

“Betting on Africa to Feed the World”

The Norman Borlaug Lecture delivered by Dr. Akinwumi A. Adesina, President of the African Development Bank and World Food Prize Laureate 2017, at the Iowa State University, Des Moines, Iowa, USA, October 17, 2017.

I wish to thank the President of the Iowa State University and the faculty and staff of the University for the honour of being invited to speak at your beautiful campus, and to deliver the Norman Borlaug lecture.

It is a privilege indeed to speak at a lecture series named after Dr. Norman Borlaug. I know he was born here in Iowa and is your most famous citizen, but let me say that he was bigger than Iowa. He was a global citizen – a man whose heart beat with constant passion, whose mind worked all the time for solutions to feed the world. Africa was the last frontier for Dr. Borlaug. Even at the age of 80, he answered the call from his friend Mr. Sasakawa, left home and family once again, in search of how to feed Africa.

Much progress has been made in feeding our world. Over the past two decades the level of extreme poverty has declined, with one billion people lifted out of poverty. The Chicago Council 2017 report (“Stability in the 21st Century”) shows that globally 200 million fewer people suffer from acute malnutrition compared to 1990; the number of people suffering from stunting declined from 250 million to 125 million in the same period; and the intensity of chronic under-nutrition in low- and middle-income countries reduced from 25% to 13%.

Significant productivity gains have been recorded globally in food production, including in Africa, Latin America and Asia. Despite this, the world still has 700 million people languishing in extreme poverty, 800 million with chronic hunger, 2 billion people having micronutrient deficiency and 150 million kids under 5 years old suffering from stunting. The challenge of feeding our world is therefore immense, with a need for rapid increases in global food, feed and biofuel production to feed a global population of 9 billion people by 2050.

The challenge of addressing global food security is greatest in Africa, where close to 300 million are malnourished. It is also the only region of the world where the proportion of the population that is food insecure has increased.

If Dr. Borlaug alone could feed one billion people, we definitely can feed 800 million people, globally, and we definitely can feed 300 million Africans. Dr. Borlaug would be disappointed if we couldn't and with all technologies and innovations, from gene revolution to ICT revolution, at our disposal, we wouldn't be able to face him and say we didn't.

Africa holds the key for feeding the 9 billion people that will be on the Planet Earth by 2050. Africa sits on 65% of the uncultivated arable land left in the world, so what Africa does with agriculture will determine the future of food in the world. Therefore, more than

ever before, we must help Africa to rapidly modernize its agriculture and unlock its full potential. This has been my passion ever since I was a young graduate student at Purdue University, where I did my Master's and PhD theses, examining these issues, and have, since then, been a global advocate or if you wish, an evangelist for African agriculture.

The current situation where Africa spends \$35 billion net annually on food imports is not acceptable. If the current trend continues, Africa is estimated to spend \$110 billion net annually by 2030 on food imports. The rising food import bill hurts farmers in Africa. Cheap food imports decimate rural economies, displace incomes of farmers and divert scarce foreign exchange away to importing what Africa should be producing very well, thereby creating lots of jobs for its people.

There is therefore absolutely no reason for Africa to be a food-importing region. Africa has huge potential in agriculture, but, as Dr. Borlaug used to say, nobody eats potential!

Unlocking that potential must start with the savannahs of Africa. The savannahs of Africa cover a mind-boggling 600 million hectares, of which 400 million hectares are cultivable. But just 10% of this is cultivated – a mere 40 million hectares. So massive is the potential that the World Bank called the Guinea savannah zone “one of the major underutilized resources in Africa.”

Africa's savannahs are not that different from those of Brazil. Indeed, they are better than the savannahs of Brazil, because their soils are not acidic and therefore do not need liming which had to be done at a massive scale in Brazil.

Yet, while the savannahs of Brazil feed the world, those of Africa cannot even feed the farmers there. Technologies, innovations, research and development, mechanization, modernization of agriculture, policy support and massive investments in infrastructure are what made the difference to turn the savannahs of Brazil and those of Northern Thailand into a food powerhouse.

To transform its agriculture, Africa needs to make a firm decision to develop a new agrarian system, one that combines smallholder farmers with a new dynamic generation of medium and large commercial farmers. Large commercial farmers played a huge role in Brazil, while in northern Thailand the transformation was built around small farmers. One common thread in both was the rapid establishment of private sector and public policies that allowed these regions to interact with external markets. Today, Brazil dominates global soybean production. Thailand dominates global rice and cassava markets.

That's exactly what Africa needs to do!

I recall an intriguing experience several years ago. A Chinese agricultural scientist visited me while I was working at the Rockefeller Foundation in Kenya. He had come on his first Africa visit and wanted to see the rural areas and get a sense of the agricultural sector. I sent him to western Kenya. He came back from the trip quite agitated, and I thought someone had been unkind to him. To my surprise no such thing had happened, he was

simply shocked that there was so much uncultivated land! He exclaimed, “How can so much land be unused and then we say people have no food or are poor? In China, he retorted, all such land would have been used up!”

Life, indeed, is all about perspective!

Africa needs to put in place land tenure systems that make it easier to get access to land, and for smallholder farmers and their communities to have secure land rights. Traditional land tenure systems that predominate in Africa, simply perpetuate poverty and underutilization of land, and are not compatible with the modern commercial agriculture that Africa needs.

Secure land rights through land titling should be universal – and, most importantly, for women farmers. Properly functioning land markets will make it easier for farmers to use their lands as collateral for loans, which will help unlock commercial credit for farmers. Furthermore, the private sector needs land and it is difficult to secure this, even in the midst of so much unused or underutilized land.

It is time to put in place land tax for unused agricultural land or underutilized agricultural land to provide incentives for faster commercialization of agriculture and unlocking its potential in Africa.

A top priority must be to mechanize agriculture in Africa. Some have argued against the mechanization of agriculture in Africa, suggesting its soils are too poor and fragile. Really? That was the same kind of argument used against the development of the *cerrados* of Brazil, so much so that leading scientists said there was no future for food in the *cerrados*. How wrong they were!

The value added per worker in agriculture in Africa is the lowest of all regions, estimated at \$1,990 compared to \$16,000 in Eastern Asia and \$6,000 in Latin America. The low productivity is due to several factors, including low levels of mechanization, limited use of high yielding seeds and fertilizers, as well as weak extension systems.

Hoes and cutlasses, bulls or oxen, have no place any longer in African agriculture: they belong in museums, not on the farms. We must rapidly mechanize agriculture in Africa, with low-cost, affordable tractors and equipment, to raise labour productivity and value added per worker to global levels.

Agricultural technologies exist that can help Africa feed itself and unlock its potential in contributing to feeding the world. The challenge is how to take these technologies to scale to reach tens of millions of farmers.

Take the case of rice. The release of the New Rice for Africa has changed the opportunities for raising productivity of rice. As Minister of Agriculture in Nigeria in 2011-2015, I introduced these varieties to farmers at scale and created a national policy of dry season farming to complement the main season production. Nigeria reached over 6 million farmers

with the new rice varieties within four years and this helped to dramatically raise rice production to achieve 80% of national rice paddy needs.

Cassava varieties exist with yield potential of 80 tons per hectare, tissue culture bananas exist yielding over 40 tons per hectare compared to the 15 tons that farmers currently achieve.

Biotechnology and genetic engineering will help Africa to address hitherto intractable challenges in food production, including droughts, pests and diseases. Water-efficient maize for Africa now exists that can give 4 tons per hectare under drought conditions, surpassing existing commercial varieties by 56%.

New technologies will help address the problem of “witches”. Yes, you heard right: “witches”. Well, you may wonder! There is a weed called Striga that destroys crops. So bad is this weed that farmers call it the “witch”. But today, scientists have developed new maize varieties that can take the witch on. New maize varieties developed by the African Agricultural Technology Foundation and marketed as StrigAway, are giving yields of 100% more than existing commercial varieties under infestation by the devastating witchweed, Striga. So powerful is the yield effect of StrigAway on his fields that Richard Amolo, a farmer in Siaya district in Kenya, said: “Striga is gone. The witch has left!”

What we need now, therefore, is a massive scale up of these existing technologies. And for that there’s a need for a new policy framework for farmers. As a young graduate student at Purdue in the 1980s, I was fascinated by the abundant food production of the US and the lush green meadows and fields across the heartland of the country. At the core of this is the relentless public policy support for farmers in the US. The same applies to farmers in Europe, where the Common Agricultural Policy has been the foundation of the surplus food the community exports around the world. In short, without government support, the world’s food production would plummet.

African farmers need more than a helping hand. They need a policy lift! African farmers receive the least support in the world. To unlock the potential of agriculture, African governments must develop farmer-centric public policies that accelerate the uptake of agricultural technologies.

That’s what I did as Minister of Agriculture in Nigeria, using mobile phones to deliver vouchers for farm inputs – the first program of its kind in the world. The system, called electronic wallet, reached 15 million farmers with improved seeds and fertilizers. Over four years, the system allowed Nigeria to expand its food production by an additional 21 million metric tons of food. The e-wallet system is now being used in other parts of the world. The African Development Bank is now scaling this up to some 30 African countries.

Investment in rural infrastructure will be critical to transforming agriculture in Africa. I recall my conversation with Ambassador Quinn on this issue. Narrating his experience in Vietnam, he told me that wherever there was infrastructure, poverty rates went down and so did the hold of the insurgents. That applies today to Africa.

The lack of electricity is one of the major constraints to growth in Africa. While average electricity use per capita is 182 kilowatts per hour in Africa, it is 6,500 kW/hr in Europe and 13,000 kW/hr in the US. Africa cannot develop in the dark. Farmers cannot store food, irrigation systems cannot function and food agribusiness and industries cannot operate for lack of power. Lacking power, African agro-industries operate at a high cost and become uncompetitive.

Therefore solving the challenge of electricity is crucial to overall rural development. That's why the African Development Bank has launched the New Deal on Energy, to achieve universal access to electricity in Africa within 10 years.

The Bank is investing \$12 billion in energy in the next five years, to leverage \$45-50 billion from the private sector. Last year alone, the Bank supported 3.3 million Africans to be connected to electricity.

We've invested in the largest solar power plant in the world, in Morocco; and helped build the largest wind-power plant in Africa in Kenya. We've set up a new \$500-million facility for energy inclusion to drive investments in small and medium-size renewable energy companies. Off-grid power systems will be rapidly expanded across rural Africa, scaling up successful off-grid businesses. Our goal is to connect 75 million people to electricity via off-grid systems. With rural off-grid power, drip irrigation systems, solar powered pumps, we will help boost food productivity and unleash agro-processing revolution across rural areas.

Too much food also goes to waste in Africa. The volume of wasted food is enough to feed 300 million people. So, just eliminating the food losses can more than feed them all. Yet, the major food-processing companies in Africa are located in the urban areas, far from zones of food production. Part of the challenge, of course, is the lack of enabling infrastructure in rural areas. We must do a better job in reducing food losses along the food chain, improve food distribution and target supplementary food supplies to poorer households.

To turn this around, African countries should develop staple food-processing and agro-allied industrial zones. These staple food-processing zones will be enabled with infrastructure, roads, irrigation, water and electricity, which will reduce the high costs facing agribusiness and food-processing companies. The companies should be provided special tax incentives for locating within staple food-processing zones, close to production zones.

Such a move will lead to industrial scale processing and value addition to all crops, livestock and fisheries products in Africa. They will create huge markets for farmers, change the face of rural economies and create massive amounts of jobs.

Staple food-processing and agro-allied industrial zones will transform rural Africa from zones of economic misery to zones of economic prosperity. These zones will also allow Africa to move into agro-industrialization and become a global player in feeding the world.

I know when I say feeding the world, some of you may cringe and wonder how? Well, let me tell you that Africa is already contributing a significant share to feeding the world!

Let me see by a show of hands how many here eat chocolates? Well, quite a lot!

But how many of you know that Africa is why you have chocolates?

Africa accounts for 75% of the world's cocoa production. With talk of chocolates, your mind goes to Belgium, Switzerland, but definitely not Côte d'Ivoire, or Ghana, which together account for 65% of total cocoa bean production. Over \$100 billion is made in revenue each year from chocolates alone, but Africa receives just 2% of this.

The reason is that Africa exports just raw cocoa beans. Africa is stuck at the bottom of the cocoa value chain, dominated, instead of dominating, despite being the leading producer.

This is what we must change. Africa must not be locked at the bottom of the global value chains; it must rapidly add value to what it leads the world in producing.

Africa accounts for over 23% of global production of coffee, with Ethiopia and Uganda among the world's leading producers. Africa is the highest producer of millet in the world. Africa is the highest producer of shea butter globally. Africa is the world's highest producer of cassava. Africa is also the world's largest producer of plantains, and the number one producer of kola nuts.

If you are like me, I like to have sesame seeds on my hamburgers. Well, over 55% of the sesame you eat is produced by Africa. Africa produces 146 million tons out of the 268 million tons of cassava in the world, or 55%. Africa produces 5.4 million tons of the 5.6 million tons of cowpeas globally, or 96%. Africa produces 12 million out of the 28 million tons of millet globally, or 43%. And Africa produces 29 million tons of the 69 million tons of sorghum globally, or 42%.

But producing raw materials is not enough. It is time for Africa to move to the top of the global food value chains, through agro-industrialization and adding value to all that it produces. The secret of the wealth of nations is clear: rich nations process all that they produce – whether in agriculture, minerals, oil and gas or services – while poor nations export their raw materials.

The price of cotton may decline, but never the price of textile and garments. The price of cocoa may decline, but never the price of chocolates. The price of coffee beans may decline, but never the price of brewed specialty coffee at Starbucks!

That is why the African Development Bank has launched the largest effort in its over 50 years' history to transform Africa's agriculture. The focus is to make agriculture Africa's largest wealth-creating sector, with inclusive growth, and to take Africa to the top of the global value chains in food and agriculture.

The Feed Africa strategy launched by the Bank has as its target making Africa self-sufficient in food within 10 years, driving agro-industrial development and making the continent competitive in global food and agriculture markets.

To push this agenda, the African Development Bank will be investing \$24 billion in agriculture and agribusiness over the next 10 years.

We make this investment because we are taking a very good bet on Africa: that Africa has the land to feed itself. We are taking a bet that, with agriculture as a business, Africa will unlock its massive agriculture potential. We are taking a bet that, as Africa embarks on an unprecedented agricultural industrialization, it will be able to unleash a prosperity that will also lift millions out of poverty, creating new zones of prosperity all across our rural areas.

I know that it is a bet that's well worth it. Today, thousands of Africa's youth, especially university and college graduates, have got the message and are flocking into agriculture as a business. They will totally transform African agriculture. They will turn Africa into a global powerhouse in food production. They will make agriculture the new wealth sector of Africa, and, by so doing, unleash Africa's capability to feed the world.

For agriculture was Africa's past, but in agriculture as a business lies Africa's great and prosperous future!

The solution is at our fingertips. The answers are in our hands. The vision can and will become a reality in our time.

Ladies and gentlemen, thank you very much!