Taking Advantage of Science and Partnerships To Unlock Growth in Africa's Breadbaskets

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Honorable Ministers; Global leaders and experts in agricultural science and technology, partners from the civil society; Ladies and gentlemen:

I want to begin by thanking the Science Council of the Consultative Group on International Agricultural Research (CGIAR) for convening this Science Forum. In particular I would like to thank Professor Rudy Rabbinge, my dear friend and Chair of the Council, who is also a member of the Board of the Alliance for a Green Revolution in Africa, AGRA. I also want to thank you for giving me, as a representative of AGRA, the opportunity to speak to you. AGRA knows how critically important this Forum is to our work. I bring you warm greetings from Mr. Kofi Annan, former UN Secretary General and Chairman of AGRA. He is looking forward to the outcome of this Forum with keen interest.

Today we are focused on two critical issues: Agricultural Science for Development and the Global linkages and partnerships needed to make that science relevant to millions of resource-poor farmers, particularly in Africa. These issues are close to AGRA's heart.

AGRA's goal is to create a food secure and prosperous Africa, based on improving the productivity, profitability and sustainability of Africa's millions of smallholder farmers, most of whom are women.

AGRA was founded two and a half years ago, created through the collaboration of The Rockefeller Foundation and the Bill & Melinda Gates Foundation. The UK's Department for International Development has since joined as a core donor to AGRA and many others are looking to provide support. Since our founding, Mr. Kofi Annan joined as chair of our Board of Directors, and we have launched four integrated programs in seeds, soils, market access and policies and partnerships, along with a cross-cutting initiative on innovative finance.

We are working with our partners to catalyze a uniquely African Green Revolution—one which promotes equity, protects the environment and promotes change across the agricultural system. Our new strategy calls for focusing this work where it will make the

biggest difference -- in Africa's high-potential breadbasket areas. And it builds on the target areas identified in the Inter-Academy Council Report (2004) where the most promising areas in terms of agricultural productivity and food security were identified.

Our vision cannot be realized without science and technology that serves the needs of Africa's millions of smallholder farmers. And this science and technology cannot reach its potential if government policies leave its innovations on the shelf. As such, partnerships between organizations such as AGRA, NEPAD-CAADP, the Consultative Group on International Agricultural Research (CGIAR), the Global Forum on Agricultural Research (GFAR) and the Forum for Agricultural Research in Africa (FARA) are critical to realizing the transformation in African agriculture.

Today I'd like to briefly address where we are, and how we got here. And by "we", I mean the community of science for development. I'd also like to discuss how AGRA is working with the CGIAR, and how we can further develop that work to achieve our goal of ending widespread hunger and poverty, and catalyzing a uniquely African Green Revolution.

Where we are: The continuing challenge of food security in Africa

When I was a small child growing up in Nigeria, my father, who was a government accountant in the city sent me to school in a village. Having grown up himself as a farmer – and unable to attend school until the age of 15 years – he was determined that I should understand the realities faced by resource-poor farmers. And I grew to understand them very well. I went to school, religiously, but many of the children of farmers did not have the same luxury. They worked in the fields to help eke out a living for their households. Every day, I saw the harsh impact of rudimentary farming on the livelihoods and health of rural families. I learned at an early age that to end poverty in Africa we *must* promote farming as a business, not just a way of life.

But the reality today is that the situation I grew up with has not changed much. While yields across the globe, especially in Asia and Latin America have steadily increased, the yields of Africa have remained constant – sitting at about one-quarter the global average. Most farmers work without access to basic farm inputs, finance or markets. And the women, who carry the lions' share of farming, do so with unequal access to secure land, finance, and education.

If anything, for millions of farmers the situation has worsened, as they cope with depleted soil, mounting population pressures, and diseases like HIV/AIDS.

Indeed, the African Green Revolution must cope with an unprecedented challenge: climate change. Production shocks from floods and drought will increase risks faced by

farmers. ILRI has estimated that maize yields—already low—could drop as much as 20 percent by 2050. Climate change in Africa will unleash unforeseen social and environmental costs. What we are witnessing today in the Horn of Africa -- 17 million people affected by drought and poor rains who must depend on food aid – is but a glimpse of things to come.

While Africa did not cause climate change, we now bear its brunt. We must move quickly to put in place institutional and scientific innovations that reduce farmers' vulnerability to climate change and help mitigate its effects.

We must improve early warning systems and invest in better technologies for water management, including irrigation systems. Farmers need affordable weather-indexed crop insurance or the risks of farming will become unacceptably high. We must support genetic research to improve drought tolerance of our staple crops, using both conventional breeding and advanced tools of biotechnology—and we must conserve the crop biodiversity that underpins this research. We need improved land management to make soil a more effective carbon sink.

All hands must be on deck. And this means farmers' hands, for only when these tools get to the hands tens of millions of African farmers will they matter. This means strengthening farmers' associations and agricultural extension. And nowhere will this work be more effective than in Africa's breadbaskets.

How we got here

The extreme difficulties smallholder farmers face today, though similar to those of yesterday, are not the result of stubborn facts of life. Rather, they are the outcome of missed opportunities and decisions made at the highest levels of global institutions and national governments over at least the last 30 years.

The Asian Green Revolution, which did so much to end the hunger of millions and raise the agricultural productivity and national economies of countries from India to Thailand, by-passed Africa, as its technologies focused on a limited range of large cropping systems and irrigation, and were poorly suited for Africa's diverse agro-ecologies and rain fed systems.

Nonetheless, by the 1970s, with government support, agriculture in a number of African countries was on a strong development track. Farmers were getting access to the good seeds and fertilizers they needed. Malawi, Kenya, Zambia and Zimbabwe were exporting maize to the world. But this success was not to be sustained.

It was cut short by the structural adjustment policies of the 1980s, which called for liberalization of markets, privatization of government parastatals, drastic reduction of the

role of government in agriculture, cancellation of subsidies for farmers, and cuts in public expenditures—including for agricultural R&D and extension. The assumption behind these policies was that the private sector and market forces would rise to fill the gaps.

Things did not go according to plan. The private sector did not fill in, and smallholders suddenly found themselves deserted. Today, millions of farmers remain in deep poverty traps, unable to afford farm inputs, and lacking access to extension, while experiencing unstable prices for their farm products.

The era of structural adjustment coincided with a dramatic downturn in Official Development Assistance (ODA) for agriculture and on spending for agricultural research, along with an evolving global trade regime that left Africa out in the cold. African farmers were abandoned, by their governments and the world.

The results should not surprise us. The long-term structural decline of its agricultural system meant massive poverty across rural Africa.

Thus, when the global food crisis hit two years ago, Africa was not only unable to help meet the global demand for food, but it was doubly battered by low productivity at home and rising global prices for food imports and fuel.

Other regions of the world have responded to the food and financial crises by dramatically increasing support to their farmers. Unfortunately, even now, most African farmers struggle alone. However, the global food supply is neither secured nor prices stable. While the global food price crisis has lulled, research assures us that this is merely the calm in the storm.

Africa, and the world, need to turn a new page.

Forging an "African Consensus"

What the continent needs today is an "African consensus" on policies to rapidly trigger agricultural productivity growth in a uniquely African Green Revolution.

And, an African consensus *is* emerging with key players in Africa's agriculture sector.

African nations have united around the Comprehensive Africa Agriculture Development Programme--CAADP, initiated by the African Union's New Economic Partnership for Africa's Development. CAADP provides a framework to guide agriculture toward the national goal of 6 percent annual growth in agriculture. While progress has been slow, a

number of countries are increasing the share of their national budgets devoted to agriculture, especially Ethiopia, Rwanda, Mali, Tanzania and Malawi.

Science centers, especially CGIAR centers, are driving important technological advances focusing on Africa's challenging conditions – look, for example to New Rice for Africa (NERICA) new drought-tolerant maize varieties being produced.

Development partners around the world are re-prioritizing agriculture, from the United States to the United Kingdom and the World Bank. The Global Food Security Act, now making its way through the US Congress, is a five-year, $10 billion plan for agricultural development. US President Obama has called upon Congress to double US financial support for agricultural development.

The recent announcement by the European Union to provide 1 billion Euros in support of African agriculture is another significant and laudable development. It is critical that the G8 countries meet their commitments to Africa.

And African nations are slowly returning to policies of support for their farmers. For example, several years ago Malawi introduced comprehensive agricultural reforms. These included "smart subsidies"—better called *"growth enhancement support,"* which targeted the country's resource-poor farmers. These policies have resulted in Malawi once again becoming an exporter of maize -- and last year its economy grew by 7 percent. Recognizing this success, other countries, including Rwanda, Tanzania, and Nigeria are putting in place similar smart subsidy programs.

The World Bank is listening. In Tanzania, it is now working with the Government on a $160 million initiative to provide affordable farm inputs to farmers.

If we are to "make hunger history," we must put agricultural development at the center of Africa's response to the financial and food crisis. We must harness science and technology to deliver tangible improvements to the livelihoods of millions of smallholder farmers. And to do this we need a new integrated, comprehensive and focused strategy for transforming African agriculture. For AGRA, that strategy puts a high priority on the development of Africa's breadbaskets.

But we are not the only ones who understand their potential.

New threat to the Green Revolution in Africa: Land Grab

A major challenge facing Africa's green revolution is the land grab trend now gripping the continent. The *Economist* recently reported on this: From Kenya to Sudan, Congo, Mali, Senegal, Mozambique and Zambia, African governments are trading away their high-potential lands in exchange for one-time investments. African countries who are net importers of food and reliant on food aid are now giving away their best lands.

Sudan has given an estimated 690,000 ha to the United Arab Emirates, in a deal that allows the investors to export 70 percent of the production. Yet, Sudan is the world's largest recipient of food aid. China has also leased 2.8 million ha of land in the DRC for production of bio-fuel. Kenya is planning to lease out over 400,000 ha of land in its Tana River delta to Qatar in exchange for development of Kenya's third port. The International Food Policy Research Institute estimates that about 15-20 million ha of land has been sold or leased in developing countries.

Africa has new land lords – and they are not smallholder farmers!

This is a worrisome trend for Africa's Green Revolution. By taking the breadbasket areas of African countries, these land deals will hurt domestic efforts to raise food production, and limit the broader-based economic growth associated with agricultural development.

In addition, the majority of these deals are government-to-government, with little oversight, transparency or regulation. There is no environmental oversight to assure sustainable use of land and water resources. Smallholder farmers are losing their customary land use rights, as governments do not recognize them. And, even as consumers in investors' nation benefit from cheaper food, net-buyers of food in Africa – strangely farmers in many cases – pay higher prices for food.

No doubt better investment codes are needed to protect the rights of communities.

It is clear that investor nations see unutilized potential in Africa's breadbaskets. But African countries will benefit more – in terms of broad-based agricultural growth and lower food prices – by investing in their own breadbaskets. As Green Revolutions take root in these areas, rural poverty will fall and employment will rise.

Africa's lands are not up for a garage sale. We are not going out of business. Instead of giving away its best lands, African nations should focus on accelerated investments to trigger a green revolution in these breadbaskets – one that relies on smallholder farmers.

The way forward

The key is to determine what sets of investments will best unlock the potential of these breadbaskets. First, we must recognize that smallholder farming in African breadbaskets is highly diversified, from livestock to crops. Farmers in Ghana's northern breadbasket area, for example, may grow combinations of maize, cowpea, groundnuts and sorghum, while others grow rice. Farmers in northern Mozambique grow various combinations of crops, among them rice, maize and sweet potatoes. AGRA's breadbasket development aims to increase the overall productivity and sustainability of such diverse agro-ecosystems.

We need well designed investments all across the value chain in these breadbaskets. Take Northern Ghana: the country's 400,000 ha of lowland rice yield only 0.5 tons per ha. This can be changed – and speedily too. Introducing new crop varieties and improved soil and water management practices could raise these yields to at least 3 tons per ha. This will transform Ghana into a net exporter of rice, and free up $ 500 million now spent on rice imports. To make such a change, investments will be needed in plant breeding, seed multiplication and development of local seed companies that can supply quality seeds to farmers.

AGRA's investments are paving the way. Its $150 million Program for African Seed Systems supports local plant breeders to develop better adapted and higher yielding crop varieties. Its value-chain approach strengthens national agricultural research systems, trains new plant scientists and establishes venture capital funds to nurture local seed companies. In the past two years, AGRA-supported national plant breeders have released 68 new crop varieties, many of which used source materials from the CGIAR centers – a win-win strategic partnership.

AGRA's soil health program, a $180 million undertaking, aims to revitalize 6.3 million hectares of farmland through integrated soil fertility management over the next 10 years. AGRA supports national research and extension institutions to roll out soil fertility techniques to thousands of farmers. And we are working with ICRISAT to scale up the use of micro-dosing with 295,000 farmers in Burkina Faso, Mali and Niger. We are supporting CGIAR efforts to rapidly scale-up soybean and pigeon pea farming, improving the nitrogen content of soils in Tanzania. In Mozambique we are funding improved soil fertility management for thousands of farmers growing improved sweet potato varieties developed by CIP. In addition, we have co-funded the digital African Soil Information System, hosted by CIAT's Tropical Soil Biology and Fertility Institute.

In addition, for smallholder farmers to truly prosper, they must have opportunities to add value to their crops. Here, too, technological innovation is critical. While the wheat and rice crops that drove the Asian Green Revolution were tradable with limited processing, Africa's staple crops are different. Crops like cassava and bananas are bulky, perishable and cannot be traded without significant processing. Nigeria is the largest producer of cassava in the world but accounts for zero in global export markets. Thailand accounts for 10 percent of global production but 80 percent of cassava trade.

A few years ago I met with President Museveni of Uganda, together with Sir Gordon Conway, then President of The Rockefeller Foundation. The Uganda President bemoaned the fact that while science and technology had dramatically raised the yield of bananas, the number one challenge was "what to do with banana glut and waste". It is not surprising to understand why: Uganda is the 2nd largest producer of bananas, but 75th position in terms of exports. The country loses over $ 150 million annually from spoilage.

To ensure that farmers are able to benefit from their higher yields, we must invest in affordable processing technologies. This includes developing new end uses for the staple crops - bananas for use in starch, cassava for use in high-quality flour, starch, glues and animal feed. Fiscal policies must support this. For example, governments need to reduce taxes on agro-processing equipment, and enact investment policies that encourage agribusiness to locate processing centers close to production zones.

Beyond all this, there is still much to do. We cannot afford to have transformative technologies sitting unused on shelves. Policy and institutional innovations must ensure that new agricultural technologies reach millions of farmers.

One important institutional solution is available now: agro-dealers. While it is easy to find Coca Cola in rural Africa, millions of poor farmers must travel up to 50 kilometers to find improved seeds, fertilizers and other farm inputs. But with the rapid expansion of rural agro-dealer networks, millions of rural farmers are now able to find inputs. AGRA has trained and supported over 5,000 rural agro-dealers in 11 countries, including Kenya, Malawi, Tanzania, Uganda, Nigeria and Ghana.

And it is working: in 2008 alone these agro-dealers supplied $45 million worth of improved seeds and fertilizers to farmers. In Western Kenya, the distance traveled by farmers to find farm inputs has declined from 17 kilometers in 2004 to 4 kilometers in 2007. Such successes are changing lives and farms, and getting noticed.

But affordability of farm inputs continues to be a major challenge. Last year's substantial rise in the price of fertilizers, worsened by a perennial credit crunch, prevented many African farmers from fully planting their fields, much less investing to help meet the needs created by the food crisis.

Other nations around the world rose to the challenge, providing billions of dollars of subsidies for farmers – ranging from $8.5 billion in China, $ 1.8 billion in the Philippines and tens of billions of dollars in India. Most African farmers got no support.

We need policies that support smallholder farmers, and we need them today. It was smallholder farmers who helped to feed Asia during its green revolution. The wisdom of T.W. Shultz in his classic book "*Transforming Traditional Agriculture*" still holds true today: smallholder farmers may be small, but they are efficient. The difference is that in the 1960s and 1970s, Asia's smallholder farmers were supported. Today, Africa's smallholders are left to fend for themselves.

So what is needed? At the top of the agenda are policies that make farm inputs affordable for smallholder farmers. And for this to occur there must be strong political will--the kind that is changing the face of poverty in Malawi, transforming a once hungry nation into a breadbasket with record food surpluses for the past four years.

With the smart use of subsidies for seeds and fertilizers, Malawi has unlocked the poverty traps holding down smallholders, and enabled them to develop more productive and profitable farms. Malawi now exports food to its neighbors, while helping with food aid for Lesotho and Swaziland, and growing its economy by 7 percent. Such is the power of agricultural technologies in the hands of poor farmers.

A policy paradigm shift is needed in Africa today. Comprehensive policies that enhance growth must replace the old policies of abandonment. Such policies of support must address the fundamental challenge of poverty traps and do so in ways that build private sector markets. Just such a comprehensive approach underpins Malawi's success, as well as the recent remarkable growth of Rwandan agriculture.

The challenge now is how to go to scale. Scaling up such impacts will require massive investments in infrastructure in Africa. Our continent has less infrastructure today than Asia had in the 1950s. And the negative impacts are staggering. It costs $ 3,000 to ship a container from Mombasa to Kigali next door; twice the cost of shipping it from Mombasa to Singapore or Malaysia (Africa Business June 2009).

Poor infrastructure also leads to high farm gate prices for fertilizers. We need to improve regional fertilizer procurement to lower the costs of fertilizer imports, especially for landlocked countries. Improving infrastructure will also expand regional trade in staple crops. Currently, less than 3 percent of total trade is intra-regional. Unless regional markets are expanded, increased food production in the breadbasket areas will lead to price collapse and erosion of income gains.

According to the International Food Policy Research Institute, Africa will need $32-39 billion annually to achieve an agricultural transformation -- not including infrastructure costs. While this may sound large, it is achievable. If African governments meet their agreed allocation of 10% of national budgets to agriculture under CAADP, at least $20 billion will become available from domestic budgets. The increased investments from the US government, the European Union and others should meet the remaining shortfall. It is essential that the G-8 meet its obligations to help support African agriculture.

But public investments need to be complemented by private investments. Lack of access to finance is a major constraint to unlocking the potential of agriculture in Africa. The global financial crisis has compounded the problem by tightening credit markets. It is therefore critical to unlock existing financial liquidity available within Africa itself for the development of agriculture.

Agricultural lending can be improved by reducing its perceived risks; developing more appropriate loan products that can serve the needs of farmers and the entire agricultural value chain; synchronizing credit needs with the seasonal nature of agriculture; and providing financial literacy to farmers to manage farming as a business.

Based on these principles, in the last two years AGRA has used USD17 million in loan guarantees to leverage USD 160 million in affordable loans for agriculture from commercial banks in Africa. These loans are going to associations of smallholder farmers, agro-dealers and agricultural businesses, and they are being used to increase agricultural productivity and create options for farmers to add value to their crops. AGRA has set a target of helping to leverage $4 billion into agriculture for smallholder farmers and agricultural value chains in Africa over the next five years.

Financing did not hinder the Asia green revolution. What mattered was showing results. The then-President of the World Bank, Bob McNamara, while observing the remarkable yield increases on farmers' fields in India said, "If you with your Centers can generate returns like that I will help you raise the money you need".

The monies we need to achieve the African green revolution will rise on demonstrated successes – from farms, across villages, across nations and regions. The impacts must be highly visible and transformative. This can only be achieved by working together to leverage the power of science and technology, policies, markets, and institutions to unlock the potential of Africa's breadbaskets.

The reform of the CGIAR is coming at a very good time for Africa. It should open up fresh ways of thinking about how the CGIAR, AGRA, national governments, bilateral and multilateral agencies, and the private sector, can work together to consolidate efforts and investments in breadbasket areas. The breadbasket approach will accelerate uptake of new agricultural technologies and foster income growth and employment in rural Africa.

Together we must invest at scale, but we must invest strategically. We must work closely in partnerships with government leaders to champion the African green revolution.

Partners in hope, now is the time to forge this strong alliance for change in Africa's breadbaskets and beyond. If we do, we will have the *right landlords*: smallholder farmers – majority of who are women – and these landlords will enable Africa to not only achieve food security, but also become a global supplier of food.

Let us draw inspiration from a son of Africa, whose roots were in a small village in Kenya, in an area that may one day be an African breadbasket. He rose to become the first African-American President of the United States. It was he who said "Yes, we can".

The present calls for action. The future yearns in hope. To both we must say today "Yes, we can". And Yes, we will.