

Enabling Environment for Safeguarding and Commercializing Agricultural Innovations in Africa



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UPOV



Proceedings of
the AATF 2020
Webinar held on
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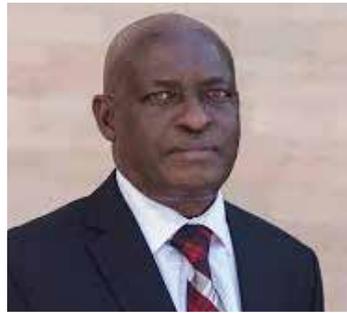
ACKNOWLEDGEMENT

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LIST OF ABBREVIATIONS

ACTESA	Alliance for Commodity in Eastern and Southern Africa
CBD	Convention on Biological Diversity
CFT	Confined Field Trails
CSOs	Civil society organisations
COMESA	Common Market for Eastern and Southern Africa
COMSHIP	COMESA Seed Harmonisation Implementation Plan
CPB	Cartagena Protocol for Biosafety
GM	Genetic Modification
MDAs	Ministries, Departments and Agencies
MS	Member State
NGOs	Non-governmental Organisations
NPT	National Performance Trial
PVP	Plant Variety Protection
RECs	Regional Economic Communities
SOPs	Standard Operating Procedures
UPOV	International Union for the Protection of New Varieties of Plants

SPEAKERS AND PANELISTS



Dr Denis T Kyetere,
Executive Director, AATF



Dr. Francis Nang'ayo,
*Senior Manager, Head of Policy
and Regulatory Affairs, AATF*



Dr. John Mukuka,
*Seed Expert at Alliance for
Commodity in Eastern and
Southern Africa (ACTESA)*



Mr. Benjamin Rivoire,
*Head of Seed Sector Cooperation
and Regional Development
(Africa, Arab Countries), the
International Union for the
Protection of New Varieties of
Plants (UPOV)*



Mr. Akile Sunday,
*Senior Programme Officer in-
charge of Legal and Policy on
Biosafety Issues, AUDA-NEPAD*

Chapter 1

PRELIMINARIES

1.1 Webinar overview

AATF held its third webinar for 2020 themed '**Enabling Environment for Safeguarding and Commercializing Agricultural Innovations in Africa**'. The Webinar converged renowned professionals in the agricultural sector to discuss key areas focusing on Intellectual Property Management and its role in sustaining investments in Agriculture; Regional Harmonization of Varietal Release and Registration for Commercialization; Biosafety Legislation for Regulating the Commercialization of Agricultural Innovations including Liability and Redress and finally, Safeguarding and Commercializing Agricultural Innovations in Africa. The event moderator was the AATF Executive Director, Dr Denis T Kyetere. A total of 62 people attended the webinar through the Zoom platform, and 61 views recorded on AATF Youtube. Audiences were drawn from the public and private sectors including seed companies, key agriculture sector players from research centers, Non-Governmental Organisations (NGOs), Civil Society Organisations (CSOs), academia, farmer groups, national research institutions and the media.

1.2 Objectives

The objectives of the webinar were to:

- (a) Explore the role of Plant Variety Protection (PVP) in sustaining investments in Agriculture
- (b) Determine the importance of regional harmonization of varietal release and registration for commercialization
- (c) Consider the Biosafety Legislation that regulate the commercialization of agricultural innovations
- (d) Define approaches of safeguarding and commercializing Agricultural innovations in Africa

1.3 Meeting design

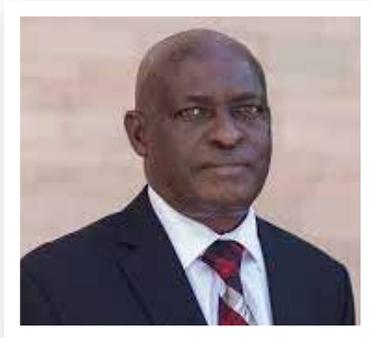
The meeting was a moderated panel discussion led by Dr Denis T Kyetere and included renowned African agricultural experts, carefully selected based on their areas of expertise as highlighted in Annex 1. The key topics discussed by the panel included:

- i. Plant Variety Protection (PVP) and its role in sustaining investments in Agriculture
- ii. Regional Harmonization of Varietal Release and Registration for Commercialization including regional PVP regulations
- iii. Biosafety Legislation for Regulating the Commercialization of Agricultural Innovations
- iv. Safeguarding and Commercializing Agricultural Innovations in Africa

Chapter 2

OPENING AND WELCOMING REMARKS

2.1 Dr Denis T Kyetere, Executive Director, AATF



In welcoming participants to the third AATF webinar, Dr Kyetere explained that the dialogue would focus on safeguarding agricultural innovations and securing an enabling policy environment to ensure continued prosperity for Africa's agricultural sector.

He noted that Africa is on a pathway towards intensified agricultural transformation with the number of commercially oriented-farmers and agro-enterprises growing by the day. This transformation, he said, has been accompanied by a growing number of agricultural technologies that researchers and their partners have developed through various research efforts.

Dr Kyetere observed that the adoption and deployment of agricultural technologies, however, needs to be facilitated through a conducive enabling policy and regulatory environment. Further, he emphasized that robust mechanisms for intellectual property protection are necessary to ensure continuity and sustainability of innovations in Africa.

He called upon African governments to establish a supportive policy and regulatory environment and public participation to stimulate innovation and technology uptake, noting that agribusiness is critical in transforming the livelihoods of smallholder farmers in Africa.

Chapter 3

KEY SPEAKER PRESENTATIONS

3.1 Plant Variety Protection (PVP) and its role in sustaining investments in Agriculture: **Mr. Benjamin Rivoire**, Head of Seed Sector Cooperation and Regional Development (Africa, Arab Countries) UPOV



Mr. Rivoire noted that PVP can facilitate agricultural transformation and enhancing product development and commercialization of new plant varieties which in turn will help improve income and livelihoods for farmers.

He highlighted some of the most important elements/critical components of a sound PVP strategy. These include good understanding of PVP principle at the level of policy makers; robust seed sector to produce and diffuse good quality seeds to farmers; system to encourage all types of breeders encompassing public-private, small-large, local-international; and endorsement of farmers to get access to innovation (new varieties and the knowledge that comes with high quality seeds/ plants and new varieties)

Mr. Rivoire further noted that breeding new plant varieties for improved yield, efficient use of nutrients, resistance to plant pests and diseases, water efficiency, salt and drought tolerance and better adaptation to climatic stress can sustainably increase productivity in agriculture.

He added that developing agricultural innovations like new crop varieties through breeding is a long process, and that sustained agricultural innovations are only worthwhile when there is a pathway to recoup the investment made. The benefits of PVP are heightened when they are complemented by a conducive environment, supported by science-based policies, legislations and regulatory instruments on agricultural innovations.

Mr. Rivoire explained that UPOV system of PVP provides an effective incentive for plant breeding and has resulted in the development of new and improved varieties to the benefit for farmers, growers and consumers. UPOV promotes an effective system of plant variety protection with the aim of encouraging the development of new varieties of plants for the benefit of farmers.

3.2 Regional Harmonization of Varietal Release and Registration for Commercialization including regional PVP regulations: **Dr. John Mukuka**, Seed Expert at ACTESA



Dr. Mukuka observed that for the African agriculture sector to continue thriving, harmonization in commercializing innovative agricultural technologies is critical to ensure technologies developed are of high, known quality and movement across borders are efficient. Further, this will stimulate innovations and breeding of improved seed and crop technology for agricultural transformation on the continent.

He said Pan-African bodies like Common Market for Eastern and Southern Africa (COMESA) and ACTESA are uniquely placed to facilitate cross border movement of inputs and agricultural produce since most technologies can be used within regions sharing similar agro-ecological conditions, which in most cases may cross several countries. However, in the absence of regional regulations, it takes too long to release one technology in several countries. Further, regional bodies are best placed to establish and facilitate the implementation of regionally harmonized regulations, that can help to hasten the process of plant variety testing, release and registration. This will avail technologies to a wider number of farmers across several countries within a reasonably short period. Lastly, Pan-African bodies like COMESA can help to establish regulations that help to eliminate Tariff and Non-Tariff Barriers that would otherwise hinder the cross-border movement of agro-inputs and agricultural produce across all Member States.

Dr. Mukuka observed that challenges that hinder widespread harmonization of regulations across the African regions include fragmented national seed markets with remaining COMESA Member States (MS) operating on their own seed policies and regulations different from other COMESA MS; prolonged delays before seed of good quality can find its way to the small-scale farmers; lack of trust between COMESA MS, regulators and traders; and finally, lack of Standard Operating Procedures (SOPs) of harmonised certification, variety release and phytosanitary standards.

He noted that eight COMESA Member States of Burundi, Egypt, Malawi, Rwanda, Kenya, Uganda, Zambia and Zimbabwe have completely aligned their national seed laws to the COMESA Seed System; 270 experts (23% female) were trained from 13 COMESA Member States (MS), namely Burundi, Djibouti, D.R Congo, Egypt, Ethiopia, Kenya, Madagascar, Malawi, Rwanda, Swaziland, Uganda, Zambia and Zimbabwe and this shall be extended to other MS; while the online COMESA Variety catalogue is operational.

3.3 Biosafety Legislation for Regulating the Commercialization of Agricultural Innovations: **Mr. Akile Sunday**, Senior Programme Officer in-charge of Legal and Policy on Biosafety Issues, AUDA-NEPAD



Mr. Akile observed that the inability of many African countries to domesticate the Convention on Biological Diversity (CBD) has hindered the effective deployment of new and emerging technologies to support agricultural development on the continent. Although most countries in Sub-Saharan Africa endorsed the Cartagena protocol and its subsidiaries (Nagoya Protocol on Access and Benefit-sharing), they have failed to establish national laws to replicate the protocol and pave way for the practice of modern biotechnology in their jurisdiction. He said the CBD has been ratified by almost all members of the global community, with over 89 per cent of African countries have either ratified the Cartagena Protocol or acceded to it. Parties are obligated to domesticate the same in their countries by formulating local laws for implementation of obligations under the Cartagena Protocol for Biosafety (CPB).

He pointed out that most countries are lagging in creating national laws and policies to domesticate the global convention thereby denying the deployment of agricultural biotechnology that has the potential of improving African agriculture, which is the continent's backbone. Mr. Akile regretted that despite the potential that agricultural biotechnology tools such as genetic modification (GM) brings, most countries have "continued to look at strict liability requirement for different reasons. This is greatly influenced by anti-GM activists and it discourages investors."

He urged countries that do not have biosafety laws in place to do so as a matter of urgency, stressing that "they must rely on science to develop their legislation, be very mindful of the text and language that can create hurdles for the implementation of such laws."

He added that Nations with strict liability regimes have been less attractive to prospective commercial investors in the deployment of biotech materials on the continent, citing the instance where countries included under socio-economic consideration issues of culture and tradition, this according to him, will be very difficult to deal with in a court of law. He said African governments need to formulate policies and laws that will allow for the full exploitation of the potential of the technology in the agriculture sector. Regulations put in place should not aim at stifling innovation as Africa can best transform its social economic wellbeing through innovations. He noted that agriculture remained

a strategic platform on which the continent can launch its development, hence the desire to make it attractive to the younger generation with the deployment of affordable and sustainable technologies.

3.4 Safeguarding and Commercializing Agricultural Innovations in Africa: **Dr. Francis Nang'ayo**, Senior Manager, Head of Policy and Regulatory Affairs, AATF



Dr. Nang'ayo noted that AATF has partnered with Regional Economic Communities (RECs), Government Ministries, Departments and Agencies (MDAs) and other stakeholders to support the process of establishing an enabling environment for efficient technology transfer and adoption. This has been done through identification and validation of policy gaps, prioritization of policy actions and establishment of regulations, guidelines and or Standard Operating Procedures (SOPs) to eliminate policy related bottlenecks.

He said AATF builds commercialisation considerations into its projects from scouting and licencing of technologies, product access to development and use by farmers and help build a stronger ecosystem of capable retail partners who can ensure that technological innovations are widely distributed.

Dr Nang'ayo urged African governments and RECs to create a conducive environment including policies, legislations, institutional arrangement and best practices for sustainable commercialization of agricultural innovations as a prerequisite to unleash the sector's potential to boost growth, nutrition security and reduce poverty in Africa.

He explained that AATF experience in creating an enabling environment for adoption of agricultural innovations involves assessments and advocacy for desirable policy reforms, supporting efforts towards institutional and capacity enhancement and product stewardship, noting that AATF has mainstreamed stewardship in all projects focusing on quality control/quality assurance consideration and IRM Plans (refugia; gene pyramiding). Stewardship product life cycle, he explained, is responsible and ethical management of a product from its inception through to its ultimate use and discontinuation.

He observed that AATF's policy engagement and advocacy activities have resulted to a comprehensive Seed Policy adoption in Uganda in 2018; passage of Seed Decrees in DRC; passage of PVP Law in Malawi, passage of Seed Law in Liberia and development of National Seed Catalogues in DRC

Dr. Nang'ayo emphasized the need for a conducive environment including policy, legislation, institutional arrangement and best practices as a critical path towards sustainable commercialization of agricultural innovations.



Chapter 4

QUESTION AND ANSWER A SESSION WITH THE PANELISTS

Q: What has been the experience so far in terms of getting buy-in from private seed companies in release and registration of their varieties in Kenya, what are some of the challenges in sustaining the varieties in the catalogue:

Dr. Mukuka explained so far COMESA has more than three companies including Kenya Seed Company, Advanta Seed and the East African Seed Company that have registered their varieties in the COMESA catalogue. He noted that in the course of 2021, COMESA will support the companies to use the system so that their varieties can move across COMESA MS.

Q: What does it take for a country to become a member of UPOV?

This is an important question. In order for a country or a regional organisation to become a member of UPOV, because so far there are 76 members and two of them are regional organisations, the first step is to develop a legislation for PVP in line with the latest Act of UPOV Convention, then the legislation will be checked by the UPOV Council of the country and if the legislation is enforced in the country, they become a member of UPOV. It is an interesting way to harmonise systems so that collaboration between members can be done in effective way

Q: What is the timeline for streaming varieties like Irish potato that is now being commercialised across East Africa?

The procedure is the same as other crops. COMESA has 12 crops that are being harmonised and Irish potato is one of them and the procedure is simple. A confirmation is needed that the Irish potato has been released in at least two COMESA states and that National Performance Trial (NPT) or DUS data be submitted to COMESA. Registering the Irish potato in the COMESA catalogue

is the same as other varieties. So far, there are varieties such as maize, beans, Irish potato and soybean in the catalogue and COMESA is looking forward to more seeds crops in the catalogue.



Chapter 5

CONCLUSION

Africa faces enormous food challenges. New and, improved varieties of plants are thus an important and sustainable means of achieving food security amidst increasing population growth and climate change in Africa. When new varieties are adapted to the environment in which they are grown, the agricultural crops can generate income for farmers and improve their livelihoods.

Breeding new plant varieties for improved yield, efficient use of nutrients, resistance to plant pests and diseases, water efficiency, salt and drought tolerance and better adaptation to climatic stress can sustainably increase productivity in agriculture.

Understandably, developing agricultural innovations like new crop varieties through breeding is a long process. Sustained agricultural innovations are only worthwhile when there is a pathway to recoup the investment made. More often, commercialization of these agricultural innovations especially biotechnology, is delayed due to prohibitive biosafety legislations and restrictive policies in some countries in Sub-Saharan Africa.

For breeders to continuously produce better varieties to ensure higher yield gain by smallholder farmers, an enabling policy and regulatory environment is key in supporting commercialization of improved varieties, and generally to support the breeding programmes of a country.

A supportive policy and regulatory environment and public participation will stimulate innovation and technology uptake to boost agribusiness which is critical in transforming the livelihoods of smallholder farmers. PVP can facilitate agricultural transformation and commercialization of new plant varieties which in turn will help improve income and livelihoods for farmers.

UPOV system of PVP provides an effective incentive for plant breeding and has resulted in the development of new and improved varieties to the benefit for farmers, growers and consumers. UPOV promotes an effective system of plant variety protection with the aim of encouraging the development of new varieties of plants for the benefit of farmers. The benefits of PVP are heightened when they are complemented by a conducive environment, supported by science-based policies, legislations and regulatory instruments on agricultural innovations.

Traditionally, most of the breeding in Africa was the preserve of the National Agriculture Research System but since the implementation of the PVP system in most African countries, there has been increased breeding from local companies, universities and other scientists.

To improve the future of agricultural transformation for sustainable commercialization, it would be helpful if African governments and regional economic communities ensure comprehensive regulatory instruments are in place. This will help unleash the sector's potential to boost growth, nutrition security and reduce poverty in Africa.

Africa is characterised by a mosaic of national policy positions on GM technology, ranging from those that can be considered to be facilitative to those that are more pre-cautionary and even those that are prohibitive to the adoption of agricultural innovations like GM crops.

African countries, as Parties to the Cartagena Protocol on Biosafety, are obligated to take legislative measures to ensure safety of GM crops. Rather than borrowing from countries that are experienced in implementing such legislative instruments, most African countries opt to promulgate new Legislation which is a time-consuming process that is often characterised by side shows, such as political in-fighting and actions from numerous interest groups. These side shows have often resulted in delays in adopting the law(s), thereby preventing the timely commercialisation of agricultural innovations.

There lies great opportunity in promoting policy harmonization across regions to ensure developed technologies are of high quality and movement across borders is efficient. Harmonizing commercialization requirements across regions for both conventionally and genetically bred varieties will expand market options and promote peer learning. This will stimulate innovations and breeding of improved seed and crop technology for agricultural transformation on the continent.

With the number of commercially oriented-farmers and agro-enterprises growing by the day, Africa is on a steady pathway towards intensified agricultural transformation. This transformation has been accompanied by a growing number of agricultural technologies that researchers and their partners have developed over time.

While the policy environment helps to facilitate several aspects of agricultural innovations and commercialization such as adoption of productivity enhancing technologies, agro-processing and other aspects of value addition, robust mechanisms for intellectual protection ensure continuity and sustainability of those innovations.

It is, therefore, critical to provide an effective system of plant variety protection which encourages the development of new varieties of plants with assurance of benefiting the breeder and society at large. This calls for measures to safeguard agricultural innovations.

Chapter 6

APPENDICES

6.1 Panelists' Profiles

Mr. Denis T. Kyetere, Executive Director, AATF



Denis T. Kyetere has been the Executive Director of the African Agricultural Technology Foundation (AATF) since 2012. Before joining the AATF, he was the Director General of Uganda's National Agricultural Research Organization (NARO). Denis holds a PhD from The Ohio State University, a MSc from the University of Wales, Aberystwyth College - all in Genetics and Plant Breeding - and a BSc (Hons) in Botany and Zoology from Makerere University, Uganda. Denis holds several honors, among which is the 2008 Recipient, International Alumni Award from the College of Food, Agricultural and Environmental Sciences, OSU, Ohio, USA. He has published widely in peer-reviewed scientific journals, mainly in genetics and plant breeding.

Mr. Benjamin Rivoire, Head of Seed Sector Cooperation and Regional Development (Africa, Arab Countries) UPOV



Mr. Rivoire is the Head of Seed Sector Cooperation and Regional Development (Africa, Arab Countries) at UPOV. He is a seasoned agronomist with over 20 years' experience, having started his career in the fruit production sector in Spain and Africa in the vegetable breeding industry. Ben has worked with key organisations such as Sygenta and SOGETA, and at UPOV, he focuses on contributing to the delivery of UPOV's program of assistance in Africa and the Middle East while being in charge of the Cooperation with the Seed sector.

Dr. John Mukuka, Seed Expert at Alliance for Commodity in Eastern and Southern Africa (ACTESA)



Dr. Mukuka is a Seed Development Specialist at ACTESA where he has served over the last decade. John been instrumental in the development and implementation of the COMESA Seed Trade Harmonisation Regulations between 2010 and 2020 in line with the COMESA Seed Harmonisation Implementation Plan (COMSHIP).

He is currently head of the Alliance for Commodity Trade in Eastern and Southern Africa (ACTESA), a Specialized Agency of COMESA in agricultural production and trade and has been working in the revival of the COMESA

Biotechnology Implementation Plan (COMBIP) since June, 2020 whose overall goal is to implement the COMESA Regional Biotechnology and Biosafety Policy leading to increased investment in biotechnology applications and agricultural commodity trade in the region.

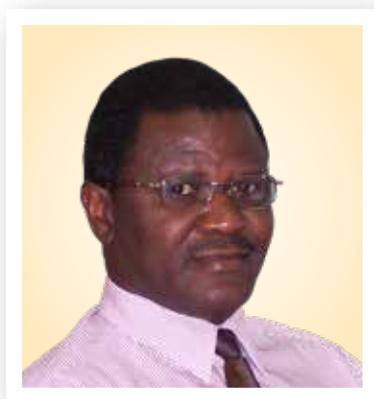
Mr. Akile Sunday, Senior Programme Officer in-charge of Legal and Policy on Biosafety Issues, AUDA-NEPAD



Mr Akile is the Programme Officer for Legal/Policy on Biosafety Issues. He is a seasoned legal practitioner with several successful court cases to his name in Uganda. Before joining ABNE, he was a member of Uganda's National Biosafety Committee for 5 years sitting on the committee as a legal expert. His contribution to the National Biosafety Committee was immense. This Committee is known to have handled several Confined Field Trails (CFT) applications making Uganda the leading country in Sub-Saharan Africa to have conducted the highest number of CFTs in Agricultural Biotechnology. Sunday has earned

a bachelor's degree in Laws from Makerere University, Uganda and a Post Graduate Diploma in Legal Practice of his country. He has also earned numerous awards in Biosafety regulatory trainings both from his country and abroad. He is very knowledgeable in the legal and policy aspects of Biosafety regulation.

Dr. Francis Nang'ayo, Senior Manager, Head of Policy and Regulatory Affairs, AATF



Dr. Nang'ayo, an Applied Ecologist and leading expert on biosafety and regulatory affairs, holds a B.Sc. (Hons) degree in Biological Sciences (University of Nairobi, Kenya), an M.Sc. degree in Environmental Biology (University of Guelph, Canada) and a Ph.D. degree in Applied Ecology (Imperial College, University of London). Additionally, he holds a postgraduate diploma in Crop Protection from Imperial College, London. His career as a scientist begun at the Kenya Agricultural and Livestock Research Organisation (KALRO) where he worked for close to 20 years rising through the ranks of Research Officer, Senior Research Officer, Principal Research Officer and Deputy Director of the Biotechnology Research Centre in Nairobi. He was later appointed General Manager in charge of Phytosanitary Services, Biosafety, and Quarantine Affairs at the Kenya Plant Health Inspectorate Service (KEPHIS) before progressing to his current appointment at AATF of Senior Manager and Head of Regulatory Affairs in 2005.

He is responsible for securing regulatory approval authorisations for testing and deployment of agricultural technologies including ensuring compliance with regulatory requirements of target countries for AATF projects. Francis is a member of many professional societies including the Entomological Society of Kenya (ESK); the African Crop Science Society, the African Association of Insect Scientists (AAIS), the Public Research and Regulation Forum, the African Biotechnology Stakeholders Forum (ABSF) and the Common Market for Eastern and Southern Africa (COMESA) Expert Panel on Biotechnology and Biosafety, to name a few. Previously, Francis served as Member of the Kenya Standing Technical Committee on Imports and Exports (KSTCIE), the National Biosafety Committee (NBC) of Kenya, Institutional Biosafety Committee of KALRO and the Executive Committee of the Inter-African Phytosanitary Council of the African Union (IAPSAC).

Francis has authored many publications. He has participated as a panelist on many TV talk shows on the safe utilisation of modern biotechnology and delivered several presentations on the same topic including Keynote addresses at professional, university and industry meetings at international and regional levels.





HEADQUARTERS

ILRI Complex, Naivasha Rd, Nairobi
P.O. Box 30709 - 00100, Nairobi, Kenya
Tel: +254 (0)20 422 3700

 aatf@aatf-africa.org

 www.aatf-africa.org

 [aatfafrica](https://www.facebook.com/aatfafrica)

 [@aatfafrica](https://twitter.com/aatfafrica)