



STATEMENT BY

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**AT THE
GLOBAL ECONOMIC LEADERS SUMMIT 2011**

ON

*"THE SIGNIFICANT ROLE OF TECHNOLOGY INNOVATION IN THE SUSTAINABLE
DEVELOPMENT AND SECURITY OF THE WORLD FOOD AND AGRICULTURE
INDUSTRY"*

Changchun
People's Republic of China
5 September 2011

Your Excellencies Heads of State and Government here present,

Distinguished delegates,

Ladies and gentlemen,

All protocol observed

I am humbled and privileged to be granted this rare opportunity to speak to you today, and share some thoughts on “the role of technology and innovation in the sustainable development and security of the world food and agriculture industry”.

When you think about food shortages, the images that immediately spring to mind are of starving people, generally on the drought ridden and dusty backdrop of, you guessed it, Africa. This is not to say that people don't go hungry elsewhere, but certainly, perception is, that the largest part of the problem is in Africa. If you take the 10 countries with the top levels of undernourishment on the planet, they are almost exclusively African countries. If you take the top 20 the same applies, and the top 30 and top 40. In fact, if you take the 50 countries with the highest levels of undernourishment on the planet, African countries make up 30 of them. This perhaps qualifies me, as a leader from Africa, to talk on the topic, and also shows that I have a truly vested interest in it.

Ladies and gentlemen,

Food is produced globally, much of it in Africa and other developing countries, many of whom export to the rest of the world. Strange it seems that a number of these top 50 are amongst those exporters, while undernourishment is rife at home. In many ways this indicates that feeding the rich is of greater importance than feeding the poor, which is, of course, erroneous. So why is it that one seldom finds an affluent person short of food?

Food security is then perhaps best described as the combating of undernourishment and provision of food to all that inhabit our planet in a long term and sustainable manner. But it is something that is particularly important for the poor, as once again, if anyone goes hungry, it is them. So I repeat, as an African leader, and a leader of the continent in which a vast amount of the world's poverty presides, I feel this a topic to which great focus should be given.

Namibia, my country, is relatively wealthy– at least by African Standards. This said, we still face a great number of developmental challenges, particularly with regard to our poor distribution of income and thus high Gini coefficient. We continue to be highly susceptible to climate change, particularly as over 50 percent of the country is classified as desert. As is the case with many climate “fringe” countries, we are susceptible to both great droughts, and great floods and the increasing regularity of such caused by climate change. We are a net importer of food, mainly from our southern neighbour – South Africa. Despite our GDP per capita being over 5000 USD and being classified as an upper middle income country by the World Bank and UN agencies, undernourishment in Namibian society is still high at 19 percent, giving us an undesirable place in the aforementioned “top 50”; this said, the trend has been favourable, and undernourishment has fallen dramatically in our relatively short life as an independent state. There exists little doubt in my mind that this is largely due to innovation in agriculture, some of which can be attributed to innovation in ICT services.

Of course, innovation can take many forms, and certainly has taken many forms over time. In fact, the person who first planted a seed, many many years ago, was perhaps the greatest agricultural innovator to have walked the earth. Similarly, the invention of the Shaduf irrigation system on the edge of the Nile, some 2500 years BCE, too was great innovation, as was the invention of agricultural machinery such as tractors and combine harvesters. Now, with a global population of around 7 billion, and a rate of increase that could see us at over 8 billion in just 10 years, agricultural innovation is as imperative as ever. Lives depend on it. Literally.

Ladies and gentlemen,

The last hundred years have seen innovation unparalleled in history, not least in information and communications technology (ICT). 100 years ago we didn't have cell phones, computers, TV's, GPS and many of the other great innovations in ICT we enjoy today. Now we have, and in recent years some of these technologies have been put to use in agriculture, some with great levels of success.

However, innovation in food production today really surrounds the same things that it surrounded a hundred, or even a thousand years ago, as in many ways the basis of all innovation is as follows: How do we increase output with the same input, decrease input for the same output, or a mixture of the two? Of course, the derivatives of our innovation have changed. Planting a seed is no longer the innovation it was many many years ago. Innovation is broadly defined as “the introduction of a new approach, idea, method or

device”, with the keyword being “new”. Planting a seed is no longer new, thus no longer innovation.

Agriculture is as international as the need to eat. Almost no country in the world does not partake, to some extent, in agriculture. It was estimated that in 2007 one third of the worlds employed population, was employed in agricultural activities. Let me repeat that, in 2007, one third of the worlds employed population, was employed in agricultural activities. This figure is off course much higher for sub-Saharan Africa. In my own country it is estimated that about 70 percent of the population directly and indirectly depend on subsistence agriculture for their livelihood. It is thus that innovation in agriculture is to be expected, and will happen naturally, as innovation is not an isolated event, but a continuous process of change, and hopefully improvement, over time. This innovation could be anything, from the domestication of wild plants, better adapted to the local environment, to the development of complex ICT infrastructure.

Globally, a number of phenomenal innovations exist to improve agricultural output, as well as the lives of farmers, through ICT initiatives. These include initiatives in both production and distribution of food. While these phenomenal innovations are extensive, my time is limited, so I will mention but a few, segregated by production initiatives and distribution initiatives.

Let me firstly say a few words about production enhancing innovations:

Until fairly recently, the main method of disseminating information, particularly in developing countries, was word of mouth. Then came the radio, then the television. These changed the ways in which people gained access to information, as well as the information that was available to people. The morning or evening news would warn of locust swarms, weather changes and agricultural developments outside of a country border. For years these were coveted assets that few farmers would wish to be without. Then came the mobile phone, and the computer. Once again access to information increased and these developments became indispensable assets to farmers, giving them access to information on demand.

These innovations, particularly the mobile phone, have opened what could be called an innovation highway. Through their use, farmers have been able to boost productivity, and keep up, at least partially, with the world demand for food. Many individual innovating actions and ideas have arisen on the back of this basic, affordable and easily available infrastructure.

In much of the world crops are lost, or yields are significantly reduced by pests or diseases. Many of these diseases are treatable, and pest damage can be reduced. This may depend on availability of pesticides, ample warning as to incoming pests and even knowledge on possible causes of crop underperformance. Early warning systems are a

common benefit to farmers that can disseminate information as to approaching risks quickly and efficiently through ICT services. This has been ongoing for many years in the simplified weather forecast, however opportunists are now using other ICT services to warn ahead of other risks, such as the aforementioned pests and diseases.

Some extraordinary advances have been made in actual crops through the use of ICT. More resilient and higher yield crop varieties have been discovered, and the ever controversial genetically modified crops are never far from mind. High yield grains are without doubt a part of the reason that the planet has, at least to some extent, been able to handle the continuously increasing population.

In many of the more advanced agricultural countries, ICT, and particularly global positioning systems (GPS) are being used very effectively to improve efficiency in the use of seed, fuel and fertilizer, thus combating the ever increasing prices of these inputs. GPS can be used to ensure that there are no parts of fields over, or under fertilized, that only the exact amount of seed required is sown and as such cut down on excessive machinery use.

As well as all of the aforementioned production enhancing possibilities brought about by ICT services, the general knowledge sharing ability that these technological innovations bring about too can have a great effect on productivity. As many of the world's farmers have not been given the privilege of a good education, they may not be aware of the likes of crop rotation, overgrazing and intercropping. ICT, such as the mobile phone or broadband can make this information, as well as ways to enact and implement such available to even the poorest and least educated of farmers, in a cost effective manner.

Let me now turn to distribution innovation.

Market access and market information have been greatly enhanced by innovation in ICT services. In a number of countries such as Ghana, Tanzania and Bolivia, producers no longer need to take their produce to market, only to find that prices are not favourable. Mobile phone based systems will inform people as to prices of different goods before they leave their farms. This puts farmers in a significantly stronger negotiating position, and reduces the chance that they will be ripped off by middlemen looking for a large mark up opportunity, under representing their selling price, and over stating their transaction cost. Knowledge, and the power it brings, will dictate which market a farmer goes to, and when they sell their produce. No longer do farmers need to hope for the best, then cut their losses if all doesn't work out.

As well as this, the availability of information through ICT allows farmers an insight into the workings of the economy, and through the price, a look at demand and supply. While many farmers may not know what they are seeing in terms of the economics, high prices need little explanation. Farmers are likely to favour produce that sells for higher

price, and in doing so, cater their supply, to market demand. Prices and the knowledge of prices ensure that farmers supply the “right” produce. Farmers are thus aware of who needs what, and where.

ICT services in Uganda have gone a step further, marketing and selling producers goods online, thus eliminating some market inefficiencies, and putting buyer and sellers in touch, cutting out middlemen and delivering a fair price to producers. These higher prices breed innovation, as farmers are given greater incentive to maximize production.

Through ICT services, the outputs of small scale farmers in Zambia can be monitored, assessed and can inform policy makers of the state of the countries food stocks with a great deal of accuracy. In countries such as Zambia this is particularly important, as much of the population farms, and also much of the population is relatively poor by global standards. This means that they are particularly hard hit by crop failures, low precipitation and other environmental and non environmental factors. ICT services allow those in power to assess the situation on the ground, and affect relief when the need arises with great speed and efficiency.

The power of monitoring and evaluation of agricultural activities simply cannot be overstated, and once again, ICT plays a vital role. The ability to not only accumulate and document data, but also analyze and publicize it has increased tenfold with the development of ICT services such as online databases. These tools can be used to predict, pre-empt and avoid disasters before they happen, and in the event that a disaster is simply unavoidable, they can mitigate the damages and expedite recovery.

Capacity building too is a great benefit of ICT. Many developing countries share highly similar constraints, and methods to overcome these constraints maybe globally applicable. The use of ICT, such as broadband internet, makes the transfer of knowledge more simple, available, and cost effective. New approaches, techniques and talents can be transferred with minimal effort once the basic infrastructure is in place.

So while we meet in this charming venue, a drought rages on in the horn of Africa, food prices, according to the World Bank have risen on average 33 percent in the past year, and world food stocks are dwindling, with stock to use ratios critically low; the lowest they have been in decades. That something must be done, little doubt can exist. As the global population grows and resources become scarcer, focus will undoubtedly continue to shift towards efficiency, and increasing the output, without increasing the input. Basically, innovation.

In conclusion ladies and gentlemen,

As we peer forward into the future of our planet, we must ask ourselves, what is more important than food, and who more important than farmers? These humble souls provide us with the sustenance we need to fuel our lives, the fuel we need to sustain our pleasures. And yet the world can only produce a finite amount of food; there simply has to be a limit. But until we reach that limit, innovation and development will keep pushing at the boundaries. So who amongst us will be the next great innovator, today's equivalent of that original seed planter from many, many years ago, and what will be their idea, what will be their seed?

Thank you for listening.