



Launch of
The African Agricultural
Technology Foundation (AATF)
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Remarks by Dr. Gordon Conway
President, The Rockefeller Foundation

I am very pleased to join you this morning in marking an important and exciting moment for African agriculture – the official launch of the African Agricultural Technology Foundation.

Most if not all of us have played a role in announcing new and exciting initiatives. I certainly have in my six years as the President of the Rockefeller Foundation. But today is special, and represents much more than the launch of a new organisation.

We are here because we are united by four key principles:

First, we know that science and technology can and must play a more vital role in helping Africa's farmers address the continent's food and nutritional needs.

Second, we also know that partnerships, including those with donor institutions like my own, are valuable.

Third, we recognise that strong farmer participation in the design and implementation of agricultural development is essential.

Fourth, we firmly believe that Africans can and must take the lead in providing the answers to Africa's challenges.

These principles make today's launch of the AATF, an African-led and African-based institution, working with partners from around the globe, so important.

We are extremely fortunate to have had Dr. Eugene Terry serve as Implementing Director. He is a distinguished scientist and someone who has brought tremendous leadership and vigor to this fledgling organisation. I am equally pleased that Dr. Mpoko Bokanga will serve as the first Executive Director of AATF. Dr. Bokanga is a food scientist with truly global training and experience. I am confident that he will bring sound ideas and leadership to the AATF well into the future.

The Challenge of Food Security

I have been traveling extensively over the past three months – I was here in Kenya and in Uganda in April, then in Latin America, and finally Europe and back to the United



States. I have met with government ministers, UN officials, agronomists, university chancellors, non-profit leaders, farmers and many others.

At nearly every stop, I have talked about the challenge faced by Africa's farmers, as it is one of the critical issues we face in development today. And like you, the Rockefeller Foundation is committed to doing something about it.

We have a history of commitment to helping feed the world that goes back 60 years. The Green Revolution, which we initiated, was one of the great technological success stories of the 20th century. Of course, it was not a total success. It was, perhaps, too reliant on pesticides and fertilisers. But it was revolutionary in its effects on yields and the prices of staple cereals. Countries like India and China no longer suffer from famine.

However, while the Green Revolution led to greater food security in many parts of Asia, different conditions and degrees of scientific capacity in Africa meant that the seeds of innovation bypassed the continent. Average agricultural production in Asia has skyrocketed to nearly three tonnes per hectare, yet Africa remains trapped or falling backward at a production level of about one tonne per hectare. Consequently, of the 800 million chronically malnourished human beings in the world, over 200 million are in sub-Saharan Africa alone.

One-third of African GNP is based on agriculture – and for most Africans there is not a choice of employment. Either your farm succeeds or you starve.



A typical African farmer must pay two to six times more to buy fertiliser than her counterparts in Europe or America. Her farm faces numerous pests, crop diseases and environmental stresses that would severely vex an American or European farmer who enjoys modern equipment and plenty of resources by comparison.

Her staple crop, maize, is attacked by the parasitic weed *Striga* that sucks nutrients from roots, by boring insects that weaken stems, and by streak virus. Cassava mealy bugs and a new super-virulent strain of mosaic virus devastate her cassava crop. Her banana seedlings are infected with weevils, nematodes and the fungal disease Black Sigatoka. Her beans suffer from fungal diseases that shrivel pods and lower nitrogen fixation. And more often than not, she faces a drought during the growing season, reducing the yield of everything.

With these challenges, it is not surprising that average crop yields in Africa are the same level as were enjoyed in England during the Roman Empire.

Increased productivity is essential. Yet even if an African farmer increases her yields, she has to face the challenges of getting her product to market, and possible competition with farmers in Europe and America. For poor African farmers, the era of expanded global capitalism has been a tempting but so far punishing period.

And there are other obstacles blocking her progress:

- Many new technologies need reworking from the Western context they were designed for if they are to work in Africa.
- Greater capacity is needed to evaluate the important questions of safety.
- And most of the intellectual property related to new agricultural technology is owned by one of five multinational companies based in the U.S. or Europe who have little incentive to apply their work in Africa.



A Doubly Green Revolution

These obstacles present us with a multiplicity of challenges. We need multiple lines of attack. We need what I have called a Doubly Green Revolution; that is, a revolution as productive as the old Green Revolution, but also more equitable, more sustainable and more environmentally friendly.

Happily, the beginnings of this revolution are already emerging.

- Biological control, using an imported parasite from South America, is controlling the mealy bugs of cassava.
- There are new virus-resistant strains of cassava.
- New maize varieties are being produced that are resistant to pests and diseases and tolerant to drought.
- Intercropping of maize and legumes is producing high yields of both, and improving soil fertility.
- Intercropping of Desmodium with maize is bringing some control of *Striga*.

These are successes of conventional technologies, but biotechnologies are also already playing a significant role. Tissue-cultured bananas, developed by African scientists, are being produced free of pests and disease and yielding over 50 tonnes per hectare. And the new NERICAS, a cross between African and Asian rice species, also developed by African scientists, are being grown with great success in West Africa and Uganda. Yields are up to three tonnes per hectare with little or no fertiliser.

Both of these new crops were largely developed with public money and have been made available cheaply to poor farmers. It shows what technology can do if the circumstances are right. They hold promise that we can increase farm productivity so there is a greater economic return from an African farmer's labour.

The Challenge of Access

But that answer is not enough – because technologies do not just spring into existence. And the track record of bringing new technologies to Africa is uneven.

That is why we must examine the current system and ask ourselves, “How can those who care about the fate of the small-scale farmer make technological options more available?”

Let us be clear about how the current system works for the small farmer. Because new sophisticated farming techniques are usually expensive to develop, the majority of new research takes place in the for-profit sector. These companies are not focused on improving the basic crops of the developing world such as millet, sorghum, cowpeas, yams or cassava.

The result is not just missed opportunities. The rise of a sophisticated global intellectual property system covering many building block technologies has meant public researchers have little access to new ideas and tools in their field.

Indeed, left to its own devices, the gap is likely to grow – with wealthy nations' farmers using techniques that are ever more sophisticated and poor farmers left with the same tools they have used for centuries.



Clearly, if we are to maximise the impact of new technologies we must find a way to work together:

- To tap into the skill and knowledge of the private sector,
- To support researchers in non-profits and public institutions better,
- And perhaps most importantly, to keep finding ways to put the needs of the small-scale farmer at the top of the agenda.

The African Agricultural Technology Foundation

This brings me to the AATF. Now, with the support and cooperation of the private as well as the public and non-profit sectors, this African-led and African-based team will have access to the tools to do research with greater vigor. To look for better farming methods with the benefit of the knowledge that has been developed all over the world.

The mission and core business of the AATF is straightforward – to link the needs of resource-poor farmers in sub-Saharan Africa with potential technological solutions.

AATF has assembled an impressive list of partners and investors that includes:

- Agricultural producers and consumers
- National and regional institutions such as NEPAD, ECA, FARA, SROs and NARs
- International institutions such as CGIAR/ARIs
- Major players in the agricultural technology industry who hold IP
- African trade and agribusiness organisations
- African governments
- International investors such as USAID, DFID and the Rockefeller Foundation

One of the most important goals and work of AATF will be to address barriers that have kept private companies from sharing their technologies for public use such as:

- Concern that developing countries' regulatory requirements would not ensure satisfactory risk assessment and risk management;
- Concern that the new products would not reach the hands of poor farmers;
- Concern that the technologies might be applied to crops and markets that threaten the commercial interests that led companies to invest in technological advances in the first place;
- And concern that the final products would not meet high performance standards before they are released.

The AATF was designed to provide the stewardship functions necessary to address these concerns and thereby provide private companies with the confidence to make their technologies available to partners in developing countries.

A New Approach

Let me give an example of the way AATF will work on the application of new technologies, building capacity as the science progresses.



As you know, *Striga* is a parasitic weed that devastates cereal production in Africa, particularly on small-scale farms suffering from depleted soil fertility. Dr. Terry informed me that *Striga* affects between 100,000 and 200,000 hectares of farmland in Western Kenya.

In maize, there are no natural sources of resistance to *Striga*, so scientists from the Kenyan Agricultural Research Institute (KARI) and the International Maize and Wheat Improvement Center (CIMMYT) have turned to modern biotechnology for a solution.

They have developed a seed treatment strategy that effectively controls *Striga*. It involves treating seed of a mutant strain of maize that is resistant to an herbicide with very small quantities of the herbicide.

The herbicide kills germinating *Striga* seedlings before they can infect the maize plants. It works well but the mutant strain of maize is a proprietary technology and the herbicide – also proprietary – needs to be registered for use on maize in Kenya. The AATF is helping KARI and CIMMYT to negotiate rights to the technology and obtain necessary approvals.

This is one example of high priority projects that will be led by the AATF. It is a new experiment - a novel approach to some of Africa's problems and it has its risks. But I believe the opportunities created by the amazing scientific progress of recent years are too great not to try to find ways of bringing the benefits of new science to African farmers and consumers.

AATF is an acknowledgement that improvements in African agricultural productivity are not likely to be made in American or European labs – nor should they be – but in applied settings, most likely by African scientists drawing upon the best of the world's expertise in real world situations.

The technologies that the AATF will access are but one tool in a larger toolbox from which African farmers must be allowed to choose. There is no magic solution that will solve Africa's complex agricultural challenges, but the problem is so big that Africans should have the right to consider every possible tool at their disposal.

Most importantly, AATF rests on the notion that Africans and African governments must determine what technology is right for them. And The Rockefeller Foundation is proud to join you in this ground-breaking moment today.

