agency. In 2006 USAID was effectively folded into the State Department and told it would receive its budget allocations through a process controlled by the department. Not surprisingly, the new priorities then imposed on USAID, already drifting away from economic development, included "peace and security" and "governing justly and democratically." Loud complaints from development NGOs eventually forced the State Department to add an objective of "reducing widespread poverty" to the list. If USAID's leadership role in development assistance is not restored and clarified in 2009, many of the actions recommended here (especially Recommendations 2 and 3) are likely to falter.

The Chicago Initiative therefore strongly endorses the pledge made by President Barack Obama during the 2008 campaign in his "Strategy to Promote Global Development and Democracy" to strengthen the leadership role of USAID.[57] We believe this can and should be done immediately, without waiting for new legislation. The new president should take two specific steps to accomplish this goal:

- Reestablish USAID's direct relationship with the Office of Management and Budget, with its own budget process.
- Designate the administrator of USAID to serve as board chair of the Millennium Challenge Corporation and head of the President's Emergency Plan for AIDS Relief and to work to meld the operations of all to avoid duplication, conflicting procedures and policies, and confusing interinstitutional relationships, thereby allowing more coherent interface with partners overseas.

We recommend these measures in part because they can be taken immediately by the new president without having to wait for congressional action. If President Obama were to use his executive authority to take the steps we describe here, it would send a strong signal of presidential interest and support.

COST: $0

ACTION 4b. Rebuild USAID's in-house capacity to develop and administer agricultural development assistance programs.

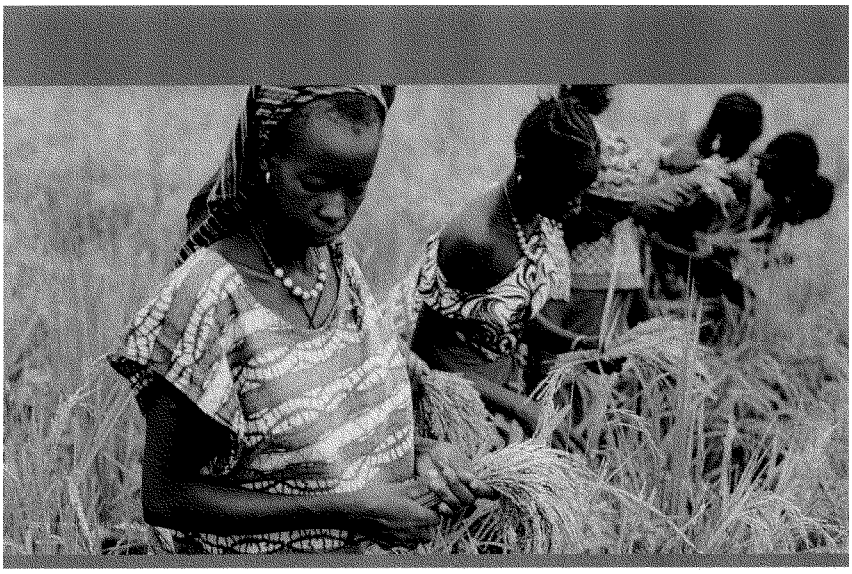
To ensure the administrative success of The Chicago Initiative, restoring the status and authority of the administrator of USAID is only the first needed step. In-house staff capacity at USAID must also be strengthened, specifically in the area of agricultural and rural development. To be effective, agricultural development assistance efforts must be technically informed through the judgment of agricultural specialists: agronomists, economists, ecologists, and irrigation engineers. These specialists must also be widely knowledgeable regarding local needs and institutions, region-by-region and country-by-country.

USAID once had a significant in-house staff capacity to innovate and administer effective programs in agriculture, but that capacity has been lost over the years, and it is just now beginning to be restored. In 1980 USAID had 4,058 permanent American employees working both at headquarters and in the field. By 2008 this number had declined by roughly half, to just 2,200.[58] The attrition was greatest among agricultural specialists. In 1990 USAID employed 181 agricultural specialist foreign service officers. Currently, it employs only twenty-two.[59] In the field USAID lost most of its full-time Africa-based agricultural and rural development officers (ARDOs) in the 1990s at a time when attention in the agency should have been turning to Africa's growing rural food and poverty crisis.

USAID has tried to compensate for this loss of in-house staff by relying more heavily on temporary private contractors. This makes sense for some kinds of project implementation, but there are many jobs that temporary contractors either cannot or should not do. Contractors should not set agency priorities, and they should not be entrusted with the design of overall agency strategy in the area of agricultural development. They should not be entrusted with program evaluation. Also, contractors are incapable of expressing the voice needed from inside the agency to sustain and defend an adequate portfolio of agricultural programs. Most importantly, they cannot adequately represent the U.S. government in the field, for example in consultations and negotiations with foreign governments and with other donors.

There was a time when any important visitor to a foreign capital who was doing work in agriculture would go first to the U.S. Embassy to get a USAID briefing on the local political and technical landscape from America's agricultural and rural development team. Other donors were no match for American professionalism in this field. When this strong field staff presence was lost, the few remaining agricultural experts at USAID headquarters found themselves cut off from their most important partners at the country level, which is where all successful programs in the end must be implemented.

Efforts are now under way to address USAID's staffing deficits. In September 2008 Illinois Democratic Senator Richard Durbin introduced legislation that would authorize USAID to hire an additional 2,000 new foreign service officers over the next three years. This measure was not targeted specifically at agricultural development, but in response to the food security emergencies of 2008, the agency itself set



an internal goal of hiring ninety-five new agricultural officers by 2012.[60] Initiatives such as these should now be expanded and fully funded for the long term.

Substantial agricultural staff increases are needed not only at USAID headquarters in Washington, D.C., but also in the field. In countries with an agricultural portfolio of $25 million or more, an embassy team of three agricultural specialists should be available, trained in fields such as agricultural science, policy, marketing, or extension. At all USAID missions in Africa and South Asia, a team of at least two direct-hire agricultural specialists should be a minimum, with procedures established to coordinate field office actions with headquarter actions when dealing with foreign partners. Increased backstopping at headquarters will also be essential.

To meet these staffing needs, we recommend that 15 percent of the 2,000 new personnel envisioned in the Durbin proposal be hired in the agricultural sector. This would increase by 300 the number of professional agricultural specialists employed worldwide by USAID. These newly hired agricultural officers will provide the strong voice needed within the agency to prevent agricultural and rural development concerns from slipping back into eclipse.

Close coordination of the staff of the U.S. government's myriad assistance programs overseas is urgent. Presently, representation overseas is disjointed, uncoordinated, and presents a chaotic face to host country institutions, aid recipients, partners, and others who must deal on a day-to-day basis with U.S. development programs. America must be able to speak with one voice when developing its agricultural development programs with foreign partners.

COST

First Year:	$25 million
Fifth year, when fully funded:	$67.5 million
Total over five years:	$232.5 million
Total over ten years:	$570 million

ACTION 4c. Improve interagency coordination for America's agricultural development assistance efforts.

The management of an invigorated agricultural development assistance policy needs to be integrated not only with other assistance policies, but also with the nation's commercial, diplomatic, and security policies. Interagency coordination is a particular challenge in the area of foreign assistance, including food aid and nutrition, where literally scores of different agencies can play a role. Even in the relatively focused area of agricultural development assistance, multiple departments have key functions to perform. To coordinate these functions, a new Interagency Council on Global Agriculture (ICOGA) should be created within the Executive Office of the President to provide active leadership and maintain consistent and effective priorities and actions among the many U.S. government agencies engaged in this area. Two additional steps should be taken to ensure coordination:

- Create the position of White House National Security Council deputy for global agriculture, responsible for assuring active interagency coordination on agricultural development policy.
- Name the administrator of USAID, along with the above National Security Council deputy, as cochairs of the new ICOGA.

The membership of the council should include at a minimum USAID, USDA, the Department of State, the Department of Treasury, the office of the U.S. Trade Representative, and the Peace Corps, along with special programs relating to global agricultural development in other agencies.

One important early agenda item for this new council should be a full review of the various U.S. policies that we cite in Recommendation 5 as needing reform, especially U.S. food aid and biofuels policies, which require extensive coordination across multiple executive branch agencies.

COST: $0

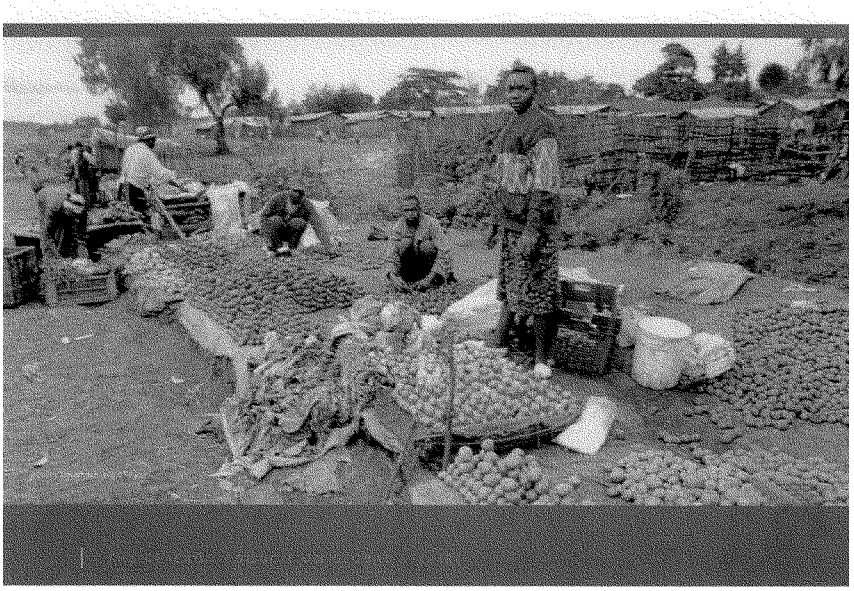
ACTION 4d. Strengthen the capacity of the U.S. Congress to partner in managing agricultural development assistance policy.

Congress has played a vital and positive role in U.S. assistance policy in the appropriations, hearings, and oversight process. The specific interest and persistent voice of individual members of Congress is often the key to launching and keeping alive assistance programs with a strong humanitarian dimension. Yet critics of America's development assistance institutions seldom spare the Congress. A 2006 Brookings–CSIS bipartisan task force report concluded the following:

> "Congressional interest in foreign assistance is too often limited to areas of concern to one or more members, manifested in the form of earmarks... [L]egislative initiatives on behalf of special interest or advocacy groups are signed into law without due consideration of their cumulative impact."[6]

Such critiques of the congressional role are at times well founded. Congressional earmarks, in particular, have had a negative effect on the administration's ability to operate a coherent, long-term development strategy. At the same time, there is a legitimate concern that some congressional views on agricultural and rural development policy are not being adequately heard. There is a broad support base in Congress for U.S. government actions that will reduce poverty and hunger abroad (witness strong congressional support for food aid). Yet in recent years there has not been a clear focal point for mobilizing and expressing this support. Nor have there been adequate procedures for linking the concerns of key congressional committees (beyond the concerns of individual members) to agricultural policy leaders inside USAID. In part this is because the agricultural policy leadership in USAID has been significantly reduced, as noted above, but institutional deficits at the congressional end are also in part to blame.

To correct these deficits, we recommend that all the relevant committees in both the House of Representatives and Senate, including both the authorizing and appropriating committees, establish clear staff liaison responsibilities in the



area of agricultural and rural development. This complements our recommended enhancement of in-house agricultural staff at USAID. In addition, we recommend that the House of Representatives reestablish the Select Committee on Hunger, first created in 1983 but then allowed to lapse ten years later. Had this select committee been in operation during the high food price interlude of 2008, it would have informed and shaped policy by conducting hearings and bringing worthy legislative initiatives to the attention of the House committees on agriculture, foreign affairs, and appropriations. The reestablishment of this select committee would highlight the importance of the current global recession, with falling income among the rural poor and increasingly rising hunger.

COST:

First year:	$750,000
Fifth year, when fully funded:	$750,000
Total over five years:	$3.75 million
Total over ten years:	$7.5 million

ACTION 4e. Improve the performance of international agricultural development and food institutions, most notably the Food and Agriculture Organization of the United Nations.

America must exert stronger leadership in multilateral institutions working on food and agriculture, particularly the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD), the World Food Program (WFP), and the World Bank. This means paying strict attention to the setting of strategy and policies, decisions that affect technical capacity, management oversight, and program evaluation. For example, an internal review at FAO concluded the operations of that organization would be greatly improved through decentralization—by increasing the proportion of staff in decentralized locations to at least 40 percent and increasing the decentralized proportion of expenditures to at least 50 percent.[62] A greater delegation of authority and clarified accountability at FAO are also important, along with increased monitoring, evaluation, and oversight. The new U.S. administration should take special care in choosing the U.S. ambassador to the UN Agencies in Rome (FODAG), the executive board director of IFAD, and the executive director of the World Bank, with an eye toward advancing these institutional issues. The United States must also play a more active role in the selection of leadership of these international institutions. This oversight role should be shared by USAID, USDA, and the U.S. Department of Treasury, working through the appropriate State Department channels. These U.S. government organizations should also coordinate with like-minded international partners such as the United Kingdom's Department for International Development. U.S. relations with international food and agriculture institutions should be a permanent agenda item for the proposed Interagency Council on Global Agriculture.

COST: $0

UNITED NATIONS AGENCIES DEDICATED TO FOOD AND AGRICULTURE

There are three UN agencies based in Rome dedicated primarily to food and agriculture.

World Food Program (WFP)
The mission of WFP is food assistance to meet emergency needs and to support economic and social development. Established in 1961, its mandate is to end global hunger and poverty with the ultimate goal of eliminating the need for food aid itself. WFP operations aim to save lives in crises, to improve nutrition and quality of life for vulnerable people, and to enable development through building assets and promoting self-reliance in labor-intensive work programs. Under the Purchase for Progress initiative, WFP helps local economies by purchasing food through local procurement in order to guarantee farmers access to reliable markets and competitive prices.

International Fund for Agricultural Development (IFAD)
The goal of IFAD is to empower the rural poor in developing countries to achieve higher incomes and improved food security. Established in 1977 to finance agricultural development projects for food production, IFAD's mandate is to alleviate poverty and improve nutrition through lending. IFAD ensures the rural poor will have better access natural resources, improved technologies and production services, financial services, and competitive markets.

Food and Agriculture Organization (FAO)
The main focus of FAO is to ensure that people have regular access to high-quality food in order to live healthy lives. Founded in 1945, its mandate is to improve nutrition, agricultural productivity, and the lives of rural populations and to contribute to the growth of the world economy. FAO's activities include providing information and knowledge to aid development, sharing policy expertise to achieve hunger alleviation goals, and providing a forum for nations to meet to negotiate agreements and policy. FAO's flagship program to boost food production in low-income, food-deficit countries is the Special Program for Food Security, which promotes tangible solutions to improve the yields and incomes of poor farming households.

Sources: FAO 2009; IFAD 2009; WFP 2009.

RECOMMENDATION 5

Improve U.S. policies currently seen as harmful to agricultural development abroad.

A new U.S. initiative to reduce poverty and hunger in South Asia and Sub-Saharan Africa will not be credible without addressing some of our country's own policies in the area of food and agriculture. The Chicago Initiative on Global Agricultural Development recommends that the following actions be taken immediately to implement Recommendation 5, providing an international signal that the United States is willing to change some of its long-standing practices in this area. We believe change at home will help build support for the changes needed abroad.

ACTION 5a. Improve America's food aid policies.

The United States is the world's largest donor of food aid to help hungry people, a matter of justifiable national pride. Hundreds of thousands of lives have been saved through this assistance in Africa and South Asia over the years, and hundreds of millions of lives have been improved. Yet our food aid programs do not go far enough in dealing with long-term, systemic problems, and America does

not get enough payoff from its very large food aid budget because of several long-standing practices in the way we give food aid. Most of these are practices unique to the United States that fall well short of international best practices. Some are even used by America's critics to dismiss our food aid programs as ungenerous and damaging. For example, one such policy that Congress might reconsider is the agriculture cargo preference requirement. This policy encumbers the food aid program with time-consuming and complicated bureaucratic requirements and has the potential to decrease the amount of food aid delivered overseas.[63] The Chicago Initiative recommends two U.S. policy changes in the area of food aid: (1) a move toward the less expensive, more efficient local purchase of food aid, and (2) scaling down the practice of selling food aid into local markets, which often distorts the local markets.

Increase funding for local purchase of food aid.

The cost of delivering America's food aid abroad is much higher than it could be owing to a requirement that nearly all American food aid be purchased in the United States rather than in foreign markets closer to the recipient. This requirement dates to the 1950s when the U.S. government was storing large crop surpluses created by America's farm price support programs. Food aid was seen as a way to dispose of these American surpluses abroad in addition to using it as a response to international hunger emergencies. Most other food aid donors in the developed world have long since moved away from the practice of requiring national purchase. In 2008 even Canada opened up 100 percent of its food aid budget to international procurement, leaving the United States as the only significant donor country that continues to resist the local purchase option.[64]

There are multiple arguments for procuring food for hunger relief from markets abroad rather than through U.S. purchase only. International purchase allows food to be procured much closer to the beneficiary, reducing transport costs and ensuring compatibility with local diets. It is far cheaper to provide food for refugees in northern Uganda by purchasing maize available on local markets in southern Uganda than it is to ship the food from the United States. When market conditions make it possible, American food aid managers should have local purchase as an option. Local purchases in the developing world are also good for putting money into the pockets of poor farmers, boosting local agricultural development.

Changing this long-standing U.S. policy will not be easy. Repeated efforts by President George W. Bush to make a small percentage of the U.S. food aid budget usable for international procurement met strong resistance in Congress. Former President Bill Clinton commended President Bush for trying to promote local purchase of food aid in poor countries.[65] The most that was achieved from these efforts was the creation of a local and regional food aid procurement "pilot program" in Title III of the Food, Conservation, and Energy Act of 2008. The program is funded at $60 million over four years for the purpose of evaluating the effectiveness of local or regional procurement.[66] The Department of Agriculture is to operate this pilot project.

This token step is not a solution. The bulk of America's food aid budget should no longer be restricted by national purchase requirements. We do not propose

THE GRADUAL BUT INCOMPLETE MOVE TOWARDS CASH FOOD AID

Food aid volumes are at long-term lows, reflecting sharp reductions in regular program food aid not compensated by increases in emergency food aid shipments. Emergency aid now dominates global food aid: More than 57 percent of global food aid flows from 2001 to 2004 were emergency aid. Emergency food aid has also ushered in a geographic shift from Asia to Africa.

Major policy changes in Australia, Canada, and the European Union illustrate that donors are now more flexible in sourcing food aid. In 1996 the European Union created the Food Security Budget Line, eliminating restrictions tying the procurement of food aid to European suppliers. A significant departure from the past, it encouraged more local and regional purchases. While local purchases can sometimes destabilize local prices, they are estimated to be 30 to 50 percent less expensive to procure and deliver than food shipments from donor countries. In-kind food aid and cash transfers are both open to mistargeting and corruption, but in-kind aid incurs higher distribution costs. Local purchases can facilitate faster responses to crises by greatly reducing delivery time.

Today, most countries in Europe give almost all their food aid in cash for local and regional purchases by nongovernmental organizations and the World Food Program. In 2005 a record 2.55 million metric tons of food aid were sourced through local or regional purchases in developing countries. In addition to the European Union, Australia and Canada have relaxed their domestic food aid procurement rules and moved toward more cash-based programming. In Australia more than half the country's food aid is purchased locally, while Canada recently opened up to 100 percent of its food aid budget for local and regional purchases, with a special emphasis on purchasing food in developing countries.

Despite these shifts, the United States, which accounts for more than half the world's food aid, remains reliant on U.S.-sourced food. In recent years, proposals to relax domestic procurement rules have been blocked under pressure from a coalition of agribusinesses, shipping companies, and nongovernmental development and relief organizations. Politics continue to dissipate the pressure for reform.

Sources: World Bank 2007; Riley and Urey 2004.

ending in-kind food aid programs entirely, as they will always be necessary in certain kinds of emergencies. We only recommend that the decision to purchase at home or abroad be made according to recognized international best practices for food aid delivery, unhampered by antiquated legislative mandates.

COST: $0

Scale down the practice of "monetizing" American food aid.

A second food aid improvement we recommend is to scale down the practice of "monetization," or selling U.S. food aid into commercial food markets in recipient countries. Such local sales were originally encouraged by U.S. food aid programs that delivered commodities directly into the hands of foreign governments, who then sold them into their own markets. This kind of "program" food aid was a blunt instrument for addressing hunger, and fortunately it has now been largely replaced by better targeted "project" and "emergency" food aid. NGOs often play the lead role in distributing development project and emergency food aid, and much of it is provided directly to hungry people. Yet a significant portion is still being sold without targeting into local markets. Recently, over a three-year period more than $500 million in food aid was sold into local markets.[67]

NGOs use the proceeds from cash sales of food aid to implement worthy development projects, yet managing the sales also costs them money. The sales will raise much less money than the food is worth—on average, less than 50 cents on the dollar, according to Government Accountability Office calculations. Commercial sales into local markets do not usually target the needy; they lower food costs for the well to do as well as for the poor and hungry. Sales of food aid into local markets tend to displace food sales by local farmers, which makes local agricultural development more difficult. Food aid sales into local markets also displace commercial imports, including commercial imports both from the United States and from rival exporters who understandably are angered by the practice.[68] Monetization can provide benefits to the hungry in some cases, such as food emergencies in urban areas, yet most genuine hunger is still rural.

The NGOs that currently use food aid monetization to raise cash would much prefer to finance their work with direct support from America's development assistance budget. Even without assurance of such support, many leading NGOs have recently come to the view that monetization should be discontinued. CARE, Catholic Relief Services, and Save the Children have signed a declaration, along with British, French, and Canadian aid groups, stating that such sales are usually inefficient and divert food from the hungry. CARE has decided voluntarily to stop monetizing food aid with only a few exceptions by 2009.

The Chicago Initiative recommends that U.S. food aid provided to NGOs for monetization be scaled down, with the eventual objective of limiting monetization to extremely rare and unusual circumstances. These circumstances would include market conditions or development assistance requirements that make monetization a best practice for hunger relief or poverty reduction.

COST: $0

ACTION 5b. Repeal current restrictions on agricultural development assistance that might lead to more agricultural production for export in poor countries in possible competition with U.S. exports.

First passed by Congress in 1986, Section 209 of Public Law 99-349 (also known as the Bumpers Amendment) prevents USAID from supporting agricultural development

Moving Away from Monetization

After 50 years of working with USAID's Food for Peace (FFP) program, CARE recently turned down US$45 million of annual monetization funding because it found the funding was not only inefficient, but also harmful to the very poor farmers CARE was trying to help. The selling of U.S. commodities in local markets to raise cash for antipoverty programs, though well intended, discourages local production of similar or replacement products. Having worked extensively with farmers in various parts of rural Africa, I am convinced that providing cash for local purchase is a more sustainable way to help farming communities pull themselves out of poverty.

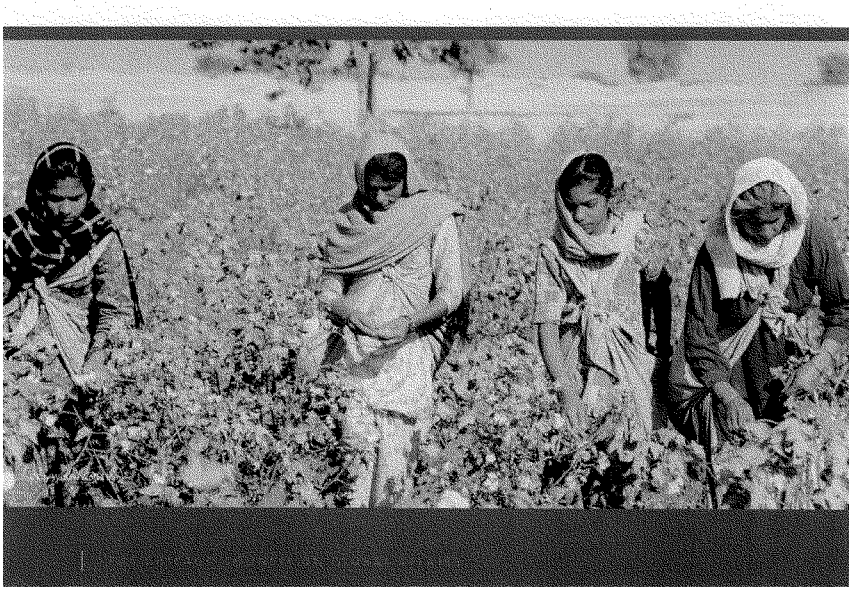
—George Odo, Regional Technical Advisor, CEP Investments, CARE International (East Africa)

research in foreign countries that might result in crop production for export, "if such an export would compete in world markets with a similar commodity grown or produced in the United States."[69] This amendment was originally intended to stop a USAID research project, INTSOY, from developing soybean varieties suitable for cultivation in countries such as Brazil and Argentina. At the time the law was passed, U.S. agricultural exports and crop prices were in deep collapse, partly due to a competitive export subsidy war between the United States and the European Union. It is now time to repeal this outdated measure. It does little or nothing in the current environment to help U.S. farmers, and it sends the wrong signal to poor farmers abroad regarding America's priorities. The Amendment even gets in the way of national security at times, for example in blocking USAID assistance for cotton production as an alternative to opium poppy production in Afghanistan.[70]

COST: $0

ACTION 5c. Review USAID's long-standing objection to any use of targeted subsidies (such as vouchers) to reduce the cost to poor farmers of key inputs such as improved seeds and fertilizers.

As demonstrated by recent experiences in Malawi in East Africa, subsidized access to technologies already on the shelf such as improved seeds and fertilizers can lead



to a quick increase in food production in the short term.[71] The U.S. government should be willing to support "smart" subsidies (e.g., subsidies designed to offset high transport costs pending larger investments in infrastructure) so long as they can be targeted, efficiently run on a large scale, and terminated when their purpose is accomplished. Even the original Green Revolution of the 1960s and 1970s depended to some extent on subsidies. Market fundamentalists have prevailed for the past several decades in ruling out the use of input subsidies in USAID programs, which has eliminated a potentially useful tool for jump-starting the uptake of productive new technologies in the agricultural sector.

The U.S. practice of telling developing countries not to spend foreign assistance funds to subsidize farm inputs risks being viewed as hypocritical, given America's own lavish farm subsidy programs. The provision of targeted vouchers to support technology use by small farmers should be restored as one possible option in the design of USAID agricultural programs in Africa and South Asia, particularly in circumstances where rural credit markets and transport infrastructure remain inadequate. Since 2008 the World Bank has taken a more relaxed view on this issue, and USAID should now do the same.

COST: $0

ACTION 5d. Revive international negotiations aimed at reducing trade-distorting policies, including trade-distorting agricultural subsidies.

Experts agree that poor farmers in Sub-Saharan Africa and South Asia are hurt when agricultural subsidies artificially boost production, thus driving down world prices. This adverse effect was temporarily masked in 2007-08, when a combination of several factors temporarily drove international prices up to very high levels. Nevertheless, the problem could return if prices fall again. In any case, an international perception remains that American, European, and Japanese farm subsidies harm poor farmers abroad, for example poor cotton farmers in Africa. The legality of the U.S. cotton support program was challenged in the World Trade Organization (WTO) and found to have distorted international prices. The United States was instructed by the WTO to change its policy or pay compensation, but to date the United States has not fully complied with this requirement. Some of the offending policy measures were even reaffirmed by Congress in the 2008 Farm Bill.

The Doha Round of multilateral trade negotiations that was launched in 2001 is an appropriate setting in which to reduce America's trade-distorting subsidies, along with EU subsidies, so as to win back America's reputation for giving developing country farmers fair treatment in the trade arena. A Doha deal that focuses on trade distortion need not prevent the American government from supporting agriculture, since that support can be provided in ways that do not distort incentives to produce or export specific products. For example, direct income transfers, especially if needs-based, could be used effectively to substitute for current policies that distort production and trade.

The United States and the other high-income countries that subsidize or protect their farm production should now show the added negotiating flexibility that will be needed to bring the Doha Round to a successful conclusion. A useful set of

THE CHICAGO COUNCIL ON GLOBAL AFFAIRS 2006 INDEPENDENT TASK FORCE ON U.S. AGRICULTURE POLICY

SUMMARY OF THE FINDINGS (See Appendix H for the full Executive Summary.)

Grow new markets

- Restart Doha Development Round of trade negotiations
- Offer to change domestic programs and U.S. export subsidies
- Ensure labor needs of the agriculture and food sectors by enacting comprehensive immigration reform

Replace trade-distorting policies with new domestic approaches

- Sanction the use of direct payments delinked from specific types of production
- Create universal revenue insurance program
- Sanction a land stewardship program that rewards environmental contributions
- Set up farmer savings accounts backed by government matching contributions
- Invest in public goods that benefit the entire farming sector
- Enact transition measures that protect farmers against investment losses

Provide food to vulnerable populations

- Link federal feeding programs to USDA-backed nutritional goals
- Make the least nutritious foods ineligible for the Food Stamp Program, while magnifying the value of stamps used to purchase the most nutritious foods
- Reorient nutrition programs to comply with published dietary guidelines
- Provide subsidies to schools that ban products with low nutritive value from vending machines

Safeguard land and water

- Strengthen land-use planning efforts
- Restore spending on research and technical assistance
- Stress the efficient use and protection of water resources

Bolster rural communities

- Help rural communities diversify their economic structures
- Create off-farm jobs
- Provide universal access to modern information technologies (i.e., Internet)

Support research on biofuels

- Continue current subsidies to new biofuel companies
- Focus research on developing usable energy from cellulosic (rather than corn-based) ethanol that can be grown on lesser-quality land
- Insist that biofuel industries develop business models that accommodate the scaling back of federal funding for their projects

Provide more food aid to reduce global hunger

- Replace current concessional loans to foreign governments with overseas school feeding initiatives
- Shift funding requirements for cargo preference from the USDA to the Department of Defense

Source: The Chicago Council on Global Affairs 2006.

basic principles for agricultural reform was agreed to in the WTO in July 2004, and careful negotiation over the following four years added greater specificity to this draft agreement. But the negotiations hit an impasse and were suspended in July 2008. If the new American administration and Congress wish to address agricultural development policy in Africa and South Asia with full credibility, they must provide the necessary leadership to revive these important WTO negotiations on trade-distorting agricultural subsidies.

A comprehensive discussion of the reforms we would like to see can be found in the Executive Summary of the 2006 Report of the Agriculture Task Force of The Chicago Council on Global Affairs titled "Modernizing America's Food and Farm Policy: Vision for a New Direction" (see Appendix H).

COST: $0

ACTION 5e. Adopt biofuels policies that place greater emphasis on market forces and on the use of nonfood feedstocks.

When international food prices spiked to dangerously high levels in 2008, many pointed to America's increased promotion of corn use for ethanol production as a major factor. Between 2000 and 2007 the worldwide production of biofuels from food and feed crops had more than tripled. Some even condemned U.S. biofuels subsidies directly for having taken food away from hungry people. The U.S. Department of Agriculture attempted to show that diversions of food and feed to biofuel were only a small part of the food price problem. But studies done by the International Monetary Fund (IMF) and the Organization for Economic Cooperation and Development (OECD) contradicted this claim, reinforcing the impression that America's biofuels policies needed serious reform.[72]

The excessive diversion of food to fuel use that did take place in 2007 and 2008 was driven primarily by extremely high global petroleum prices, not by American biofuels subsidies. These unusually high petroleum prices have now subsided, thanks to dramatically changed macroeconomic conditions. Food prices also fell sharply, for the same reason. Yet the use of food for fuel remains a sensitive international issue. The United States should take steps to ensure that its biofuels policies do not reduce world food supplies in the years ahead.

Some of America's policies that promote the use of corn for ethanol (tax credits and import tariffs) have attracted criticism and controversy for decades, largely on grounds that they provide too much market-distorting protection to a single, politically connected industry. However, the Energy Independence and Security Act of 2007 went much further, mandating that 36 billion gallons of renewable fuel be used in the United States by 2022, with up to 15 billion gallons of that to come from corn.[73] Mandates of this kind that are insensitive to market forces can easily be criticized as a threat to global food supply. To address the criticisms U.S. biofuels policies encountered worldwide in 2008, consideration should now be given to either waiving or reducing these biofuels mandates.

The United States should also move away from its heavy dependence on corn as a feedstock for biofuels. Some important progress has already been made in this direction. The 2008 Farm Bill reduced incentives to divert corn to the production of

Revitalizing the Agricultural Sector in South Asia

The United States has been the largest investor in agricultural research and education, and U.S. support was one of the factors that ushered in agricultural development in many Asian countries in the past. Green Revolution technologies lost steam in the 1990s and beyond, when India witnessed a very slow growth rate in agriculture. The globalizing world, the World Trade Organization and Intellectual Property Rights regimes along with the unfolding economic crisis warrant reorienting agricultural research priorities to meet the emerging requirements of a growing economy. The need for revitalizing the agricultural sector in South Asia is more compelling than ever before, as a majority of the poor live here. In this context, the efforts of The Chicago Council on Global Affairs in advocating that the U.S. government increase support for agricultural education and extension in this region is laudable and a step forward in achieving the first UN Millennium Development Goals of reducing hunger and poverty by half by the year 2015. I wish the best for this Initiative.

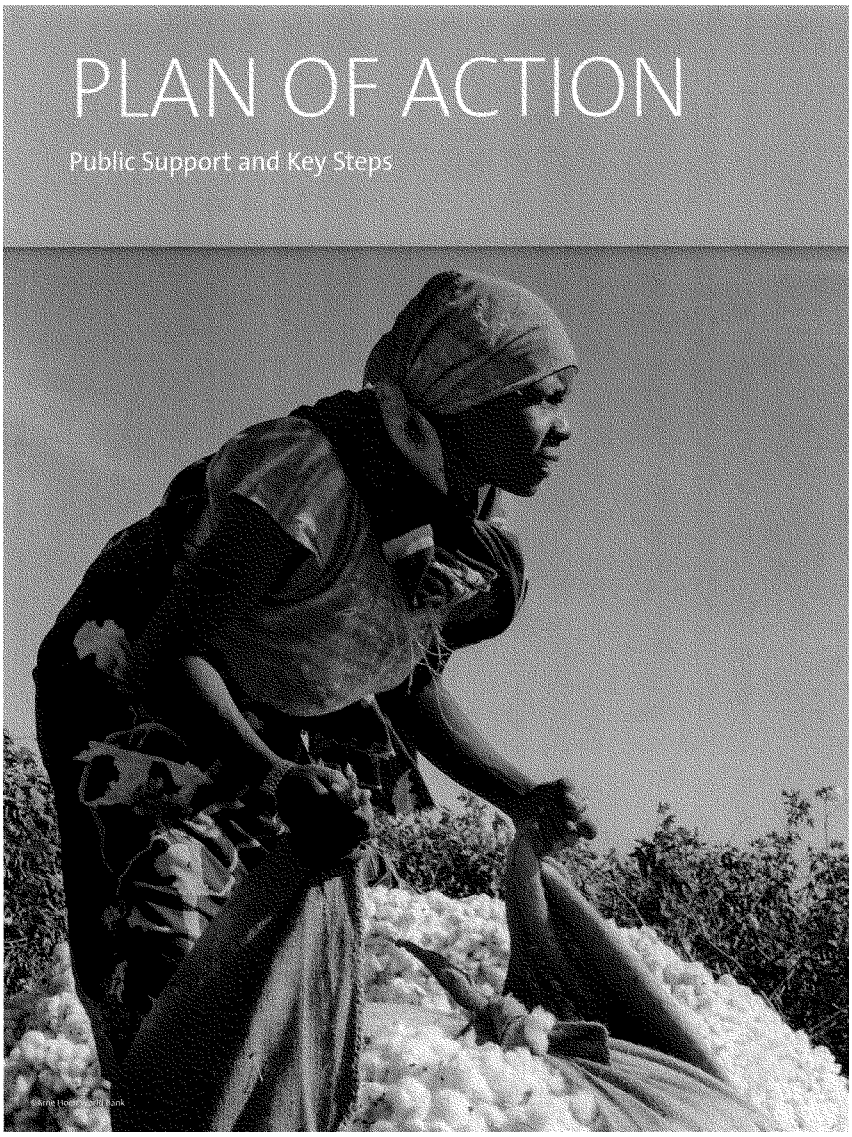
—C. Ramasamy, Vice Chancellor, Tamil Nadu Agricultural University (India)

ethanol and provided new incentives to invest in techniques to derive energy from cellulosic biomass produced by nonfood plants such as switchgrass or miscanthus. There is reason to hope that nonfood plants such as these can be grown on inferior soils that currently contribute little to global food and feed production. These cellulosic feedstocks have the added advantage of generating a larger net reduction in greenhouse gas emissions relative to gasoline, compared to the alternative of corn-based ethanol. America's biofuels policies should be driven by our common energy security and environmental concerns, not by the narrow preferences of a small collection of domestic industries.

COST: $0

Taken together, these five recommendations form the basis of a small but critical step toward lifting millions out of poverty and putting them on the path to self-reliance. While many of these actions are not entirely new, they have been proven effective in the past—through the remarkable earlier achievements of the Green Revolution—when adequately funded. What is new is the effort to improve, modify, refresh, and append these measures for a new age and a new challenge. This is an ambitious policy agenda at a time when our own economy is under severe stress. But we believe that America can and must act now to address the worsening crisis of the world's suffering millions.


GLOBAL AGRICULTURAL DEVELOPMENT PROJECT


PLAN OF ACTION
Public Support and Key Steps

PART III

Breaking the momentum of the gathering rural emergency in Sub-Saharan Africa and South Asia will take sustained effort by many partners working in tandem, but the United States should begin now to renew its commitment to reducing hunger and poverty among those most in need. Bringing agriculture back to the center of U.S. development policy will open a path to partnerships with the peoples and nations of Sub-Saharan Africa and South Asia whose futures are linked to the prospects for global peace and prosperity in the twenty-first century.

New U.S. priorities and policies can strengthen cooperation with other developed nations and with international institutions in the service of shared goals. Increasing rural incomes will, over time, support social and political progress in Sub-Saharan Africa and South Asia and advance the national security interests of the United States. Overall, The Chicago Initiative will help restore America's standing and influence in the world and align America with the forces of positive change to meet the most basic of human needs and the most lofty of human aspirations.

AMERICAN SUPPORT FOR THIS INITIATIVE

Mobilizing the U.S. government in 2009 to lead and support such an effort will be no simple task, particularly given the strain on leadership attention and governmental resources of economic turmoil and other demands at home. Nonetheless, it is critical that the United States take the initial steps in 2009 to galvanize support for agricultural development internationally.

We believe the recommendations contained in The Chicago Initiative will be welcomed and supported by both the American public and by a wide range of American leaders across the political spectrum. Actions such as offering the support of America's best educational and research institutions to the peoples and nations of Sub-Saharan Africa and South Asia are not divisive in political terms. They are consistent with the development assistance thrust of President Barack Obama's presidential campaign in 2008 and with his early statements as president. They are also consistent with statements made in 2008 by the presidential campaign of Senator John McCain. Restoring the priority of agriculture in U.S. development policy is a goal supported today by both Democratic and Republican leaders in Congress. Helping to boost the income of small farmers, many of them women, in Sub-Saharan Africa and South Asia is a project that holds strong appeal in America across cultural, political, and geographic divides.

This is confirmed in surveys of the American public and a sample of leaders with influence in agriculture and development issues commissioned by The Chicago Council on Global Affairs in the autumn of 2008.* The surveys were designed to examine the salience of global hunger and poverty issues and policy preferences for addressing these problems.

In these surveys both the public and leaders show strong support for energetic U.S. action to reduce rural hunger and poverty in developing countries. Among the public, 77 percent agree that "addressing global poverty by helping improve the productivity of poor farmers in developing countries" is an important policy priority and a very important way for the United States to improve its current standing in the world (see Table 2). More specifically, 74 percent agree that the United States should "provide renewed international leadership" for a second Green Revolution by refocusing world attention on increasing agricultural productivity. Two-thirds

Table 2 - Support for Various Approaches to Help Small Farmers in Poor Countries (percent in "favor")

Approach	Leaders	Public
Research in developing world universities	93%	77%
Better infrastructure	90%	75%
Opening the U.S. market	87%	42%
Assistance and education for women	85%	—
Better equipment, seeds, fertilizer	83%	76%
Small loans	83%	63%
Research in U.S. universities	81%	75%

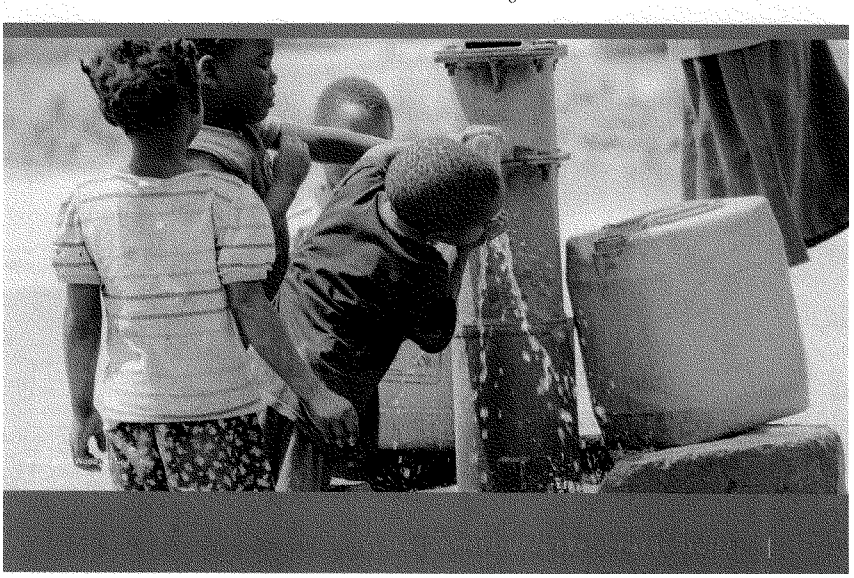
Source: *Agricultural Development 2008: Public and Leadership Opinion Survey*, The Chicago Council on Global Affairs.

*The survey of the general population was conducted via Internet in August 2008 with a total sample of 1,094 adults representative of the American population over the age of eighteen. The leaders survey was conducted with a total sample size of 192 leaders from Congress, the executive branch, NGOs and think tanks, and relevant business associations and corporations. All leaders in the sample have a vested interest in or knowledge of international development and agriculture and are in a position to influence the public. The leaders survey was conducted via telephone, with a small portion of the sample reached via Internet in fall 2008. A full description of the survey methodology can be found in Appendix E.

of Americans believe it is a "moral duty" for rich countries to help the poor out of poverty.

The public is also in favor of some of the more specific recommendations of The Chicago Initiative.

- 75 percent favor conducting research in U.S. universities and 77 percent favor supporting research in universities in the developing world to find improved farming methods. This supports the actions proposed under both Recommendations 1 and 2. In general, 73 percent of Americans favor increasing investment in agricultural research.
- 76 percent favor providing new types of seeds, fertilizer, and equipment to poor farmers. The American people are not opposed to bringing more science-based farming methods into the developing world. This again supports actions proposed under both Recommendations 1 and 2.
- 75 percent of Americans favor developing better infrastructure such as roads and irrigation in poor countries to help farmers grow and sell more. This is an endorsement of the actions proposed under Recommendation 3.
- When given the choice between taking a long-term approach toward addressing hunger in poor countries through agricultural development and directly providing food aid, 73 percent of Americans prefer the long-term approach. They believe food aid should be used only as a response to emergency situations, which is consistent with the recommendations of The Chicago Initiative.



The approximately 200 leaders surveyed show even greater support for the goal of addressing hunger and poverty in developing countries. Among the leaders, 71 percent see combating world hunger as "very important" to U.S. foreign policy, compared to 42 percent of the public. A majority (60 percent) of the leaders believe that addressing poverty through agricultural development would help improve U.S. standing in the world. This view is shared by just under one-third of the public, about the same proportion that sees action on health and climate as important to improving U.S. standing. Significantly, a majority of the leaders (60 percent) favor funding major programs to improve the agricultural productivity of poor farmers in Africa and Asia even if it means cutting back on development assistance commitments in other areas such as health and education. More members of the public give health the higher priority, even though they also favor action on agriculture.

Both leaders and the public are very positive on the specific question of helping to reduce poverty through agricultural research, technology, and infrastructure investments. Among leaders, 90 percent favor improved infrastructure, and 83 percent favor improved equipment, seeds, and fertilizers. This compares to 75 percent and 76 percent, respectively, for the public. Among seven possible approaches to helping small farmers in developing countries, the most Americans (among both the public and leaders) support research in developing nation universities.

ACTION PRIORITIES

Strong and sustained bipartisan American leadership is required to take the necessary actions and bring the necessary resources to bear. That leadership, in most instances, must come from the executive branch of the U.S. government, beginning with personal leadership by the president himself.

Executive Actions

The most logical starting point for implementing The Chicago Initiative is to improve institutions that deliver agricultural development assistance (Recommendation 4). These actions can be taken entirely within the executive branch at the direction of the new president.

The first step should be for the president to make clear the administration's intent to give high priority to agriculture in U.S. international development policy. The president's message should be echoed and elaborated by key members of his cabinet, in particular the secretary of state. The administration should then move quickly to restore the leadership role of USAID and improve interagency coordination for America's agricultural development assistance efforts (Actions 4a and 4c).

On his own initiative, the president could immediately reestablish USAID as an agency with a separate budget. He could then designate the administrator of USAID as board chair of the Millennium Challenge Corporation and head of the President's Emergency Plan for AIDS Relief, appoint a National Security Council deputy to be responsible for global agricultural development, and create an Interagency Council on Global Agriculture (ICOGA) with the USAID administrator and NSC deputy as cochairs.

The ICOGA would provide the appropriate interagency venue for advancing and coordinating the following additional executive branch actions recommended under The Chicago Initiative:

- Encourage, through the U.S. Treasury Department and USAID, revival of World Bank lending for agricultural infrastructure (Action 3a).
- Accelerate disbursal of MCC funds obligated for rural roads and other agricultural infrastructure (Action 3b).
- Improve the performance of international agricultural development and food institutions using Department of State, Treasury, and USDA channels (Action 4c).
- Review U.S. objections to the use of targeted input subsidies (Action 5c).
- Revive international negotiations aimed at reducing trade-distorting agricultural subsidies (Action 5d).

Joint Executive and Congressional Actions

The Chicago Initiative's other recommended actions require expanded congressional appropriations and authorizations. This increase of outlays and investments is the core of The Chicago Initiative, and it should begin promptly. Securing adequate appropriations from Congress will require strong leadership from both ends of Pennsylvania Avenue. Interagency discussions in the ICOGA will be essential, but key congressional leaders should also be involved from the start. The Lugar-Casey bill, introduced in February 2009 is an excellent example of the congressional leadership that will be required. Consultation with NGOs, private companies, foundations, and the relevant international partners will also be required. The actions that require this coordinated approach include:

- Enhance efforts in support of international education and extension in Sub-Saharan Africa and South Asia (all five actions under Recommendation 1).
- Enhance efforts in support of agricultural research in Sub-Saharan Africa and South Asia (all four actions under Recommendation 2).
- Rebuild USAID's in-house capacity to develop and administer agricultural development and assistance programs (under Recommendation 4, Action 4b).
- Reform food aid (5a), repeal the limits on foreign assistance that might lead to exports (5b), and modify American biofuels policies (5e).

In addition, Congress can take the following action on its own:

- Clarify staff liaison responsibilities and reestablish the House Select Committee on Hunger (Recommendation 4, Action 4d).

A Catalyst for Public-Private Partnership

The broad public and leader support for putting agriculture back at the center of U.S. development policy should strengthen the resolve of the new administration to act

quickly. In doing so, it is critically important that the Initiative not be understood simply as a U.S. government program. The greatest promise of the recommendations we offer derives precisely from the fact that nongovernmental institutions will be engaged, including universities, private companies, NGOs working the area of development assistance, and private philanthropies.

In addition, The Chicago Initiative will catalyze and rely on more effective partnerships abroad, with governments in Sub-Saharan Africa and South Asia, other donor governments, regional organizations, international financial and research institutions, and local and international NGOs. This reflects the new architecture of international public policy and international development assistance. To be effective, policy initiatives today must be fully participatory for multiple stakeholders, highly interactive, and tightly networked with civil society and the private sector.

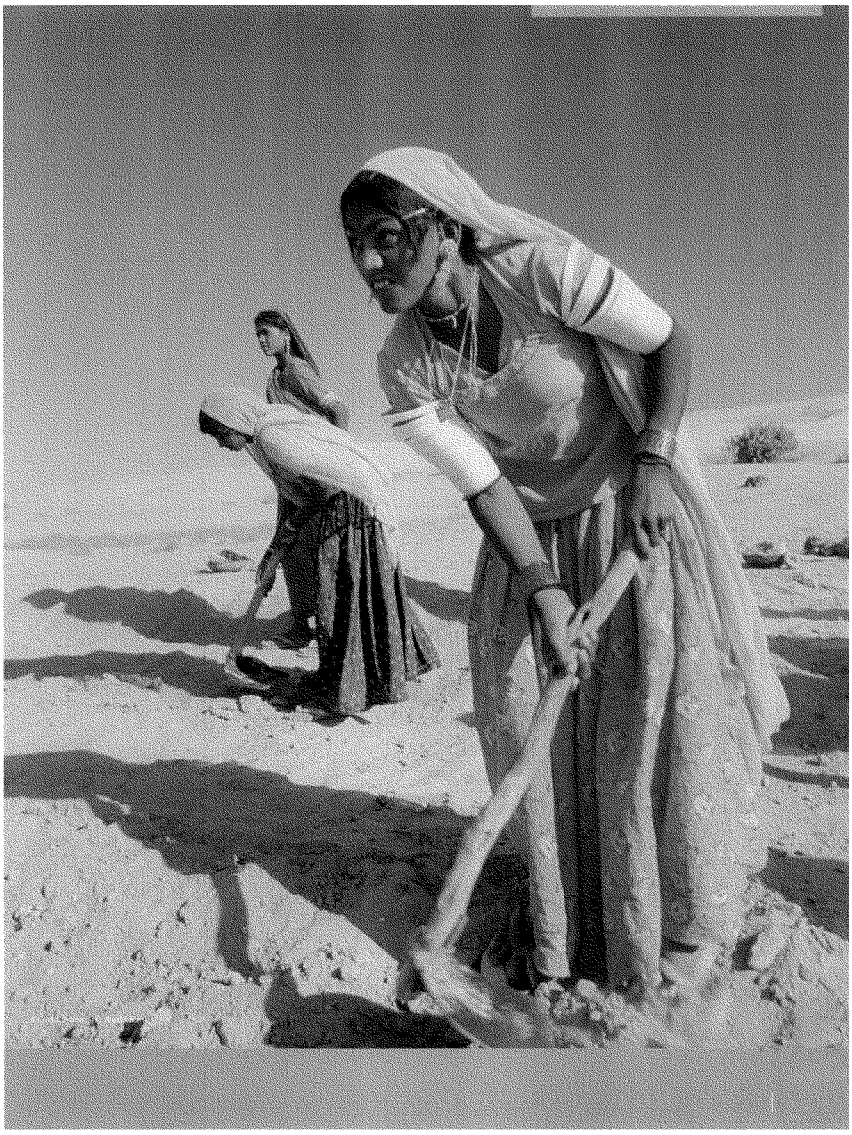
The long-term success of The Chicago Initiative will rely perhaps most importantly on the impetus and sustained effort made by the governments and other institutions of Sub-Saharan Africa and South Asia. The United States must from the outset adopt a stance of working alongside its African and South Asian partners to listen to and support their needs.

The Gain from Immediate Action and the Cost of Further Delay

It will take time for most of the recommended actions of The Chicago Initiative to produce their full impact on the ground, in farmers' fields across Sub-Saharan Africa and South Asia. This is precisely why there is no time to waste in getting started. Under a "business-as-usual" scenario, rural poverty and hunger in South Asia and Sub-Saharan Africa will continue to worsen. These problems will become far more difficult to address with every year of inaction. Taking the impact of climate change into account, the number of hungry people in Africa could triple between now and 2080 if nothing is done.

The requirements of The Chicago Initiative are not primarily financial, as the costs are relatively small. Required instead is leadership for change, along with patience and persistence in implementation for a decade or longer. This is something America knows how to do, and the patience will pay off. With every added year, the actions recommended under The Chicago Initiative will produce more of its intended result: higher productivity on small farms in Sub-Saharan Africa and South Asia, higher incomes for small farmers and their families, greater opportunities for their children, and a wider path of escape from rural hunger and poverty. This success will be the best catalyst for more resources directed at agricultural development in the future.

Yet even as The Chicago Initiative seeks to take the first critical steps in a massive humanitarian rescue effort—which alone would justify its costs—it is ultimately an investment in America's future, in its institutions; its political, economic, and security interests; its people; and its ideals. It is an initiative that embraces our global leadership role as the world's most powerful nation, to be a force for good and to understand that when the neediest are lifted up, so are we all.



APPENDICES

APPENDIX A

THE CHICAGO INITIATIVE'S COSTS TO THE U.S. GOVERNMENT

The Chicago Initiative on Global Agricultural Development recommends increases in U.S. government (USG) funding for a variety of programs and activities over a ten-year period. This appendix details the annual costs required to implement the Initiative's five recommendations over each of those ten years.

The budget calculations are limited to the costs required to implement the actions recommended for smallholder agricultural development in Sub-Saharan Africa and South Asia as described in the five recommendations. These costs must not be misconstrued as representing budget requirements for the overall agricultural development assistance program of the United States for all purposes and regions. The costs estimated for The Chicago Initiative are a subset of that broader program and that larger budget.

The USG currently spends approximately $85 million annually on activities included in The Chicago Initiative. If implemented, the first year costs of the Initiative would be approximately $340 million. Funding for the Initiative would then scale up over the next four years so that the Initiative reaches its full funding level in year five. Fully funded, the Initiative will cost approximately $1.03 billion to the USG annually. This annual funding level should be maintained over the subsequent five remaining years of the Initiative. At year ten of the Initiative, funding for these activities should be continued, but reconsidered. A detailed chart of the costs is on the following pages.

Recommended Action	Current Annual USG Commitment	Recommended Total First Year Commitment
Recommendation 1 - Increase support for agricultural education and extension at all levels in Sub-Saharan Africa and South Asia.		
1a Increase USAID support for Sub-Saharan African and South Asian students—as well as younger teachers and researchers and policymakers—seeking to study agriculture at American universities.	$5 million to fund approx. 80 students.	$6 million to fund approximately 130 students.
1b Increase the number and extent of American agricultural university partnerships with universities in Sub-Saharan Africa and South Asia.	$450,000 for one agriculture-focused university partnership; $1 million to fund twenty general U.S.-African university partnerships, some of which may be agriculture focused.	$126 million to fund a combination of — U.S.-developing country (DC) partnerships focused on education and extension; — DC-DC partnerships focused on education and extension; — Leadership training; — Technical training
1c Provide direct support for agricultural education, research, and extension for young women and men through rural organizations, universities, and training facilities.		
1d Build a special Peace Corps cadre of agriculture training and extension volunteers who work closely within Sub-Saharan African and South Asian institutions to provide on-the-ground, practical training, especially with and for women farmers.	$9 million supports ~300 agriculture-focused volunteers in Africa.	$10.8 million to fund ~360 agriculture-focused volunteers in Africa and South Asia.
1e Support primary education for rural girls and boys through school feeding programs based on local or regional food purchase.	$0	$10 million to provide technical assistance to governments in Sub-Saharan Africa and South Asia to set up school feeding programs based on local purchase.
Recommendation 2 - Increase support for agricultural research in Sub-Saharan Africa and South Asia.		
2a Provide greater external support for agricultural scientists working in the national agricultural research systems of selected countries in Sub-Saharan Africa and South Asia.	$15 million to NARs in Sub-Saharan Africa in FY04, the most recent NARs contribution available.	$60 million to NARs in Sub-Saharan Africa and South Asia
2b Provide greater support to agricultural research conducted at the international centers of the Consultative Group on International Agricultural Research.	$18.5 million	$50 million
2c Provide greater support for collaborative research between scientists from Sub-Saharan Africa and South Asia and scientists at U.S. universities.	$27 million	$50 million
2d Create a competitive award fund to provide an incentive for high-impact agricultural innovations to help poor farmers in Sub-Saharan Africa and South Asia.	$0	$2.5 million

	Recommended Annual Commitments, Years 1-5	Cumulative Cost: Years 1-5	Cumulative Cost: Years 1-10	Notes
	1. $6 million/130 students 2. $7million/175 students 3. $8 million/220 students 4. $9 million/270 students 5. $10 million/310 students; sustain	$40 million	$90 million	Recommended commitments calculated to provide students with a variety of education programs ranging from Internet courses ($10,000/student), MA coursework ($30,000-$60,000/student), and PhD programs ($250,000/student).
	1. $126 million 2. $252 million 3. $378 million 4. $504 million 5. $630 million; sustain	$1.9 billion	$5.05 billion	Recommended commitments provide an increasing number of the following components, so that by year five the target number is reached: — U.S.-developing country (DC) partnerships focused on education and extension (target – 100 partnerships) — DC-DC partnerships focused on education and extension (target – 50 partnerships) — Leadership training (100 individuals) — Technical training (50 individuals)
	1. $10.8 million/360 volunteers 2. $12.6 million/420 volunteers 3. $14.4 million/480 volunteers 4. $16.2 million/540 volunteers 5. $18 million/600 volunteers; sustain	$72 million	$162 million	Recommended commitments calculated based on the current cost to support Peace Corps agriculture-focused volunteers in Sub-Saharan Africa.
	1. $10 million 2. $10 million 3. $10 million 4. $10 million 5. $10 million; sustain	$50 million	$100 million	Recommended commitments for the technical assistance program needed to develop in-country school feeding based on conversations with World Food Program personnel.
	1. $60 million 2. $70 million 3. $80 million 4. $90 million 5. $100 million; sustain	$400 million	$900 million	Recommended commitments based on previous U.S. funding levels in 1980.
	1. $50 million 2. $60 million 3. $70 million 4. $85 million 5. $100 million; sustain	$365 million	$865 million	
	1. $50 million 2. $60 million 3. $70 million 4. $85 million 5. $100 million; sustain	$365 million	$865 million	The primary vehicle for collaboration between U.S. and developing country scientists occurs through the Collaborative Research Support Programs based in the land-grant university system. The costs for this recommendation are derived from current funding for these programs. Reaching the target funding level of $100 million restores funding to the 1980 level when CRSPs were most effective.
	To be determined, based on success of first year program.	$2.5 million	$2.5 million	U.S. commitment to be matched by a private foundation or business.

Recommended Action	Current Annual USG Commitment	Recommended Total First Year Commitment
Recommendation 3: Increase support for rural and agricultural infrastructure, especially in Sub-Saharan Africa.		
3a Encourage a revival of World Bank lending for agricultural infrastructure in Sub-Saharan Africa and South Asia, including lending for transport corridors, rural energy, clean water, irrigation, and farm-to-market roads.	$0	$0
3b Accelerate disbursal of the Millennium Challenge Corporation funds already obligated for rural roads and other agricultural infrastructure projects in Sub-Saharan Africa and South Asia.	$2.8 billion has been allocated towards infrastructure projects in Sub-Saharan Africa	$0
Recommendation 4: Improve the national and international institutions that deliver agricultural development assistance.		
4a Restore the leadership role of USAID.	$0	$0
4b Rebuild USAID's in-house capacity to develop and administer agricultural development assistance programs.	$8 million for 16 agriculture-focused staff	$25 million to fund 50 agriculture-focused staff
4c Improve interagency coordination for America's agricultural development assistance efforts.	$0	$0
4d Strengthen the capacity of the U.S. Congress to partner in managing agricultural development assistance policy.	$0	$750,000
4e Improve the performance of international agricultural development and food institutions, most notably the Food and Agriculture Organization of the United Nations.	$0	$0
Recommendation 5: Improve U.S. policies currently seen as harmful to agricultural development abroad.		
5a Improve America's food aid policies.	$0	$0
5b Repeal current restrictions on agricultural development assistance that might lead to more agricultural production for export in poor countries in possible competition with U.S. exports.	$0	$0
5c Review USAID's long-standing objection to any use of targeted subsidies (such as vouchers) to reduce the cost to poor farmers of key inputs such as improved seeds and fertilizers.	$0	$0
5d Revive international negotiations aimed at reducing trade-distorting policies, including trade-distorting agricultural subsidies.	$0	$0
5e Adopt biofuels policies that place greater emphasis on market forces and on the use of nonfood feedstocks.	$0	$0
TOTAL	$83.95 million*	$341.05 million

*Excludes funds allocated to infrastructure by the Millennium Challenge Corporation since allocation not done annually.

Recommended Annual Commitments, Years 1-5	Cumulative Cost: Years 1-5	Cumulative Cost: Years 1-10	Notes
$0	$0	$0	
$0	$0	$0	
$0	$0	$0	
1. $25 million/50 agriculture staff 2. $35 million/70 agriculture staff 3. $47.5 million/95 agriculture staff 4. $57.5 million/115 agriculture staff 5. $67.5 million/135 agriculture staff	$232.5 million	$570 million	Based on calculations in Senator Durbin's recent legislation, cost per USAID staffer is approximated at $500,000/annually. Year five target number of staff (135) would provide three agriculture-focused staff in each mission office in Sub-Saharan Africa and South Asia and provide adequate junior, mid-level, and senior staffing in regional offices and Washington, D.C. The number of staff necessary in mission, regional, and the national offices was determined through consultation with USAID agricultural experts.
$0	$0	$0	
1. $750,000 2. $750,000 3. $750,000 4. $750,000 5. $750,000	$3.75 million	$7.5 million	Recommended commitment calculated by Representative Tony Hall, who established the House Select Committee on Hunger.
$0	$0	$0	
$0	$0	$0	
$0	$0	$0	
$0	$0	$0	
$0	$0	$0	
$0	$0	$0	
	$3.43 billion	$8.61 billion	

APPENDIX B

The Chicago Council on Global Affairs

AGRICULTURAL DEVELOPMENT 2008: PUBLIC AND LEADERSHIP OPINION SURVEY

In the autumn of 2008 The Chicago Council on Global Affairs commissioned surveys of the American public and a sample of public and private leaders to gauge attitudes toward combating hunger and poverty through agricultural development in the context of overall U.S. foreign and development policies.

The public survey was based on 1,094 respondents representative of the adult American population. The leadership sample was based on 192 cases with the following breakdown: twenty-six members of Congress, fifty-six members of the executive branch, fifty-five respondents from relevant nongovernmental organizations (NGOs) and think tanks, and fifty-five respondents from relevant business associations and corporations.

The opinions of the public and leaders differ on some points, but overall a large majority of both groups agree it is very important for the United States to improve its standing in the world and believe that providing developmental assistance to poor farmers in Sub-Saharan Africa and South Asia will help accomplish that goal.

The following summarizes the results of the surveys and provides a comparison of the two.

Public Survey

Most Americans have only partial knowledge of the role small farms play in global poverty. Only 29 percent correctly believe most of the very poor people in the world live on farms, compared with 71 percent who erroneously think they live in cities. However, a large majority (79 percent) is aware that most of the farm labor in Africa is done by women.

Although there is little awareness of the concentration of poverty in rural areas, when respondents are presented with the statement that most of the really poor people in the developing world are small farmers who cannot produce enough to get out of poverty, a majority agree (62 percent) that efforts to reduce global poverty should be focused on helping these farmers become more productive. And a substantial majority (74 percent) also agrees that the U.S. should "provide renewed international leadership" in another Green Revolution by refocusing world attention on increasing agricultural productivity.

Furthermore, when given two choices about the role of the United States and the international community in addressing the problems of hunger, malnutrition, and food production, a strong majority (73 percent) thinks that the focus should be on a longer-term goal of supporting agricultural development and that directly providing food should be a response only to emergency situations.

The American public is not set on one agricultural development method. Instead, it supports a variety of approaches.

- 77 percent favor supporting research in universities in the developing world to develop new farming methods that would increase agricultural productivity
- 76 percent favor providing new types of seeds, fertilizer, and equipment to poor farmers that would help them improve their productivity
- 75 percent favor conducting research in U.S. universities to develop new farming methods that would increase agricultural productivity in poor countries
- 75 percent favor developing better infrastructure such as irrigation and roads in poor countries to help farmers grow and sell more
- 63 percent favor providing small loans to poor farmers to help them purchase seeds, fertilizer, and farming equipment

The only option where there is majority opposition on the part of the public (56%) is when Americans are asked if they favor opening U.S. markets more fully to imports of farm products from poor countries.

But the public does not believe the responsibility for agricultural development rests predominantly on American shoulders. Asked to think about the effectiveness of measures to respond to the recent rise in global food prices, the largest percentage of respondents believe the most effective measure would be to persuade developing country governments to give greater priority to agricultural development (82 percent say this would be "very" or "somewhat" effective). In addition, 68 percent say getting developing countries to open their markets to food imports would be "very" (19 percent) or "somewhat" (49 percent) effective.

American Foreign Policy

While a majority of Americans think increasing agricultural productivity in poor countries is a "somewhat" or "very important" goal of U.S. foreign policy, this goal ranks seventh out of ten possible foreign policy goals. Majorities of Americans believe it is "very important" to secure adequate supplies of energy (74 percent), promote and defend human rights (55 percent), improve America's standing in the world (54 percent), and address health problems such as HIV/AIDS (50 percent). Fewer people believe that combating hunger (42 percent), increasing agricultural productivity (37 percent), reducing poverty worldwide (33 percent), and helping poor nations develop more rapidly (19 percent) are "very important" goals. The topics of hunger, health, and agricultural productivity seem to resonate more favorably than poverty and development assistance generally. It is also evident that goals seen as more directly related to U.S. interests, such as securing adequate supplies of energy and promoting human rights, generate more responses in the "very important" category.

However, the survey found a strong relationship between the highly rated foreign policy goal of improving U.S. standing in the world (54 percent think it is "very important") and agricultural development. When asked what steps the United States might take to improve its standing in the world, a strong majority of

respondents (77 percent) say that U.S. leadership in addressing global poverty by helping improve the productivity of poor farmers in developing countries would be "very" or "somewhat" important in achieving this goal. Only expanding U.S. leadership in addressing global public health problems such as AIDS and possible pandemics drew a stronger positive response, with 78 percent saying this would be "very" (33 percent) or "somewhat important" (45 percent) in improving America's standing. It is also important to keep in mind that when health/education and agricultural development are directly contrasted, 64 percent oppose increasing aid for agricultural development if it means cuts to aid for health and education.

Leaders Survey

The survey of U.S. government, nonprofit and business leaders clearly indicates strong support for increased focus on agricultural development. Indeed, combating world hunger ties with improving America's world standing as the top foreign policy goals among leaders, with 71 percent saying they are "very important."

Furthermore, high percentages of leaders also believe that reducing poverty worldwide (66 percent) and increasing agricultural productivity in poor countries (63 percent) are "very important" foreign policy priorities. Securing adequate supplies of energy is another priority for a significant number of leaders (69 percent).

While a majority of leaders label all of the seven goals asked about as "very important" (none was lower than 61 percent), there are some interesting differences in priorities among the different groups of leaders. Securing adequate supplies of energy and improving U.S. standing in the world are the two biggest concerns for Congress and members of associations. In contrast, combating world hunger is a top priority for members of the executive branch, NGOs, and think tanks, while securing adequate supplies of energy is relatively less important to them.

Research and Technology Key to Improving Agricultural Productivity

Much like the American public, a majority of leaders do not support direct food aid as an effective approach to dealing with global food issues. Only 19 percent think providing direct food aid would be a "very effective" way to respond to the recent rise in global food prices, the lowest among the five approaches provided.

Instead, leaders strongly favor research to aid agricultural development. Indeed, 93 percent support investing in research in universities in the developing world to cultivate new farming methods that would increase agricultural productivity as an approach to helping small farmers in poor countries. There is also a widespread perception among leaders (92 percent) that increasing investment in agricultural research would be an effective response to the recent rise in global food prices (57 percent "very effective" and 35 percent "somewhat effective").

While leaders consider investing in research as one of the best ways to advance agricultural development, a significant majority also favors agricultural technology transfer as a way to help poor farmers increase productivity. They strongly support providing new types of seeds, fertilizer, and equipment (83 percent), developing better infrastructure such as irrigation and roads (90 percent), and conducting agricultural research in U.S. universities (81 percent) as possible approaches to helping small farmers in poor countries become more productive.

In addition, a very large majority (85 percent) favors targeting assistance and education to women in farm families, a question that was not asked of the American public. American leaders are also not protectionist, with 87 percent in support of opening U.S. markets more fully to imports of farm products from poor countries.

Perceptions of Public Support for U.S. Assistance to Poor Farmers

Forty-seven percent of leaders believe that a majority of the general public would support a program to help small farmers in poor countries become more productive through conducting research and providing new types of seeds, fertilizer, equipment, infrastructure, and small loans. In addition, 50 percent of leaders who think the public would support this program believe that support would be greater than 60 percent. Forty percent think public views would be evenly divided, and only 11 percent think a majority of the public would oppose it.

The various leader groups do not differ much in their estimates of public support for a U.S. agricultural development program. Members of the executive branch, associations, NGOs, and think tanks who believe that a majority of the public would support such a program are slightly more optimistic in their estimates regarding the strength of this support. Small majorities of these three groups think that public support would be larger than 60 percent. In contrast, 56 percent of congressional leaders who believe a majority of the public would support a U.S. agricultural development program think this majority would be less than 60 percent.

U.S. Standing in the World

As mentioned above, leaders believe that improving America's standing in the world is a top foreign policy goal. The survey indicates that leaders think agricultural development could play a key role in accomplishing that task. Sixty percent of leaders agree addressing global poverty by helping to increase the productivity of poor farmers in developing countries would improve America's standing in the world, ranking second only to taking a leadership role in the international effort to limit climate change (62 percent).

Public and Leader Attitudes Compared

The American public and leaders both strongly support measures to combat world hunger and reduce world poverty, though neither group favors simply handing over direct food aid to struggling countries. Instead, majorities of both groups favor investing in agricultural research to help farmers in poor countries increase their productivity.

Majorities of both groups also agree that improving America's standing in the world (54 percent public, 71 percent leaders) is a "very important" foreign policy goal. While the general public places a greater relative priority on addressing global health issues as a means to accomplishing that goal, leaders believe addressing poverty by helping with agricultural productivity ranks a close second to taking the lead on climate change.

Both leaders and the public strongly support investing in research, which is clearly considered one of the best ways to improve agricultural productivity. Ninety-three percent of leaders and 77 percent of the public favor supporting

research in universities in the developing world to cultivate new farming methods as approaches to helping small farmers in poor countries, the highest level of support among both groups. There is also a common perception among leaders and the public that increasing investment in agricultural research would be an effective response to the recent rise in global food prices (92 percent leaders, 74 percent public).

Conclusion

There is widespread support among the public and leaders to restore the United States' global leadership in the war against poverty. Significant majorities believe that addressing global poverty by increasing the productivity of poor farmers in developing countries will improve America's standing in the world. A substantial portion of the public and leaders also believe combating world hunger should be a priority, with 71 percent of leaders making it a top foreign policy goal and 42 percent of the public saying it is "very important." Neither group widely supports direct food aid except in emergencies. Instead large majorities believe helping poor rural farmers increase productivity is the key to combating world hunger. To accomplish that goal, both groups strongly support investing in research in universities, providing better equipment, seeds and fertilizer and developing better infrastructure such as roads and irrigation.

APPENDIX C

The Chicago Council on Global Affairs

AGRICULTURAL DEVELOPMENT 2008: PUBLIC AND LEADERSHIP OPINION SURVEY

U.S. PUBLIC SURVEY RESPONSE DATA

August 2008

CONTENTS

DETAILED FINDINGS

Note: Numbers may not add up to 100% due to rounding. Numbers were calculated to two decimal places before final rounding. Where questions from this survey overlap with questions from The Chicago Council's regular series of public opinion surveys, the historic results are shown for comparison. The results of this Agricultural Development 2008 survey for the Global Agricultural Development Project (GADP) are listed as "2008 GADP (Internet)." The sample size for all questions is 1,094 unless otherwise noted.

Question 1

Question 1 (1-10): Below is a list of possible foreign policy goals that the United States might have. For each one, please select whether you think that it should be a very important foreign policy goal of the United States, a somewhat important foreign policy goal, or not an important goal at all.

1/1. Combating world hunger

	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Year					
1974	61	31	5	3	100
1978	59	31	5	5	100
1982	58	33	5	4	100
1986	63	31	4	2	100
1990	n/a	n/a	n/a	n/a	n/a
1994	56	36	6	2	100
1998	62	32	4	2	100
2002 (telephone)	61	35	4	--	100
2002 (Internet)	54	40	6	0	100
2004 (Internet)	43	47	9	2	100
2006 (Internet)	48	43	8	1	100
2008 POS (Internet)	46	45	8	1	100
2008 GADP (Internet)	42	43	14	1	100
Change in % points POS-GADP	-4	-2	+6	-0	

1/2. Improving America's standing in the world

	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Year					
2008 POS (Internet)	83	15	2	1	100
2008 GADP (Internet)	54	36	10	0	100
Change in % points POS-GADP	-29	+21	+8	-1	

1/3. Limiting climate change					
	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Year					
2008 POS (Internet)	42	40	18	1	100
2008 GADP (Internet)	39	38	22	1	100
Change in % points POS-GADP	-3	-3	+4	0	

1/4. Securing adequate supplies of energy					
	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Year					
1974	75	18	2	5	100
1978	78	15	2	5	100
1982	70	23	3	4	100
1986	69	25	3	3	100
1990	76	20	1	3	100
1994	62	30	5	3	100
1998	64	30	2	4	100
2002 (telephone)	75	21	2	2	100
2002 (Internet)	70	27	3	1	100
2004 (Internet)	69	27	2	2	100
2006 (Internet)	72	25	2	2	100
2008 POS (Internet)	80	18	2	1	100
2008 GADP (Internet)	74	23	4	0	100
Change in % points POS-GADP	-6	+5	+2	-1	

1/5. Helping poor nations develop more rapidly					
	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Year					
2008 GADP (Internet)	19	52	28	1	100

1/6. Strengthening the United Nations	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Year					
1974	46	32	14	8	100
1978	47	32	13	8	100
1982	48	32	13	7	100
1986	46	33	16	5	100
1990	52	36	8	4	100
1994	51	33	12	4	100
1998	45	39	11	5	100
2002 (telephone)	57	28	13	2	100
2002 (Internet)	55	33	12	1	100
2004 (Internet)	38	43	17	2	100
2006 (Internet)	40	39	19	2	100
2008 POS (Internet)	39	40	21	1	100
2008 GADP (Internet)	28	43	28	1	100
Change in % points POS-GADP	-11	+3	+7	+0	

1/7. Reducing poverty worldwide	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Year					
2008 GADP (Internet)	33	46	20	1	100

1/8. Increasing agricultural productivity in poor countries	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Year					
2008 GADP (Internet)	37	47	15	0	100

1/9. Addressing global health problems such as HIV/AIDS and possible pandemics	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Year					
2008 GADP (Internet)	50	38	12	0	100

1/10. Promoting and defending human rights					
	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Year					
2006 (Internet)	28	58	13	1	100
2008 POS (Internet)	31	57	12	0	100
2008 GADP (Internet)	55	37	8	0	100
Change in % points POS-GADP	+24	-20	-4	+0	

*2006 and 2008 question wording was "Promoting and defending human rights in other countries."

Summary of 1: U.S. Foreign Policy Goals

Ranking of U.S. Foreign Policy Goals (by Very Important)					
	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Goal					
1/4. Securing adequate supplies of energy	74	23	4	0.0	100
1/10. Promoting and defending human rights	55	37	8	0.3	100
1/2. Improving America's standing in the world	54	36	10	0	100
1/9. Addressing global health problems such as HIV/AIDS and possible pandemics	50	38	12	0	100
1/1. Combating world hunger	42	43	14	1	100
1/3. Limiting climate change	39	38	22	1	100
1/8. Increasing agricultural productivity in poor countries	37	47	15	0	100
1/7. Reducing poverty worldwide	33	46	20	1	100
1/6. Strengthening the United Nations	28	43	28	1	100
1/5. Helping poor nations develop more rapidly	19	52	28	1	100

Question 5 (1-5)

Question 5 (1-5): Below is a list of present federal government programs. For each, please select whether you feel it should be expanded, cut back, or kept about the same.

5/1. Economic Aid to Other Nations					
	Expand (%)	Cut Back (%)	Keep Same (%)	Not Sure (%)	Total (%)
Year					
1974	10	55	28	7	100
1978	11	50	31	8	100
1982	8	54	31	7	100
1986	11	48	35	6	100
1990	7	61	27	5	100
1994	9	58	28	5	100
1998	13	48	36	3	100
2002 (telephone)	14	48	35	3	100
2004 (telephone)	10	49	38	3	100
2004 (Internet)	8	64	26	2	100
2008 POS (Internet)	8	55	36	0	100
2008 GADP (Internet)	9	58	32	0	100
Change in % points POS-GADP	+1	+3	-4	+0	

5/2. Subsidies to U.S. farmers					
	Expand (%)	Cut Back (%)	Keep Same (%)	Not Sure (%)	Total (%)
Year					
2008 GADP (Internet)	42	26	31	1	100

5/3. Food aid to other nations					
	Expand (%)	Cut Back (%)	Keep Same (%)	Not Sure (%)	Total (%)
Year					
2008 GADP (Internet)	20	29	50	1	100

5/4. Agricultural development assistance to Africa and Asia					
	Expand (%)	Cut Back (%)	Keep Same (%)	Not Sure (%)	Total (%)
Year					
2008 GADP (Internet)	28	30	41	1	100

5/5. Support for international research to improve farming methods in developing countries					
	Expand (%)	Cut Back (%)	Keep Same (%)	Not Sure (%)	Total (%)
Year					
2008 GADP (Internet)	35	23	41	1	100

Summary of 5: Federal Government Programs – 2008 agriculture study data only

Ranking of U.S. Federal Government Programs (by expand)					
	Expand (%)	Cut Back (%)	Keep Same (%)	Not sure/ Decline (%)	Total (%)
Goal					
5/2. Subsidies to U.S. farmers	42	26	31	1	100
5/5. Support for international research to improve farming methods in developing countries	35	23	41	1	100
5/4. Agricultural development assistance to Africa and Asia	28	30	41	1	100
5/3. Food aid to other nations	20	29	50	1	100
5/1. Economic aid to other nations	9	58	32	0	

Question 10

Question 10: Just based on what you know, please tell me your hunch about what percentage of the federal budget goes to foreign aid. You can answer in fractions of percentage points as well as whole percentage points.

Mean: 24.35

Median: 20.00

Question 11

Question 11: What do you think would be an appropriate percentage of the federal budget to go to foreign aid, if any?

Mean: 13.34

Median: 10.00

Question 15

Question 15: Do you think that most of the very poor people in the world live on farms or live in cities?

10. Poor people farms or cities				
	Farms (%)	Cities (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 GADP (Internet)	29	71	0.7	100

Question 20

Question 20: Based on what you know, do you think that most farm labor in Africa is done by men or women?

20. Farm labor men or women				
	Men (%)	Women (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 GADP (Internet)	19	79	2	100

Question 30

Question 30: Overall, do you think the U.S. is doing enough or not doing enough to help reduce extreme poverty and hunger in the world?

30. U.S. efforts to reduce poverty and hunger				
	It is doing enough (%)	It is not doing enough (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 GADP (Internet)	62	37	1	100

Question 35

Question 35: You indicated the U.S. is not doing enough to help reduce extreme poverty and hunger in the world. How important do you think it is in the years ahead that the U.S. do more to help reduce extreme poverty and hunger?

35. Importance of U.S. efforts to reduce poverty/hunger					
	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Year					
2008 GADP (Internet)	61	38	1	0	100

Question 40

Question 40: Here are some arguments about the role of the U.S. and the international community in addressing the problems of hunger, malnutrition, and food production. Please say which argument comes closest to your point of view.

40. Role of U.S. in hunger/food production					
	The U.S. and the international community should focus on directly providing food because it saves lives and combats hunger, even though in some instances it has been shown to undercut local farmers by lowering food prices. (%)	The U.S. and the international community should directly provide food only in emergency situations and focus primarily on supporting agricultural development in poor countries, because it will help local farmers increase their incomes and the total supply of food, even though this is a more challenging and expensive long-term task. (%)	The U.S. and the international community should not provide food aid or agricultural development assistance but let poor countries fend for themselves because they know best how to solve their own problems. (%)	Not sure/ Decline (%)	Total (%)
Year					
2008 GADP (Internet)	13	73	13	1	100

Question 50

Question 50: Here are two arguments for and against the U.S. providing agricultural subsidies to American farmers. Please indicate which one is closer to your point of view.

50. Agricultural subsidies				
	It is unfair for U.S. farmers to get government subsidies so that they can sell their products below the cost of production, making it impossible for poor farmers in developing countries to compete. (%)	It is good for the U.S. to subsidize its farmers because then they are able to provide food to people around the world at very low prices, enabling poor countries to feed their populations and reducing hunger. (%)	Not sure/ Decline (%)	Total (%)
2008 GADP (Internet)	36	60	5	100

Question 65

Question 65 (1-5): When it comes to rich countries providing assistance to poor countries, here are some arguments for and against providing such assistance. For each argument, please say whether you agree strongly, agree somewhat, disagree somewhat, or disagree strongly.

65/1. Helping poor countries grow economically prevents social unrest and contributes to international stability.

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	Not sure/ Decline	Total
	(%)	(%)	(%)	(%)	(%)	(%)
2008 GADP (Internet)	22	51	22	4	1	100

65/2. In the long run, helping poor countries to develop is good for the U.S. economy because many of them will become trading partners who will buy American goods.

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	Not sure/ Decline	Total
	(%)	(%)	(%)	(%)	(%)	(%)
2008 GADP (Internet)	17	51	24	7	1	100

65/3. It is the moral duty of rich countries to help the poor countries out of poverty.

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	Not sure/ Decline	Total
	(%)	(%)	(%)	(%)	(%)	(%)
2008 GADP (Internet)	19	48	22	10	1	100

65/4. Development assistance is ineffective because it has to go through local governments and ends up in the pockets of corrupt officials.

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	Not sure/ Decline	Total
	(%)	(%)	(%)	(%)	(%)	(%)
2008 GADP (Internet)	30	48	19	2	1	100

65/6. Development assistance is not the best use of resources. It rarely works and everyone benefits more if developed countries concentrate their efforts on growing their own economies.

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	Not sure/ Decline	Total
	(%)	(%)	(%)	(%)	(%)	(%)
2008 GADP (Internet)	18	41	34	6	2	100

Question 70

Question 70: Suppose the developed countries set a goal of reducing world poverty by funding major programs to improve the agricultural productivity of poor farmers in Africa and Asia. Would you favor or oppose the United States committing to such a program, even if it meant cutting back on development assistance commitments in other areas such as health and education?

70. U.S commitment to poverty reduction program				
	Favor (%)	Oppose (%)	Not sure/ Decline (%)	Total (%)
2008 GADP (Internet)	35	64	2	100

Question 72

Question 72: Do you agree or disagree with the following statement:

Most of the really poor people in the developing world are small farmers who cannot produce enough to get out of poverty. Therefore efforts to reduce global poverty should focus on helping those small farmers become more productive.

72. Focus on small farmers				
	Agree (%)	Disagree (%)	Not sure/ Decline (%)	Total (%)
2008 GADP (Internet)	62	36	2	100

Question 75 (1-6)

Question 75 (1-6): Here are some possible approaches to helping small farmers in poor countries become more productive. Please tell me if you favor or oppose the U.S. government pursuing each of the following:

75. Approaches to helping small farmers in poor countries become more productive	Favor (%)	Oppose (%)	Not sure/ Decline (%)	Total (%)
75/1. Conducting research in U.S. universities to develop new farming methods that would increase agricultural productivity in poor countries	75	24	1	100
75/2. Supporting research in universities in the developing world to develop new farming methods that would increase agricultural productivity	77	22	1	100
75/3. Providing new types of seeds, fertilizer, and equipment to poor farmers that would help them improve their productivity	76	22	2	100
75/4. Providing small loans to poor farmers to help them purchase seeds, fertilizer, and farming equipment	63	36	1	100
75/5. Developing better infrastructure such as irrigation and roads in poor countries to help farmers grow and sell more	75	23	2	100
75/6. Opening the U.S. market more fully to imports of farm products from poor countries	42	56	2	100

Question 80 (1-8)

Question 80 (1-8): Now turning to something else, please select whether you think that international trade in farm products is good or bad for:

80/1. American companies	Good (%)	Bad (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 GADP (Internet)	61	37	2	100

80/2. The U.S. economy	Good (%)	Bad (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 GADP (Internet)	54	43	4	100

80/3. Consumers like you				
	Good (%)	Bad (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 GADP (Internet)	63	33	4	100

80/4. Creating jobs in the U.S.				
	Good (%)	Bad (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 GADP (Internet)	47	51	2	100

80/5. American farmers				
	Good (%)	Bad (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 GADP (Internet)	52	46	2	100

80/6. Farmers in poor countries				
	Good (%)	Bad (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 GADP (Internet)	74	24	2	100

80/7. Consumers in poor countries				
	Good (%)	Bad (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 GADP (Internet)	71	27	3	100

80/8. Poor countries' economies				
	Good (%)	Bad (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 GADP (Internet)	76	22	2	100

Question 90

Question 90: Here are some arguments for and against the increased use of ethanol produced from corn or other food crops as a transportation fuel. Which argument comes closest to your point of view?

90. Ethanol arguments				
	Using ethanol is a good idea because it is an American-made substitute for gasoline that reduces our dependence on foreign oil. (%)	Using ethanol is a bad idea because it reduces the supply of food and drives up food prices. (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 GADP (Internet)	51	47	2	100

Question 95

Question 95: Do you think the U.S. should put a higher priority on developing ethanol for transportation fuel, a lower priority, or about the same priority as now?

95. Priority of ethanol development					
	Higher priority (%)	Lower priority (%)	About the same priority as now (%)	Not sure/ Decline (%)	Total (%)
Year					
2008 GADP (Internet)	36	35	29	1	100

Question 110

Question 110: Currently there is a debate about providing poor farmers in developing countries with genetically modified seeds. Which argument is closer to your point of view?

110. GM seeds				
	Providing poor farmers in developing countries with genetically modified seeds, such as those that are drought and disease resistant, will increase their productivity and help them get out of poverty. (%)	Poor farmers in developing countries should not use genetically modified seeds because the effects on human health are not widely understood and accepted. (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 GADP (Internet)	61	37	2	100

Question 112 (1-8)

Question 112 (1-8): Overall, do you think globalization is good or bad for:

112/1. American companies				
	Good (%)	Bad (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 POS	52	44	4	100
2008 GADP (Internet)	58	38	5	100
Change in % points POS-GADP	+6	-7	+1	

112/2. The U.S. economy				
	Good (%)	Bad (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 POS	46	51	4	100
2008 GADP (Internet)	49	45	7	100
Change in % points POS-GADP	+3	-6	+3	

112/3. Consumers like you				
	Good (%)	Bad (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 POS	56	40	4	100
2008 GADP (Internet)	56	38	6	100
Change in % points POS-GADP	+0	-2	+2	

112/4. Creating jobs in the U.S.				
	Good (%)	Bad (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 POS	38	58	4	100
2008 GADP (Internet)	42	53	6	100
Change in % points POS-GADP	+4	-6	+2	

112/5. American farmers				
	Good (%)	Bad (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 GADP (Internet)	48	46	6	100

112/6. Farmers in poor countries				
	Good (%)	Bad (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 GADP (Internet)	67	26	7	100

112/7. Consumers in poor countries				
	Good (%)	Bad (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 GADP (Internet)	65	29	6	100

112/8. Poor countries' economies				
	Good (%)	Bad (%)	Not sure/ Decline (%)	Total (%)
Year				
2008 GADP (Internet)	69	24	7	100

Question 115

Question 115 (1-7): Some observers think that U.S. standing in the world has diminished over the last few years. Here are a few steps that some have suggested the U.S. might take to improve that standing. For each, please indicate if you think it would be very important, somewhat important, not very important, or not important at all.

115/1. Expanding U.S. leadership in addressing global public health problems such as AIDS and possible pandemics						
	Very important (%)	Somewhat important (%)	Not very important (%)	Not at all important (%)	Not sure/ Decline (%)	Total (%)
2008 GADP (Internet)	33	45	14	6	2	100

115/2. Becoming more involved in and supportive of multilateral organizations such as the UN						
	Very important (%)	Somewhat important (%)	Not very important (%)	Not at all important (%)	Not sure/ Decline (%)	Total (%)
2008 GADP (Internet)	22	40	24	12	3	100

115/3. Addressing global poverty by helping improve the productivity of poor farmers in developing countries						
	Very important (%)	Somewhat important (%)	Not very important (%)	Not at all important (%)	Not sure/ Decline (%)	Total (%)
2008 GADP (Internet)	30	47	16	6	2	100

115/4. Increasing U.S. development assistance to developing countries						
	Very important	Somewhat important	Not very important	Not at all important	Not sure/ Decline	Total
	(%)	(%)	(%)	(%)	(%)	(%)
2008 GADP (Internet)	15	46	28	10	2	100

115/5. Opening the U.S. market more fully to products from poor countries, especially farm products						
	Very important	Somewhat important	Not very important	Not at all important	Not sure/ Decline	Total
	(%)	(%)	(%)	(%)	(%)	(%)
2008 GADP (Internet)	15	42	31	11	2	100

115/6. Including developing countries more fully in the decision making of international organizations such as the World Bank						
	Very important	Somewhat important	Not very important	Not at all important	Not sure/ Decline	Total
	(%)	(%)	(%)	(%)	(%)	(%)
2008 GADP (Internet)	17	44	26	11	3	100

115/7. Taking a leadership role in the international effort to limit climate change						
	Very important	Somewhat important	Not very important	Not at all important	Not sure/ Decline	Total
	(%)	(%)	(%)	(%)	(%)	(%)
2008 GADP (Internet)	31	41	16	10	2	100

Question 120

Question 120 (1-5): Here are some measures that have been proposed in response to the recent rise in global food prices. For each one, please indicate if you think it could be very effective, somewhat effective, not very effective, or not at all effective as a way of responding to this increase.

120/1. Providing more food aid to countries where food price rises have caused the most distress						
	Very effective	Somewhat effective	Not very effective	Not at all effective	Not sure/ Decline	Total
	(%)	(%)	(%)	(%)	(%)	(%)
2008 GADP (Internet)	14	42	33	9	3	100

120/2. Increasing investment in agricultural research to improve farm productivity in developing countries						
	Very effective	Somewhat effective	Not very effective	Not at all effective	Not sure/ Decline	Total
	(%)	(%)	(%)	(%)	(%)	(%)
2008 GADP (Internet)	24	50	19	4	3	100

120/3. Opening developed country markets to greater imports of farm products from developing countries						
	Very effective	Somewhat effective	Not very effective	Not at all effective	Not sure/ Decline	Total
	(%)	(%)	(%)	(%)	(%)	(%)
2008 GADP (Internet)	16	49	26	5	4	100

120/5. Persuading developing country governments to give greater priority to agricultural development						
	Very effective	Somewhat effective	Not very effective	Not at all effective	Not sure/ Decline	Total
	(%)	(%)	(%)	(%)	(%)	(%)
2008 GADP (Internet)	34	48	13	2	3	100

120/6. Getting developing countries to open their markets to food imports						
	Very effective	Somewhat effective	Not very effective	Not at all effective	Not sure/ Decline	Total
	(%)	(%)	(%)	(%)	(%)	(%)
2008 GADP (Internet)	19	49	23	5	4	100

Question 125

Question 125: Please say whether you agree or disagree with the following statement:

A key lesson of the recent food crisis is that the world has given too little attention to improving agricultural productivity, especially in the developing countries. Much of the world's poverty is concentrated in those regions of Africa and Asia where small and less productive farms are concentrated. The U.S. led the scientific and development effort of the 1960s and 70s known as the Green Revolution and can provide the leadership in refocusing world attention on increasing agricultural productivity. Thus the U.S. should make it a priority to provide renewed international leadership in improving agricultural productivity for poor farmers.

125. Green Revolution				
	Agree	Disagree	Not sure/ Decline	Total
	(%)	(%)	(%)	(%)
2008 GADP (Internet)	74	25	1	100

APPENDIX D

The Chicago Council on Global Affairs

AGRICULTURAL DEVELOPMENT 2008: PUBLIC AND LEADERSHIP OPINION SURVEY

U.S. LEADERSHIP SURVEY RESPONSE DATA

Fall 2008

CONTENTS

DETAILED FINDINGS

Note: Numbers may not add up to 100% due to rounding. Numbers were calculated to two decimal places before final rounding. The sample size for all questions is 192 unless otherwise noted.

Question 1 (1-7)

Question 1 (1-7): To start, I am going to read you a list of statements about foreign policy. For each, please tell me if you think that it should be a very important foreign policy goal of the United States, a somewhat important foreign policy goal, a not very important foreign policy goal, or not an important goal at all.

1/1. Combating world hunger					
	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Congress	50	39	8	4	100
Executive Branch	71	27	2	0	100
NGO/Think Tank	84	16	0	0	100
Associations	67	33	0	0	100
Leaders (all)	71	27	2	1	100

1/2. Improving America's standing in the world					
	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Congress	69	27	4	0	100
Executive Branch	70	27	4	0	100
NGO/Think Tank	66	33	2	0	100
Associations	78	22	0	0	100
Leaders (all)	71	27	2	0	100

1/3. Limiting climate change					
	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Congress	54	35	8	4	100
Executive Branch	63	32	5	0	100
NGO/Think Tank	84	13	4	0	100
Associations	53	33	13	2	100
Leaders (all)	65	27	7	1	100

1/4. Securing adequate supplies of energy					
	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Congress	73	23	4	0	100
Executive Branch	57	38	5	0	100
NGO/Think Tank	67	29	2	2	100
Associations	80	18	0	2	100
Leaders (all)	69	28	3	1	100

1/5. Reducing poverty worldwide					
	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Congress	50	35	12	4	100
Executive Branch	66	29	5	0	100
NGO/Think Tank	78	18	4	0	100
Associations	60	36	4	0	100
Leaders (all)	66	29	5	1	100

1/6. Increasing agricultural productivity in poor countries					
	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Congress	46	42	8	4	100
Executive Branch	63	30	7	0	100
NGO/Think Tank	73	26	2	0	100
Associations	62	35	4	0	100
Leaders (all)	63	32	5	1	100

1/7. Addressing global health problems such as HIV/AIDS and possible pandemics					
	Very important (%)	Somewhat important (%)	Not important (%)	Not sure/ Decline (%)	Total (%)
Congress	46	42	8	4	100
Executive Branch	59	41	0	0	100
NGO/Think Tank	76	24	0	0	100
Associations	55	42	4	0	100
Leaders (all)	61	37	2	1	100

Question 2 (1-6)

Question 2 (1-6): For each of the following types of institutions or organizations that could help improve agricultural production in developing countries, please tell me if you think each may be very effective, somewhat effective, not very effective, or not effective at all in achieving this goal.

2/1. International institutions such as the World Bank

	Very effective (%)	Somewhat effective (%)	Not very effective (%)	Not effective at all (%)	Not sure/ Decline (%)	Total (%)
Congress	15	39	31	8	8	100
Executive Branch	21	57	16	2	4	100
NGO/Think Tank	20	47	27	6	0	100
Associations	31	42	20	7	0	100
Leaders (all)	23	47	22	5	2	100

2/2. American universities with well-developed agriculture programs

	Very effective (%)	Somewhat effective (%)	Not very effective (%)	Not effective at all (%)	Not sure/ Decline (%)	Total (%)
Congress	31	54	8	4	4	100
Executive Branch	38	48	11	0	4	100
NGO/Think Tank	31	62	7	0	0	100
Associations	24	67	9	0	0	100
Leaders (all)	31	58	9	1	2	100

2/3. Private companies specializing in agriculture and food production

	Very effective (%)	Somewhat effective (%)	Not very effective (%)	Not effective at all (%)	Not sure/ Decline (%)	Total (%)
Congress	27	42	27	0	4	100
Executive Branch	43	43	9	0	5	100
NGO/Think Tank	31	49	20	0	0	100
Associations	42	47	7	2	2	100
Leaders (all)	37	46	14	1	3	100

2/4. Government agencies such as the United States Agency for International Development

	Very effective (%)	Somewhat effective (%)	Not very effective (%)	Not effective at all (%)	Not sure/ Decline (%)	Total (%)
Congress	31	50	12	4	4	100
Executive Branch	34	43	20	0	4	100
NGO/Think Tank	22	60	16	0	2	100
Associations	20	64	13	4	0	100
Leaders (all)	26	55	16	2	2	100

2/5. Nongovernmental organizations such as CARE

	Very effective (%)	Somewhat effective (%)	Not very effective (%)	Not effective at all (%)	Not sure/ Decline (%)	Total (%)
Congress	31	54	12	0	4	100
Executive Branch	25	46	23	2	4	100
NGO/Think Tank	36	51	9	4	0	100
Associations	35	58	4	0	4	100
Leaders (all)	32	52	12	2	3	100

2/6. Universities and research institutes in developing countries

	Very effective (%)	Somewhat effective (%)	Not very effective (%)	Not effective at all (%)	Not sure/ Decline (%)	Total (%)
Congress	27	46	15	0	12	100
Executive Branch	43	46	5	2	4	100
NGO/Think Tank	36	58	6	0	0	100
Associations	38	44	15	0	4	100
Leaders (all)	38	49	9	1	4	100

Question 3

Question 3: Suppose the developed countries set a goal of reducing world poverty by funding major programs to improve the agricultural productivity of poor farmers in Africa and Asia. Would you favor or oppose the United States committing to such a program, even if it meant cutting back on development assistance commitments in other areas such as health and education?

3. U.S commitment to poverty reduction program				
	Favor (%)	Oppose (%)	Not sure/ Decline (%)	Total (%)
Congress	58	39	4	100
Executive Branch	46	41	13	100
NGO/Think Tank	73	20	7	100
Associations	64	33	4	100
Leaders (all)	60	32	7	100

Question 4 (1-7)

Question 4 (1-7): Here are some possible approaches to helping small farmers in poor countries become more productive. Please tell me if you favor or oppose the U.S. government pursuing each of the following:

4/1. Conducting research in U.S. universities to develop new farming methods that would increase agricultural productivity in poor countries				
	Favor (%)	Oppose (%)	Not sure/ Decline (%)	Total (%)
Congress	89	12	0	100
Executive Branch	84	14	2	100
NGO/Think Tank	75	22	4	100
Associations	82	16	2	100
Leaders (all)	81	17	2	100

4/2. Supporting research in universities in the developing world to develop new farming methods that would increase agricultural productivity				
	Favor (%)	Oppose (%)	Not sure/ Decline (%)	Total (%)
Congress	100	0	0	100
Executive Branch	93	5	2	100
NGO/Think Tank	96	4	0	100
Associations	87	13	0	100
Leaders (all)	93	6	1	100

4/3. Providing new types of seeds, fertilizer, and equipment to poor farmers that would help them improve their productivity				
	Favor (%)	Oppose (%)	Not sure/ Decline (%)	Total (%)
Congress	85	12	4	100
Executive Branch	77	23	0	100
NGO/Think Tank	84	16	0	100
Associations	89	9	2	100
Leaders (all)	83	16	1	100

4/4. Providing small loans to poor farmers to help them purchase seeds, fertilizer, and farming equipment				
	Favor (%)	Oppose (%)	Not sure/ Decline (%)	Total (%)
Congress	89	8	4	100
Executive Branch	82	16	2	100
NGO/Think Tank	93	4	4	100
Associations	73	26	2	100
Leaders (all)	83	14	3	100

4/5. Developing better infrastructure such as irrigation and roads in poor countries to help farmers grow and sell more				
	Favor (%)	Oppose (%)	Not sure/ Decline (%)	Total (%)
Congress	89	8	4	100
Executive Branch	89	11	0	100
NGO/Think Tank	91	7	2	100
Associations	91	7	2	100
Leaders (all)	90	8	2	100

4/6. Opening the U.S. market more fully to imports of farm products from poor countries				
	Favor (%)	Oppose (%)	Not sure/ Decline (%)	Total (%)
Congress	81	12	8	100
Executive Branch	88	5	7	100
NGO/Think Tank	93	6	2	100
Associations	82	15	4	100
Leaders (all)	87	9	5	100

4/7. Targeting assistance and education to women in farm families				
	Favor (%)	Oppose (%)	Not sure/ Decline (%)	Total (%)
Congress	81	19	0	100
Executive Branch	89	9	2	100
NGO/Think Tank	87	9	4	100
Associations	82	18	0	100
Leaders (all)	85	13	2	100

Question 5

Question 5: Which of the following arguments for and against the increased use of ethanol produced from corn or other food crops as a transportation fuel comes closest to your point of view?

5. Ethanol arguments				
	Using ethanol is a good idea because it is an American-made substitute for gasoline that reduces our dependence on foreign oil. (%)	Using ethanol is a bad idea because it reduces the supply of food and drives up food prices. (%)	Not sure/ Decline (%)	Total (%)
Congress	54	39	8	100
Executive Branch	20	63	18	100
NGO/Think Tank	15	82	4	100
Associations	46	53	2	100
Leaders (all)	30	62	8	100

Question 6

Question 6: Currently there is a debate about providing poor farmers in developing countries with genetically modified seeds. Which argument is closer to your point of view?

6. GM seeds				
	Providing poor farmers in developing countries with genetically modified seeds, such as those that are drought and disease resistant, will increase their productivity and help them get out of poverty. (%)	Poor farmers in developing countries should not use genetically modified seeds because the effects on human health are not widely understood and accepted. (%)	Not sure/ Decline (%)	Total (%)
Congress	89	8	4	100
Executive Branch	86	5	9	100
NGO/Think Tank	67	31	2	100
Associations	87	11	2	100
Leaders (all)	81	15	4	100

Question 7 (1-7)

Question 7 (1-7): Some observers think that U.S. standing in the world has diminished over the last few years. Here are a few steps that some have suggested the U.S. might take to improve that standing. For each, please indicate if you think it would be very important, somewhat important, not very important, or not important at all.

7/1. Expanding U.S. leadership in addressing global public health problems such as AIDS and possible pandemics

	Very important (%)	Somewhat important (%)	Not very important (%)	Not important at all (%)	Not sure/ Decline (%)	Total (%)
Congress	35	54	8	4	0	100
Executive Branch	45	48	5	0	2	100
NGO/Think Tank	58	35	7	0	0	100
Associations	38	51	9	0	2	100
Leaders (all)	45	46	7	1	1	100

7/2. Becoming more involved in and supportive of multilateral organizations such as the UN

	Very important (%)	Somewhat important (%)	Not very important (%)	Not important at all (%)	Not sure/ Decline (%)	Total (%)
Congress	35	39	19	8	0	100
Executive Branch	18	48	23	11	0	100
NGO/Think Tank	49	35	11	6	0	100
Associations	29	44	22	6	0	100
Leaders (all)	32	42	19	7	0	100

7/3. Addressing global poverty by helping improve the productivity of poor farmers in developing countries

	Very important (%)	Somewhat important (%)	Not very important (%)	Not important at all (%)	Not sure/ Decline (%)	Total (%)
Congress	50	39	8	0	4	100
Executive Branch	59	34	7	0	0	100
NGO/Think Tank	66	31	4	0	0	100
Associations	60	36	4	0	0	100
Leaders (all)	60	34	5	0	1	100

7/4. Increasing U.S. development assistance to developing countries

	Very important (%)	Somewhat important (%)	Not very important (%)	Not important at all (%)	Not sure/ Decline (%)	Total (%)
Congress	58	35	8	0	0	100
Executive Branch	48	38	9	2	4	100
NGO/Think Tank	55	40	6	0	0	100
Associations	36	49	11	2	2	100
Leaders (all)	48	41	8	1	2	100

7/5. Opening the U.S. market more fully to products from poor countries, especially farm products

	Very important (%)	Somewhat important (%)	Not very important (%)	Not important at all (%)	Not sure/ Decline (%)	Total (%)
Congress	42	39	4	12	4	100
Executive Branch	45	36	16	2	2	100
NGO/Think Tank	56	35	7	0	2	100
Associations	42	42	15	2	0	100
Leaders (all)	47	38	12	3	2	100

7/6. Including developing countries more fully in the decision making of international organizations such as the World Bank

	Very important (%)	Somewhat important (%)	Not very important (%)	Not important at all (%)	Not sure/ Decline (%)	Total (%)
Congress	35	50	12	4	0	100
Executive Branch	21	48	25	4	2	100
NGO/Think Tank	47	38	11	2	2	100
Associations	33	49	13	4	2	100
Leaders (all)	34	46	16	3	2	100

7/7. Taking a leadership role in the international effort to limit climate change

	Very important (%)	Somewhat important (%)	Not very important (%)	Not important at all (%)	Not sure/ Decline (%)	Total (%)
Congress	42	39	12	8	0	100
Executive Branch	61	36	2	0	2	100
NGO/Think Tank	78	15	4	4	0	100
Associations	55	27	15	4	0	100
Leaders (all)	62	28	7	3	1	100

Question 8 (1-5)

Question 8 (1-5): For each of the following measures that have been proposed in response to the recent rise in global food prices, please tell me if you think it could be very effective, somewhat effective, not very effective, or not at all effective as a way of responding to this increase.

8/1. Providing more food aid to countries where food price rises have caused the most distress

	Very effective (%)	Somewhat effective (%)	Not very effective (%)	Not effective at all (%)	Not sure/ Decline (%)	Total (%)
Congress	15	54	23	8	0	100
Executive Branch	13	50	29	9	0	100
NGO/Think Tank	20	53	24	4	0	100
Associations	26	51	16	7	0	100
Leaders (all)	19	52	23	7	0	100

8/2. Increasing investment in agricultural research to improve farm productivity in developing countries

	Very effective (%)	Somewhat effective (%)	Not very effective (%)	Not effective at all (%)	Not sure/ Decline (%)	Total (%)
Congress	62	35	4	0	0	100
Executive Branch	66	25	7	2	0	100
NGO/Think Tank	56	38	6	0	0	100
Associations	47	42	9	2	0	100
Leaders (all)	57	35	7	1	0	100

8/3. Opening developed country markets to greater imports of farm products from developing countries

	Very effective (%)	Somewhat effective (%)	Not very effective (%)	Not effective at all (%)	Not sure/ Decline (%)	Total (%)
Congress	42	50	8	0	0	100
Executive Branch	29	45	21	2	4	100
NGO/Think Tank	33	44	18	2	4	100
Associations	44	44	9	4	0	100
Leaders (all)	36	45	15	2	2	100

8/4. Persuading developing country governments to give greater priority to agricultural development						
	Very effective (%)	Somewhat effective (%)	Not very effective (%)	Not effective at all (%)	Not sure/ Decline (%)	Total (%)
Congress	39	58	4	0	0	100
Executive Branch	48	43	7	0	2	100
NGO/Think Tank	47	33	18	2	0	100
Associations	49	42	6	2	2	100
Leaders (all)	47	42	9	1	1	100

8/5. Getting developing countries to open their markets to food imports						
	Very effective (%)	Somewhat effective (%)	Not very effective (%)	Not effective at all (%)	Not sure/ Decline (%)	Total (%)
Congress	23	58	19	0	0	100
Executive Branch	30	54	14	0	2	100
NGO/Think Tank	15	49	29	6	2	100
Associations	31	46	20	4	0	100
Leaders (all)	25	51	21	3	1	100

Question 9

Question 9: I would like to know how you think the American public would feel about a U.S. program to help small farmers in poor countries become more productive through conducting research and providing new types of seeds, fertilizer, equipment, infrastructure, and small loans. Do you think:

9. Public support for programs to help small farmers					
	A majority would favor such a program (%)	A majority would oppose it (%)	Views would be evenly divided (%)	Not sure/ Decline (%)	Total (%)
Congress	50	19	31	0	100
Executive Branch	50	11	38	2	100
NGO/Think Tank	49	7	42	2	100
Associations	42	11	44	4	100
Leaders (all)	47	11	40	2	100

Question 9A

Question 9A: Would that be a majority smaller than 60% or larger than 60%?

9A. Majority smaller or larger than 60%				
	Smaller than 60% (%)	Larger than 60% (%)	Not sure/ Decline (%)	Total (%)
Congress	56	39	6	100
Executive Branch	44	50	6	100
NGO/Think Tank	42	55	3	100
Associations	41	52	7	100
Leaders (all)	45	50	5	100

APPENDIX E

The Chicago Council on Global Affairs

AGRICULTURAL DEVELOPMENT 2008: PUBLIC AND LEADERSHIP OPINION SURVEY

SURVEY METHODOLOGY

Public Survey

The public survey is based on the results of a survey commissioned by The Chicago Council on Global Affairs. The survey was conducted August 14-21, 2008, by Knowledge Networks (KN), a polling, social science, and market research firm in Menlo Park, California. The August survey has a total sample of 1,094 American adults. There were 1,148 completes but fifty-four cases were excluded due to item nonresponse and/or completing the survey in less than three minutes. The margin of sampling error is plus or minus 2.96 percentage points.

The survey was fielded using a randomly selected sample of KN's large-scale, nationwide research panel. This panel is itself randomly selected from the national population of households with telephones. These households are subsequently provided Internet access for the completion of surveys (and thus the sample is not limited to those in the population who already have Internet access). The distribution of the sample in the Web-enabled panel closely tracks the distribution of United States Census counts for the U.S. population eighteen years of age or older on age, race, Hispanic ethnicity, geographical region, employment status, income, education, etc. To reduce the effects of any nonresponse and noncoverage bias in panel estimates, a poststratification ranking adjustment is applied using demographic distributions from the most recent data from the Current Population Survey (CPS). The poststratification variables include age, race, gender, Hispanic ethnicity and education. This weighting adjustment is applied prior to the selection of any client sample from KnowledgePanel℠. These weights constitute the starting weights for any client survey selected from the panel.

Once the study data are returned from the field, the final qualified respondent data are subjected to an additional poststratification process to adjust for any nonresponse and noncoverage as a result of the study-specific sample design. The primary purpose of this poststratification adjustment is to reduce the sampling variance for any characteristics highly correlated with the representative study population's demographic and geographic totals (these are referred to as the population benchmarks). This adjustment also helps reduce bias due to survey nonresponse.

The panel is recruited using stratified random digit dialing (RDD) telephone sampling. RDD provides a nonzero probability of selection for every U.S. household with a telephone. Households that agree to participate in the panel are provided

with free Web access and an Internet appliance (if necessary), which uses a telephone line to connect to the Internet and uses the television as a monitor. For more information concerning the methodology of the U.S. sample, please visit the KN Web site at www.knowledgenetworks.com.

Leader Survey

The leader sample has a total sample size of 192 respondents. Given the nature of the target population, sampling of leaders was not random. The leader sample is based on the following breakdown: twenty-six members of Congress, fifty-six members of the executive branch, fifty-five respondents from relevant NGOs and think tanks, and fifty-five respondents from relevant business associations and corporations. It is not possible to compute a margin of sampling error for the leader sample because it is not a random sample of all possible leaders.

Nearly all of the respondents in the leader sample were interviewed by telephone. All of the respondents in the executive branch, NGO, think tank, business association, and corporation categories were interviewed by telephone. However, as a result of a poor response rate on the part of members of Congress (likely due to the financial crisis and proximity of the upcoming election at the time of the survey) GlobeScan attempted to recruit some additional respondents with an identical online version of the telephone survey. Thus, the Congressional group includes eighteen respondents interviewed by telephone and eight respondents interviewed online. There were no major noticeable cross-modal differences in congressional responses. All telephone interviews were conducted between September 8 and October 3, 2008. The online option to members of Congress was available between November 5 and 27, 2008.

GlobeScan and The Chicago Council selected leaders in different areas from comprehensive membership lists in each type of position (i.e., selecting congressional leaders based on relevant committee membership). These lists are good approximations of the population of leaders in each leader category included in the sample. This lends greater confidence in the generalizability of the sample to the population of leaders, at least as far as the population parameters are defined simply as active membership in each leader category. All leaders included in the sample are based in the United States, with the exception of USAID mission directors working abroad.

The leader survey employed a wide-ranging definition of what constitutes a "leader." Leaders included congressional members and senior staff; administration officials involved in agricultural development, foreign aid, and foreign policy; business leaders with interests related to international agriculture and development; high-ranking members of NGOs and think tanks that have a stake in agriculture and development; and presidents of major industry associations and interest groups with interests in agriculture and development. The motivation for including all of these groups under the category of "policy leaders" was that all of these groups have interest or knowledge of international development and agriculture.

Members of the House of Representatives and Senate were selected based on committee involvement. Committees covered included the Committee on Foreign Affairs; Committee on Foreign Relations; Committee on Appropriations;

and Committee on Agriculture, Nutrition, and Forestry. Subcommittees covered included the Subcommittee on the Middle East and South Asia; Subcommittee on State, Foreign Operations, and Related Programs; Subcommittee on Agriculture, Rural Development, Food and Drug Administration, and Related Agencies; Subcommittee on Commerce, Justice, Science, and Related Agencies; Subcommittee on International Organizations, Human Rights, and Oversight; Subcommittee on Specialty Crops, Rural Development, and Foreign Agriculture; Subcommittee on Energy and Water Development; Subcommittee on Conservation, Credit, Energy, and Research; Subcommittee on Africa and Global Health; Subcommittee on Livestock, Dairy, and Poultry; Subcommittee on Horticulture and Organic Agriculture; Subcommittee on Asia, the Pacific, and the Global Environment; Subcommittee on General Farm Commodities and Risk Management; and Subcommittee on Department Operations, Oversight, Nutrition, and Forestry. If the House or Senate member was not available, the interview was conducted with a senior staffer responsible for foreign affairs.

Administration officials were chosen based on involvement in international development and agriculture. Officials were also selected based on the relative permanency of their position in an attempt to capture professional bureaucrats rather than officials who are temporary appointments that will change with the incoming administration. These officials included those from the African Development Foundation, the Foreign Agricultural Service, the United States Agency for International Development, the United States Department of Agriculture, the Department of State, the Department of Energy, the Environmental Protection Agency, the Department of the Treasury, and the Executive Office of the President.

Leaders of NGOs and business associations were chosen based on vested interest in international development and agriculture. These leaders included those from CARE, World Vision Inc., the Grameen Foundation, and Catholic Relief Services, among others. The list of business associations included the National Council of Farmer Cooperatives, the Biotechnology Industry Organization, the American Bankers Association, the American Meat Institute, the Association of Equipment Manufacturers, the National Association of State Universities and Land-Grant Colleges, the American Association of Crop Insurers, the Irrigation Association, the Food Marketing Institute, the National Farmers Organization Inc., the Livestock Marketing Association, the National Corn Growers Association, the American Farm Bureau Federation, the National Association of State Departments of Agriculture, the Tobacco Merchants Association, the National Association of Home Builders, the American Iron and Steel Institute, the National Association for the Specialty Food Trade Inc., the American Manufacturers Association, the United States Council for International Business, the American Seed Trade Association, and the National Academy of Sciences, among others.

The list of interest and advocacy groups was also chosen based on vested interest in international development and agriculture issues. These groups included the American Family Association, the National Association of Evangelicals, the Christian Coalition of America, Concerned Women of America, the National Council of the Churches of Christ in the USA, the United States Conference of Catholic Bishops, the Pew Charitable Trusts, the Traditional Values Coalition, and the American Civil Liberties Union, among others.

APPENDIX F

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APPENDIX G

SELECT AGRICULTURAL EDUCATION AND RESEARCH INSTITUTIONS IN SUB-SAHARAN AFRICA AND SOUTH ASIA

This list identifies education and research institutions in Sub-Saharan Africa and South Asia that have, or have had, partnerships with the Consultative Group on International Agricultural Research and/or U.S. institutions through the Higher Education Program for Agricultural Development and Collaborative Research Support Programs.

Sub-Saharan Africa

Education

Angola
Universidade Agostinho Neto

Benin
University of Benin

Botswana
Botswana College of Agriculture
University of Botswana

Burkina Faso
University of Oagagadougou
Burundi
Ngozi University

Eritrea
University of Asmara

Ethiopia
Addis Ababa University
Alemaya University
Axum University
Bahir Dar University
Debub University
Haramaya University
Mekelle University

Ghana
Kwame Nkrumah University of Science and Technology
University of Ghana, Legon & Accra

Kenya
Egerton University
Jomo Kenyatta University of Agriculture and Technology
Moi University
University of Nairobi

Liberia
University of Liberia

Malawi
University of Malawi

Mali
University of Bamako

Mozambique
Eduardo Mondlane University

Namibia
University of Namibia

Nigeria
Abubaker Tafawa Balewu University, School of Agriculture
Ahmadu Bello University, Institute of Agricultural Research
Amadou Bello University
Hawassa University
University of Maiduguri
Obafemi Awolowo University

Rwanda
Kigali Institute of Science and Technology
Universite Nationale du Rwanda

Senegal
Ecole Nationale d'Economie Appliquée
Ecole Nationale Superieure D'Agriculture
Université Cheikh Anta Diop
University of Thies

South Africa
University of Eastern Cape
University of KwaZulu – Natal
University of Port Elizabeth
University of Pretoria
Universiteit Stellenbosch
University of the Free State
University of the North

Tanzania
Sokoine University of Agriculture
University of Dar es Salaam

Uganda
Makerere University

Zambia
University of Zambia

Zimbabwe
University of Zimbabwe

Research

Benin
Africa Rice Center
International Institute of Tropical Agriculture

Burkina Faso
Institut de l'Environnement et de Recherches Agricoles
Institut de l'Environmentet des Recherches Office de Kamboince
Institut de Recherche en Sciences Appliqées et Technologiques

Cameroon
Institut de Recherche Agricole pour le Développement
International Institute of Tropical Agriculture

Côte d'Ivoire
Africa Rice Center

Democratic Republic of Congo
International Institute of Tropical Agriculture

Ethiopia
Amhara Regional Agricultural Research Institute
Ethiopian Institute of Agricultural Research
International Livestock Research Institute
International Water Management Institute
Oromia Agricultural Research Institute

Gambia
National Agricultural Research Institute

Ghana
Crop Research Institute
Food Research Institute
International Institute of Tropical Agriculture
International Water Management Institute
Noguchi Memorial Institute for Medical Research
Savannah Agriculture Research Institute

Guinea
Institut de recherché agronomique de Guinée

Kenya
International Crops Research Institute for the Semi-Arid Tropics
International Institute of Tropical Agriculture
International Livestock Research Institute
Kenya Agricultural Research Institute
National Range Research Center
World Agroforestry Center

Malawi
International Institute of Tropical Agriculture
International Crops Research Institute for the Semi-Arid Tropics

Mali
Insitut de l'Environment et de Recherches Agricoles
Institut du Sahel
Institut Polytechnique Rural de Formation et de Recherche Appliqueé de Katibougou
Institute D'Economie Rurale
International Livestock Research Institute
International Crops Research Institute for the Semi-Arid Tropics

Mozambique
Instituto de Investigacao Agraria de Mocambique
International Livestock Research Institute
International Institute of Tropical Agriculture
International Crops Research Institute for the Semi-Arid Tropics

Niger
Institut National de la Recherche Agronomique du Niger
International Crops Research Institute for the Semi-Arid Tropics
International Livestock Research Institute

Nigeria
Africa Rice Center
International Institute of Tropical Agriculture
International Livestock Research Institute
Lake Chad Research Institute

Senegal
Africa Rice Center
Center of Research and Ecotoxicology of the Sahel
Institut de Technologie Alimentaire
Institut Senegalais de Recherches Agricoles
Réseau Africain de Développement de l'Horticulture

South Africa
Agricultural Research Council - Grain Crops Institute
International Water Management Institute

Tanzania
Africa Rice Center
Agriculture Research and Training Institute, Ukiriguru
Agriculture Research Institute, Uyole
Eastern and Central Africa Bean Research Network
International Institute of Tropical Agriculture
Mpwapwa Livestock Research Institute
Serere Agricultural and Animal Production Research Institute
Tanzania Coffee Research Institute
Tanzanian Wildlife Research Institute

Uganda
Coffee Research Institute
International Institute of Tropical Agriculture
National Agricultural Research Organisation

Zambia
Zambia Agriculture Research Institute

Zimbabwe
International Crops Research Institute for the Semi-Arid Tropics

South Asia

Education

Bangladesh
Bangabandu Shiekh Mujibur Rahman Agricultural University
Bangladesh Agricultural University

India
Andhra Pradesh Agricultural University
Indian Institute of Management
Punjab Agricultural University
Sri Venkateswara University
Tamil Nadu Agricultural University
University of Agricultural Sciences, Bangalore
University of Hyderabad

Nepal
Tribhuvan University

Research

Bangladesh
Bangladesh Agricultural Research Institute

India
Indian Agricultural Research Institute
International Crops Research Institute for the Semi-Arid Tropics
International Livestock Research Institute
World Agroforestry Centre

Nepal
Institute of Agriculture and Animal Science

Sri Lanka
International Water Management Institute

APPENDIX H

The Chicago Council on Global Affairs

MODERNIZING AMERICA'S FOOD AND FARM POLICY: VISION FOR A NEW DIRECTION

Report of the 2006 Agriculture Task Force

EXECUTIVE SUMMARY

The place of food and agriculture on the American national policy agenda has never been more critical. American consumers have long taken for granted a diverse, plentiful supply of safe, nutritious, and affordable food. American farmers have long enjoyed competitive advantages in food production, the resilience of U.S. natural resources, and a vibrant export trade. From 1950 to 2002 American agriculture enjoyed a 2.1 annual percent increase in total factor productivity, while the percent of personal disposable income spent on food by U.S. households dropped by nearly one-half, from 20 percent to 10 percent.

Food policy is critical not simply to the farm community, but to the nation. Its economic impacts are far-reaching. The food system—production, farm input and supply, food processing, distribution, and retail—not only feeds the nation but also provides up to 12 percent of American jobs and a similar proportion of the country's gross domestic product. It includes many of our leading corporations and has been a rare positive and continuing bright spot in the country's otherwise negative balance of trade. Agriculture affects regional economies throughout America, and food policy affects our health, our safety, our environment, our culture, and our global relationships. Agricultural trade can become a catalyst for change in developing countries, and biofuels offer America an alternative to dependence on unreliable overseas sources of fossil fuels.

Current trends, however, indicate that current agriculture policies are not sufficient for addressing the challenges facing farmers and the nation as a whole. Federal farm programs, while remaining popular with many producers, are not serving U.S. agriculture as well as in the past and are having unintended consequences. These programs have traditionally been justified as a way to provide insulation against market fluctuations and keep more small farms in business. Current programs do, in fact, increase incomes and provide some protection against sharp market changes. But rather than keep smaller farmers on the land, they have contributed to farm consolidation and higher land prices. This, in turn, makes it more difficult for younger farmers to enter farming. In many cases the programs also discourage producers of program commodities from switching crops as markets change and undermine the incentive to innovate and develop the specialty products today's consumers want.

Continued U.S. backing of our current farm programs is also one of the major reasons for the recent collapse of the World Trade Organization's (WTO) Doha Round of negotiations. The view of this as a positive development by some U.S. farm groups is shortsighted. If it can be restarted, the Doha Round could be a catalyst for expanding markets for U.S. food and agricultural products. Additionally, our current farm programs are vulnerable to WTO litigation for breaking current international trade rules. We run the risk of losing these programs through litigation without receiving the benefits that a negotiated Doha Round agreement would provide. Farm programs that serve a smaller and smaller portion of farmers may also be vulnerable to Congressional budget-cutting because of their continuing high cost and perceived inequity at a time of historic deficits.

To be efficient and environmentally sustainable, agricultural production must be flexible and responsive to market opportunities. The biggest opportunity for American farmers today is in the new markets created by dramatically changing patterns of demand:

- Economic growth in developing countries
- Population growth and evolving consumption patterns in both the United States and developing countries
- The expanding role of agriculture in energy production

To secure these new markets, farm production must reorient itself to today's changing world, and public policy must support this goal. The Task Force is optimistic about the future of American agriculture. Those countries whose governments allow and encourage their farmers best to compete will win new domestic and international markets resulting from anticipated growth in food demand, new bio-based sources of energy, and better stewardship of natural resources. For the United States, this result is within reach. We enjoy competitive advantages in our natural resource base, production technology, and infrastructure. Our financial infrastructure, from cash and futures markets to credit and sophisticated investment services, provides an essential foundation for farmers, agribusinesses, and rural communities.

To maintain leadership, American policymakers must adopt a new vision, replace outdated approaches, and reform ineffective programs. In 2007 Congress will craft a farm bill to set the course of American policy for the next five years or more. Every American has a stake in this process. The global economy as a whole stands to benefit or lose. The farm bill covers not just farming, but helps set national policy on nutrition, rural development, conservation, agricultural research, trade, food safety, and a host of related topics. It has a substantial impact on consumers through the cost, quality, availability, diversity, purity, and sustainability of the food we feed our families. Now is the time to put new ideas on the table so they can be debated, understood, refined, and fully considered.

The Task Force's program for change covers seven crucial, interlinked areas of food and agricultural policy. In general, the 2007 farm bill should use funds made available from the elimination of current programs and price supports to provide a blend of new non-trade-distorting alternatives, including revenue insurance,

transition measures, and investments that support the agriculture sector as a whole such as for research, conservation, and rural development. The Task Force's principal recommendations are described below.

A. Growing New Markets

The United States needs to make a commitment to getting the Doha Round restarted. We must recognize that reform of U.S. agricultural policies is in our best interest in order to ensure a competitive and sustainable agricultural sector. It is essential that multilateral trade negotiations continue and result in an agreement that opens markets, promotes growth in developing countries, and levels the competitive playing field. The long-term success of the Doha negotiations is critical to the future of American agriculture and that of other efficient farmers in developed and developing countries alike. Efforts by government and farm community leaders should be directed toward this end. The United States must renew its offer to change our current domestic programs as well as its few remaining U.S. export subsidies. This will empower our trade negotiators to win the strongest agreement for American export growth. It will additionally be critical for Congress to renew the president's Trade Promotion Authority, set to expire in July 2007, so that an eventual multilateral trade agreement can be successfully navigated through Congress.

The sector's competitiveness will also rely on the availability of sufficient labor at a variety of fair and livable wage scales. Immigrant workers play a vital role in fulfilling these labor requirements and the Task Force urges the enactment of comprehensive immigration reform to ensure that the agriculture and food sectors can continue to have access to needed labor.

B. A New Regime for Domestic Support

The setback in the Doha Round should not be used as an excuse to avoid needed changes to our domestic support programs. A new approach should address distortions current policy causes in farm structure and production as well as serve a broader range of producers.

We propose that the entire grouping of product-specific, trade-distorting income and support programs, including countercyclical and loan deficiency payments, price supports, and federal crop insurance and disaster payments, be replaced with a new portfolio of approaches that are nondistorting and compliant with WTO green box rules, including:

- Direct payments that are delinked from specific types of production and from market conditions so as to comply fully with green box standards and that are only used during a transition period until other approaches are fully developed
- A universal revenue insurance program covering all commodities on a multi-product basis that allows farmers to purchase coverage at subsidized rates to protect against losses in price and in production
- A new land stewardship program that recognizes and rewards the value of the environmental contributions made by farmers and pays producers according to the kind and amount of environmental goods and services they provide

- Farmer savings accounts similar in structure to tax-deferred 401(k) accounts that are backed by government matching contributions and that could be tapped for a variety of farm household costs, including health care, education, or retirement savings
- A significant investment in public goods that benefit the entire farm sector, including research and infrastructure projects; not less than 20 percent of the federal baseline funds currently committed to trade-distorting domestic support programs (in addition to money spent on stewardship and conservation programs) should be redirected to investments in these sectorwide public goods
- Transition measures to protect farmers and owners of rented farmland against investment losses such as declining land values as a result of the proposed changes to support programs

The proper development, experimentation, and implementation of these new programs will take time, but should be accomplished within the five-to-six-year term of the next farm bill.

C. Balancing Hunger and Nutrition

An integral part of U.S. agriculture policy is food policy, particularly providing food to vulnerable populations. While the United States can be proud that nutrition education and food access programs have served millions of low-income Americans, hunger persists, and the country today faces an alarming rise in dietary health problems. Diseases linked to nutritional imbalance are reaching epidemic levels, especially among the poor, who are the principal beneficiaries of federal nutrition programs. Obesity now plagues more than sixty million American adults, and nearly twenty-one million Americans are affected by diabetes. Yet federal nutrition and hunger mitigation programs have failed to reorient themselves effectively to address these critical new problems.

The Task Force believes that federal feeding programs such as the Women, Infants, and Children program (WIC) and the Food Stamp Program should be formally linked to nutritional goals as outlined by USDA and the Department of Health and Human Services in their published dietary guidelines. The recently issued regulations on current WIC commodity allocations need to be finalized to add fruits and vegetables as an eligible category. For the Food Stamp Program, modern checkout counter technology can and should be used to make the least nutritious foods ineligible, to magnify the value of stamps used to purchase the most nutritious foods, and to shrink the value of stamps used to purchase less nutritious foods.

Similar steps should be taken to reorient other nutrition programs such as the National School Lunch Program to comply with published dietary guidelines and to institute accompanying education programs. Schools that reflect the dietary guidelines in their meals and ban products with low nutritive value from vending machines would receive higher subsidies, while payments would be lowered for those schools that did not. We recognize that many school districts, and even some states, are moving in this direction already.

D. Safeguarding Land and Water

Farmers and ranchers are the stewards of about one-half of the land surface of the United States. They play a critical role in safeguarding the nation's land and fresh water. In addition to the new land stewardship program proposed as part of the fundamental restructuring of domestic support programs, land use planning efforts must be strengthened; spending on research and technical assistance must be restored; and clear, aggressive goals must be established for existing programs, stressing the efficient use and protection of water resources and other effective conservation practices.

E. Bolstering Rural Communities

Rural communities today are less dependent on farming than ever before, and most farmers earn the majority of their living from nonfarm sources, including tourism, small businesses, and regional distribution networks. The Task Force proposes that Congress reorient programs to help rural communities diversify their economic structures and create off-farm jobs. Specific initiatives should target improving education, health, and infrastructure, including universal access to modern information technologies such as broadband Internet access and providing a more investment-friendly environment.

F. Renewable Energy from Agriculture

The federal government should continue to support research on biofuels as a meaningful alternative to unreliable sources of fossil fuel. Current subsidies, in combination with support under the Energy Policy Act of 2005, are adequate to seed these new industries. Research should focus on new technologies to produce usable energy from cellulose or other feedstock that can be grown on lesser-quality land. Federal support programs must insist that as these biofuel industries mature and market conditions permit, companies benefiting from biofuel subsidies and import restrictions develop business models that ultimately accommodate a scaling back of such federal support to levels consistent with those given to other fuel production sectors.

G. Global Hunger and U.S. Food Aid

Food aid remains a moral imperative in times of disaster and a key foreign policy tool for the United States. To make it more efficient and effective, the Task Force proposes the following:

- Current concessional loans to foreign governments should be eliminated and replaced with support for the McGovern-Dole International Food for Education and Child Nutrition Program, an overseas school feeding initiative.
- Funding requirements for cargo preference should be shifted from USDA to the Department of Defense. Savings in the agriculture account of the budget could then be used to purchase food aid from local producers in developing countries.

The Task Force's goal is to advocate its view of the best direction for public policy. It recognizes that once the direction is chosen, the process of change will have just begun. It will take much hard work to flesh out these ideas and translate them into workable, sound legislation, particularly in the domestic support area. Leadership will be essential to break old habits. Stakeholders in this effort include interests both in and beyond the agricultural sector. The Task Force urges voices from across the spectrum of American life, including business, consumers, trade, development, health, nutrition, and conservation, to join the debate. Change will occur whether or not we plan for it. The question is whether we will have the foresight to embrace change and shape it to our benefit, or whether we will allow ourselves to become its victims.

APPENDIX I

"BEST-BETS" FOR LARGE-SCALE AGRICULTURAL RESEARCH INVESTMENTS

The Consultative Group on International Agricultural Research (CGIAR) and the International Food Policy Research Institute (IFPRI) have identified several examples of "best bets" for large-scale research investments, ranging between US$10 million and US$150 million each over five years. These programs are focused on three strategic areas: food for the people, environment for the people, and innovation for the people. Key opportunities include:

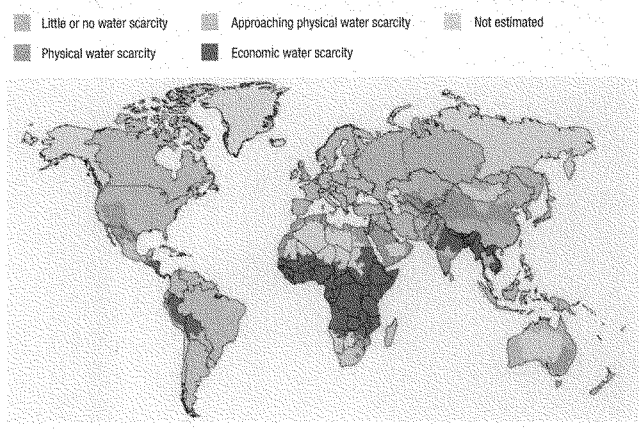
1. **Revitalizing Yield Growth in the Intensive Cereal Systems of Asia**
   Estimated investment: US$150 million over five years
   People reached: 3 billion
2. **Increasing Fish Production in Sub-Saharan Africa and South Asia**
   Estimated investment: US$73.5 million
   People reached: 32 million
3. **Controlling Wheat Rust**
   Estimated investment: US$37.5 million
   People reached: 2.88 billion
4. **Developing a Disseminating a Vaccine for East Coast Fever in Cattle**
   Estimated investment: US$10.5 million
   People reached: 20 million, with additional indirect effects on many more
5. **Developing and Disseminating Drought-Resistant Maize in Africa**
   Estimated investment: US$100 million
   People reached: 320 million, with additional indirect effects on many more
6. **Scaling Up Biofortification**
   Estimated investment: US$125 million
   People reached: up to 672 million
7. **Increasing Carbon Sequestration and the Livelihoods of Forest People**
   Estimated investment: US$45 million
   People reached: 48 million
8. **Conducting Climate Change and Adaptation Research**
   Estimated investment: US$127.5 million
   People reached: 1.18 billion

9. **Combining Organic and Inorganic Nutrients for Increased Crop Productivity**
   Estimated investment: US$55 million
   People reached: 400 million
10. **Promoting Sustainable Groundwater Use in Agriculture**
    Estimated investment: US$24 million
    People reached: 261 million
11. **Expanding the Exchange of Genetic Resources**
    Estimated investment: US$15 million
    People reached: global impact, with a focus on developing countries
12. **Improving Small Farmer Access to Trade, Market, and Value Chain Systems**
    Estimated investment: US$10.5 million
    People reached: 45 million
13. **Ensuring Women's Participation in Agriculture**
    Estimated investment: US$30 million
    People reached: 200 million
14. **Connecting Agriculture and Health**
    Estimated investment: US$75 million
    People reached: global

Source: IFPRI 2008.

APPENDIX J

WATER SCARCITY



Definitions and Indicators

Little or no water scarcity. Abundant water resources relative to use, with less than 25% of water from rivers withdrawn for human purposes.

Physical water scarcity (water resources development is approaching or has exceeded sustainable limits). More than 75% of river flows are withdrawn for agriculture, industry, and domestic purposes (accounting for recycling of return flows). This definition—relating water availability to water demand—implies that dry areas are not necessarily water scarce.

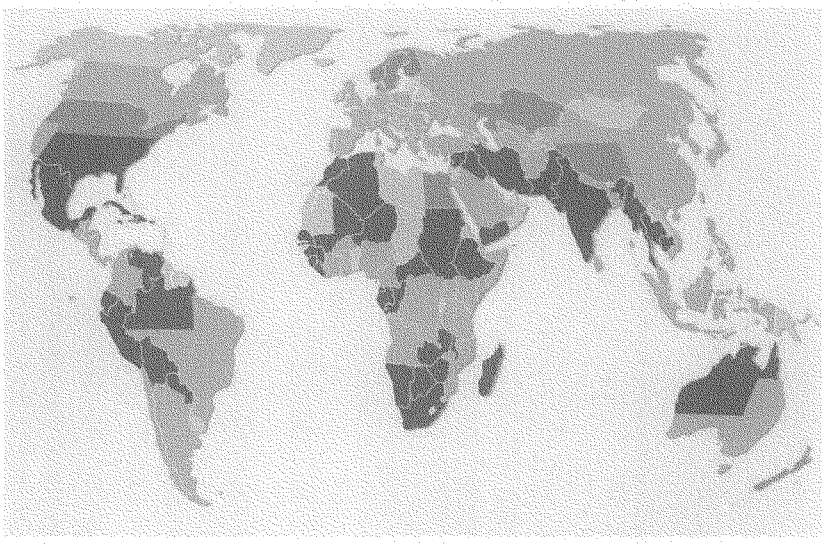
Approaching physical water scarcity. More than 60% of river flows are withdrawn. These basins will experience physical water scarcity in the near future.

Economic water scarcity (human, institutional, and financial capital limit access to water even though water in nature is available locally to meet human demands). Water resources are abundant relative to water use, with less than 25% of water from rivers withdrawn for human purposes, but malnutrition exists.

Sources: International Water Management Institute analysis done for the Comprehensive Assessment of Water Management in Agriculture using the Watersim model; Chapter 2.

APPENDIX K

CLIMATE CHANGE



Projected changes in agricultural productivity 2080 due to climate change, incorporating the effects of carbon fertilization.

-50% -15% 0 +15% +35% No data

With our climate changes, we have to adapt our ways to a new environment—in most cases warmer and possibly wetter and drier. Projections on the climate in the future provide some guidance for us, but how can we create models for how the human society reacts? This map presents a rough idea of changes in agricultural output from increased temperatures, precipitation differences, and carbon fertilization for plants. Projecting climate is one thing, but agriculture adds multiple dimensions of complexity—extreme events, crop rotations, crop selection, breeds, irrigation, erosion, soils, and much more.

Sources: Cline, W. R. 2007. Global Warming and Agriculture: Impact Estimates by Country. Washington DC, USA: Peterson Institute.

LEADERS GROUP

BIOGRAPHIES

COCHAIRS

Catherine Bertini
Former Executive Director, World Food Program
The United Nations

Catherine Bertini is a professor of public administration at the Maxwell School of Citizenship and Public Affairs at Syracuse University and a senior fellow in agricultural development at the Bill & Melinda Gates Foundation. Ms. Bertini previously served as UN under-secretary-general for management (2003-2005) and as executive director of the UN World Food Program, the world's largest international humanitarian aid agency (1992-2002). Before serving at the UN, Ms. Bertini was USDA assistant secretary for food and consumer services, where she ran the nation's $33 billion domestic food assistance programs. She also served at the Department of Health and Human Services, the Illinois Human Rights Commission, and the Container Corporation of America. In 2003 she was awarded the prestigious World Food Prize—the foremost international award recognizing the achievements of individuals who have advanced human development by improving the quality, quantity, or availability of food in the world. Ms. Bertini earned a bachelor's degree in political science from the State University of New York at Albany.

Dan Glickman
Former Secretary of Agriculture
United States Department of Agriculture

Dan Glickman is the chairman and CEO of the Motion Picture Association of America, Inc. (MPAA). Prior to joining the MPAA in September 2004, Mr. Glickman was the director of the Institute of Politics at Harvard University's John F. Kennedy School of Government (2002-2004). Mr. Glickman served as the secretary of agriculture from March 1995 until January 2001. Under his leadership, the department focused extensively on improving America's diet and nutrition, fighting hunger, and forging international trade agreements to expand U.S. markets. Before his appointment as secretary of agriculture, Mr. Glickman served for eighteen years in the U.S. House of Representatives, representing Kansas' 4th Congressional District. Before his election to Congress in 1976, Mr. Glickman served as president of the Wichita, Kansas, school board; was a partner in the law firm of Sargent, Klenda

and Glickman; and worked as a trial attorney at the U.S. Securities and Exchange Commission. He received his BA in history from the University of Michigan and his JD from the George Washington University.

MEMBERS

Carol Bellamy
President and CEO
World Learning

Carol Bellamy is the president and CEO of World Learning. Ms. Bellamy previously served ten years as executive director of UNICEF. She was also the first former volunteer to become director of the Peace Corps. Bellamy has worked in the private sector at Bear, Stearns & Co.; Morgan Stanley; and Cravath, Swaine & Moore. She spent thirteen years as an elected public official, including five years in the New York State Senate. In 1978 she became the first woman to be elected to citywide office in New York City.

Doug Bereuter
President and CEO
The Asia Foundation

Doug Bereuter is the president and CEO of The Asia Foundation. From 1979 until 2004 he served in the U.S. House of Representatives, representing Nebraska's 1st Congressional District. He has served as an infantry and intelligence officer in the U.S. Army, practiced and taught graduate courses in urban and regional planning, led various agencies and programs in Nebraska state government, and served one four-year term as a Nebraska state senator.

Eva M. Clayton
Former U.S. Representative
North Carolina

Eva Clayton is president of Eva Clayton Associates International and heavily involved in global hunger, poverty elimination, rural development, and sustainable agriculture issues. She served five terms (1993-2003) in the U.S. House of Representatives on behalf of North Carolina's 1st Congressional District. While in Congress she served as chair of the Congressional Black Caucus Foundation. After Congress, Clayton accepted a three-year assignment with the Food and Agriculture Organization of the United Nations in Rome, Italy, as assistant director-general and special adviser to the director-general.

Tony P. Hall
Former U.S. Representative
Ohio

Tony Hall represented Ohio's 3rd Congressional District in the U.S. House of Representatives for more than twenty years. He recently served as ambassador to the Food and Agriculture Organization of the United Nations and chief of the U.S. mission to the UN Agencies in Rome, which includes the World Food Program and the International Fund for Agricultural Development.

M. Peter McPherson
President
National Association of State Universities and Land-Grant Colleges

Peter McPherson is president of the National Association of State Universities and Land-Grant Colleges (NASULGC). Prior to joining NASULGC, Mr. McPherson was president of Michigan State University (1993-2004). From April to October 2003, he took leave from that position and served as director of economic policy for the Coalition Provisional Authority of Iraq. From 1987 to 1989 he served as deputy secretary of the U.S. Treasury. He was also administrator of the U.S. Agency for International Development (USAID) from 1981 to 1987.

Phyllis E. Oakley
Adjunct Professor
Johns Hopkins School of Advanced International Studies

Phyllis E. Oakley is currently an adjunct professor at the Johns Hopkins School of Advanced International Studies. In 1999 Ambassador Oakley retired from the Foreign Service as assistant secretary of state of the Bureau of Intelligence and Research. She has served as assistant secretary of state of the Bureau for Population, Refugees, and Migration and was deputy spokesman of the State Department under secretary of state George P. Shultz. She was the first woman to hold that position.

Thomas R. Pickering
Former Under Secretary of State, Political Affairs
U.S. Department of State

Thomas R. Pickering is currently vice chairman at Hills & Company International Consultants. Ambassador Pickering retired from the State Department as under secretary of state for political affairs. He served as U.S. ambassador to the Russian Federation, India, Israel, El Salvador, Nigeria, and Jordan. He also was the U.S. ambassador and representative to the United Nations in New York. After retiring from the State Department in 2000, Ambassador Pickering joined Boeing Company as senior vice president of international relations and member of the executive council.

Per Pinstrup-Andersen
H.E. Babcock Professor of Food, Nutrition, and Public Policy, Division of Nutritional Sciences
Cornell University

Per Pinstrup-Andersen is the H. E. Babcock Professor of Food, Nutrition, and Public Policy, the J. Thomas Clark Professor of Entrepreneurship, and professor of applied economics at Cornell University and professor of agricultural economics at Copenhagen University. He served ten years as the International Food Policy Research Institute's director general. He is past chairman of the Science Council of the Consultative Group on International Agricultural Research (CGIAR) and past president of the American Agricultural Economics Association (AAEA). He was the World Food Prize Laureate in 2001.

Pedro A. Sanchez
Director, Tropical Agriculture and Rural Environment Program
The Earth Institute at Columbia University

Pedro Sanchez is the director of the Tropical Agriculture and the Rural Environment Program, senior research scholar, and director of the Millennium Villages Project at the Earth Institute at Columbia University. Sanchez was director general of the World Agroforestry Center (ICRAF) headquartered in Nairobi, Kenya, from 1991 to 2001 and served as cochair of the UN Millennium Project Hunger Task Force. He is also professor emeritus of Soil Science and Forestry at North Carolina State University. Sanchez is the 2002 World Food Prize Laureate.

Robert L. Thompson*
Gardner Endowed Chair in Agricultural Policy
University of Illinois at Urbana-Champaign

Robert L. Thompson holds the Gardner Endowed Chair in Agricultural Policy at the University of Illinois at Urbana-Champaign. From 1998 to 2002 he was at the World Bank, where he served as director of Agriculture and Rural Development and as senior advisor for Agricultural Trade Policy. Prior to joining the World Bank he served as president and CEO of the Winrock International Institute for Agricultural Development (1993-1998), as assistant secretary for economics at the U.S. Department of Agriculture (1985-1987), and as senior staff economist for food and agriculture for the President's Council of Economic Advisers (1983-1985).

Richard S. Williamson
Former U.S. Special Envoy to Sudan
U.S. Department of State

Richard S. Williamson was formerly the president's special envoy to Sudan and is currently a partner in the international law firm of Winston & Strawn LLP. Ambassador Williamson served in the Reagan White House as special assistant to the president, deputy to the chief of staff, and assistant to the president for intergovernmental affairs. He served as ambassador to the United Nations offices in Vienna, assistant secretary of state for International Organization Affairs, ambassador to the United Nations for special political affairs, and ambassador to the UN Commission on Human Rights.

*Dr. Thompson served as chair of the Global Agricultural Development Project's Experts Committee.

EXPERTS COMMITTEE

BIOGRAPHIES

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Robert L. Thompson
Gardner Chair in Agriculture Policy
University of Illinois at Urbana-Champaign

Professor Robert L. Thompson holds the Gardner Chair in Agricultural Policy at the University of Illinois in Urbana-Champaign, where he carries on an active program of classroom and extension education in public policy. He serves on the USDA-USTR Agricultural Policy Advisory Committee for Trade and as chairman of the International Food and Agricultural Trade Policy Council. From mid-1998 until late 2002 Thompson was at the World Bank, where he served as its director of rural development, with administrative responsibility for the bank's worldwide agriculture, forestry, and rural development programs. He also served as the bank's senior advisor for agricultural trade policy. From mid-1995 to mid-1998, Thompson served as president and CEO of Winrock International Institute for Agricultural Development. This not-for-profit institution carries out projects in forty countries to reduce poverty and hunger by increasing agricultural productivity and rural employment, while protecting the quality of the environment. Thompson was also assistant secretary for economics at the U.S. Department of Agriculture from 1985 to 1987 and senior staff economist for food and agriculture for the President's Council of Economic Advisers from 1983 to 1985.

MEMBERS

Ousmane Badiane
Africa Director
International Food Policy Research Institute

Ousmane Badiane is the Africa director for the International Food Policy Research Institute. Dr. Badiane, a national of Senegal, was lead specialist for food and agricultural policy for the Africa region at the World Bank from January 1998 to August 2008. He previously worked at IFPRI as senior research fellow from 1989 to 1997, leading the institute's work on market reforms and development.

Joyce Cacho
Chief Sustainability Officer
Novus International, Inc.

Joyce Cacho is the chief sustainability officer at Novus International. Previously, she was director of the Agribusiness Initiatives Program of the Corporate Council on Africa (CCA). Prior to joining CCA, Dr. Cacho consulted for Land O'Lakes, Rabobank International, the Organization for Economic Co-operation and Development and the U.S. Department of Agriculture.

Mary Chambliss
Former Deputy Administrator
Foreign Agricultural Service
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Mary Chambliss is currently an independent consultant on international food aid issues. At the time of her retirement in 2006 from the U.S. Department of Agriculture, she was a member of the Senior Executive Service, serving as deputy administrator for export credits in the Foreign Agricultural Service (FAS). In the past she has served as acting administrator of FAS as well as general sales manager (and associate administrator) of the agency.

W. Ronnie Coffman
International Professor of Plant Breeding
Director of International Programs
College of Agriculture & Life Sciences
Cornell University

W. Ronnie Coffman serves as international professor of plant breeding and director of International Programs of the College of Agriculture and Life Sciences at Cornell University. He also serves as principal investigator of the Agricultural Biotechnology Support Project and the Durable Rust Resistance in Wheat project.

Nicholas Eberstadt
Henry Wendt Scholar in Political Economy
American Enterprise Institute

Nicholas Eberstadt holds the Henry Wendt Chair in Political Economy at the American Enterprise Institute in Washington, D.C., and is senior adviser to the National Bureau of Asian Research in Seattle, Washington. He currently serves on the visiting committee for the Harvard School of Public Health. Previously, he was a member of the President's Council on Bioethics.

William Masters
Professor of Agricultural Economics, Associate Head
Department of Agricultural Economics
Purdue University

Will Masters is a professor and associate head of the Department of Agricultural Economics at Purdue University. He is also coeditor of the journal Agricultural

Economics. He has also been a lecturer at the University of Zimbabwe (1988-1990), a visiting scholar at Harvard University (2000), a visiting professor at Columbia University (2003-2004).

Robert Paarlberg
Betty Freyhof Johnson Class of 1944 Professor of Political Science
Wellesley College

Robert Paarlberg is the Betty Freyhof Johnson '44 Professor of Political Science at Wellesley College and a visiting professor of government at Harvard University. He has published books on agricultural trade negotiations, environmentally sustainable farming, U.S. foreign economic policy, the reform of U.S. agricultural policy, and policies toward genetically modified crops.

Thomas A. Reardon
Professor, International Development and Agribusiness/Food Industry
Department of Agricultural Economics, Foods, and Resource Economics
Michigan State University

Tom Reardon joined the Department of Agricultural Economics at Michigan State in 1992. Previously, he was research fellow at the International Food Policy Research Institute in Washington, D.C., (1986-1991) and a Rockefeller Foundation postdoctoral fellow in Burkina Faso at International Crops Research Institute for the Semi-Arid Tropics and the University of Ouagadougou (1984-1986).

C. Ford Runge
Distinguished McKnight University Professor of Applied Economics and Law
University of Minnesota

C. Ford Runge is Distinguished McKnight University Professor of Applied Economics and Law at the University of Minnesota, where he also holds appointments in the Hubert H. Humphrey Institute of Public Affairs and the Department of Forest Resources. From 2004 to 2007 he served as director of the Center for International Food and Agricultural Policy, which he also directed from 1988 to 1990. He has previously served on the staff of the House Committee on Agriculture.

Asif M. Shaikh
President and CEO
International Resources Group

Since 1991 Mr. Shaikh has served as president and CEO of International Resources Group. From 2004 to 2007 Mr. Shaikh was president of the Washington Chapter of the Society for International Development. He recently served on the Millennium Challenge Corporation's (MCC) panel of experts to develop a natural resources indicator for the MCC. He is currently a member of the Bretton Woods Committee.

Emmy Simmons
Former Assistant Administrator, Economic Growth, Agriculture, and Trade
U.S. Agency for International Development

Emmy Simmons is currently an independent consultant on international development issues, with a focus on food, agriculture, and Africa. In 2005 she completed a career of nearly thirty years with USAID, having served since 2002 as the assistant administrator for economic growth, agriculture, and trade. Prior to joining USAID, she worked in the Ministry of Planning and Economic Affairs in Monrovia, Liberia.

GLOSSARY

GLOSSARY TERMS

key words/institutions/agreements

2008 World Development Report—Report from the World Bank calling for greater investment in agriculture in developing countries in order to achieve the goals of halving extreme poverty and hunger by 2015.

absolute water scarcity—The condition when the per capita fresh water availability of a region drops below 500 cubic meters per year, leading to inherent water deficit problems threatening public health and socioeconomic development.

Advanced Training for Leadership and Skills Project (ATLAS)—Project funded by USAID from 1990 to 2003 to strengthen the leadership and technical abilities of individuals serving in African public and private development institutions.

Africa Rice Center (WARDA)—One of fifteen international agricultural research centers supported by CGIAR, established in 1971 to ensure sustainability in Africa through research, development, and partnership activities to increase productivity and profitability of the rice sector .

African Development Bank—Financial development institution established in 1964 to provide loans, equity investments, and technical assistance for projects, programs, and capacity-building activities that aim to reduce poverty and aid development in its member countries.

African Rural University—All-women's university associated with the Uganda Rural Development and Training Program in Kagadi, Uganda, where girls and women are taught traditional school subjects as well as the latest agricultural practices, locally appropriate energy technologies, and entrepreneurship skills.

African Union—Continental organization that replaced the Organization of African Unity in 2002 to accelerate the political and socioeconomic integration of the African continent.

agriculturally-based country—Country whose economy is predominately dependent upon agriculture; characteristic of much of South Asia and Sub-Saharan Africa.

Alliance for a Green Revolution in Africa (AGRA)—African-led partnership working across the African continent to help small-scale farmers lift themselves out of poverty and hunger by boosting farm productivity and incomes.

Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)—Non-political organization of NARS that aims to increase the efficiency of agricultural research to facilitate economic growth and food security through productive and sustainable agriculture

bilateral aid—Aid from one donor country to one recipient country.

Bill & Melinda Gates Foundation—Private foundation established in 1994 to enhance health care and reduce extreme poverty with a focus on boosting productivity and increasing incomes to accelerate agricultural development worldwide.

biofuels—Fuel produced by conversion of biomass such as bioethanol from sugar cane or corn.

Bread for the World—A Christian citizens' movement in the U.S. providing policy analysis on hunger and strategies to end it.

Bumpers Amendment—See "Section 209 of Public Law 99-349."

cargo preference—Preference given to U.S.-flag vessels in the shipment of U.S. food aid abroad, established by the Cargo Preference Act of 1954 to provide food aid to developing nations and revised by the Food and Security Act of 1985 to require that 75 percent of agricultural goods must be shipped on U.S.-flag vessels as opposed to 50 percent of all other U.S. goods.

Center for Global Development—Nonprofit policy research organization established in 2001 dedicated to reducing global poverty and inequality through research and strategic outreach to improve economic and social development prospects in poor countries.

Change Management Initiative—Proposal to revive commitment to the core research budget of CGIAR by making the system more effective, efficient, and strategically flexible.

Citizen's Network for Foreign Affairs (CNFA)—Wahington, D.C.-based nonprofit organization founded in 1985 and dedicated to stimulating economic growth around the world by nurturing entrepreneirship, private enterprise, and market linkages.

Collaborative Research Support Programs (CRSPs)—Programs funded by USAID that focus the capabilites of U.S. land-grant universities to carry out the international food and agricultural research mandate of the U.S. government

Commission for Africa—Commission established by the British prime minister in 2004 to take a fresh look at Africa's past and present and the international community's role in its development path.

Comprehensive Africa Agriculture Development Programme (CAADP)—Program developed by NEPAD in 2003 to assist African countries in achieving economic growth through increasing sustainable land management, improving rural infrastructure and market access, and increasing the food supply.

Consultative Group on International Agricultural Research (CGIAR)—Group established in 1971 for the coordination of international agricultural research to reduce poverty and achieve food security in developing countries.

Declaration on Science and Technology and Scientific Research for Development—declaration issued by the African Union in 2007 that affirmed the priority to upgrade the performance of African governments in higher education.

Department for International Development (DFID)—United Kingdom government department with the function of sustaining development and eliminating world poverty.

Doha Development Round—Current round of multilateral trade negotiations under the auspices of the World Trade Organization; the name derives from a ministerial conference held in Doha, Qatar, in November 2001.

dry lands—Deserts, grasslands, and woodlands characteristic of Sub-Saharan Africa and regions of South Asia that represent major problems for farm productivity and irrigation.

economic water scarcity—Condition when a population does not have the necessary monetary means to utilize an adequate source of water; much of Sub-Saharan Africa suffers under its effects.

extension—Program geographically extending the educational resources of an institution to areas otherwise unable to take advantage of such resources.

extreme poverty—A level of income that is not sufficient to provide the material needs viewed as minimal in a given society, usually characterized as less than $1 per day.

Farm Bill—A multiyear, omnibus U.S. law that contains federal commodity and farm support policies as well as other farm-related provisions.

farm inputs—Resources used in farm production including chemicals, equipment, feed, seed, and energy.

farm-to-market road—A state or county road that serves to connect rural or agricultural areas to market towns.

Farmer-to-Farmer (FTF) Program—Program authorized by Congress in 1985 that provides volunteer technical assistance to farmers and agribusinesses in developing and transitional countries to promote sustainable improvements in food processing, production, and marketing.

food aid—Distribution of food commodities to support development projects and emergency food assistance in situations of natural and man-made disasters.

Food, Conservation, and Energy Act of 2008—Act ensuring all parts of the Farm Bill are enacted into law, including expanding food security programs, protecting natural resources, promoting healthier food and local food networks, and reforming commodity and biofuel programs.

food security—Assured access to enough nutritious food to sustain an active and healthy life with dignity.

Food Security Act of 1985—Act establishing a comprehensive framework within which agricultural and food programs would be administered for certain commodities, trade, conservation, credit, research, and marketings.

Ford Foundation—Private foundation chartered in 1936 to fund programs that focus on strengthening democratic values, community and economic development, education, and human rights.

Foreign Assistance Act—U.S. act in 1961 that reorganized the U.S. foreign assistance programs by separating military and nonmilitary aid and mandating the creation of an agency to administer economic assistance programs (USAID).

Future Farmers of America (FFA)—Organization dedicated to making a positive difference in the lives of students by developing their potential for premier leadership, personal growth, and career success through agricultural education.

G8 Countries—Forum to discuss issues of mutual or global concern, consisting of the governments of the eight major industrialized democracies of the world: Canada, France, Germany, Italy, Japan, Russia, the United Kingdom, and the United States.

Global Food Security Bill of 2009—Pending legislation sponsored by Senators Richard Lugar and Bob Casey to authorize appropriations to foreign countries for fiscal years 2010 to 2014 in order to promote food security, stimulate rural economies, and improve emergency response to food crises.

Green Revolution—Modification of agriculture in the 1960s and 1970s to improve agricultural production of high-yielding varieties of grains such as rice, wheat, and corn through the use of new technologies, including new machines, fertilizer, pesticides, irrigation, and cultivation methods.

Heifer Project International—Nonprofit charitable organization that helps poor farmers in developing countries by providing them with animals such as cattle and goats and giving them the support they need to breed the animals on the understanding that similar animal gifts will then be extended to others.

hunger—Condition in which people do not get enough food to provide the nutrients (carbohydrates, fat, protein, vitamins, minerals, and water) for fully productive, active, and healthy lifestyles.

Indian uplands—Highlands in northwestern India formed by desert erosion; the rural poor suffer from poverty and lack of irrigation infrastructure.

infrastructure—The basic facilities, services, and installations needed for the functioning of a community or society such as transportation, communications, financial, educational, and health-care systems.

Intergovernmental Panel on Climate Change (IPCC)—Scientific intergovernmental body established in 1988 to provide decision makers with an objective source of information about climate change by assessing the risk of human-induced climate change, its impacts, and options for adaptation and mitigation.

International Development Agency (IDA)—World Bank institution established in 1960 to reduce poverty in the world's poorest countries by providing credits and grants for programs that boost economic growth, reduce inequalities, and improve living conditions.

International Food Policy Research Institute (IFPRI)—One of fifteen CGIAR research centers, established in 1975 to strengthen research capacity in developing countries and to seek sustainable solutions for ending hunger and poverty.

International Fund for Agricultural Development (IFAD)—Agency of the United Nations established as an international financial institution in 1977 dedicated to eradicating rural poverty in developing countries with a focus on aiding small farmers.

International Maize and Wheat Improvement Center (CIMMYT)—Nonprofit research and training center established in 1943 in Mexico committed to increasing food security, improving profitability and productivity, and sustaining natural resources by breeding high-yielding corn and wheat varieties.

International Rice Research Institute (IRRI)—Nonprofit agricultural reasearch and training organization established in 1960 to reduce poverty and hunger, improve the health of rice farmers and consumers, and ensure environmental sustainability.

land-grant university system—Set of U.S. institutions of higher learning that receives federal support for integrated programs of teaching, research, and extension for agriculture, food, and environmental systems.

local or regional food purchase—Purchasing food from local or regional farmers to promote community self-reliance and social justice as well as to affect the self-esteem and health of children through school feeding programs.

local purchase of food aid—Providing food aid by purchasing food in markets close to the recipients.

long-term training (LLT)—U.S. policy of supporting international agricultural students for advanced training in agriculture and natural resource protection that operated on a large scale until the 1980s; much of the strong performance of Indian, Brazilian, and East Asian agriculture can be traced directly to those agricultural educators and scientists who spent time at universities in the United States; USAID continues to fund a small number of students.

malnutrition—Condition resulting from inadequate consumption or excessive consumption of a nutrient, which can impair physical and mental health and can be the cause or result of infectious diseases.

McGovern-Dole School Feeding Program—Program established in 2002 and administered by the Foreign Agricultural Service to help promote education, child development, and food security for the world's poorest children through donations of U.S. agricultural products and financial and technical assistance.

Middle East Partnership Initiative—Program established in 2002 to create educational opportunity in the Middle East at a grassroots level, to promote economic opportunity and private sector development, and to strengthen civil society.

Millennium Challenge Corporation (MCC)—U.S. government corporation established in 2004 designed to reduce global poverty through the promotion of sustainable economic growth.

moderately water constrained—Lack of water most likely due to low rainfall and declines in river water.

monetization—Practice of selling U.S. food aid into commercial food markets inside recipient countries, with profits from sales going to NGO and advocacy organizations for development activities.

National Agricultural Research Systems (NARS)—Public research systems established in developed and developing countries with the purpose of promoting agriculture, sustaining agricultural growth, and eradicating poverty.

National Association of State Universities and Land-Grant Colleges (NASULGC)—The oldest higher education system in the United States, established in 1887 with a dedication to support excellence in teaching, research, and public service.

New Partnership for Africa's Development (NEPAD)—Economic development program established by the African Union in 2001 to eradicate poverty, place African countries on a path of sustainable growth and development, and enhace integration into the global economy.

New Rice for Africa (NERICA)—Rice variety developed by WARDA to improve the rice yields in Africa with the potential to alleviate the desperate food situation and fuel the economy in Sub-Saharan Africa.

nonfood feedstock—Raw materials used in industrial processes such as the production of biofuels not intended for human consumption, including agricultural and forestry wastes.

nongovernmental organizations (NGOs)—Groups and institutions entirely or largely independent of government that have primarily humanitarian or cooperative rather than commercial objectives.

official development assistance (ODA)—Term used by the Organization for Economic Cooperation and Development for grants and loans to developing coun-

tries undertaken by governments to pursue economic development at concessional financial terms.

Peace Corps—Agency of the U.S. federal government established in 1960 devoted to world peace and friendship that allows volunteers to live and work in developing countries.

President's Emergency Plan for Aids Relief (PEPFAR)—U.S. commitment to build sustainable systems and to empower individuals, communities, and nations to battle the global HIV/AIDS pandemic.

poverty—Lack of sufficient money or resources to provide the basic needs of survival for oneself and one's family.

Public Law 480 (P.L. 480)—U.S. food aid program enacted in 1954 that provides the majority of agricultural assistance and food aid to countries at different levels of economic development.

The Rockefeller Foundation—Private foundation established in 1913 with the mission to identify and attack at the source the underlying causes of human suffering to promote the well-being of humanity.

rotational cultivation—Cultivating a plot of land for one year and then leaving it unused and under natural vegetation for extended periods of time to allow the soil to gradually rebuild its nutrient content.

sandwich degree method—Training method where time spent at a U.S. university is sandwiched between beginning class work and final degree completion in a person's home country.

Sasakawa-Global 2000 Project—Program of the Sasakawa Africa Association for implementing technology in African countries where the citizens are poor, the food is insecure, and the government is committed to agricultural development.

School Nutrition Association—National, nonprofit organization established in 1946 to ensure all children have access to healthful school meals and nutrition education in the United States.

Section 209 of Public Law 99-349 ("Bumpers Amendment")—Prevents USAID from supporting agricultural development research in foreign countries that could result in crop production for export that would compete with similar U.S. products in world markets.

Select Committee on Hunger—Committee established in the U.S. House of Representatives in 1983 and shut down ten years later that was instrumental in drawing attention to the problem of hunger internationally and within the United States through hearings on hunger issues; the committee was unable to pass legislation.

severely water limited—Increased level of water stress due to environmental factors and climate change.

smallholder farmer/small-scale farmer—Farmer involved in noncommercial, subsistence agriculture usually owning or renting only a small plot of land.

stunted—Hindered from normal growth, development, or progress.

switchgrass—Prairie grass native to North America that can be grown on inferior soils that contribute little to global food and feed production; 2008 Farm Bill provided incentives to invest in techniques to derive energy from nonfood plants such as switchgrass instead of depending on corn for the production of ethanol.

targeted subsidies—Government grants such as vouchers for specific products that reach only the most vulnerable groups such as input subsidies for poor farmers.

tertiary education—Post-secondary or higher education such as colleges, universities, and institutes of technology; increasing tertiary education has the potential to boost per capita income.

total factor productivity—The portion of output not explained by the amount of inputs used in production; access to factors including education, markets, essential supplies, and improved techniques for specific climates, soil, and water endowments help to increase productivity.

Uganda Rural Development and Training Program—Nonprofit organization that provides education and training and promotes integrated rural development in the poor Kibaale District of Uganda.

undernourished—Food intake that is insufficient to meet dietary energy requirements continuously.

United Nations Food and Agriculture Organization (FAO)—U.N. agency specializing in agriculture, forestry, fisheries, and rural development; founded with a mandate to raise levels of nutrition and standards of living, improve agricultural productivity, and better the condition of rural populations.

United States Agency for International Development (USAID)—U.S. government organization responsible for most nonmilitary foreign aid that advances foreign policy objectives by supporting economic growth, agriculture and trade, health, democracy, and humanitarian assistance.

University of Ghana Legon (UGL)—University that partners with Cornell University to bring students from different countries in the region to a West Africa Center for Crop Improvement (WACCI), where they take courses taught by UGL faculty with support from Cornell; serves as a model to be replicated at agricultural universities in Sub-Saharan Africa and South Asia.

U.S.-India Agricultural Knowledge Initiative—2005 intiative to facilitate technology transfer, trade, and investment to bolster agricultural research, education, and extension in India.

water stress—Economic, social, or environmental problems caused by a lack of water due to contamination, drought, or a disruption in distribution.

West Africa Center for Crop Improvement (WACCI)—Regional plant breeding training program to produce skilled, knowledgeable, and properly resourced breeders to breed important crops to meet local needs.

World Bank—Intergovernmental agency that makes long-term loans to the governments of developing nations; formerly called the International Bank for Reconstruction and Development.

World Food Program (WFP)—U.N. agency providing logistical support necessary to get food to the right people at the right time in response to energency food shortages and in development work.

World Health Organization—United Nations agency established in 1948 to promote cooperation among nations in controlling disease.

World Vision—International Christian relief and development organization established in 1951, dedicated to working with children, families, and their communities worldwide to tackle the causes of poverty and injustice.

ACRONYMS

LIST OF ACRONYMS

AfDB—African Development Bank

AGRA—Alliance for a Green Revolution in Africa

ARDO—Agricultural and Rural Development Officer

ASARECA—Association for Strengthening Agricultural Research in Eastern and Central Africa

ATLAS—Advanced Training for Leadership and Skills Project

AU—African Union

AWARD—African Women in Agricultural Research and Development

BGRI—Borlaug Global Rust Initiative

CAADP—Comprehensive Africa Agriculture Development Programme

CIMMYT—International Maize and Wheat Improvement Center

CGIAR—Consultative Group on International Agricultural Research

CNFA—Citizens Network for Foreign Affairs

CRSP—Collaborative Research Support Program

CSIS—Center for Strategic and International Studies

DFID—Department for International Development (UK)

DOD—Department of Defense

DTMA—Drought Tolerant Maize for Africa Project

EU—European Union

FAO—Food and Agriculture Organization

FFE—McGovern-Dole International Food for Education and Child Nutrition Program

FFA—Future Farmers of America

FODAG—U.S. Mission to the United Nations Agencies for Food and Agriculture

FTF—Farmer-to-Farmer volunteer program

GAO—Government Accountability Office (US)

GDP—Gross Domestic Product

ICOGA—Interagency Council on Global Agriculture

IDA—International Development Association
IFAD—International Fund for Agricultural Development
IFPRI—International Food Policy Research Institute
IITA—International Institute of Tropical Agriculture
IMF—International Monetary Fund
INTSOY—International Soybean Program
IPCC—Intergovernmental Panel on Climate Change
IRRI—International Rice Research Institute
LEWS—Livestock Early Warning System
LTT—Long-term training
MCC—Millennium Challenge Corporation
MOU—Memorandum of Understanding
NARS—National Agricultural Research System
NASULGC—National Association of State Universities and Land-Grant Colleges
NEPAD—New Partnership for Africa's Development
NERICA—New Rice for Africa
NGO—Nongovernmental Organization
NSC—National Security Council
OAU—Organization for African Unity
ODA—Official Development Assistance
OECD—Organization for Economic Cooperation and Development
PEPFAR—President's Emergency Plan for Aids Relief
R&D—Research and development
SAU—State Agricultural University
UGL—University of Ghana Legon
UN—United Nations
USAID—United States Agency for International Development
USDA—United States Department of Agriculture
USG—United States Government
USTR—Office of the U.S. Trade Representative
WACCI—West Africa Center for Crop Improvement
WARDA—Africa Rice Center
WFP—World Food Program
WTO—World Trade Organization

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QUESTIONS AND ANSWERS

MAY 26, 2011

Senate Committee on Agriculture, Nutrition & Forestry
"Food for Thought: The Role, Risks and Challenges for American Agriculture and the Next Farm Bill in Meeting the Demands of a Growing World"
Questions for the record
Mr. Douglas DeVries
May 26, 2011

Senator Roberts

1. **You note in your testimony that new technology – including the latest in farm machinery – is part of the solution to help our farmers feed and clothe a burgeoning world population. I agree that technology is part of the answer, but these new technologies often come with a price tag. The need to produce more and the increase in input costs are just two reasons why I believe it's critical to provide America's farmers with an adequate safety net. As a company that not only sells farm machinery but also provides credit and insurance products to farmers, what characteristics of a farm safety net do you think are most important to ensuring that our farmers can meet the challenges that will face them over the coming decades?**

Information provided throughout the Committee hearing clearly indicates that the global operating environment for agriculture is likely to be far different in the future from what it has been in the past. As your question suggests, it is extremely important for the Nation's farmers--our customer base--that agriculture policy reflects the new environment and provides the continuity and certainty that will enable them to invest with confidence in productivity enhancements and sustainability improvements.

Most analysis now suggests that the future agricultural operating environment likely will be more volatile than in the past with greater price and cost swings owing both to natural events and to greater global market interconnectedness. That would suggest that business risk management will be vitally important in the future. Thus, a major element of policy would include the appropriate tools to enable producers to manage the myriad risks involved in operating the farm business. Farmers are already discovering and leveraging new solutions from existing tools like precision farming technology to capture more accurate field information generating greater efficiencies, productivity and insights into risk management. Other elements would address sustainability, including conservation and environmental aspects. And, the growing worldwide food demand clearly underscores the importance of gaining greater access to the growth markets.

In short, future policy should be forward looking, appropriate to the changing conditions, and have continuity that enables producers to plan and invest for the long run with some certainty.

2. **Economic analysis consistently finds strong evidence that public investments, both Federal and State, in agricultural research and development yield high returns per dollar spent with benefits accruing not only to the farm sector but**

also to consumers in the form of more abundant food at lower prices. You mention in your testimony the role that privately funded agricultural research is contributing to productivity. In today's fiscal environment, what key points would you argue justify continued support of federal agricultural research? Some critics characterize federally funded agricultural research as "corporate welfare." What is your response to this portrayal?

The challenge of feeding a growing, more affluent global population in a sustainable manner will require enhanced productivity across the entire food system. While there are many aspects to this, research and development must play a major role in securing the necessary productivity enhancements. Today, the private sector is playing a much larger role in R & D than previously, as I indicated in my testimony, while some observers suggest the public sector role has diminished somewhat over time. But, there is widespread agreement that the research partnership between the public and private sectors should be enhanced to meet the enormous challenge before us

Federally funded research traditionally has focused in areas in which the private sector did not invest, with the result that the efforts were highly complementary. Public research was largely basic while private research focused on applications. In recent times, funding for public research in inflation adjusted dollars has trended downward. Given the long lead times between research and practical applications, and the rather rapid pace at which the global food needs are increasing, it would appear prudent to begin now making the essential investments in research in the most promising areas.

Senator Thune

1. **We have approximately 1 billion idle agriculture acres nationwide. With high commodity prices and food shortages in areas around the globe, there are clear market signals to bring this land back into production. Are we seeing an increase in acres devoted to production agriculture around the world?**

The laws of market economics are still applicable. We are indeed seeing a supply response to the higher commodity prices as farmers the world over are planting a larger area and applying more and better productivity-enhancing inputs. Global agricultural output is increasing, even though unfortunately constrained by adverse weather events in some producing areas of the world.

2. **Which countries or regions with idle agriculture acres are the slowest to respond to these market signals and why?**

Experts generally agree that much of the readily available, most productive agricultural area in the world already is under cultivation. They also agree that some additional land remains that could be brought into production on a sustainable basis although it will require considerable capital investment to do so.

The areas in which most of this land is concentrated include Brazil, the former Soviet Union (most notably Russia and Ukraine) and Sub-Saharan Africa. While the recently higher commodity prices are encouraging additional cultivation in these areas, other

constraints are prevalent that inhibit the process. These constraints include the lack of physical infrastructure (such as farm to market roads), inadequate policies (addressing such areas as property rights—land titling—and the investment climate), and the overall political environment in general. Continued strong commodity prices would be expected to provide incentive for most regions to begin to address these constraints in earnest.

3. **Follow up: With the caveat that the United States is not in a position to significantly increase foreign agriculture assistance funding, what measures can the United States take to bring modern agriculture practices to developing countries?**

   Even in the current fiscal climate, the US Government, private sector and the NGO community still can make significant contributions to meeting the challenge of expanding agricultural output and improving diets in the developing world.

   The US Government has the ability to utilize the resources that are available as leverage to help improve the policy and business climate in many developing countries that will then enable more private sector investment to occur. Adoption of even basic precision farming technology can be an important first step in establishing better agronomic information and application of repeatable farming best practices that drive efficiencies and productivity. Much of the productivity improvements that must occur will depend upon capital investment in the form of hard infrastructure such as farm-to-market road, storage, refrigeration, water management facilities, ports, other transportation facilities, etc. Thus, improving the policy environment is the fastest way to attract the much needed capital which also brings advanced technology at the same time.

   There also are many opportunities for public-private partnerships in developing countries to leverage the scarce funding and expertise that is available among governments, NGOs and business sector. At John Deere, we are actively seeking opportunities to expand such partnerships, both through our corporate citizenship efforts and directly through our business units. Two recent examples are projects in India and Zambia bringing technical agronomic training and mechanization services to groups of smallholder farmers boosting both yields and incomes.

# # #

Senate Committee on Agriculture, Nutrition & Forestry
"Food for Thought: The Role, Risks and Challenges for American Agriculture and the Next Farm Bill in Meeting the Demands of a Growing World"
Questions for the record
The Honorable Dan Glickman
May 26, 2011

Senator Roberts

1. In preparation for the 2012 Farm Bill you recommend that the Agriculture Committee takes into consideration a 21st century review of agricultural research. What policy recommendations pertaining to the Farm Bill, and specifically the Research Title, would you suggest strengthen on-going research activities as well as further energize and bolster an emerging agricultural research agenda?

2. You mentioned during your testimony that we are entering a new era of Farm Bills where the focus is not so much on price support, but on risk management. When most people think risk management, they think crop insurance. I strongly support crop insurance as a risk management tool, and I think the program is unparalleled at addressing price and yield risk. But that I've heard from farmers in different regions is that the types of risk they face can vary. In some cases, price and yield risk are paramount, and crop insurance works well for them. For other crops in other parts of the country, input price risk makes the difference between a profitable year and a one spent in the red. How would you recommend we address these different types of risk given that a one-size-fits-all mentality would leave some folks behind?

Senator Thune

1. How do we better export our biotechnology to developing countries?

2. What is happening in the private sector in terms of biotechnology transfer to help agriculture advancement in developing countries?

3. What can the U.S. government do help stimulate this effort?

4. What can U.S. agencies such as USAID and the Foreign Agriculture Service learn about providing food and agriculture assistance to foreign countries from non-government organizations like the Bill and Melinda Gates Foundation?

Senate Committee on Agriculture, Nutrition & Forestry
"Food for Thought: The Role, Risks and Challenges for American Agriculture and the Next Farm Bill in Meeting the Demands of a Growing World"
Questions for the record
Mr. Barry Mumby
May 26, 2011

Senator Roberts

1. *As you mention in your testimony, one of the key components to keeping farmers in business and working to feed and clothe a growing world population is access to credit. When you visit with your bank, what questions do they ask about your farm safety net, or are they worried about you having a safety net at all? For example, does the bank want to know what level of crop insurance you purchase, the direct payments you expect to receive, the target price set by the Farm Bill, or whether you are participating in the ACRE program? Are there some programs that are more important than others as you seek the credit you need?*

In 2007 or 2008 banks began to focus on cash flow and higher working capital ratios with less emphasis on net worth on borrower's balance sheets. They still use hard assets as collateral to ensure operating loans but annual operating lines need annual repayment. With costs of planting a corn crop exceeding $600 per acre, bankers desire the borrower to carry crop insurance of some type. Crop insurance proceeds provide a timely form of cash flow and loan repayment in the event of a crop failure while farm programs such as SURE and ACRE don't replace losses for more than a year after harvest is complete. Bankers, as well as their farmers, give up their interest in 20% of the direct payments for the remaining years of the ACRE program and don't seem to be promoters of the plan.

Direct payments only amount to $15 to $20 per acre for corn and soybeans and do not represent a major portion of a grower's revenue. When prices are low, they do help our net income and offer some comfort to lenders. The current target prices and loan rates are so low they are of little value.

Here are some of my thoughts for provisions of the next farm bill.

#1 Reduce or eliminate direct payments and replace them with more subsidies for crop insurance premiums. This is good for agriculture and consumers in times of budget crisis. Standardize premium subsidies at a flat % for all forms and levels of coverage for insurance. I believe a 50-50 ratio is good for farmers and for consumers giving an assurance of food supplies. Keep the private vendors as agents. They will work hard to secure a client with excellent service and offer flexible appointment hours because they

work for themselves. FSA offices are under staffed and don't have the time nor expertise to effectively handle crop insurance. Private insurance agents are viewed by farmers as self employed business people competing for their business. I believe this is the most important program for our consideration in the 2012 Farm Bill.

#2 The new Farm Bill must be flexible because we may move from shortages to surpluses within a few years. Flexible loan rates based on CBOT futures prices could be a way to establish crop production plans in future years. It would give the farmer a way of knowing what to expect when he is looking at crop rotations and pricing inputs two, and three years in advance. The Risk Management agency establishes a time period each February and October for crop insurance values for the current year and this works well. I suggest that model could be modified and used to project loan rates for 2013, 2014 and beyond based on a % of December 2013, 2014 and beyond corn future prices. Another thought would be relating loan rates to anticipated crop production costs for future years.

#3 I believe the best safety net with the least cost to consumers is a solid crop insurance program combined with flexible loan rates reflecting the cost of production from year to year. A crop/price disaster would be covered by some type of revenue crop insurance and unexpectedly low prices could utilize the loan with a price level known well in advance to ease cash flow until prices recover. This should only be a short term loan with repayment in less than twelve months.

#4 The same type of program could be used to establish target prices if desired.

Senator Thune

1. *You provide in your testimony that it is difficult for farmers to protect themselves again inflation in input prices. Is that a form of assistance or function you think should be provided in the Farm Bill? If so, how do propose it perform that function?*

A flexible crop loan rate established several years in advance based on CBOT futures prices for 2013, 2014 and beyond could mitigate a growers risk in buying inputs for future crops. The crop input prices usually follow crop prices as we saw in 2008. Potash prices skyrocketed and farmers slowed purchases. Potash prices dropped back more than 50% but now higher crop prices are encouraging higher input prices and December 2012 corn futures prices are well into the $6.00 area. Just to pick a number, say the 2012 loan rate was 60% of the December 2012 corn prices a farmer could buy his inputs now and assure the banker that there was a price support adequate to repay the borrowed capital. He doesn't have margin calls exposure for hedging his corn or soybeans or wheat and the banker knows 100% of the crop inputs are covered for cash flow if needed. I believe this

is a reasonable concept when coupled with a solid crop insurance program.

2. *I share your concern that some of our federal farm programs have become very complicated both to administer and for you as a farmer to understand or explain to your landlord. Do you have any recommendations for us so streamline or simplify any of them?*

The ACRE program is a prime example of complexity. As I recall, the final rules and regulations were about a year late being published. The FSA employees were behind the curve from day one because they didn't have the details. It was poorly managed and presented and required third party agreement (landlords.)

Farm programs should be totally transparent and utilize information available to every farmer. Farmers can and do calculate an average monthly price to establish insurance values in February and October each year. I propose that the new farm bill be flexible and establish values from information that is generally available to all. The internet and other forms of communication are standard now on nearly all farms.

3. *As a farmer, if you had to choose which commodity programs to give up or be scaled back, for example, direct and counter-cyclical payments, ACRE, crop insurance, which would you be most willing to sacrifice?*

I would give up ACRE, CC payments, the current loan rates and target prices and scale back or eliminate direct payments in light of the budget crisis. I believe this is necessary and is good for farmers and may revive the consumer's positive view of farmers in general. I am disappointed that more commodity groups and farm organizations have not stepped up and made this proposal. I also believe that non-farm media should be informed that the majority of the dollars allowed in the Farm Bill provide food stamps, school lunches, WIC etc,. Mainstream media compare a reduction of 4 billion dollars as small compared to a total budget of billions of dollars.

Agriculture is healthy and prospering and should not be taking assistance now. I know that this cycle will change and we will need a safety net in the future and that is the difficult task the Senate faces in writing a new Farm Bill. I believe a combination of crop insurance and adjustable loan rates will provide the environment for American farms to continue to do what we do best-produce as much food as possible and still be compensated fairly for those risks, investments and efforts.

Senate Committee on Agriculture, Nutrition & Forestry
"Food for Thought: The Role, Risks and Challenges for American Agriculture and the Next Farm Bill in Meeting the Demands of a Growing World"
Questions for the record
Dr. Per Pinstrup Anderson
May 26, 2011

Senator Roberts

1. Continued federal financial support in today's budgetary environment for public agricultural research often times is not a top-line priority and often times faces disproportionate funding cuts. What recommendations would you share with the Committee as to how we transform this mentality and elevate federally funded agricultural research as a top priority considering we will rely upon the advancements from basic and applied research projects to help feed a growing world?

Answer by Per Pinstrup-Andersen
There is a great deal of evidence to support the conclusion that investment in agricultural research has and will continue to make very large contributions to farm incomes, consumer real purchasing power and general economic growth, whether in the United States or other countries. While the private sector will undertake some of the research needed, much of the research is of a public goods nature, meaning that it will benefit society or parts of society but these benefits cannot be captured by the research organization. Prioritizing agricultural research will reduce the need for farm subsidies because research will reduce unit-costs of food and improve stability in food production. Expansions of public investment in agricultural research are urgently needed to meet future food needs at reasonable prices while reducing food price volatility and supporting American agriculture.

Senate Committee on Agriculture, Nutrition & Forestry
"Food for Thought: The Role, Risks and Challenges for American Agriculture and the Next Farm Bill in Meeting the Demands of a Growing World"
Questions for the record
Dr. Andrew Rosenberg
May 26, 2011

Senator Roberts

Can you elaborate on your view of sustainability and how that ties to meeting the growing food demand?

Critical ecosystems and the essential services they provide to people, such as fresh water, natural pollinators, fertile soil and life saving medicines, are being depleted at a rate that threatens Americans and people around the world. Farmers are experiencing the consequences of declining natural ecosystem health through stronger and more frequent droughts, storms and flooding. These natural phenomena are already affecting food production and contributing to increased price volatility in the United States and around the world. For instance, the drought in Russia in 2010 resulted in a 40% decrease in their expected harvest as well as a decrease in the world market of 40 million tons of grain. We stand at a critical point in history that will require the agricultural sector to be innovative and to engage in more sustainable practices in order to continue to meet the increasing food needs of a growing world population.

Increases in food production must be done in a sustainable manner to ensure that future generations will be able to meet their food security needs. In our view, increases in food production can only be sustained if the ecosystems they depend on are healthy. If the basic supporting structure of natural ecosystems is undermined by poor practices and continual stresses, future food production will be in jeopardy. For example, protecting local forests near farmlands will help to ensure rainwater is captured within the surrounding streams and soil to support nearby agricultural production. Also, existing biodiversity in agricultural ecosystems, such as bees and other insects, provides essential services to agriculture that includes pollination and natural control of crop pests. Natural pest control services in the United States have been estimated to save American producers $13.6 billion per year in agricultural pest management. Protecting the services that nature provides is essential to maintaining healthy agricultural systems and successfully meeting the growing global demand for food.

Major U.S. companies are recognizing the importance of sustainability to their economic long-term success and to their ability to compete in the global marketplace. For example, Walmart has made sustainability a cornerstone of its business practices. Walmart's agriculture sustainability efforts address two major contributors to tropical deforestation: palm oil and beef. Walmart has committed that by the end of 2015 it will only use sustainably sourced palm oil for its private brand products and will source beef that does not contribute to deforestation of the Amazon rainforest.

While Walmart is just one example, many American companies also recognize the importance of sustainability to their economic success, ability to compete in the global market, and to the future well-being of humanity.

Food security is about more than just food – it is about national security. Stable access to food contributes to regional stability across the globe. There is a direct connection between food security and America's national security interests. Conflict and regional instability can arise from food shortages and price spikes. The agricultural sector is a major driver of rural economic development by providing income, employment and prosperity for farmers and farm workers around the globe and in the United States. Sustainable agriculture practices not only ensure long-term food supplies but also protect the ecosystems that provide additional benefits, such as clean water and a rich biodiversity, which enhances local communities as well as the lives of its farmers.

Do you have set sustainability standards for all of your projects or do you use activities specific to that local area to determine sustainability?

Although we incorporate the principles of sustainability in all of our work, the specific measures must be tailored to each locale, country and application. Therefore, sustainability cannot be achieved with a single set of standards applied broadly.

The sustainability challenges facing humanity are massive and complex, and the most effective way to address these is to work with many different stakeholders to find solutions that work from multiple angles. Our projects are designed to minimize negative impacts and to encourage the protection of healthy ecosystems. We analyze each project according to a common set of criteria to ensure that it will have a significant and substantive impact on environmental stewardship and the well-being of stakeholders. Each individual project is designed, structured and managed with a specific set of objectives and goals that differ from project to project to reflect local, regional and national conditions.

Your written testimony briefly references the Keystone Field to Market Initiative. What type of data tools are you providing to producers and how have producers responded to this effort? What additional information are producers seeking that isn't currently available to them?

The Keystone Field to Market Initiative has been developed by a diverse set of stakeholders including key U.S. farming organizations such as the National Corn Growers Association and the American Soybean Association and has been well-received by producers.

The Field to Market Initiative has identified a series of objective metrics to better understand agricultural performance and has produced an initial report drawing from publically available data generated by USDA, USGS and others. This report

demonstrated significant efficiency improvements in U.S. soy, corn, cotton, and wheat between 1987 and 2007.

The Field to Market Initiative has also developed an online tool called the Fieldprint Calculator, which enables farmers to evaluate different farm management scenarios based on their specific farm conditions. This tool helps determine whether farmers would benefit from making any specific changes, what impact these changes might have on their farm, and how their performance compares to other farmers' results.

When Conservation International works with companies on sourcing sustainably grown commodities are there consistent standards that you use to identify these products and production practices? Do the producers receive a premium for their products?

No single definition constitutes sustainable sourcing guidelines as they are highly dependent on commodity, geography, and supply-chain-specific elements. However, successful examples often include a focus on: (1) key environmental and social impacts of production (e.g. soil, water, biodiversity and working conditions); (2) transparency within the supply chain and in financial transactions; (3) independent third party verification and assessment, (4) balancing multiple demands on a landscape; and (5) a mechanism for ensuring continuous improvement over time.

Conservation International works at two levels on sourcing: (1) with sector-wide roundtables; and (2) with individual companies to define appropriate sourcing guidelines for the particular situation, taking into account factors such as different geographies, commodities, procurement systems and local conditions.

At a global scale, there are several multi-stakeholder commodity roundtables, such as the Roundtable on Sustainable Palm Oil (RSPO), Roundtable on Responsible Soy (RTRS) and Roundtable on Sustainable Biofuels (RSB). These roundtables develop global standards and principles for commodity production that adhere to the best practices for agricultural production, social responsibility, and sustainability for key commodities like soy, palm oil and biofuels. Such standards were developed with the participation and support from farmers and farmer organizations, non-profit organizations, corporations, and others. Conservation International supports these multi-stakeholder-developed standards and practices.

At the individual company level, Conservation International works directly with companies to develop sustainable sourcing guidelines. Conservation International uses a flexible and practical approach that acknowledges the unique and varied nature of agricultural supply chains and builds sustainability principles into existing purchasing programs, supplier evaluations, and quality control programs. Adding sustainability criteria, including social, environmental and economic factors to conventional procurement approaches, creates incentives for improved supplier performance and rewards innovation throughout the supply chain.

Conservation International believes that producers must derive value from engagement in sustainability programs. Price premiums are one source of value, and some producers are able to secure a financial premium by following RSPO, RTRS, RSB, or other sustainability principles and criteria. However, other important sources of value can include reduced cost of operations, improved productivity, market access, increased access to credit, reduced market variability and preferential contract terms. These incentives can be significant and depend on the markets and commodities in question.

You stated that you think agriculture is at a critical point which will require the agricultural sector to be innovative and to engage in more sustainable practices. Do you believe that biotechnology is part of this innovation?

With the global population expected to exceed 9 billion by 2050, it will take a comprehensive approach to ensure we are able to feed this increasing population and create global food security.

We think solving this challenge must factor in all solutions available in our toolbox, including biotechnology. Although we believe that biotechnology has a role to play in a comprehensive approach to the problem, we do not think that biotechnology alone is the panacea or guaranteed solution to the problem. Its uses and potential impacts need to be fully examined and appropriately monitored with safeguards put in place.

Natural resources, intact ecosystems and the natural services they provide are the foundation that will ensure that our children and grandchildren will have the food they require for generations to come. The agricultural sector, specifically the American farmer, plays a vital role in meeting the global food demand.

Conservation International's focus in working with agricultural companies, and others, will continue to be aimed at: a) protecting remaining intact ecosystems and natural habitats to maintain the services that these ecosystems provide for humans; b) discouraging agricultural encroachment on high value conservation landscapes; c) encouraging restoration of previously degraded areas to either natural vegetation or agricultural productivity depending on landscapes in question; and d) supporting and incentivizing use of known better agricultural practices by producers.

What is the role of the Farm Bill conservation programs to assist producers with undertaking sustainable practices, and what recommendations do you have for improvements to our current programs?

Conservation International works almost exclusively in landscapes outside the United States. However, we believe that many of the lessons learned from our work in over forty developing countries can be applied to help the American farmer. In addition, just as global market systems are tied to agricultural products, the lands and species that support the production of these agricultural products are dependent on each other. For

example, the International Programs of the Forest Service are uniquely positioned to promote forest conservation around the globe by drawing on the agency's diverse workforce of scientists, resource managers, international specialists, conservation biologists and other experts. The Foreign Agricultural Service plays a similar role within the U.S. Department of Agriculture. These programs create valuable lessons on sustainable agricultural practices that can be extremely beneficial to domestic sustainable production and conservation efforts, such as those undertaken through the Conservation Stewardship Program. In addition, these programs protect critical species and systems that reach beyond national borders and help support agricultural product supplies domestically and around the globe. Conservation International believes that by supporting strong conservation programs here at home and globally, the U.S. Farm Bill can enhance the knowledge and ability of U.S. farmers to compete internationally and meet the growing food demand.

Conservation International would be pleased to share our field experience with the Committee and work to help it link the conservation provisions of the U.S. Farm Bill (Title 2) with other relevant provisions, such as those dealing with trade, forestry, rural development, research, and international assistance. The goals of these cooperative efforts would improve global food security while also conserving natural systems and maintaining U.S. leadership and competitiveness.

Senator Thune

If we could keep all current 2008 Farm Bill conservation programs funded and fully functional moving forward, do you think they would do an adequate job of keeping production agriculture sustainable?

We believe that conservation programs in the U.S. Farm Bill are an important element for sustainable domestic food production. We also believe that international conservation efforts, such as those supported by the U.S. Forest Service and USDA, are important to develop valuable lessons learned, as well as to support the natural resource that underpin both domestic and global sustainable agricultural production. Adequate funding for conservation programs within the U.S. Farm Bill is vital. These conservation programs need to be designed in a way that recognizes the importance of nature in sustainable food production. Many existing international conservation efforts can be used as models for design of these programs.

An important opportunity exists for the U.S. to be a global leader in sustainable agriculture as well as to help meet the increasing global food demand.

What do you think are the least effect of the current Conservation Title programs?

As mentioned previously, we believe that international conservation efforts can be a valuable tool to inform and better equip the American farmer, also while protecting

linked natural services and species that affect global and domestic agricultural productions.

What do you see as the greatest challenge to making production agriculture sustainable into the next 4 decades?

We think the greatest challenge to ensure the long-term sustainability of the agricultural sector is protecting the underlying resources upon which the agricultural sector depends. The recognition of the long-term benefits that nature provides for sustainable food production, while meeting an increasing global food demand, is very challenging. However, the protection of ecosystems and the essential services they provide - fresh water, intact habitats, pollinators and soil fertility - is essential to ensuring our country's ability for long-term and sustainable food production.

Senate Committee on Agriculture, Nutrition & Forestry
"Food for Thought: The Role, Risks and Challenges for American Agriculture and the Next Farm Bill in Meeting the Demands of a Growing World"
Questions for the record
The Honorable Tom Vilsack
May 26, 2011

Senator Pat Roberts

1. REE. The Research, Education and Economics (REE) mission area has developed a revised "Roadmap for USDA Science." The purpose of the Roadmap is to identify current trends in agricultural research, education and extension. The Roadmap identifies a variety of agricultural research challenges we face today, including challenges associated with production agriculture, climate change, renewable energy, nutrition and obesity, food safety, natural resource management, and food security to name a few. The Roadmap does not provide any direct recommendations as to which issues should be prioritized and how funding resources should be allocated. My concern is that we are spreading our agricultural research dollars too thinly without a clear objective that will define what the priority research needs are. How do we ensure that we are investing our limited federal research dollars wisely in an effort to address the most pressing issues facing agriculture?

Response: USDA is committed to thoughtful and efficient use of all of its unique research capacities to ensure the greatest possible benefit for the American public. America faces economic, social, and environmental challenges that require a strong and innovative system of agricultural science for answers. As you note, the "Roadmap for USDA Science" sought to identify current challenges in American agriculture. This document was intended to serve as a high level guide for USDA's scientific agencies as they plan scientific research.

USDA's Research, Education, and Economics (REE) Mission Area subsequently developed a more specific Action Plan to direct the research capacity of REE in a targeted manner – to ensure that we avoid spreading our research dollars too thin, and that every project is held accountable. Providing a framework for the Mission Area, the Action Plan builds upon the priorities outlined in the 2008 Farm Bill, the "Roadmap for USDA Science", the USDA Strategic Plan, and numerous conversations with stakeholders. Under the draft Action Plan, REE identified goals for the Mission Area which have been discussed with stakeholders and are now in further revision. REE will be evaluating the Action Plan periodically and adapting it as necessary to reflect any shifts in priorities and adjustments in funding. For each goal, the action plan identifies specific actions with measurable outcomes to help coordinate our efforts to achieve those goals.

USDA is happy to further brief you or your staff on the REE Action Plan. We would be pleased to give you a better sense of how we plan to implement, and periodically measure, the goals we are setting out to help address agriculture's most pressing challenges and concerns. We have

proven in the past, time and again, what American agricultural science and research is capable of, and it is once again time for us to renew our commitment to its strengths and possibilities.

2. REE. Recognizing that there are many interesting research topics that affect agriculture, various Federal reports and scientific organizations have highlighted the need for the U.S. to invest in agricultural research that focuses on productivity growth. Can you provide to the Committee a breakdown of how USDA's agricultural research funding is directed and the areas of research that are funded through intramural dollars as well as competitively awarded funds?

Response: Generally speaking, the responsibility for intramural and extramural research is divided as follows:

Extramural: The National Institute of Food and Agriculture (NIFA) uses its largest competitive grants program, the Agriculture and Food Research Initiative (AFRI), to address major priority knowledge needs of America's agricultural sector. There are six priority areas: 1) plant health and production and plant products; 2) animal health and production and animal products; 3) food safety, nutrition and health; 4) renewable energy, natural resources and environment; 5) agriculture systems and technology; and 6) agriculture economics and rural communities. USDA leadership has integrated the six AFRI priority areas with the five primary challenge areas within the AFRI program. These five challenge areas include food security, adaptation to climate variability, bioenergy, food safety, and obesity. This focus allows us to optimize the Department's investment in knowledge, and enables an integrated approach to biological research, education, and extension. In addition, NIFA has allocated 30 percent of the AFRI funding to the Foundational Programs that directly address the six priority areas. The AFRI portfolio emphasizes projects that will keep American agriculture competitive: improve nutrition and end childhood obesity; improve food safety for all Americans; secure America's energy future, and promote mitigation of and adaptation to climate variability. AFRI funding was $262 million in FY 2010 and $264 million in FY 2011.

Extramural and Intramural: Specifically, the Economic Research Service's (ERS) funding from intramural and extramural research has been allocated in the following way:

FY 2010 Extramural: $5,620,952
FY 2010 Intramural: $76,121,654

FY 2011 Extramural: $5,800,000
FY 2011 Intramural: $76,678,000

FY 2012 Extramural: $6,728,000
FY 2012 Intramural: $79,243,000

More broadly, ERS conducts relevant, objective, highly reputable economic research and policy analyses that inform program and policy decisions throughout the Federal government. The agency's mission is to anticipate food, agricultural, agri-environmental, and rural development issues that are on the horizon, and to conduct sound, peer-reviewed economic research. ERS is

also the primary source of statistical indicators that, among other things, gauge the health of the farm sector (including farm income estimates and projections), assess the current and expected performance of the agricultural sector (including trade), and provide measures of food insecurity here and abroad. Most of the Agency's research is conducted by a highly-trained staff of economists and social scientists through our intramural program of research, market outlook, and analysis. ERS draws on the expertise of external collaborators through grants and cooperative research agreements for issues that require expertise beyond the scope of current program or require knowledge of state or regional issues. Areas of research that are supported by extramural agreements include:

- Analysis requested by Congress and USDA program agencies on high priority topics including food deserts, potential market and environmental effects of feedstocks for advanced biofuels, and local food marketing channels.
- The Food Assistance and Nutrition Research Program (FANRP) which funds economic research on USDA's domestic food and nutrition assistance programs. Major research themes of FANRP are diet and nutritional outcomes, food program targeting and delivery, and program dynamics and administration.
- The Economics of Markets for Agricultural Greenhouse Gases (EMAGG) funded economic research in three broad areas related to U.S. agricultural participation in proposed greenhouse gas markets that apply directly to participation in all markets for environmental services.
- Program of Research on the Economics of Invasive Species Management (PREISM) funded extramural research to support the economic basis of decision making concerning invasive species issues, policies, and programs.

Intramural: The Agricultural Research Service's (ARS) mission is carried out through its major research program areas (New Products/Product Quality/Value Added; Livestock/Crop Production; Food Safety; Livestock/Crop Protection; Human Nutrition; and Environmental Stewardship) and other activities to address the Department's priorities as follows:

New Products/Product Quality/Value Added (FY 11 enacted $111 million) - ARS has active research programs directed toward (1) improving the efficiency and reducing the cost for the conversion of agricultural products into biobased products and biofuels; (2) developing new and improved products to help establish them in domestic and foreign markets; and (3) providing higher quality, healthy foods that satisfy consumer needs in the United States and abroad.

Livestock Production (FY 11 enacted $88 million) - ARS' livestock production program is directed toward: (1) safeguarding and utilizing animal genetic resources, associated genetic and genomic databases, and bioinformatic tools; (2) developing a basic understanding of the physiology of livestock and poultry; and (3) developing information, tools, and technologies that can be used to improve animal production systems. The research is heavily focused on the development and application of genomics technologies to increase the efficiency and product quality of beef, dairy, swine, poultry, aquaculture, and sheep systems. Current areas of emphasis include increasing efficiency of nutrient utilization, increasing animal well-being and reducing stress in production systems, increasing reproductive rates and breeding animal longevity,

developing and evaluating non-traditional production systems (e.g., organic, natural), and evaluating and conserving animal genetic resources.

Crop Production (FY 11 enacted $240 million) - ARS' crop production program focuses on developing and improving ways to reduce crop losses while protecting and ensuring a safe and affordable food supply. The research program concentrates on effective production strategies that are environmentally friendly, safe to consumers, and compatible with sustainable and profitable crop production systems. Research activities are directed at safeguarding and utilizing plant genetic resources and their associated genetic, genomic, and bioinformatic databases that facilitate selection of varieties and/or germplasm with significantly improved traits. Current research activities attempt to minimize the impacts of crop pests while maintaining healthy crops and safe commodities that can be sold in markets throughout the world. ARS is conducting research to discover and exploit naturally occurring and engineered genetic mechanisms for plant pest control, develop agronomic germplasm with durable defensive traits, and transfer genetic resources for commercial use. ARS provides taxonomic information on invasive species that strengthens prevention techniques, aids in detection/identification of invasive pests, and increases control through management tactics that restore habitats and biological diversity.

Food Safety (FY 11 enacted $108 million) - Assuring that the United States has the highest levels of affordable, safe food requires that the food system be protected at each stage from production through processing and consumption from pathogens, toxins, and chemical contaminants that cause diseases in humans. The U.S. food supply is very diverse, extensive, easily accessible, and thus vulnerable to the introduction of biological and chemical contaminants through natural processes, intentional means, or by global commerce. ARS' current food safety research is designed to yield science-based knowledge on the safe production, storage, processing, and handling of plant and animal products, and on the detection and control of toxin producing and/or pathogenic bacteria and fungi, parasites, chemical contaminants, and plant toxins. All of ARS' research activities involve a high degree of cooperation and collaboration with USDA's Research, Education, and Economics agencies, as well as with the Food Safety and Inspection Service (FSIS), the Animal and Plant Health Inspection Service (APHIS), the Food and Drug Administration (FDA), the Center for Disease Control (CDC), the Department of Homeland Security (DHS), and the Environmental Protection Agency (EPA). ARS also collaborates in international research programs to address and resolve global food safety issues. Specific research efforts are directed toward developing new technologies that assist ARS stakeholders and customers, that is, regulatory agencies, industry, and commodity and consumer organizations, in detecting, identifying, and controlling foodborne diseases that affect human health.

Livestock Protection (FY 11 enacted $90 million) - ARS' animal health program is directed at protecting and ensuring the safety of the Nation's agriculture and food supply through improved disease detection, prevention, control, and treatment. Basic and applied research approaches are used to solve animal health problems of high national priority. Emphasis is given to methods and procedures to control animal diseases. The research program has ten strategic objectives: (1) establish ARS laboratories into a fluid, highly effective research network to maximize use of core competencies and resources; (2) access specialized high containment facilities to study zoonotic and emerging diseases; (3) develop an integrated animal and microbial genomics

research program; (4) establish centers of excellence in animal immunology; (5) launch a biotherapeutic discovery program providing alternatives to animal drugs; (6) build a technology driven vaccine and diagnostic discovery research program; (7) develop core competencies in field epidemiology and predictive biology; (8) develop internationally recognized expert collaborative research laboratories; (9) establish a best-in-class training center for our Nation's veterinarians and scientists; and (10) develop a model technology transfer program to achieve the full impact of ARS research discoveries. ARS current animal research program includes eight core components: (1) biodefense research, (2) animal genomics and immunology, (3) zoonotic diseases, (4) respiratory disease, (5) reproductive and neonatal diseases, (6) enteric diseases, (7) parasitic diseases, and (8) transmissible spongiform encephalopathies.

Crop Protection (FY 11 enacted $206 million) - ARS research on crop protection is directed toward epidemiological investigations to understand pest and disease transmission mechanisms, and to identify and apply new technologies that increase understanding of virulence factors and host defense mechanisms. Currently, ARS research priorities include: (1) identification of genes that convey virulence traits in pathogens and pests; (2) factors that modulate infectivity, gene functions, and mechanisms; (3) genetic profiles that provide specified levels of disease and insect resistance under field conditions; and (4) mechanisms that facilitate the spread of pests and infectious diseases. ARS is developing new knowledge and integrated pest management approaches to control pest and disease outbreaks as they occur. Its research will improve the knowledge and understanding of the ecology, physiology, epidemiology, and molecular biology of emerging diseases and pests. This knowledge will be incorporated into pest risk assessments and management strategies to minimize chemical inputs and increase production. Strategies and approaches will be available to producers to control emerging crop diseases and pest outbreaks.

Human Nutrition (FY 11 enacted $90 million) - Maintenance of health throughout the lifespan along with prevention of obesity and chronic diseases via food-based recommendations are the major emphases of ARS' human nutrition research program. These health-related goals are based on the knowledge that nutrition-deficiency diseases are no longer important public health concerns. Excessive consumption has become the primary nutrition problem in the American population. This is reflected by increased emphasis on prevention of obesity from basic science through intervention studies to assessments of large populations. Four specific areas of research are currently emphasized: (1) nutrition monitoring and the food supply, e.g., a national diet survey and the food composition databank; (2) dietary guidance for health promotion and disease prevention, i.e., specific foods, nutrients, and dietary patterns that maintain health and prevent disease; (3) prevention of obesity and related diseases, including research as to why so few of the population follow the Dietary Guidelines for Americans; and (4) life stage nutrition and metabolism, in order to better define the role of nutrition in pregnancy and growth of children, and for healthier aging.

Environmental Stewardship (Water Quality; Air/Soil Quality; Global Climate Change; Range/Grazing Lands; Agricultural Systems Integration) (FY 11 enacted $208 million) - ARS research programs in environmental stewardship support scientists at more than 70 locations. Emphasis is given to developing technologies and systems that support profitable production and enhance the Nation's vast renewable natural resource base. ARS is currently developing the scientific knowledge and technologies needed to meet the challenges and opportunities facing

U.S. agriculture in managing water resource quality and quantity under different climatic regimes, production systems, and environmental conditions. ARS air resources research is developing measurement, prediction, and control technologies for emissions of greenhouse gases, particulate matter, ammonia, hydrogen sulfide, and volatile organic compounds affecting air quality and land surface climate interactions. The agency is a leader in developing measurement and modeling techniques for characterizing gaseous and particulate matter emissions from agriculture. In addition, ARS is evaluating strategies for enhancing the health and productivity of soils, including developing predictive tools to assess the sustainability of alternative land management practices. Finding mechanisms to aid agriculture in adapting to changes in atmospheric composition and climatic variations is also an important component of ARS research program. ARS range and grazing land research includes the conservation and restoration of the Nation's range land and pasture ecosystems and agroecosystems through improved management of fire, invasive weeds, grazing, global change, and other agents of ecological change. The agency is currently developing improved grass and forage legume germplasm for livestock, conservation, bioenergy, and bioproduct systems as well as grazing-based livestock systems that reduce risk and increase profitability. In addition, ARS is developing whole system management strategies to reduce production costs and risks.

Library and Information Services (NAL) (FY 11 enacted $22 million) - The National Agricultural Library (NAL) is the largest and most accessible agricultural research library in the world. It provides services directly to the staff of USDA and to the public, primarily via the NAL web site, http://www.nal.usda.gov. The NAL was created within USDA in 1862 and was named in 1962 a national library by Congress, as the primary agricultural information resource of the United States. NAL is the premier library for collecting, managing, and disseminating agricultural knowledge. The Library is the repository of our Nation's agricultural heritage, the provider of world class information, and the wellspring for generating new fundamental knowledge and advancing scientific discovery. It is a priceless national resource that, through its services, programs, information products, and web-based tools and technologies, serves anyone who needs agricultural information. The Library's vision is "advancing access to global information for agriculture."

Repair and Maintenance of Facilities (FY 11 enacted $17 million) - Funds are used to restore, upgrade, and maintain ARS' facilities to meet Occupational Safety and Health Administration and EPA requirements, provide suitable workspace for in-house research programs, and to retrofit existing structures for better energy utilization.

3. REE. Agricultural research is a long term investment in that it may take 10 to 15 years to yield results. There are differing views of how to deliver USDA research programs– either through a competitively awarded process or through formula funds. How does the Administration propose that we balance competitively awarded research grants with support for the land-grant and other agricultural colleges and universities through formula funds?

Response: It is important that USDA maintain a balanced and integrated science portfolio of programs including those supported through our competitive grants program, our formula based program, and the robust intramural programs of ARS. The Administration's Fiscal Year 2012

request presented a balanced portfolio of research, education and extension programs that addresses the critical needs of agriculture and the American public.

Although we have proposed modest cuts in formula funds, NIFA has proposed increases in the Agriculture and Food Research Initiative (AFRI) competitive grants program that include increased investments in the integrated programs of AFRI. These integrated programs provide significant opportunities for support of multidisciplinary and multistate extension programs. Strong extension components within the integrated programs of AFRI will help ensure that research findings are accessible to agriculture producers and other key stakeholders. I can also assure you that we at USDA are committed to science programs that are integrated across the science agencies regardless of the funding mechanisms. The joint interagency planning currently underway within the USDA science agencies will help to ensure that our investments are strategic and address the most critical needs facing the nation (REE action plan).

4. REE. Continued federal financial support in today's budgetary environment for federally funded agricultural research often times is not a top-line priority and, therefore, faces disproportionate funding cuts. What recommendations would you share with the Committee as to how we transform this mentality and elevate federally funded agricultural research as a top priority considering we will only rely more on the advancements from basic and applied research projects to help feed a growing world?

Response: A significant part of the challenge in bringing agricultural research to forefront of American consciousness is looking for opportunities to highlight the myriad of linkages agricultural research has to not only our farming and rural communities but also the critical role agricultural science plays in ensuring the safety of our food supply and making certain that all Americans have access to nutritious foods. That is why the REE mission area has been actively partnering with every aspect of the food chain: from farmers and ranchers to universities and foundations to industry and commodity groups. Working with these partners and the American public we can better inform about the fact that work in USDA research literally touches every American every day. We also need your help as Members of Congress to facilitate and promote connections within your communities. We need to elevate agricultural research from being the best kept secret in science.

5. NRCS. In your testimony, you mention some significant reductions in sediment loss, nitrogen and phosphorus runoff in the Chesapeake Bay. You also maintain that conservation investments can help mitigate regulatory pressures. I agree that conservation investments are good for farmers and ranchers and benefit soil heath, water, and wildlife. Why do we still seem to have a problem discussing these on-farm improvements with EPA, especially in the Chesapeake Bay where the agency appears to have significantly underestimated the value of agricultural activities in their assessment and modeling?

Response: Since the release of the CEAP Chesapeake Bay Region report, the Natural Resources Conservation Service (NRCS) and EPA have been discussing ways to better understand the differences between the Chesapeake Bay Partnership Model and the Conservation Effects Assessment Project (CEAP) model. These models are used for very different purposes – the Bay

Model is used by EPA to establish total maximum daily loads (TMDLs) for the Bay and the CEAP model is used by NRCS to assess the effects of conservation practices in order to improve the effectiveness of voluntary conservation programs. Where our interests or objectives intersect, we are looking for opportunities to collaborate. USDA's objective is to facilitate input of conservation data to the Chesapeake Bay Partnership Model that will more completely reflect the level of agricultural conservation in the watershed.

6. NRCS. I have been outspoken about my concern for increasing regulatory pressure on farmers, ranchers and forest landowners and have introduced legislation to codify the President's Executive Order aiming to reduce regulatory burdens. Increased regulation is something that is repeatedly raised as a top priority in meetings with producers both here in Washington and back home. These regulations-- dust, water, pesticide permits-- will impact agricultural productivity and a producer's ability to stay in business. As we look at the need to meet growing food demands, does USDA have the technology and expertise to assist producers with these new challenges? To what extent can USDA conservation programs and field staff provide assistance in these areas where we see increased EPA regulations?

Response: NRCS is engaged in developing and transferring new conservation technologies to farmers and ranchers who work with us on a voluntary basis. NRCS relies on technologies developed by our sister agencies, ARS and NIFA, and on technologies developed by industry. Since the passage of the 2002 Farm Bill, NRCS has put more than $100 million into the Conservation Innovation Grants (CIG) program that facilitates the direct transfer of new technologies to agricultural producers through bridging the gap between research and adoption, and by demonstrating these technologies. Through existing authorities under the Environmental Quality Incentives Program (EQIP), NRCS staff provides technical and financial assistance to producers to assist them in meeting regulatory criteria. An expressed purpose of EQIP is "avoiding, to the maximum extent practicable, the need for resource and regulatory programs by assisting producers in protecting soil, water, air, and related natural resources and meeting environmental quality criteria established by Federal, State, tribal, and local agencies." Through the identification and transfer of new technology, through the day-to-day interaction to assist farmers and ranchers adopt new technology, and through financial assistance programs, NRCS assists producers in meeting new challenges in natural resources conservation.

7. FSA. In the 2008 Farm Bill we made a significant investment in the Energy Title to support biofuels. Can you tell us how you think current USDA programs such as the Biomass Crop Assistance program (BCAP) are operating and the benefits you are seeing from the programs? And, looking ahead in this area, how should these programs be shaped in the 2012 Farm Bill legislation?

Response: The Biomass Crop Assistance program (BCAP), administered by the Farm Service Agency, is one of several programs in Energy Title IX of the 2008 Farm Bill that support national biofuels efforts. Other programs include Rural Development's Biorefinery Assistance, Repowering Assistance, Bioenergy Program for Advanced Biofuels, and Rural Energy for America Program; NIFA's Biomass Research and Development grants; USDA Rural Business

Cooperative Service's Business and Industry, Rural Business Enterprise Grants, Value-Added Grants, and Rural Economic Development Loan and Grant Programs.

Where other USDA energy programs support basic or applied research, or provide capital investments for upgrades of bioenergy facilities, BCAP provides incentives to agricultural producers and forest land owners and operators to expedite the establishment of the next generation crops necessary to meet national energy goals - - crops that may require several years to reach maturity for harvest. Because commercial-scale bioenergy facilities must have commercial-scale feedstocks, and commercial-scale feedstocks require commercial-scale bioenergy facilities as customers, BCAP addresses this classic chicken-or-egg challenge by supporting the cultivation of bioenergy crops in this nascent marketplace. Moreover, it has taken more than 20 years to achieve more than 10 billion gallons of biofuels in the nation's fuel supply; by comparison, the Renewable Fuels Standard requires 21 billion gallons more biofuels in 10 years without using corn starch. BCAP provides an incentive to ensure that sufficient supplies of biomass are available to achieve these biofuels targets of the RFS.

In the 8 months since the publication of the final BCAP regulation, FSA has dedicated approximately $37 million for technical assistance and payments to establish new, dedicated energy feedstocks on up to 250,000 acres in four states as well as approximately $2.65 million for matching payment for crop residues being delivered to conversion facilities. At present, FSA is evaluating over 40 applications from 21 states to establish new energy crops on 1.5 million acres over a period of 5 to 15 years. As the Committee begins to develop the 2012 Farm Bill, USDA looks forward to sharing information on what works and how these programs can be strengthened.

8. **OCE.** Mr. Secretary, your testimony highlights the fact that the increased global population and a rising middle class will "demand more and higher quality food as well as higher input products, such as beef." The GIPSA rule remains an issue of serious concern to livestock producers who are necessary to meet this demand. While you have indicated that USDA is still reviewing comments, can you give us an outline of the scope of the economic analysis? Will USDA's economic analysis of this rule be broken out by specific sector of the livestock industry? Will your cost/benefit analysis provide initial, annual and lifetime costs of this regulation? Will USDA rely on OMB/OIRA for its mandatory cost/benefit analysis as a result of this rule now being deemed economically significant? Will this rule be rolled out in separate species segments (beef, pork, and poultry) or will it remain all encompassing? And finally, will you allow for an additional comment period on the amended rule which includes the opportunity to comment on the Department's economic analysis?

Response: We received over 60,000 comments. Many of these comments were comprehensive, thoughtful, and educational. We can assure you the scope of the economic analysis will be broad and will take these comments into consideration. We have not yet finalized how the results from the analysis will be presented at this time, but we expect to present them in a transparent manner so they are easily understood. The GIPSA rule and the cost/benefit analysis will be sent to the Office of Information and Regulatory Affairs (OIRA) at the Office of Management and Budget

(OMB) for review. At this time, the Department has not made any final decisions regarding which actions to take on the proposed rule and on the yet to be completed cost/benefit analysis.

9. APHIS. Biotechnology plays an important role in our ability to feed a growing population. U.S. producers are interested in new technology, are using biotech products and are looking toward new products. We need to ensure that there is a consistent, reliable process to bring new products to market in a timely manner. I am concerned about legal challenges to USDA approved biotech products that have created uncertainty for producers who are looking to take advantage of these new products.

   You made a recent statement regarding Roundup Ready Alfalfa that might be seen as unsupportive of biotechnology and the decisions made by USDA during the approval process.

   Do you support biotechnology?

   Can we have your assurance that you will defend these products and USDA's leadership in the Coordinated Framework for Regulation where USDA, EPA, and FDA have specific roles in the process for authorization for commercial use of products derived from biotechnology?

Response: Yes. I certainly support biotechnology and having a reliable system for regulating the products of biotechnology. Biotechnology is a critical tool in addressing important global issues, including food security, biomass production, sustainability, and climate change. Other benefits of biotech crops include overall reduced pesticide use, increased use by farmers of less damaging pesticides, and decreased soil erosion due to increased use of no-till farming. While we support the use of biotechnology because of the benefits it provides, USDA continues to also be committed to a strong, science-based regulatory system that ensures that the products of biotechnology are safe for agriculture and the environment, food, and feed. We will continue to work closely with our partners in the Coordinated Framework to ensure this, and to have a voice at the table as we face new challenges.

One such challenge is that the rapid adoption of biotech crops has coincided with the rapid expansion of demand for organic and other non-biotech products, resulting in real, practical difficulties for some non-biotech producers to meet the need of their markets. This is why, last December, USDA brought together a broad range of stakeholders representing different interests and viewpoints in the biotech, organic, and non-biotech agriculture sectors, as well as consumer interests, to discuss possible approaches to alfalfa production coexistence that are reasonable and practical.

Like you, I am concerned about recent lawsuits related to the approval of biotech crops and the resulting uncertainty for producers and technology innovators. This is why USDA kicked off the conversation about strengthening coexistence. We do not have a preconceived notion of how best to strengthen coexistence, but we plan to continue examining this issue through the Secretary's Advisory Committee on Biotechnology and 21st Century Agriculture. Our hope is

that the Committee will provide USDA with practical recommendations for bolstering coexistence among different agricultural production systems.

10. REE. Your testimony implies we can meet the challenge to global food needs through research. Three programs in the research title that received mandatory funds during the 2008 farm bill are not assumed to continue from a budgetary perspective because they do not have a budgetary baseline beyond fiscal year 2012. The programs are the Organic Agriculture Research and Extension Initiative, the Specialty Crop Research Initiative, and Beginning Farmer and Rancher Development. The budgetary environment in which the next Farm Bill is written is expected to be tighter than 2008. Thus, funding programs with expiring baselines may be a challenge and will require prioritization. What recommendations do you have for prioritizing funding for research programs with expiring budgetary baselines?

Response: Congress had the foresight during the development of the 2008 Farm Bill to authorize these mandatory programs. Doing so underscores the importance of these programs in advancing the important mission of USDA's National Institute of Food and Agriculture (NIFA). The challenge going forward will be to determine which programs we can do without. The Secretary looks forward to working with Congress in a bi-partisan manner in making these very difficult decisions.

11. FNCS. The Omnibus Appropriations Act, 2009 directed the FTC, USDA, CDC, and FDA to complete a study on the advertising of food products to children prior to providing recommendations to Congress. From what I can see no original study was completed. Please explain why USDA chose not to do the study and simply moved forward with recommendations to the food industry?

Response: Report language accompanying the Appropriations Act gave the charge for a Federal Trade Commission-led Interagency Working Group (IWG) composed of representatives from FDA, CDC in HHS, and USDA, to conduct a study and develop recommendations for marketing of food targeted to children 17 years old or younger. The IWG did, in fact, review and incorporate findings from the numerous studies already completed on the issue of dietary recommendations and marketing to children when developing the proposed recommendations. Reference is made to the analysis the IWG made in the proposal entitled "Interagency Working Group on Marketing to Children - Preliminary Proposed Nutrition Principles to Guide Industry Self-Regulatory Efforts," which was published for comment on April 28, 2011. Public comment was sought to help inform the IWG in shaping its recommendations for enhanced industry self-regulatory efforts as part of the report requested by Congress.

12. FNCS/AMS. I assume the reason the four agencies created an Interagency Working Group (IWG) on this issue was to establish consistency for Federal food and nutrition recommendations. Yet looking at the Healthier USSchool Challenge criteria, the National School Lunch Program proposed rule, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) food package criteria, and the IOM competitive foods report, inconsistencies abound. How do you explain this?

Response: While the food and nutrition standards for the programs and policy areas you cite differ in a range of respects, I would respectfully submit that they are consistent. All are consistent with the foundation provided by the *Dietary Guidelines for Americans.* The *Dietary Guidelines* provide overall nutritional goals for improving eating patterns and making more healthy food choices. Within these broad, total diet goals, however, programs such as WIC and the school meals programs have different standards based on the circumstances and nutrition needs of those programs' specific clients. Similarly, as I understand it, the Institute of Medicine recommendations on competitive foods were intended to provide a structure that would help food sold in that setting to support and foster eating choices consistent with the *Dietary Guidelines.*

13. FNCS/AMS. If the food industry adopts the IWG recommendations today, a significant number of food products would not be allowed to be marketed to children, including several that nutrient experts deem to be healthy. These foods include yogurt, whole wheat bread, cheeses, and virtually all cereals. It is my understanding from nutritionists and dietitians that these foods are good for kids. Please explain why kids shouldn't be eating these foods?

Response: Applying the principles and criteria proposed on April 28, 2011, the IWG proposal allows for several low-fat yogurt, breads, cereals (including Cheerios), unsalted peanut butter, tuna, and some kids meals to be marketed to kids. Comments on the April 28, 2011, proposal on nutrition principles and criteria for foods that would be eligible for ads aimed at children 17 years old and younger were encouraged from the public until July 14. The IWG members will be carefully reviewing the comments and considering them in any adjustments needed.

14. FNCS. Many of the food products that would be banned by your advertising proposal are the same food products USDA has recently determined to be important in the Special Supplemental Nutrition Program for Women, Infants, and Children to promote health in women and their children under five. How can you explain those inconsistencies?

Response: Comments on the April 28, 2011 proposal on nutrition principles and criteria for foods that would be eligible for ads aimed at children 17 years old and younger were encouraged from the public until July 14. The IWG members will be carefully reviewing the comments and considering them in any adjustments needed to fulfill the directive in the 2009 Appropriations Act and formulate accordingly the final report of recommendations to Congress. While the food and nutrition standards for the programs and policy areas you cite differ in a range of respects, I would respectfully submit that they are consistent. All are consistent with the foundation provided by the *Dietary Guidelines for Americans.* The *Dietary Guidelines* provide overall nutritional goals for improving eating patterns and making more healthy food choices. Within these broad, total diet goals, however, programs such as WIC different standards based on the circumstances and nutrition needs of those programs' specific clients.

15. FNCS. Your food marketing proposal defines marketing in a way that would make it virtually impossible for food companies to provide economic support to philanthropic activities such as Little League teams, school reading programs, and Boys and Girls

Clubs. Is this your intent? What analysis has been done regarding the impact this will have on schools and communities?

Response: The proposal of nutrition principles and criteria was published on April 28, 2011, for public comment. The proposal requested data and information on topics such as that noted in your question in order to determine the impact on advertisers and food manufacturers. Such information will help the FTC representatives on the IWG prepare the final report of recommendations on these voluntary standards to Congress.

16. **FNCS.** Advertising has changed since most of the food industry has committed to voluntary marketing-to-children guidelines through the Children's Food and Beverage Advertising Initiative, overseen by the Better Business Bureau. How did you incorporate that success in your proposal?

Response: The IWG acknowledged that the food industry has made substantial efforts to move their products closer to the principles proposed by the IWG and, in developing the proposal released on April 28, 2011, the IWG representatives reviewed the criteria and policies applied in the several voluntary efforts throughout the food and beverage industry. In addition, the April 28, 2011 proposal encouraged the food and beverage industry to provide additional data on their voluntary nutrition standards and to provide viable alternatives to the IWG-proposed nutrition principles. .

Senator Kirsten Gillibrand

17. **AMS/FNCS.** Secretary Vilsack, as we discuss today global hunger, I want to call your attention to the Food Desert Map Locator, released by USDA on May 1st. As the 2008 Farm Bill defined, a food desert is a "area in the United States with limited access to affordable and nutritious food, particularly such an area composed of predominantly lower-income neighborhoods and communities." In New York City, we have significant food deserts in Harlem, the Bronx, central Brooklyn, and part of Queens and Staten Island. We have skyrocketing diet related diseases such as obesity, Type 2 diabetes and cardiovascular disease, even in small children. Our state and city efforts have started the crucial work of eliminating these food deserts, but significant results have yet to be seen. So, you can imagine my dismay when I noticed that this mapping tool claims to help all stakeholders "pinpoint the location of food deserts", yet it completely misses our most significant New York City food deserts of Harlem, the Bronx and central Brooklyn. As I champion both legislation and appropriations for Healthy Food Financing to solve the food desert problem, it is very worrying to see New York City ignored in USDA's mapping. What will you do to fix this problem?

Response: The Food Desert Locator tool defines food deserts as low-income census tracts with a substantial number or share of residents who are far from a supermarket or large grocery store. In urban areas, residents more than 1 mile from a supermarket or large grocery store are considered to be far from a grocery store. In New York City, and specifically in the Bronx, very few residents are more than 1 mile from a supermarket or large grocery store. Because New York City is densely populated, local efforts to improve food access have used different

definitions of low access to target programs, including ones based on the square footage of grocery retail available in an area.

The Food Desert Locator uses supermarkets and large grocery stores as proxies of sources of healthy food, based on a 2006 list of stores. Any grocery store with more than $2 million in annual sales and with all major food departments is considered to be a supermarket or large grocery store. Population and income data are from the 2000 Census of the Population. Details about the methods and data used to define food deserts can be found at: http://www.ers.usda.gov/data/fooddesert/documentation.html. In 2012, ERS will provide updated estimates of food desert tracts using more recent population and store data.

The Food Desert Locator tool is designed to assist efforts to expand the availability of nutritious food in food deserts and will help policy makers, community planners, researchers, and other professionals identify communities where public-private intervention can help make fresh, healthy, and affordable food more readily available to residents who live there. It is being launched in connection with the Healthy Food Financing Initiative, an interagency effort involving the Departments of Agriculture, Health and Human Services and Treasury. While all three federal departments are advocating use of this tool, they will not be using the Food Desert Locator as the sole factor in determining the eligibility of funding requests. All applicants will have the opportunity to describe barriers to healthy food access in their proposed project location.

Senator Saxby Chambliss

18. **REE.** Mr. Secretary, I agree with your remarks regarding the importance of research in improving agricultural production. Most of the research dollars in both the private and public sectors flows to crops such as corn, soybeans and cotton. In a state like Georgia, there is a great diversity to the crop mix. How does USDA seek to leverage resources, especially those in the public sector, to focus on other crops such as peanuts utilizing biotechnology and genomics research to meet productivity goals and consumer preferences in the future?

Response: The research portfolio of the USDA science agencies is very diverse and does support a wide variety of crop and livestock production systems as well as other critical issues such as food safety, bioenergy, and childhood obesity. It is important that USDA's investment in science be strategic to ensure the long term productivity of the diverse agricultural systems in this country. Indeed one of the strengths of the American agriculture is its diversity. A strong research investment in agricultural research, education, and extension, is critical to maintaining secure food production systems. We are working to be sure that USDA's research portfolio is diverse and effective for a diverse crop mix.

In addition, USDA-ARS is a key partner in a major ongoing effort to sequence the peanut genome, with several ARS scientists involved, particularly in Georgia (Griffin, Tifton, and Dawson) and Mississippi (Stoneville). The project includes private industry, university, and international partners. ARS has collaborated closely with the University of Georgia, (both at Tifton and Athens), and North Carolina State University to develop the genomic science and

peanut genetic mapping populations needed for this project. University of California Davis will be involved with data analysis, storage, and distribution. The project relies heavily on the ARS peanut germplasm collection and although fine-tuning of the sequence work will be done in the ARS genomics lab at Stoneville, Mississippi, the initial sequencing will be done at the Beijing Genomics Institute (BGI). Scientists from both the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and Brazilian universities are involved in the project. Throughout the entire project, ARS has leveraged appropriated dollars with the contribution of genetic materials, genomic mapping populations, and access to our vast germplasm collection and lab resources, without an actual input of new dollars. The project is funded in part by MARS Incorporated, Peanut Foundation, American Peanut Council, and BGI. Participants will also seek assistance from the AFRI Foundation Grant Program.

19. FAS. Mr. Secretary, you mentioned that specific commodities are dependent on export markets. The pecan industry in Georgia is growing rapidly based on exports to countries like China. This growth is adding jobs in rural areas and contributes to supply and distribution jobs in Savannah, Georgia's port. Despite this success, it is important to have a diverse customer base and not be dependent on a single market. Pecans currently experience significant trade barriers in the Indian market. Will your staff work with my office and the U.S. Trade Representative (USTR) on this important issue and expand opportunities to the pecan industry?

Response: U.S. pecan exports to China have seen enormous growth in the past 5 years, rapidly rising from sales of $150,000 in 2005 to $13 million in 2010. Exports of U.S. pecans to India also rose significantly from $34,000 in 2009 to $589,000 in 2010—a 17 fold increase in one year—but it still represents a much smaller market for our growers than does China. Unfortunately, U.S. pecans still face considerable market access barriers in India, most notably high import tariffs: U.S. pecans and other tree nuts are subject to an applied tariff of 36 percent. We are working closely with USTR to request that the Government of India reduce this and other tariffs. Earlier this year, the Government of India moved to reduce import duties on a package of items, including pistachios, raisins, and cranberry products. These were among items earlier identified by the U.S. Government and industry representatives as priority export interests. We will continue to work with India's government in seeking similar treatment for other priorities in the future.

USDA's Foreign Agricultural Service (FAS) office in New Delhi promotes awareness among Indian traders and consumers by supporting U.S. pecan promotion efforts, such as trade shows and in-store promotions. In 2010, the Georgia Pecan Growers Association received $55,200 through USDA's Emerging Markets Program for a promotional activity in India. Recently, the U.S. Pecan Council participated in the 2011 International Food & Drink Expo in New Delhi. Also, the U.S. Pecan Council is now formally a USDA Market Access Program (MAP) participant, having received $200,000 in funding for market promotion activities in India in 2011, and has been approved for $75,000 to purchase pecans to be used in ice cream manufacturing trial runs under the Quality Samples Program (QSP), an FAS-administered program that assists U.S. agricultural trade organizations in providing samples of their agricultural products to potential importers.

USDA will continue to support U.S. pecan growers and exporters as they pursue new markets globally. We expect very good prospects for export growth to India due to the expansion of its middle class, and recommend that the industry focus on establishing strong local partnerships. We look forward to working with the U.S. pecan industry to help develop India as a major market for U.S. pecans.

20. FAS. Mr. Secretary, I agree with your concerns regarding the detrimental effects of export bans. Over the past year, the global cotton market has experienced increased volatility in part due to Indian export embargos on raw cotton. What actions has USDA taken to monitor these developments and hopefully end these practices by India?

Response: USDA is actively engaged with the Government of India (GOI) to seek the elimination of these export restrictions as soon as possible. We are working closely with USTR to resolve this issue. Our approach is multi-pronged. First, my staff plans to join USTR in the next digital video conference with India's Ministry of Textiles. We raised the issue with India at the June 23 World Trade Organization (WTO) Committee on Agriculture meeting in Geneva. USDA staff are active participants in the International Cotton Advisory Committee (ICAC) where we joined our multilateral partners in raising concerns about India's cotton export policy. USDA's Foreign Agricultural Service office in New Delhi regularly registers concern with officials from three ministries – Agriculture, Commerce, and Textiles – about the effects Indian export policies have on increasing international price volatility and creating significant trade disruptions.

21. FSA. Based on my discussions with farmers in Georgia, the SURE program is not working for Southern agriculture. My row crop producers tell me that it is not effective and they aren't using it.

    - Given the geographic limitations of the program, do you think SURE is an effective national disaster program? Are farmers in other parts of the country expressing concerns with the utility of the program? In your view, how does the program need to change in order to be included in the next farm bill?

    - How do you plan to deal with the disaster in the Mid South with the floods?

    - We also have a potential disaster in the Southeast from drought. Many of my producers have been unable to plant. What options do they have if the SURE program won't work?

Response: The Supplemental Revenue Assistance program (SURE) is one of several USDA programs available to crop producers to assist them when natural disasters occur. To be eligible for SURE payments, producers, in addition to other program requirements, also must have purchased at least the catastrophic level of crop insurance for all insurable crops on the farm. For each non-insurable commodity, the producer must have filed the required paperwork and pay the administrative fee for the Non-Insured Crop Disaster Assistance Program (NAP). The signup period for SURE payments for 2009 crop losses, only the second year of the SURE program, began on January 10, 2011, and ends on July 29, 2011.

Because the SURE payment is a calculation of 60 percent of the difference between the program guarantee and the total farm revenue, there are several factors that can affect the SURE payment including: (1) not purchasing crop insurance or NAP, (2) purchasing low crop insurance coverage levels, (3) receiving higher amounts of farm program payments, and (4) growing a larger diversity of crops. In 2008, the combination of these factors limited SURE payments to some producers, particularly in the Southern States where crop insurance coverage levels were lower, farm program payments were higher, and a longer growing season allows for growing a wider diversity of crops that offset losses on other parts of the farm.

Regarding the Mid-South floods and areas severely affected by drought, USDA continues to work in the framework and legal authority of currently authorized programs to provide assistance to those producers. Producers may qualify for crop insurance indemnities and/or the SURE program.

A major issue from farmers in other parts of the country is the significant delay between when the disaster occurs and when the SURE payments are issued. The delay occurs because SURE payments are based on calculations that use the average price for the marketing year which is not available until after the end of the marketing year.

Together, we must continue to look for ways for producers to make greater use of the risk management programs that are currently available. If there are deficiencies, the best time to address some of these issues is in the next Farm Bill.

22. **FSA.** With regard to your comments on a "strong safety net" for U.S. producers, you talk a great deal about risk management. However, depending on the state, region or crop of concern, producers will see varying levels of utility to the various programs currently available. In the Southeast, the Average Crop Revenue Election (ACRE) program is of little benefit while producers favor the marketing loan program because it works. In other parts of the country, crop insurance emerges as the most important risk management tool available to producers.

    As the direct payment program emerges as a key contributor to the ongoing budget negotiations, producers all around the country will find the farm safety significantly altered outside of the traditional farm bill process. The implications will vary by state and region.

    Has your office requested any analysis from the Office of the Chief Economist or the Economic Research Service regarding the farm level impacts of removing direct payments and decisions to enroll in other safety net programs? If no, why not and will you do so?

Response: The Farm Service Agency has not requested an analysis from the Office of the Chief Economist or the Economic Research Service (ERS) regarding the farm level impacts of removing direct payments and decisions to enroll in other safety net programs. ERS has

conducted an economic assessment of direct payments. ERS' assessment can be found at (http://www.ers.usda.gov/briefing/farmpolicy/directpayments.htm).

Senator Mike Johanns

23. **GIPSA.** Along with 11 of my colleagues, I wrote you on December 21 regarding a cost-benefit analysis on the June 2010 proposed rule to implement livestock provisions from the 2008 farm bill.

    I continue to hear from several cattlemen in Nebraska that are concerned that the scope of the proposed rule goes beyond the intent of Congress. There is concern that the USDA proposals will greatly increase costs and inhibit the industry's ability to compete in the global marketplace. Thus, completion and public review of the economic analysis is vital.

    Mr. Secretary, you have consistently told Congress and livestock stakeholders that there will not be an opportunity to review and comment on the economic analysis currently being conducted by the Chief Economist's office. Since this analysis will have a huge impact on the final rule, why won't you allow it to be reviewed by interested stakeholders? Doesn't this go against President Obama's promise of transparency in the Federal rulemaking process?

Response: As you noted, the rule has sparked considerable interest and discussion. GIPSA received over 60,000 comments that are being analyzed to complete the rulemaking process. At this stage, GIPSA has consolidated and summarized all of the comments and is working on modifying the rule based on those comments. An economic team headed by USDA Chief Economist Joe Glauber is analyzing and conducting a cost benefit analysis. It is still too early in this process to be able to predict a specific timeline, exactly what the final product will look like or what additional comment periods there may be.

    In the past, what USDA proposed rules have been pulled back, restructured or changed, and then resubmitted for public review and comment before going final? Is there anything that prevents you from doing this with the proposed GIPSA rule?

Response: Our focus is on getting the rule done right and making sure that outstanding issues or concerns expressed in the comments are addressed properly. As noted previously, it is too early to know what form and course the final product will take. No option has been ruled out and we are letting the comments guide these decisions.

    How long do you expect it to take to complete the new economic analysis? Additionally, will the analysis be subject to external peer review prior to its release?

Response: As I mentioned earlier, an economic team headed by USDA Chief Economist Joe Glauber is analyzing and conducting a cost benefit analysis. This process is ongoing and we do not yet have a specific timeline for when the cost benefit analysis will be completed, as we are

focusing on getting it done correctly and appropriately. USDA has not made any decision on whether the cost benefit analysis will be subjected to external peer review.

24. AMS/FNCS. Sound nutrition and physical activity are important in building a foundation for a healthy lifestyle. I generally support USDA's efforts to improve the nutritional profile of school meals. The school feeding programs provide nutrient rich meals for some of the neediest children in the country. However, we need to make sure those meals include foods that children will eat and schools can afford to serve.

    In response to the Food and Nutrition Service's January 13, 2011 proposed rule for Nutrition Standards in the National School Lunch and School Breakfast Programs, I understand that the Department received over 160,000 comments, many of which express significant concerns with the proposal both in terms of cost and in terms of sound nutritional science. USDA estimates serving lunches under the proposed guidelines would cost schools an additional 15 cents and serving breakfast would cost an additional 50 cents. The additional 6 cent reimbursement for school lunches made available by the recently passed child nutrition reauthorization would fall short of covering those costs. USDA has suggested that schools cover the difference by charging those paying full price more. But, there are also concerns that charging more for school meals, while eliminating some of the options students prefer, will lead to fewer meals sold at the full price. This, in turn, suggests an even greater financial challenge for schools and school districts—a difficult situation in the current economically stressed environment.

    How is the Department planning to reduce the potential burdens on schools that have to meet the new guidelines?

    Are you concerned that participation—especially in the school breakfast program—will decline?

Response: USDA issued a proposed rule on January 13, 2011, to update school meals based on the *Dietary Guidelines for Americans* and the recommendations of the National Academies Institute of Medicine. The proposed rule includes provisions requiring more fruits and vegetables in the school menu and phases in whole grain and sodium requirements, which are likely to increase both food and labor costs. As you noted, the Healthy, Hunger-Free Kids Act of 2010 (HHFKA) provides a six cents increase in lunch reimbursements for those schools that implement the new guidelines. The Congressional Budget Office (CBO) estimated this change would increase Federal expenditures by over $3 billion over the next 10 years. This is the first time in over 30 years that Congress has provided for a non-inflationary increase in the reimbursement rate. The HHFKA also recognizes that there are other important sources of revenue for school food service that have, on average, been insufficient to meet their accompanying costs, creating a "revenue gap" that exacerbates the already difficult budget situations many school food service directors face. This has led to many school districts diverting Federal funds from their intended purpose to cover the revenue gap, which is contrary to the intent and purpose of the school meals programs. Accordingly, the HHFKA aims to strengthen these revenue streams through two provisions; one requiring equity in the revenue generated from the sale of paid meals, and the other ensuring schools generate a proportionate

share of revenue from nonprogram food sales to food cost. When taken together, the non-Federal revenue generated by these provisions plus the additional Federal reimbursement provided for improved meals is estimated to, on average, provide enough revenue for schools to meet the new standards for both lunch and breakfast.

In addition, many schools are already making progress using available resources. USDA has recognized over 1,250 schools under the HealthierUS School Challenge (HUSSC) for voluntarily offering more nutritious meals, including a variety of vegetables each week, a variety of whole fruits, and whole grains. The HUSSC schools have demonstrated an ability to operate cost-effective school meals programs that emphasize many of the same foods required by the proposed rule. These schools receive no additional financial assistance from USDA beyond the current meal reimbursement and foods purchased by USDA. USDA has made numerous nutritional improvements in the foods it purchases for schools; schools that take full advantage of these food offerings will be well positioned to adopt the new guidelines. The HHFKA also provides $50 million for each of the first two fiscal years ($100 million total) of the implementation of interim regulations for the purpose of providing grants to states to support training, technical assistance, certification and oversight activities associated with the new meal patterns. USDA is committed to implementing this provision and believes that this funding will directly support state-federal collaboration with states and schools in meeting new meal pattern requirements.

We expect that schools will work to introduce additional fruits, vegetables, whole grains, and reduced-fat dairy products in ways that win acceptance from students, with the goal of maintaining participation, and preserving the Federal revenue tied to reimbursable meals and the revenue from students who pay full-price. A recent USDA study (School Nutrition Dietary Assessment Study III) found that participation was not significantly different in schools that offered more fresh fruits and vegetables, and meals with relatively fewer calories from fat, than other schools.

25. FNCS. On April 28, 2011, the Federal Trade Commission, USDA, Centers for Disease Control, and the U.S. Food and Drug Administration (FDA) released an updated version of proposed voluntary guidelines for food and beverage marketing to children and teens, known as the "four agency guidelines." The 2011 guidelines would require all food marketed to children and teens (ages 2 to 17) to meet two nutrition principles: one, that foods contribute a significant amount of certain foods groups (e.g. fruits, vegetables, whole grains, etc); and two, that foods have very low amounts of saturated fat, trans fat, added sugars, and sodium. In particular, the requirement that food initially have no more than 210 mg of sodium per serving would prohibit marketing of many foods that meet FDA and USDA definitions of "healthy foods."

    We certainly all agree childhood obesity is a matter needing our attention, but our country has numerous significant issues ahead of us, not the least of which is the federal budget, job creation, and our nation's economy. How did you consider these matters in putting these proposed guidelines together? Was any cost-benefit analysis or economic impact study completed?

In comparing the guidelines set forth by the interagency working group and the Healthier U.S. Schools Challenge criteria, the National School Lunch Program proposed rule, the WIC food package criteria, and the IOM competitive foods report, inconsistencies abound. In particular, many of the products banned by the proposal are the same ones USDA has recently determined to be important in the Special Supplemental Nutrition Program for WIC to promote health in children under age 5. Please explain these inconsistencies?

I am told the four agency food marketing proposal defines "marketing" in a way that makes it virtually impossible for businesses to provide economic support to philanthropic activities such as Little League teams, school reading programs, and Boys and Girls Clubs. Is this your intent? Have you analyzed what impact this will have on schools and communities?

The 2010 Dietary Guidelines for Americans strongly encourage increased consumption of foods high in fiber, vitamin D, calcium, and potassium. If the industry adopts these guidelines today, a significant amount of foods would not be allowed to be marketed to children including several that nutrition experts deem as healthy. These foods include yogurt, whole wheat bread, cheeses, and virtually all cereals. Please explain the reasoning for banning marketing of these healthy foods to children?

Response: The 2009 Omnibus Appropriations Act gave the charge for a Federal Trade Commission-led Interagency Working Group (IWG) composed of representatives from FDA and CDC in HHS, and USDA, to conduct a study and develop recommendations for marketing of food targeted to children 17 years old or younger. The recommendations were to guide the food industry self-regulatory efforts.

While the food and nutrition standards for the programs and policy areas you cite differ in a range of respects, I would respectfully submit that they are consistent. All are consistent with the foundation provided by the *Dietary Guidelines for Americans.* The *Dietary Guidelines* provide overall nutritional goals for improving eating patterns and making more healthy food choices. Within these broad, total diet goals, however, programs, such as WIC, have different standards based on the circumstances and nutrition needs of those programs' specific clients. Similarly, as I understand it, the Institute of Medicine recommendations on competitive foods were intended to provide a structure that would help food sold in that setting to support and foster eating choices consistent with the *Dietary Guidelines.*

On the matter of cost and benefits, and the affect on organizations, such as advertisers and food manufacturers, the proposal poses questions about the feasibility and practicability of the proposed voluntary nutrition principles and criteria, and on the timeline proposed for implementation of the voluntary standards. The input that is encouraged through the public comment process will help form the report's recommendations to Congress.

Senator John Thune

26. **OSDSBU.** We included several provisions in the 2008 Farm Bill that provided special incentives for beginning farmers and ranchers – from your perspective as USDA Secretary, do you believe the existing beginning farm programs administered by USDA have been effective? Do you have any suggestions for improving existing initiatives or for new ones in the upcoming Farm Bill?

Response: The answer to both questions is yes. There were a number of provisions in the 2008 Farm Bill that provided targeted support for beginning farmers and ranchers. Those programs which were funded have been implemented and utilized and we have numerous examples of the immediate and significant positive effect of those programs in helping beginning farmers and ranchers to succeed. Some of the newer programs have not been on the ground long enough to evaluate formally, but we are continuously monitoring them to improve our outreach and delivery. Ensuring that these new programs are accessible and effective is a top priority because new farmers and ranchers are critical not only to their own communities, but to the national and global food supply.

27. **OCE.** Some argue that U.S. agriculture policies over the past several decades have led to artificially low commodity prices which have prevented farmers in developing countries from competing and developing their own agriculture economies. Now some argue that more recent agriculture policies such as those supporting biofuels production have led to higher commodity prices, which are now accentuating poverty and hunger in these same developing countries. Which of these arguments is valid?

Response: Globally, almost one billion people are hungry. This is an important moral and national security issue today and will become even more important in the future. Providing sufficient food to the world's growing population will require a 70 percent increase in agricultural production by 2050. Farmers, ranchers, and scientists here in the United States will continue to lead the world in meeting this challenge, but the solution must be broader than U.S. production alone. We must support and develop scientific and technological innovations that increase global agricultural productivity in an environmentally sound manner while improving the availability of nutritious foods. We must work with developing countries to apply these innovations. And we must foster an effective global trade system so that food supply reaches demand.

The United States has pioneered a new coordinated approach, Feed the Future, to do just that. It is concentrated on raising the incomes of small holder farmers in specific geographic regions and value chains within 20 countries. It brings together the capabilities of multiple parts of the U.S. Government, and leverages the efforts of multilateral partners and private and non-governmental sectors to achieve game-changing results in global agriculture.

Through the U.S. government's leadership in global food security efforts, we advance global stability and prosperity by improving the most basic of human conditions – the need that families and individuals have for a reliable source of quality food and sufficient resources to purchase it. We support income growth that builds middle classes and new markets critical to our own economic prosperity.

28. RMA. Crop insurance is a critical safety net feature across the country, and especially in South Dakota. I understand that Risk Management Agency (RMA) is proposing a change specific to the Prairie Pothole Region to existing rules effective for the 2012 crop year that basically would remove prevent planting eligibility for acreage that was not planted and harvested in at least one of the three most recent crop years, using recognized good farming practices. This proposed provision has caused considerable concern in Northeastern South Dakota. I fully understand that there may be prevent planting abuses that RMA is trying to overcome with this policy change, however, I also believe that this proposed change has the potential to cause financial hardship on many farmers in that area and in North Dakota and Minnesota who have not abused prevent planting provisions. Would you be willing to consider other alternatives to RMA's proposed change that would not allow continued prevent planting abuse but that would still offer a certain amount of prevented planting assistance in these areas, assuming prevent planting is an issue in 2012?

Response: Internal RMA reviews and program audits by our oversight bodies highlighted a need to strengthen and clarify eligibility requirements for prevented planting payments. For example, it was discovered that one producer had received prevented planting payments on the same acreage for 17 consecutive years. While an admittedly extreme example, this and many other similar situations convinced RMA that it needed to strengthen and clarify existing policy provisions. Legislatively, to be eligible for prevented planting coverage, the cause of loss that prevented planting for the current year must have occurred on or after the sales closing date for the previous year for carry-over insureds, and the current year sales closing date for new insureds. After significant review and deliberation on the issue, RMA developed the one-in-three rule that would disallow a prevented planting payment if the land had not been planted and harvested in at least one of the previous three years. We received feedback from producers and others that the one-in-three rule is overly restrictive. In response to these concerns, RMA is modifying the rule to require producers to have planted and harvested a crop at least once in the previous four years. This is an update from the one-in-three proposal. This revised rule will become effective in 2012.

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