ZAMBIA GEARS UP TO HOST THE 20TH AFSTA ANNUAL CONGRESS 2020

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A
fter a memorable and colorful Congress in Mombasa, Kenya, focus now turns to Livingstone, Zambia. An equally beautiful town located on the shores of Victoria Falls will play host again to the annual AFSTA Congress 2020 after a period of 13 years when Zambia hosted the congress in 2007.

Livingstone is in southern Zambia, a few kilometers from the Zambezi River and the border with Zimbabwe. It’s a hub for visitors to the Victoria Falls. The adjoining Mosi-oa-Tunya National Park surrounds the Zambian side of the falls. The Livingstone Museum traces local history and archaeology, and the life of the Scottish explorer, David Livingstone, after whom the town was named.

The National Organizing Committee (NOC) Chair for the AFSTA congress 2020, stated that they have begun putting everything in place for the Congress due from 3rd to 6th March 2020 at the Avani Hotel.

“We are lining up a very elaborate show piece for the seed sector in Africa and we are indeed up to the task,” said Mrs. Grace Bwanali, the NOC chairperson.

What more? The seed sector in the country is now on a roll as the seed companies in the country are now able to trade using the globally recognized Organization for Economic Co-operation and Development (OECD) seed scheme for export following the accreditation of the Seed Control and Certification Institute (SCCI). The Country is an ISTA member also and it has an accredited Seed Certification Laboratory.

The accreditation will grant Zambian seed companies access to global markets.
Besides, it stands to strengthen Zambia’s status as the largest exporter of maize seed within the SADC region and across Africa.

Zambia has vast land and a natural resource base. Agriculture contributes about 19% to GDP and employs three-quarter of the population. Domestic production is comprised of crops such as maize, sorghum, rice, groundnuts, beans, soybeans, cotton, sweet potatoes, millet, and cassava while exports are driven by sugar, soybeans, coffee, groundnuts, rice, and cotton as well as horticultural produce. The Zambia territory is 75 million hectares (752,000 km²), out of which 58% (42 million hectares) is classified as medium-to high-potential for agriculture production. However, only 15% of this land is currently under cultivation. Zambia enjoys 40 percent of sub-Saharan water resources.

The Government of Zambia is lauded for promoting agriculture as a way to diversify the economy away from an overreliance on copper through the development of farm blocks in all 10 provinces for large and medium commercial farming, fish farming, and livestock production. Both Public and Private equity and other investors are active in this sector. The agriculture sector in general and the seed industry in particular is open for investment and partnerships with both local and international investors.

View of the Victoria Falls in Livingstone, Zambia

Avani Hotel, venue for AFSTA Congress 2020
Delayed decision by African governments on whether to regulate new breeding techniques using existing laws or developing new ones is hampering research on gene editing, Kenyan biosafety experts have said.

Addressing a regulators’ forum, Dr Steve Runo of Kenyatta University (KU) and Mr. James Karanja of Kenya Agricultural and Livestock Organisation (KALRO) called on the government to issue clear guidelines from conceptualization all the way to commercialization of genome editing products.

The two researchers noted that a review of the current Biosafety Act may not be the way to go since genome editing does not involve addition of any DNA unlike genetically modified organisms.

Dr Runo, said that his team at Kenyatta University is currently developing Sorghum varieties resistant to Striga using the CRISPR/Cas9 technique. The target genes are those responsible for signaling production of striga. Mutant lines will be selected and further developed for possible commercialization in Kenya.

Mr. Karanja discussed the Maize Lethal Necrosis Disease (MLND) project, a collaborative project with Corteva AgriScience, which aims at developing maize varieties resistant to the disease. The South Rift region of Kenya, which is one of the grain basket regions of the country, is among the worst. The approach by MLND project is through genome editing and will target the gene responsible for susceptibility to the virus.

Another researcher, Dr. Leena Tripathi, IITA discussed the two crop varieties under genome editing research i.e. banana and yam projects. The banana project is aimed at developing banana varieties resistant to banana streak virus. Initially the project used RNAi technology but after unsuccessful results a change of concept to genome editing was made. The yam project also employs genome editing and is aimed at developing virus resistant varieties.

New Breeding Techniques (NBTs) and Precision Breeding Techniques (PBTs) refer to the tools and methods used to develop new varieties more precisely and rapidly. Precision defines the technique’s accuracy. It is applicable in both plants and animals. They are broad tools among which gene editing is one. Plant breeding innovations are cont... p4
those specific to plants.

Mr Josphat Muchiri told
the two-day workshop that
in Kenya, genome editing
techniques are currently
regulated using similar
approach of GMOs meaning
that no guidelines specific to
genome editing exist. Risk
assessment, he said, follow the
existing procedure for GMOs.

He added that Contained Use
Regulations, 2011 are being
applied to make decisions
on research projects under
containment.

He pointed out that no
advanced applications for
genome editing technology
have been received so far
(right from confined field trials,
environmental release, food or
feed application).

However, 4 applications on
genome editing have been
received by NBA since 2015 of
which 3 were approved yet one
is pending.

The applications so far
received are Transformation
of Banana for Resistance
against Nanoviruses and
Caulimoviruses and Aphid
Vector by International
Livestock Research Institute
(ILRI) in 2015. The project
aimed at producing banana
resistant to Banana Streak Virus
(BSV). Last year, the National
Biosafety Authority approved
the organisation’s application
for contained use involving
genome editing of yam.

Contained use application
involving the development of
vaccines for control of African
Swine Fever Virus (ASFV) has
also been approved by the NBA
in 2018.

On pending application, he
mentioned contained use
application for Grass pea
modification for nutritional
and agronomic traits to be
undertaken by ILRI. The
objective of this project
is to establish a reliable
transformation protocol to
enable gene editing in Grass
pea (Lathyrus sativas) for
enhanced nutritional and
agronomic traits.

From a regulator’s standpoint,
he said that three major
challenges stand out which
include how to regulate
genome editing technology
given that currently different
countries regulate it differently.
Yet how would they detect
genome edited products that
do not result into a GMO ie
where no foreign DNA has
been added. Finally, it would be
hard to carry out labelling and
traceability of such products
while in the market.

Based on the need to improve
agricultural productivity
and increased knowledge of
genomics, researchers have
developed many new ways
for breeding more productive,
efficient plants using genome
editing.

Regulators around the world
have also been developing
regulations to approve products
developed using various
genome editing techniques
with the general agreement
among many regulatory
agencies is that “where no new
DNA is introduced, end-product
should not be considered
genetically modified”

However, the impact of the
ruling of the EU Court of
Justice in 2018 to regulate
most products developed using
genome editing as GMOs is still
being evaluated globally.
Seed companies in Africa have been challenged to invest adequately in Nigeria, the continent’s most populous country. This was said recently during the second SeedConnect Conference organized by the country National Seed Council.

Stating that the country was well endowed with large pieces of arable land, the Federal Minister for Agriculture and Rural Development (FMARD), Audu Ogbeh noted that the seed sector still encounter challenges from three major factors in adulteration and seed recycling; poor uptake of new improved seeds or newly released varieties and fake seeds. Mr Ogbeh said farmers need to adopt the use of quality seeds to avoid recording loss during harvest.

“It is important that farmers shun the use of poor seeds, they should get them from certified vendors and we can assure them of good produce,” he said.

“We are sounding a note of warning to those using adulterated seeds,” Mr Ogbeh said.

“There is need for rapid demonstration and popularization of newly released varieties to enhance adoption,” he said.

Speaker after speaker in the well-attended Conference said that the problem with Nigeria was ineffective seed policies and poor funding of the sector. They berated the Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL) for making it almost impossible to secure funds from the outfit calling the processes cumbersome.

“Population growth in Nigeria demands strategic planning, hence the seed companies must take their proper place to assure the country of food security,” said the minister.

Other factors that came to the fore include poor knowledge of the prospects the PVP has to offer breeders. This, noted the participants, calls for the PVP legislation enactment in Nigeria to encourage more indigenous breeding of varieties.

“Nigerians must help the government to stop policy somersault which greatly stifle growth of the sector,” said Richard Olafare, the President of SEEDAN. He added that the quantity of unregistered seeds being traded is a source of concern.

Participants following the proceedings
HOW TO GET COMESA SEED LABELS
By Daniel Aghan, Communication Officer, AFSTA | daghan@afsta.org

Seed companies will have to apply to the National Seed Authorities (NSAs) in line with normal seed certification for the COMESA seed labels, according to the rules released by the economic regional bloc at a workshop on the seed labels held in April 2019.

However seed certification shall focus on the COMESA Seed Trade Harmonized Regulations Standards of 2014 in making the applications.

In line with Seed Trade Harmonized Regulations Standards of 2014, a seed company shall then apply on-line for the COMESA Seed labels after approval from NSAs.

The approved form from NSA will contain – number of seed labels with allocated serial numbers and shall be viewed on line. ACTESA/COMESA shall then order printing and production of COMESA Seed labels to the Printing Firm after approval from the NSAs.

The pre-printed COMESA Seed Labels with running numbers shall enable seed companies to print seed lot-specific information in a proper and systematic manner for their seed trade using the COMESA Seed System.

“The appointed printing firm shall then produce, print and distribute COMESA Seed labels directly to the seed companies or through ACTESA/COMESA to them,” said Dr John Mukuka of ACTESA.

“The COMESA Regional Certificates shall be distributed to NSAs for issuance to seed companies accompanying the COMESA Seed Lots,” he added.

COMESA Variety Catalogue is on-line with 58 varieties regionally released. The COMESA Variety Catalogue shall significantly reduce both the time and expense of releasing varieties in multiple countries, thus increasing regional seed market potential and attractiveness to investors and thus seed supply for farmers.

Meeting under the auspices of COMSHIP, the more than 270 delegates were trained from 13 COMESA Member States, namely Burundi, Djibouti, D.R Congo, Egypt, Ethiopia, Kenya, Madagascar, Malawi, Rwanda, Swaziland, Uganda, Zambia and Zimbabwe. The training aimed at equipping the delegates with the practical arrangement for the use of the COMESA label for cross border seed trade.

The delegates were representatives from seed companies having varieties registered in the COMESA Variety Catalog, National Seed Trade Associations (NSTAs) and National Seed Authorities (NSAs).
HARMONIZATION OF SEED REGULATIONS OPENS BORDERS IN WEST AFRICA
By Charles Nyachae, ICT, Logistics & Protocol Officer, AFSTA | charles@afsta.org

In May I delivered 40 metric tons of sorghum seed to Ghana,” explains Stephen Yacouba Atar, Vice Chairman of Seed Enterprises Association of Nigeria (SEEDAN) [an AFSTA Member Seed Association] and CEO of one of Nigeria’s oldest seed companies, Da-Allgreen Seeds Limited.

This Kano-based private seed enterprise has also done business recently with seed companies in Burkina Faso and previously with Liberian, Sierra Leonean, and Senegalese companies.

He added that the quick movement has to do with the harmonization of seed regulations adopted by all West African countries. During the delivery of seeds to affected communities at the height of the 2014 and 2015 Ebola crisis in Liberia, Guinea, and Sierra Leone, Atar says that trucks transporting seeds could take about a month due to cumbersome procedures at the border.

“This time around, it took us less than 2 weeks to deliver needed seeds from Nigeria to Ghana.” When the West and Central African Council for Agriculture Research and Development (CORAF) and its partners (the United States Agency for International Development (USAID), the World Bank, and other political and civil society actors) set out to level the playing field in matters of seed certification, varietal release, and phytosanitary control, this is the sort of the outcome that they desired.

“Making the variety catalog available to everyone and implementing all the processes is not enough. The real success is determined by the uninterrupted flow of quality seeds across borders by business persons at the start of each planting season,” says Ms. Shirley Erves Kore, Advisor to USAID West Africa and one of the proponents for the liberalization of the seed industry in West Africa.

In 2018 alone, Nigerian companies exported close to 1,200 metric tons of certified seeds to Ghana. These include 830 metric tons (MT) of maize, 340 MT of soybeans, and 30 MT of sorghum, according to the Seed Entrepreneurs Association of Nigeria (SEEDAN).

Back in 2016, The Gambia imported 63 metric tons of foundation rice seeds from Nigeria while Sierra Leone took in about 55 tons. With a growing need for certified seeds, both The Gambia and Sierra Leone ordered about 450 metric tons of certified rice seeds from Nigeria that same year to make up for their deficits.

Until recently, these volumes of seed trade were not evident as incoherent rules and lack of opportunities stifled the growth of seed business beyond boundaries.

Experts in the Nigerian seed industry acknowledge the centrality of CORAF in opening new windows of opportunities, linking actors together and providing relevant and useful knowledge that is today helping them to expand businesses across frontiers.

With renewed political will and interest from development actors in West Africa, CORAF is now strengthening a coalition of public and private actors to continue to accelerate the delivery of quality seeds to smallholder farmers in West Africa.

The Southern African Development Community (SADC) Harmonized Seed Regulatory System articulates rules, standards, procedures and supporting measures necessary to facilitate the movement of seed between countries in the region.

In an effort to address the knowledge gap on what the harmonization rules entail, Seed Trade Association of Malawi (STAM), with financial support from USAID through Southern Africa Seed Trade Project conducted a series of meetings to create awareness among its members, policy makers, custom officers at border posts, Non-Governmental Organizations and farmers on SADC Harmonised Seed Regulations (HSR) from August 2018.

“We realized, from an assessment that we carried out among our members, that most seed trade players and other stakeholders are aware of the existence of the regional agreements but lack proper in-depth detail as to what the HSR entails,” says Nessimu Nyama, the Secretary General of STAM.

“We hence held the sensitization meetings to ensure that they understand the system for safe and faster movement of seed at the border, knowing that it is key for them to understand the significance of the HSR to the country, particularly to farmers.” he added.

Malawian farmers have generally welcomed the domestication of SADC HSR as it will widen their choices on varieties and make seeds relatively cheaper. Seed suppliers are now well informed of the SADC HSR and are ready to use the system once domesticated.

The country is almost ready for the domestication of SADC harmonized regulations having instituted the 2018 Seed Policy which recognizes the SADC regulations and that the Seed Bill which is at a very advanced stage is already aligned to SADC seed trade agreements.

Capacity building at all levels is required to ensure smooth utilization of SADC seed system. It is envisaged that the system once domesticated, will increase investments in the seed sector, improve access to high quality seed, create job opportunities to the youths and reduce cost of doing seed business in the SADC region.

In another development, STAM members are happy to share their joy with the rest of the AFSTA family after last year’s release of four Bt cotton varieties by Quton Malawi Limited trading as Mahyco India varieties which is largely seen as big boost to the cotton industry.

The association considers this milestone to be partly achieved by the sustained engagement of key seed stakeholders on creating awareness on the benefits of Biotechnology for the past seven years. STAM and AFSTA have, over this period, held various meetings with policy makers, technology developers and farmers sharing information on the technology and clearing myths that surround biotech.

These are the first Bt cotton commercialized varieties in Malawi. Variety Performance trials were done by the Department of Agricultural Research Services (DARS).

Trials on other Bt crops are underway and there is a need to continue raising awareness to the farming community on safety and benefits of utilizing products from Bt crops. A one on one meeting with seed suppliers is very critical in adopting the technology and respond to the farmers’ needs. The country has all regulations in place and ready for any Bt developments for food, nutrition and income security of farmers.
FIGHT AGAINST DEADLY WORM GETS A BOOST FROM THE EUROPEAN COMMISSION
By Daniel Aghan, Communication Officer, AFSTA | daghan@afsta.org

The European Commission Directorate for International Cooperation and Development (DEVCO), has committed to strengthen the efforts of the International Centre of Insect Physiology and Ecology (ICIPE), in the management of the fall armyworm in Kenya, Ethiopia, Rwanda, Tanzania and Uganda.

Recently, DEVCO provided financial support to ICIPE for a Euro 7.0 million project, a figure that is inclusive of 20% contribution from the Centre’s core funds by the Swiss Agency for Development and Cooperation (SDC); Swedish International Development Cooperation Agency (Sida); UK Aid, from the government of the United Kingdom; the Ministry of Higher Education, Science and Technology, Kenya; and the Government of the Federal Democratic Republic of Ethiopia.

Since the pest was reported in Africa, ICIPE envisioned the development of a science-led, African-context specific sustainable integrated pest management package for the fall armyworm. In partnership with various stakeholders, the Centre has initiated a range of activities including capacity for early warning, rapid response and regional preparedness, and damage assessment across various ecologies.

ICIPE researchers have discovered effective indigenous parasitoids known as Cotesia ICIPE which has the potential to parasitise, thereby killing, over 60% of fall armyworms. ICIPE’s scientists have also identified entomopathogenic fungi and bacteria that are effective against the pest.

The initiative will enhance livelihoods, resilience and food and nutritional security of smallholder maize growers in eastern Africa through better preparedness and eco-friendly management of the fall armyworm specifically, and invasive species in general.

Photo of the Fall Armyworm (FAW) on a maize plant
**AGRICULTURE IN AFRICA ON THE RISE – RESEARCHER**

By Daniel Aghan, Communication Officer, AFSTA | daghan@afsta.org

Negative stereotype on agriculture and a gap between researchers and journalists has created a narrative of a dwindling agricultural sector in Africa.

According to NEPAD (New Partnership for Africa’s Development), in 2017, despite the continent having an increase in agriculture productivity in the past 30 years, there has been a misconception on the sector that all is not well with the biggest brunt being borne by small scale farmers.

“For the past three decades, agriculture in the continent has increased by 160 per cent, an increase that clearly exceeds the global production,” Dr. Jemimah Njuki, a researcher with IDRC said.

In a report released in May 2019 from the third African Science Journalists Conference held in Nairobi in December last year, the expert, who is a senior project specialist in Agriculture and Food Security for International Development Research of Canada (IDRC) based Nairobi, said that the main cause of the misconception of poor growth of agriculture is high government estimates of growth in the sector across the continent which is never reached. The report is published by the Media for Environment, Science, Health and Agriculture (MESHA).

“Every year governments have projected 6-8 per cent growth in agriculture, but actually the growth has been at 4-5 per cent which doesn’t meet the target estimates to make the belief or conclusion that it is dwindling,” Dr. Njuki noted.

“Researchers should simplify their language for the general consumers of information to understand the data available in agriculture,” Dr. Njuki said.

In 2014, African presidents adopted the Malabo Declaration, which among other raft measures committed each countries to allocate 10 per cent of her Gross Domestic Product to agriculture. This was to end hunger by 2025 by doubling productivity through inputs to reduce malnutrition which is the main cause of stunting in children.

“But slow growth of agriculture in the continent is the main failure by countries to commit to the declaration,” Dr. Njuki noted. The declaration showed that it is important to place strong emphasis on increasing production through subsidies to critical inputs like fertilizers.

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**INSIDE KENYA’S WEATHER FORECASTING PLATFORM**

By Daniel Aghan, Communication Officer, AFSTA | daghan@afsta.org

All that Kenyans, wherever are need to do to know about the weather in their location, or neighbourhood, is just to grab their phones and at the click of a button, get to see the current weather in their own locations or county alongside the weather condition, humidity, wind speed and direction hence make useful decisions on whether to travel, plant their seeds or just hold on.

The information, packaged by the Kenya Agricultural and Livestock Research Organisation (KALRO) is set to revolutionize how seed production and farming is done in the country.

Recognizing that proper planning using up to date climate information could minimize negative impact of climate change on people’s livelihoods and economy, the platform has a section on climate information. This, is hoped will provide accurate and decision-relevant climate information which is critical to plan and hence minimize negative impact of climate variability.

The Kenya Agricultural Observatory Platform as it is formally called, reveals that real-time and historical records of all relevant weather variables including short-term weather forecasts have been made available by KALRO. Besides, there is ready agronomic advisory which allows farmers access to the right information to monitor and predict the current situation and get them ahead of the game.

Another key information available at the site [http://kaop.co.ke](http://kaop.co.ke) include agricultural insights as the research institution’s systems provide actionable information and predictions that help farmers make better decisions.
The government of Burkina Faso is committed to promote use of certified and improved seeds, the country’s Speaker of the National Assembly and Minister for Agriculture and Hydro-Agricultural Development have said.

Addressing participants at the opening of the historic inaugural edition of the Promotional Days of Certified Agricultural Seeds (J-PROSAC), held from May 16 to 18, 2019, at the House of the People, in Ouagadougou, Speaker of the National Assembly, Alassane Bala Sakande noted that farmers must be sensitized to adopt use of certified improved seed and other inputs adding that the country’s future relied on agriculture.

“We must ensure that our people are aware of the impact of use of improved seeds and other modern inputs in improving yields,” he said.

On his part, the Minister of Agriculture and Hydro-Agricultural Development, Salifou Ouedraogo, who is also the President of the promotional event, welcomed the J-PROSAC initiative led by National Union of Cooperative Societies of Seed Producers of Burkina (UNPSB) and reiterated the Burkinabe government’s commitment to working for an adapted and reliable modern agriculture for all producers.

For the speaker, accepting to be the guest of honour was a strong signal to all producers in Burkina Faso of the government support to the sector.

“The future of Burkina Faso is in agriculture and livestock production, because they are inexhaustible resources unlike gold, oil or diamonds. And if we manage to combine our efforts, not only will Burkina Faso be self-sufficient, but it will also be able to export surplus,” he said during the opening session.

The objective of the meeting, organized by UNPSB, in collaboration with its partners was to contribute to the promotion and efficient use of certified improved seeds, by adopting a strategy involving and empowering different seed actors for food security in the country.

Under the theme: “Strategy and role of seed stakeholders for the promotion and efficient use of seeds for food security in Burkina Faso,” the gathering brought certified improved seeds to the users.

The three day event was marked by several activities which included panel discussion on the manual of procedures of seed quality control and certification, introduction of a manual of procedures for commercialization, import and export of improved seed varieties and an exhibition. Discussions on the place of seed in achieving food security dominated the event.

Deputy Chief of Mission in charge of International and Public Affairs of the Embassy of the Federal Republic of Germany in Burkina Faso, Nils Wortmann, reassured Burkinabe seed producers of his country’s commitment to support the actors in their quest to improve agricultural
productivity in the country. “This initiative represents one of the actions that the German cooperation is leading in the framework of the initiative, ‘A single world without hunger,’ by the German Ministry for Cooperation and Development,” he said.

According to the President of UNPSB, Inoussa Ouedraogo, the event raised awareness on improved seed varieties and also discussed challenges facing Burkinabe producers. One of the major difficulties facing producers, he observed, is the supply and planting of certified improved seeds. He called on all the actors intervening in the field to play their role to reverse this situation. “We advocate for a concerted action by all the actors, to keep the food deficit outside our borders,” said Inoussa.

Internally displaced persons (IDPs), linked to inter-community conflicts and victims of terrorist attacks, were not forgotten during the forum. This was demonstrated at the closing ceremony when the National Union of Seed Producers of Burkina donated more than USD3,400 to the Ministry in charge of Social and Humanitarian Action to support needs of the IDPs.