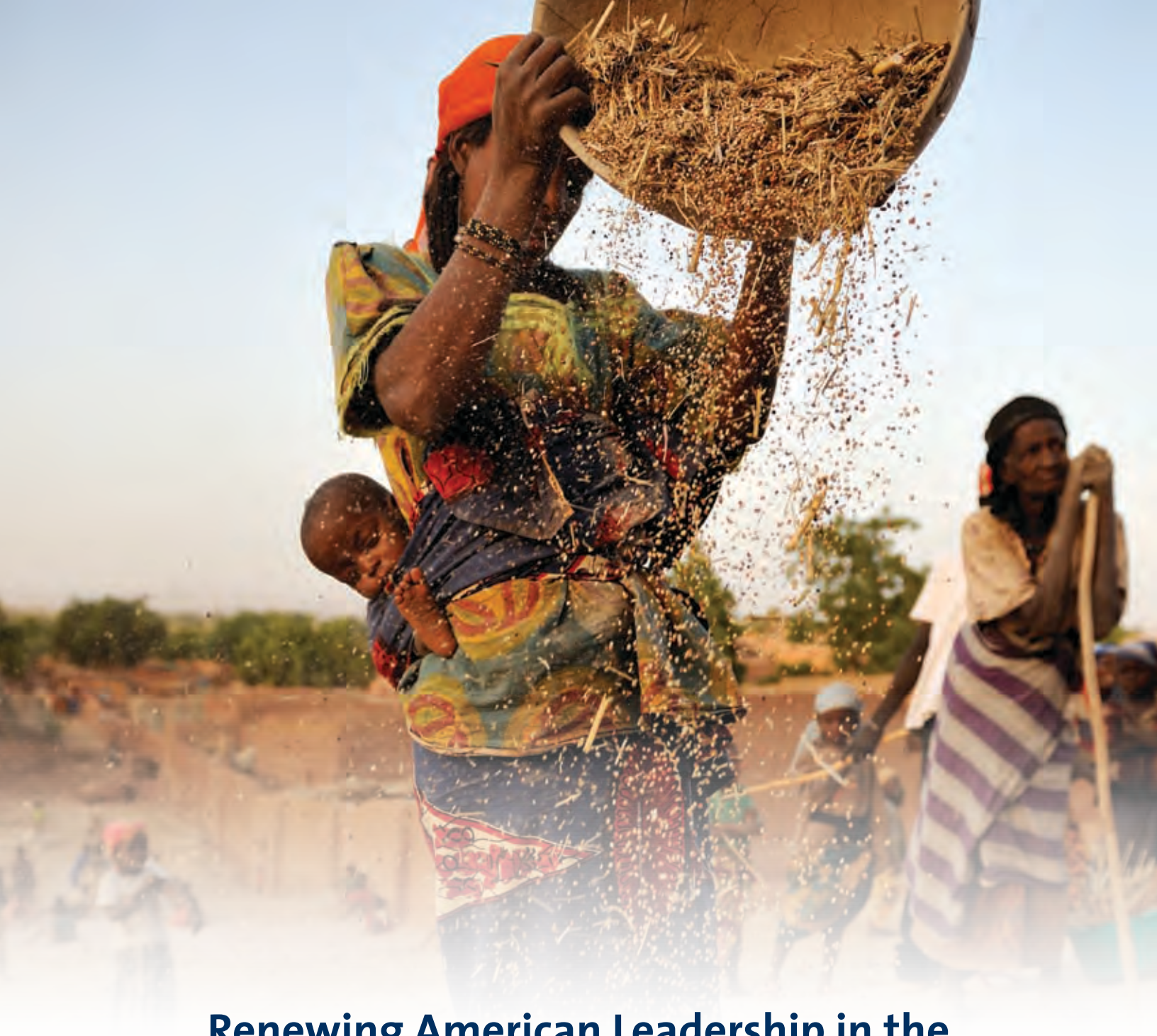

Renewing American Leadership in the Fight Against Global Hunger and Poverty

The Chicago Initiative on Global Agricultural Development

THE CHICAGO COUNCIL
ON GLOBAL AFFAIRS

Report Issued by an Independent Leaders Group
on Global Agricultural Development

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Catherine Bertini and Dan Glickman, cochairs

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THE CHICAGO COUNCIL
ON GLOBAL AFFAIRS

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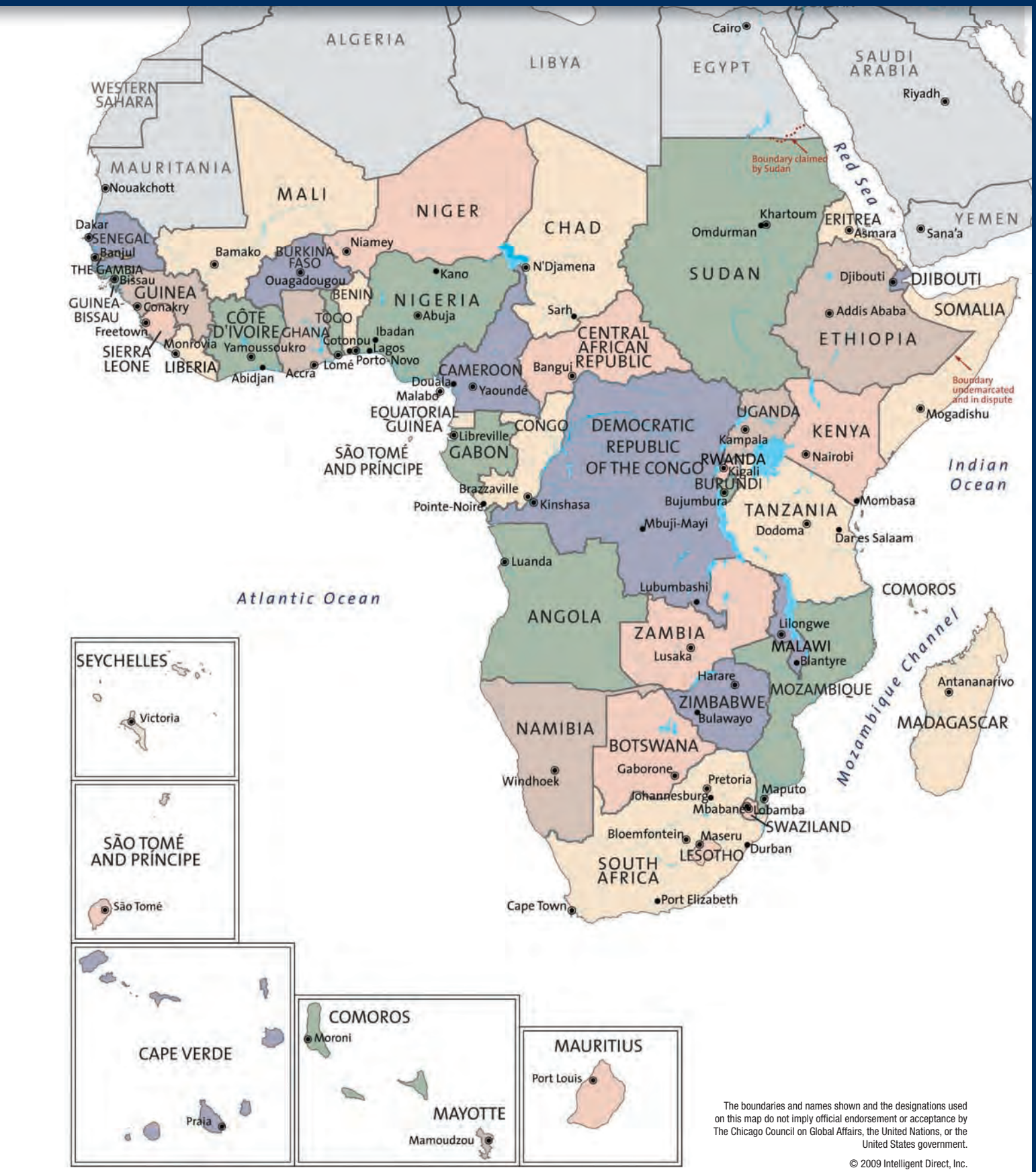
SUB-SAHARAN AFRICA



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SOUTH ASIA

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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

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"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

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"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.

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CHALLENGE AND OPPORTUNITY

Reducing Hunger and Poverty in Sub-Saharan Africa and South Asia

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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?

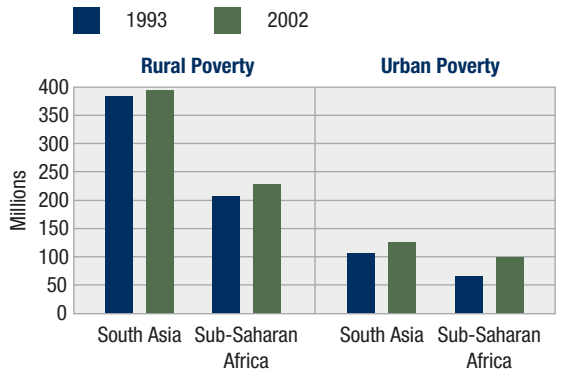
A problem of vast proportions

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]

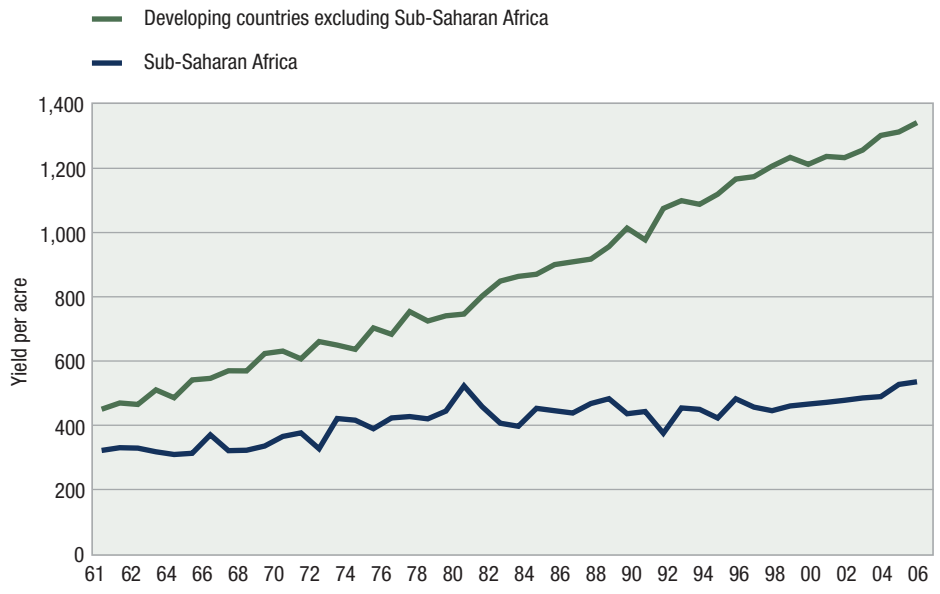
If you visit any farming community in Africa you will also notice the children. They are poorly clothed and poorly fed, small of stature, and often unusually quiet

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.

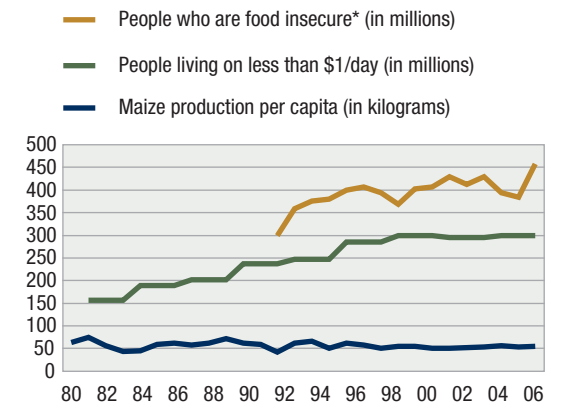
A similar description would fit all too well for most of rural Pakistan and Bangladesh, and for the villages of the central Indian uplands. Past development strategies in South Asia tended to focus on more favored areas with irrigation and

Figure 2 - Cereal Yields in Sub-Saharan Africa Versus the Rest of Developing Countries (1961-2006)



Source: GAO 2008.

Figure 3 - Maize Production, Poverty, and Food Insecurity in Sub-Saharan Africa (1980-2006)



*Food insecure people are those consuming less than 2,100 calories per day, the nutritional target set by the UN Food and Agriculture Organization.

Sources: FAO 2006; World Bank 2008; USDA/ERS 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]

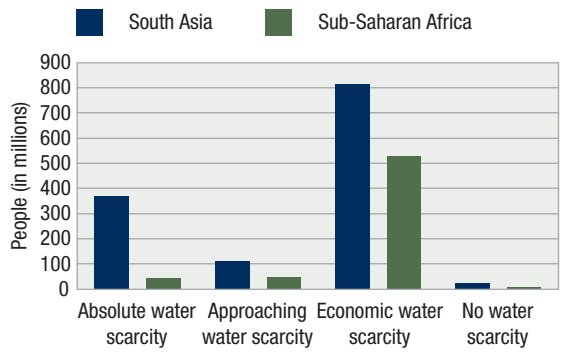
The impact of climate change

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.

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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,

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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]

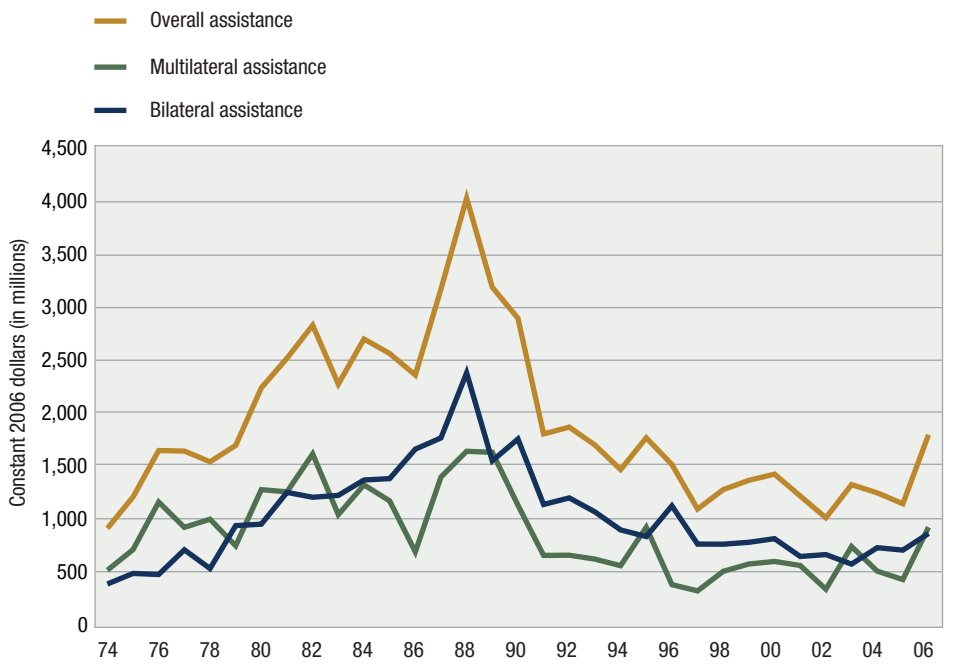
Similar gains from these new Green Revolution technologies in Asia were seen in Taiwan, Indonesia, Malaysia, the Philippines, and Thailand. Higher agricultural productivity also produced a dramatic reduction in rural poverty in China. Between 1978 and 1999 more than 200 million people in rural China 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

Figure 5 - Official Development Assistance (ODA) to Agriculture for Sub-Saharan Africa



Source: GAO 2008.

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**

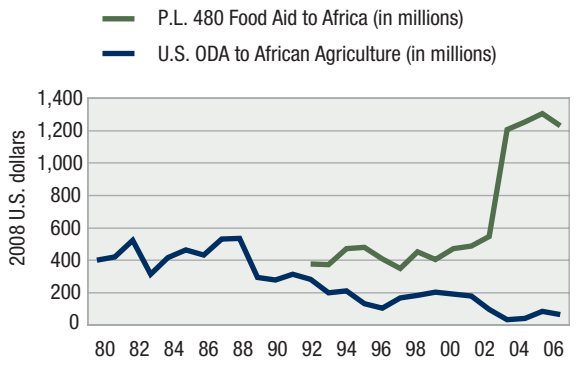
assistance to agriculture in Africa had reached significant levels in the 1980s, hovering above $400 million annually in real 2008 dollars. Then it began to fall, dropping all the way down to just $60 million by 2006, a decline of approximately 85 percent.

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

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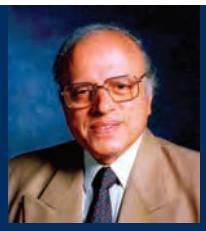
U.S. Leadership



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

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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

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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

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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

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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

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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

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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

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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

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)

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 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 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.

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)

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.

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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.

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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.

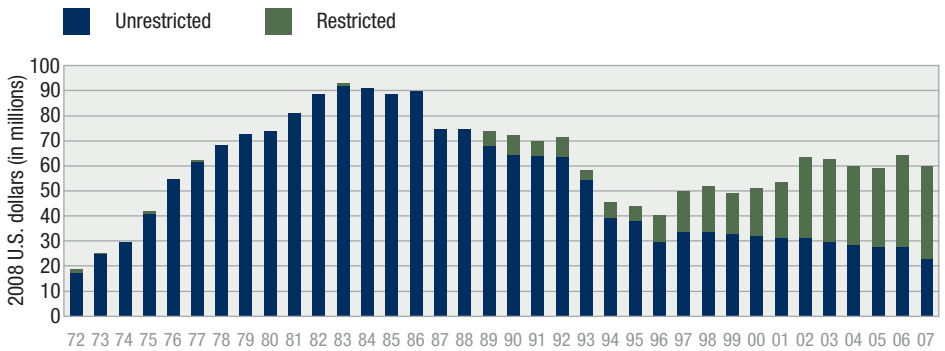
Ug99 has affected farms in Africa, Asia, and the Middle East. Farmers in Africa have been hardest hit, with the majority of wheat farms in Uganda, Kenya, and Ethiopia suffering from the epidemic. Kenyan smallholder farmers, who account for 20 percent of the country's total wheat production, have lost 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.

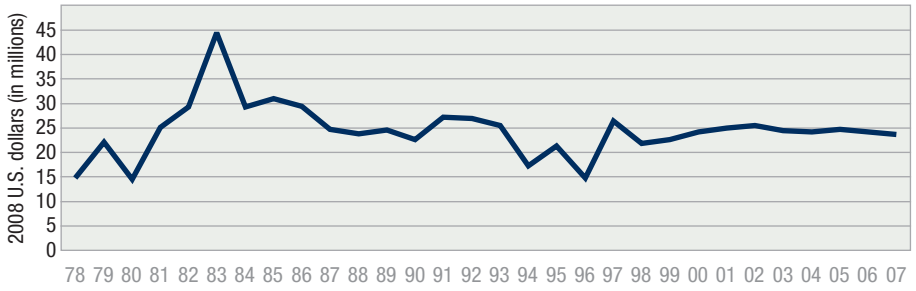
—Gebisa Ejeta, Distinguished Professor, Plant Breeding & Genetics, International Agriculture, Purdue University (Ethiopia)

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: CRSPs 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

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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

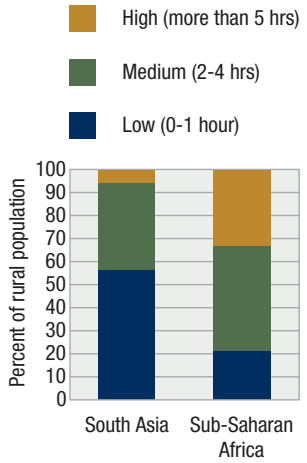
Sub-Saharan Africa has a large untapped potential for irrigation. Only 4 percent of the total cultivated area is irrigated, with a mere ten million acres added in the last forty years, far less than in any other region.

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.

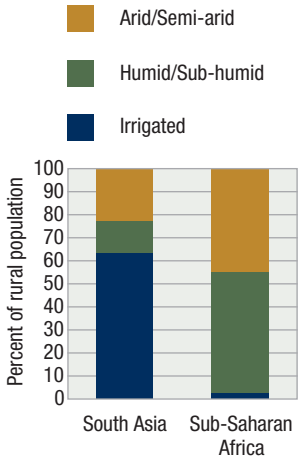
Sources: World Bank 2007; AfDB and others 2007.

Figure 10a - Market Access (Time Spent to Get to the Market) in South Asia and Sub-Saharan Africa



Sources: Sebastian 2007; World Bank 2007.

Figure 10b - Agricultural Potential (Arability of Land) in South Asia and Sub-Saharan Africa



Sources: Sebastian 2007; World Bank 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.

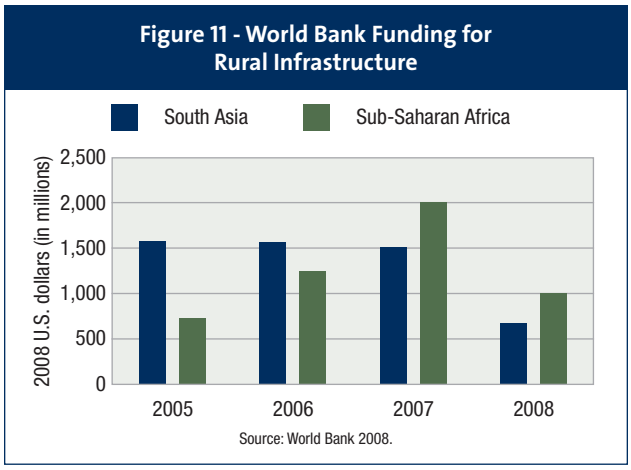


Figure 11 - World Bank Funding for Rural Infrastructure

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

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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-

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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

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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."[61]

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

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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

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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.

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PLAN OF ACTION

Public Support and Key Steps

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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.

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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	

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.

The Chicago Council on Global Affairs

AGRICULTURAL DEVELOPMENT 2008: PUBLIC AND LEADERSHIP OPINION SURVEY

U.S. PUBLIC SURVEY RESPONSE DATA

August 2008

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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

The Chicago Council on Global Affairs

AGRICULTURAL DEVELOPMENT 2008: PUBLIC AND LEADERSHIP OPINION SURVEY

U.S. LEADERSHIP SURVEY RESPONSE DATA

Fall 2008

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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

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.

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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

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.

"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

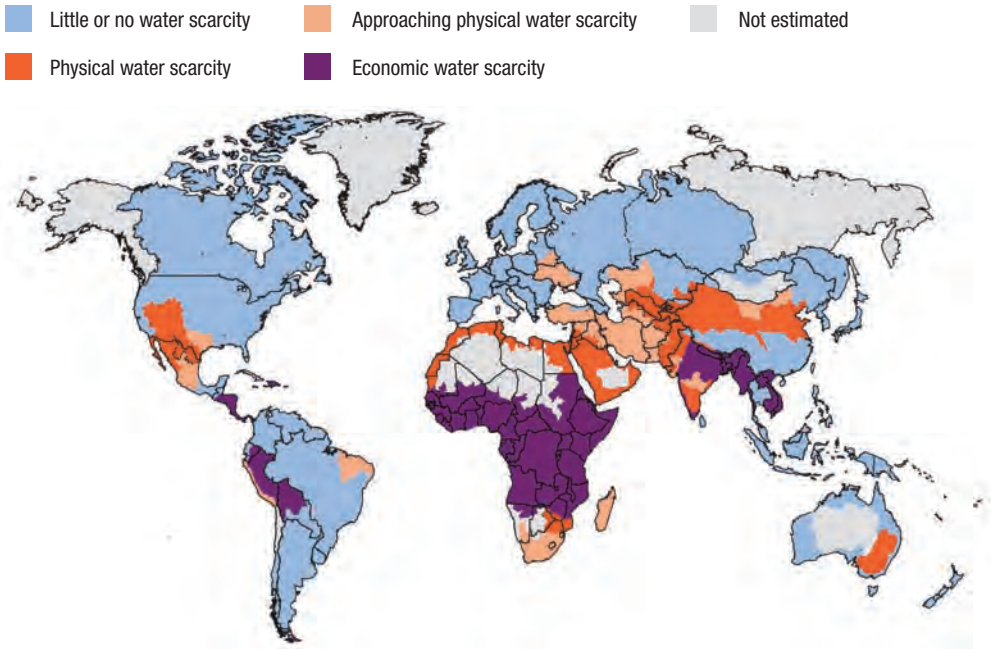
12. **Improving Small Farmer Access to Trade, Market, and Value Chain Systems**
    Estimated investment: US$10.5 million
    People reached: 45 million

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.

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.

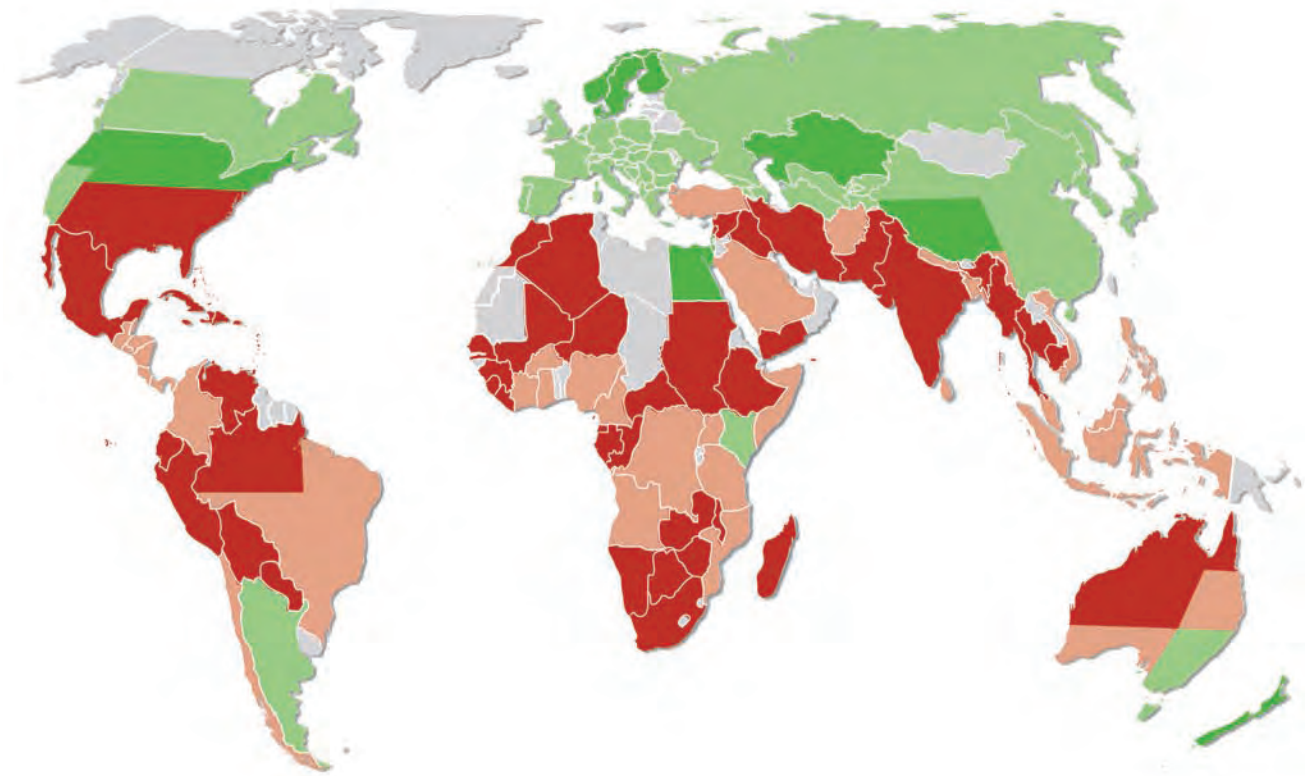
Physical water scarcity (water resources development is approaching or has exceeded sustainable limits). More than 75% of river flows are withdrawn for agriculture, industry, and domestic purposes (accounting for recycling of return flows). This definition—relating water availability to water demand—implies 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.

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

CHAIR

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
U.S. Department of Agriculture

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

ENDNOTES

PART I—THE CHALLENGE AND THE OPPORTUNITY: REDUCING HUNGER AND POVERTY IN AFRICA AND SOUTH ASIA

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