



High-Level Conference on Transforming Smallholder Farming in Africa Through Innovative Agricultural Technologies

Kigali Conventional Centre,
29th October 2019

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Nairobi, Kenya

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List of Abbreviations

AfDB	African Development Bank
BRD	Development Bank of Rwanda
CAADP	Comprehensive African Agricultural Development Program
CAVM	College of Agriculture and Veterinary Medicine
DFID	Department for International Development
EAC	East African Community
ECOWAS	Economic Community of West African States
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FARA	Forum for Agricultural Research in Africa
GDP	Gross Domestic Product
IFAD	International Fund for Agricultural Development
JICA	Japan International Cooperation Agency
MINAGRI	Ministry of Agriculture and Animal Resources
NGOs	Non-Governmental Organisations
NSAR	National Seed Association Rwanda
PPP	Public Private Partnerships
PSTA	Strategic Plan for Agricultural Transformation
RAB	Rwanda Agriculture and Animal Resources Development Board
RICA	Rwanda Institute for Conservation Agriculture
SADEC	Southern African Development Community
SHF	Smallholder Farmer
SME	Small and Medium Enterprises
UR	University of Rwanda
USAID	United States Agency for International Development (USAID)

“...as resources become more constrained, the more precise we are in knowing what to do, when to do it and exactly how much of a given implement is needed, the more we get out of our pockets, contracted labor and the land...”

– Dr Ousmane Badiane –

List of Speakers



**Mr. Jean Claude
MUSABYIMANA -**
Permanent Secretary,
(MINAGRI)



Dr. Ousmane BADIANE
AATF Board Chair



Dr. Patrick KARANGWA
Director General, RAB



Dr. Denis KYETERE
Executive Director AATF



**Mr. Innocent
NAMUHORANYE**
Chairman of National Seed
Association Rwanda



Dr. Charles BUCAGU
Deputy Director General RAB



Dr. Deepak DAS
HOD University of Rwanda



Dr. Sanni KAYODE
Rice Project Manager AATF



Dr. Placide RUKUNDO
Senior Scientist (RAB)



Mr. Richard FERGURSON
Vice Chancellor (RICA)



Mr. Eric N. BUKEYE,
Ag Senior Manager for
Agriculture Financing (DBR)

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Preliminaries

1.1 Meeting Overview

The Ministry of Agriculture and Animal Resources (MINAGRI) of the Republic of Rwanda through the Rwanda Agriculture and Animal Resources Development Board (RAB), AATF, and partners held a high-level roundtable meeting on transforming smallholder farming in Africa through innovative agricultural technologies on 29 October 2019, at Kigali Conventional Centre (KCC) in Kigali, Rwanda.

The meeting attracted more than 80 participants from government ministries, higher learning institutions, development partners such as the US Agency for International Development (USAID), World Bank, the Food and Agriculture Organization of the United Nations (FAO), Department for International Development (DFID), Japan International Cooperation Agency (JICA), European Union (EU), International Fund for Agriculture Development (IFAD), the African Development Bank (AfDB), private sector actors such as financial institutions and seed companies, key agriculture sector players drawn from research centers, non-government organisations (NGOs) and youth organisations. The assembly sought to:

- a) showcase the current and potential impact of application of innovative agricultural technologies by smallholder farmers for improving agricultural productivity, value-addition, and poverty reduction;
- b) examine challenges and opportunities for development and uptake of innovative technologies by smallholder farmers; and
- c) build consensus amongst key players in agriculture and agribusiness from public and private sectors in Rwanda, including policy makers, government institutions, researchers, academia, youth organisations, and investors in the sector on how to support uptake and use of innovative technologies by smallholders to spur economic growth, create jobs and enhance food and nutrition security.

1.2 Meeting Design

The meeting was a moderated panel discussion led by the Chair of the AATF Board of Trustees, Dr Ousmane Badiane. Panelists were selected based on their areas of expertise.

- (i) **Mechanisation and opportunities for smallholder farmers** – Dr Deepak Das, Head of Agricultural Mechanisation Department & Coordinator of Post Graduate Studies Program, College of Agriculture and Veterinary Medicine (CAVM)/University of Rwanda (UR)
- (ii) **Seed systems and reliability, sustainability, and profitability** – Mr Innocent Namuhoranye, Chairman of National Seed Association Rwanda (NSAR)
- (iii) **Hybrid technology for increased crop yields** – Dr Kayode Sanni, Rice Project Manager, AATF
- (iv) **Biotechnology and opportunities for agriculture transformation** – Dr Placide Rukundo, Senior Scientist and Roots and Tubers Program Leader, RAB

- (v) **Research and technology transfer** _ Dr. Charles BUCAGU, Deputy Director General in charge of Agriculture Research & Technology Transfer, RAB
- (vi) **Precision agriculture** - Dr Richard B. Fergusson, Vice Chancellor, Rwanda Institute for Conservation Agriculture (RICA)
- (vii) **Agricultural investment opportunities for agriculture** - Mr Eric N. Bukeye, Acting Senior Manager for Agriculture Financing, Development Bank of Rwanda (BRD)

Welcome Remarks

2.1 AATF Board Chairperson, Dr Ousmane Badiane

In his opening remarks, Dr Badiane thanked the attendees for participating and RAB for hosting the event. He highlighted the importance of technology as a driver of human progress and the role Africa must play in ensuring it is well positioned to meet the technology needs of the future.

2.2 Permanent Secretary, Ministry of Agriculture and Animal Resources (MINAGRI), Mr Jean Claude Musabyimana

Mr Musabyimana, who officiated the opening of the roundtable meeting, welcomed the participants to Rwanda and to the meeting and thanked AATF for selecting Kigali as the venue of its 2019 Board of Trustees meeting. He highlighted the importance of agriculture to Rwanda's economy, contributing about a third of the country's GDP and more than 54 percent of export earnings. He further noted that the sector employed close to 70 percent of Rwanda's working population and had so far contributed more than 35 percent of the decline in poverty levels over the past decade in the country.

The PS also noted the significant progress Rwanda has made in implementing the Comprehensive Africa Agriculture Development Programme (CAADP), gaining global recognition as one of the best performing countries in implementing the CAADP in Africa. He discussed the country's efforts in developing strategic documents including the 2018 National Agricultural Policy and the Strategic Plan for Agricultural Transformation (PSTA4) that suggest leveraging on agriculture for increased productivity of small scale and traditional farmers and adopting a private sector led agriculture sector.



Figure 1. Rwanda traditional dancers during the opening ceremony of the high-level conference

Notwithstanding, the PS noted key challenges that continue to plague agriculture in Rwanda such as land scarcity and fragmentation due to population pressure, increased urbanisation, yield gaps, climatic change that have a direct impact on production besides malnutrition and early childhood stunting. He emphasised the need for global and regional synergies to boost innovation and adoption of technological innovations to ensure sustainable economic growth for Rwanda and Africa as a whole.

He noted the importance of the roundtable as a platform for elaboration of concrete actions that would be necessary to drive **agricultural production as well as the social and economic development of Sub-Saharan African farmers. Specially important are** initiatives that enable smallholder farmers (focusing on women and youth) to take advantage of appropriate and affordable agricultural technologies; sustainable seed systems that not only convey assurance for quality and productivity increase, but also attract private sector engagement; and enhanced finance for agriculture to leverage efforts of the private sector (through PPPs and SMEs) in research and development, production, value addition, and marketing.

2.3 RAB Director General, Dr Patrick Karangwa

Dr Karangwa welcomed the participants to the event and thanked AATF for identifying RAB as a key co-organising partner for the event. He emphasised the importance of innovation as an enabler for propelling transformational growth in the continent's economy in the onset of changing climatic conditions and increased pestilence. He called for more partnerships amongst actors engaged in science and technology at national, regional, continental and international levels with the aim of increasing agricultural productivity and moving African agriculture from subsistence based to market oriented.

He further noted the importance of consideration of research and innovation in providing solutions to farming constraints in Africa that extend beyond climate change and pestilence to land degradation, soil fertility management, pastureland management and adopting irrigation and general good agricultural practices. He emphasised the need for joint action and synergies amongst academia, research centers, development partners, seed companies and multipliers and financial institutions to help transition research products into tangible solutions that will transform agriculture in Africa.

2.4 AATF Executive Director, Dr Denis Kyetere

As a co-host of the event, Dr Kyetere welcomed the participants to the meeting. He highlighted AATF's mandate of promoting prosperity for African farmers through technology adoption that is tiered into five thematic areas including productivity and stress management, mechanisation and digital agriculture, nutrition and postharvest management, market systems for commercialisation, and policy environment and public participation. He further discussed AATF's unique engagement approach in partner countries with the adoption of Public Private Partnership frameworks that promote tailor-made and country led solutions that draw from a diverse array of technological solutions most of which are negotiated through AATF's robust intellectual property expertise. The Executive Director discussed the institution's investment selection as intentional for products that have the greatest bearing on a country's agricultural landscape for maximum reach and impact. He encouraged African governments to embrace partnerships as an enabler for transformative agriculture that will help propel Africa towards achievement of the Comprehensive Africa Agriculture Development Programme (CAADP) targets.

Panel Discussions

Seven panellists provided insights on selected themes at the moderator's invitation and responded to questions raised by the attendees.



Figure 2. Panelists during the high-level conference

3.1 Mechanisation and opportunities for smallholder farmers

As the Head of Agricultural Mechanisation Department and Coordinator of Post Graduate Studies Program, College of Agriculture and Veterinary Medicine at the University of Rwanda (UR), Dr Deepak Das, discussed the university's contribution to Rwanda's mechanisation strategy that targets to have 32,000ha of land mechanised by the end of 2020. Specifically, he noted that about 26 innovative agricultural machineries had been developed by final year students as prototype low cost solutions targeting smallholder farmers for which the students gained considerable recognition from the Forum for Agricultural Research in Africa (FARA). The university adopts three strategies to ensure market adoption: i) tailor-making the prototypes to suit local conditions; ii) applying a progressive strategy that aims at upgrading the technologies through the support of government and partners; and iii) expanding the reach to agribusiness societies and financial institutions. He however observed that developers of locally adapted machineries grapple with limited access to affordable financing to facilitate out scaling and noted opportunities for government support through subsidies and relevant refunds for production factors.

“...developers of locally adapted machineries grapple with limited access to affordable financing to facilitate out scaling...”

– Dr Deepak DAS –

3.2 Seed systems and reliability, sustainability and profitability

Mr Innocent Namuhoranye, the Chairman of the National Seed Association of Rwanda (NSAR), shared his views on the barriers faced by farmers in accessing quality local seed to reduce dependence on imports. He noted the disjointed view of different components of Rwanda's seed systems rather than its consideration as a complete whole allowing structured strengthening. Additionally, he emphasised



Figure 3. Participant listening intently to the panel discussions

the importance of embracing a strong seed certification system including separating the certifier and implementer roles for quality control. He noted that safeguarding the profitability of the seed business and guaranteed harvests by farmers relies heavily on the adoption of a seed certification protocol that would assure quality seed production to the ultimate benefit of seed companies, multipliers and farmers. Ongoing capacity enhancement on seed system strengthening would be required to promote iteration and continuous improvement.

“...safeguarding the profitability of the seed business and guaranteed harvests by farmers relies heavily on the adoption of a seed certification protocol...”

– Mr Innocent NAMUHORANYE

3.3 Hybrid technology for increased crop yields

As a seasoned rice breeder, Dr Kayode Sanni, Rice Project Manager, AATF, has adopted hybrid technologies and sees it as an enabler to addressing various bottlenecks plaguing most seed systems in Africa. He noted that Africa has realised increased production over the years through increased acreage rather than optimum productivity per hectare which is both expensive and unsustainable. His experience has found that hybrid technologies help to leverage the investments of private sector in seed production by streamlining seed quality. He cautioned that the success of hybrid technologies is hinged on stewardship that should be inbuilt in the seed system value chain as a factor of quality control. He observed the need to set up mechanisms to continuously strengthen the capacity of seed companies to sustain stewardship requirements.

Dr Sanni discussed the role of hybrid technologies in agribusiness, noting it as one of the main contributors to successful agribusiness for both seed companies and farmers with regard to yield advantage that has been recorded at up to 100% for hybrid rice. He noted the specific investment areas that would be required to sustain the realised gains including strengthening the capacity of regulators on policies related to seed certification. He also stated that regional harmonisation efforts within the Economic Community of West African States (ECOWAS), the Southern African Development Community (SADEC) and the East African Community (EAC) can be enhanced

“...hybrid technologies are one of the main contributors to successful, Agribusiness...”

– Dr Sanni KAYODE –

through the development of standard operating procedures to help seed companies with clarity on the minimum seed certification requirements in various countries to promote compliance and intercountry seed movement. Dr Sanni referred to ongoing regional harmonisation efforts by AATF through its policy related interventions.

3.4 Biotechnology and opportunities for agriculture transformation



Figure 4. The plenary session during the conference

As Rwanda works on its biosafety bill, Dr Placide Rukundo, Senior Scientist and Roots and Tubers Program Leader who has been leading biotech research in the roots and tubers value chains in RAB, highlighted the various benefits he believed Rwanda could draw from biotech adoption. Besides sustaining high agricultural production and helping to control pests and diseases, he noted opportunities in artificial insemination in animals and reduction in post-harvest losses. He confirmed Rwanda Government's commitment to biotech as reflected in Rwanda's Strategic Plan for Agriculture Transformation (PSTA) phase 4. He however highlighted the need for strengthened partner collaborations to promote continuous awareness creation and cross learning. Whilst noting the limitations in the country's legal framework to handle genetically modified crops, he emphasised the need to fast-track development of a coherent policy on GMO handling to ensure protection of intellectual property and safe handling and use of biotech products. He recommended the use of participatory approaches in biotech research for awareness raising purposes and to increase adoption.

“...adoption of a participatory approach to biotech research will help increase awareness and promote adoption of biotech products...”

– Dr Placide RUKUNDO –

3.5 Precision agriculture

Dr Richard B. Fergusson, Vice Chancellor, Rwanda Institute for Conservation Agriculture (RICA), shared the critical role precision agriculture plays in promoting strategic production efforts. As a practice, he noted that precision agriculture increases farmers' understanding of their land resource, the productive and less productive areas, the yield potential and profitability therein allowing targeted corrective action where challenges are noted.

“...we can make farmers more efficient and productive through the use of precision agriculture...”

– Dr. Richard B. FERGUSSON –

“...as resources become more constrained, the more precise we are in knowing what to do, when to do it and exactly how much of a given implement is needed, the more we get out of our pockets, contracted labor and the land...”

– Dr Ousmane BADIANE –

3.6 Research and technology transfer

As the lead for agriculture and technology transfer at RAB, Dr Charles Bucagu, Deputy Director General in charge of Agriculture Research and Technology Transfer, emphasised the need for increased private sector and stakeholder action in ensuring farmers in Rwanda have access to novel technology solutions. Within the seed systems, he noted the investments made by private sector actors in support of the government agenda, most notably in seed multiplication and post-harvest management, to salvage farmers' produce whose loss in the cereals value chain ranges at about 15%-30% of production. He further highlighted opportunities for the private sector in seed production, processing, packaging and distribution that would effectively release government to focus on capacity building, setting up the relevant regulatory frameworks and an overall enabling environment to facilitate a thriving seed sector. As government puts measures in place to encourage increased privatisation in different value chains, he emphasised the importance of the private sector having the requisite capacity and knowledge to handle selected components fully whilst also allocating funding to boost research to address evolving farming constraints. Multidisciplinary action and partnership were noted as critical in ensuring a thriving agriculture sector.

“...increased private sector action will release government to focus on its key mandate of enhancing capacity and creating an enabling environment for a thriving Agriculture sector...”

– Dr Charles BUCAGU –

3.7 Agricultural investment opportunities for agriculture

Mr Eric Bukeye, Ag. Senior Manager for Agriculture Financing, Development Bank of Rwanda (BRD), elaborated the role of financing institutions in supporting government agenda through input financing for private sector to undertake seed multiplication, fertiliser blending, mechanisation, and commercialisation, among others. Through blended financing options to private sector by way of grants, capacity building opportunities and credit options, Mr Bukeye noted an increased need for funding institutions to provide more holistic support to enable private sector to execute their role in the agricultural sector fully.



Figure 5. Active participant engagement during panel discussions

Plenary Engagement

The following questions were raised during the panel presentation and discussion.

Thematic Focus	Questions	Responses
Private Sector	<ul style="list-style-type: none"> What are the possible roles of private sector in service delivery and broader research activities? 	<ul style="list-style-type: none"> Research institutions such as RAB and academia are best placed to conduct select research activities given their mandate and infrastructural capacity. Private sector can position itself to research on and help provide solution to new emerging challenges.
	<ul style="list-style-type: none"> What are some of the practical ways government can encourage private sector engagement? What incentives are needed to encourage private sector action? 	<ul style="list-style-type: none"> Private sector needs to enhance its capacity before it can be engaged to address components in the agriculture sector that are currently being handled by government. There are however roles that are better played by the government such as developing breeder, foundation and early generation seeds, that require infrastructural investments that may be very costly for private sector. A transition period would need to be defined as government repositions itself to support the sector differently. Private sector would however need to be given maximum access to government processes with a gradual transfer of responsibilities during the transition phase.
	<ul style="list-style-type: none"> What plans does RAB have to encourage seed companies to produce seeds locally amidst the existing farming constraints such as low yields, post-harvest losses and limited knowledge in the seed production processes and government subsidies? 	<ul style="list-style-type: none"> Government's intervention through providing subsidies is intended to improve the low uptake of improved seed. Private sector actors are encouraged to support government efforts by participating in the subsidies delivery system across the country to enhance reaching out smallholder farmers.
Mechanisation	<ul style="list-style-type: none"> What is the role of the government in enhancing access to mechanisation services and what are the engagement opportunities for the private sector? 	<ul style="list-style-type: none"> Investments are being made at the learning institutions to increase the pool of expertise available to guide farmers on mechanization. There is need for an institute or a center of excellence that focuses on training and testing farming machinery to guarantee quality. Government has put plans in place to set up a center of excellence on mechanization to support in research and technology development. Additionally, tailored curricula on machinery handling are being developed in partnership with academia to support skills transfer. The government is looking into financing mechanisms to support private investors to access machinery, though opportunities still exist to sell mechanisation services to farmers.

Thematic Focus	Questions	Responses
Seed Systems	<ul style="list-style-type: none"> What are the roles of seed stakeholders especially associations in encouraging the use of quality seed? 	<ul style="list-style-type: none"> Seed associations play a critical role in establishing trials and demos to enhance farmers' understanding of various technologies.
	<ul style="list-style-type: none"> How can Rwanda get access to <i>Striga</i> resistant varieties? 	<ul style="list-style-type: none"> AATF interventions and investments in countries is driven by country priorities. If the <i>Striga</i> technology is of interest to the Rwanda Government, AATF can facilitate access to the technology and avail the varieties that would be ideal to Rwanda's agro-ecologies for immediate testing.
Precision Agriculture	<ul style="list-style-type: none"> What are the practical scalable options in precision agriculture? 	<ul style="list-style-type: none"> Precision agriculture provides a wide array of solutions such as tractors that check soil fertility levels, sensors that can be purchased at cooperative level or smallholder level to assist with disease diagnosis therefore enhancing farming efficiency.
Financing	<ul style="list-style-type: none"> How can farmers get access to affordable financing? 	<ul style="list-style-type: none"> Financial institutions have various options of reaching smallholder farmers such as through anchor farms that in turn extend contracts and services to farmers, advancing inputs; and through microfinance institutions given their proximity to farmers. Restricted funding is also available through the Bank of Kigali to purchase agro inputs at standardized prices. Collaboration opportunities are available to extend the financing model to include mechanisation, precision agriculture and all partners who add value to the ecosystem.
Market Systems	<ul style="list-style-type: none"> How can other government ministries such as the Ministry of Trade contribute to solving the issue of access to markets noting its impacts on the adoption of various technology solutions 	<ul style="list-style-type: none"> The Ministry of Agriculture is working with various ministries and private sector to improve access to markets. This has been done through promoting digital agriculture platforms first for market access purposes but also for information sharing.



Figure 6: Participants Questions and answer session

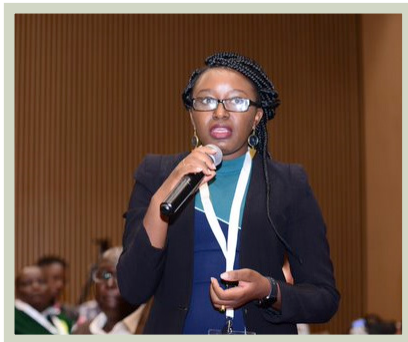


Figure 7: Participants Question and Answer Session



Figure 8: Participants Questions and Answer Session



Conclusion

As Africa positions itself to enhance its agricultural production, investment in advanced innovative agricultural technologies, packaged alongside good agricultural practices and financing for agriculture are critical to radically transform the region and sustain the growth trajectory that African countries aspire for. A critical focus on strengthening seed systems and adopting appropriate and sustainable mechanisation models complimented by hybrid technologies will help to expand production and processing opportunities for African farmers.

Additionally, modern innovative agricultural technologies such as biotechnology and precision Agriculture present unique pathway to increase farmers' resilience in managing pests, diseases and climatic hazards. Collectively, the investments are about more than securing the interests of smallholder farmers, it's about giving African economies the vigor they need to generate wealth and create assets for their people.

Communique

The roundtable meeting endorsed the following commitments.

High-Level Conference on Transforming Smallholder Farming in Africa Through Innovative Agricultural Technologies

29 October 2019 – Kigali Convention Centre,

Kigali, Rwanda

The Ministry of Agriculture and Animal Resources (MINAGRI) of the Republic of Rwanda, AATF, Rwanda Agriculture and Animal Resources Development Board (RAB) and partners held a high-level roundtable meeting on transforming smallholder farming in Africa through innovative agricultural technologies, on 29 October 2019, at Kigali Conventional Centre in Kigali, Rwanda.

The deliberations emphasised ways agriculture can be positioned as the engine of economic growth, development and well-being in line with Rwanda's 2018 National Agriculture Policy and in support of the African Union's Comprehensive African Agricultural Development Program (CAADP) and Agenda 2063.

The round-table meeting determined that –

Whereas:

Advanced innovative agricultural technologies, packaged alongside good agricultural practices and financing for agriculture are critical to radically transform the region and sustain the growth trajectory that African countries aspire for;

1. Smallholder farmers in Africa have limited access to advanced inputs, credit facilities, and the markets required to support production and offer returns to farm investments.
2. Africa is rapidly urbanizing, with highly dynamic demographic change patterns that have increased demand for more efficient technology-supported systems for seeds, production, processing, markets and delivery;
3. Public-Private Partnerships (PPP) are not significantly explored – notwithstanding, they present the best opportunity to stimulate synergies between governments and the private sector to unlock some of the gaps and weaknesses that pervade commodity value chains in Africa.

The conference therefore resolved to:

1. Promote a robust and sustainable seed system that reinforces confidence in the quality of seed in Rwanda and the broader sub-Saharan region through facilitating transition of agricultural production and seed systems management to more partners such as private sector to ensure a sustainable agricultural transformation for economic growth;

2. Adopt appropriate and sustainable mechanisation models that expand production and processing opportunities for value chains actors in agriculture including creating market linkages to sustain the gains made from technology adoption in Rwanda and the broader sub-Saharan region;
3. Expand the adoption of hybrid technology as a pathway to improve production, productivity and consequently contribute to smallholder farmers' income and health;
4. Promote gender-sensitive initiatives that enable farmers in Sub-Saharan Africa to draw the benefits of advanced agricultural technologies including precision agriculture as a contributor to agricultural transformation;
5. Embrace PPPs and SMEs that scale financing for agriculture research, production and value addition across Rwanda, its neighbouring countries and the broader sub-Saharan region;
6. Promote genomics and other biotechnology tools to increase farmers' resilience in managing pests, diseases and climatic hazards and to fast-track precision breeding and germplasm maintenance;
7. Leverage Rwanda's experience in implementing the seven commitments of the June 2014 Malabo Declaration to promote increased investment and financing of agricultural research and development including commercialisation to facilitate achievement of Africa's food security goals.

Kigali, Rwanda

29 October 2019

Vote of Thanks

The RAB DG Dr Patrick Karangwa gave his vote of thanks to all the attendees, stakeholders, and organisers of the roundtable meeting.

Appendices

8.1 Agenda



MINAGRI



MINAGRI/RAB & AATF

High-Level Roundtable Meeting

'Transforming smallholder farming through innovative agricultural technologies'

Date: Tuesday, 29 October 2019

Meeting Venue: Kigali Conventional Center, Radisson Blu Hotel

Moderator: Dr Ousmane Badiane, AATF Board Chair

Time	Activity
08:00 – 09:00	Arrival of Guests and Registration – Coffee/tea and snacks served
09:00 – 09:30	<p>Welcome & Opening Remarks:</p> <p>Ousmane Badiane (PhD) - AATF Board Chair, Introduction on the objective of the meeting</p> <p>Mr Jean Claude Musabyimana - Permanent Secretary, Ministry of Agriculture and Animal Resources (MINAGRI)</p>
09:30 – 09:50	<p>Patrick Karangwa (PhD), RAB Director General,</p> <p>The Role of Agricultural Research in Transforming Smallholder Livelihoods</p>
09:50 – 10:10	<p>Dr Denis T. Kyetere, AATF Executive Director,</p> <p>AATF-RAB Partnership: An Anchorage for Sustainable Technology Delivery and Catalytic Transformation Process for Agricultural Development in Rwanda</p>

Time	Activity
10:10 – 12:00	<p>Panel discussion:</p> <ul style="list-style-type: none"> • Mechanisation and opportunities for smallholder farmers – Dr Deepak Das, Head of Agricultural Mechanisation Department & Coordinator of Post Graduate Studies Program, College of Agriculture and Veterinary Medicine (CAVM)/University of Rwanda (UR) • Seed systems and reliability, sustainability and profitability – Mr Innocent Namuhoranye, Chairman of National Seed Association Rwanda • Hybrid technology for increased crop yields – Dr Kayode Sanni, Rice Project Manager, AATF • Biotechnology and opportunities for agriculture transformation Dr Placide Rukundo, Senior Scientist and Roots and Tubers Program Leader, RAB • Research and technology transfer – Dr Charles Bucagu, Deputy Director General in charge of Agriculture Research and Technology Transfer, RAB • Precision agriculture – Dr Richard B. Fergusson, Vice Chancellor, Rwanda Institute for Conservation Agriculture (RICA) • Agricultural investment opportunities for agriculture – Mr Eric N. Bukeye, Ag. Senior Manager for Agriculture Financing, Development Bank of Rwanda (BRD)
12:00 – 12:45	Open discussion
12:45 – 13:00	Vote of thanks – RAB
13:00 – 14:00	<p>Media Interviews</p> <p>Lunch and Departure</p>

8.2 Speech by the Permanent Secretary of the Ministry of Agriculture and Animal Resources, Mr Jean Claude Musabyimana

Dr Ousmane Badiane, Director for Africa at the International Food Policy Research Institute (IFPRI) and Chairperson of the Board of Trustees of AATF,

Dr Patrick Karangwa, Director General of Rwanda Agriculture and Animal Resources Development Board (RAB),

Esteemed Members of the AATF Board of Trustees,

Dr Denis T. Kyetere, AATF Executive Director,

Esteemed Development Partners,

Distinguished guests,

All protocol observed,

Ladies and gentlemen,

It was with a great pleasure that the Ministry of Agriculture and Animal Resources (MINAGRI) partnered with AATF, through Rwanda Agriculture and Animal Resources Development Board (RAB), to hold this high-level roundtable meeting in Kigali, with a forum of key players in agriculture in Rwanda, including policy makers, government institutions, researchers, academia, youth organisations, and investors to discuss on transforming smallholder farming in Africa through innovative agricultural technologies, in order to move the needle on food and nutrition security.

We are thankful to AATF for having also chosen Kigali as the venue of its 2019 meeting of the Board of Trustees, to more reflect on empowering smallholder farmers in Sub-Saharan Africa, as well as improving their livelihoods through agricultural transformation.

The two AATF events are concurring with the 2020A agricultural season (as an important momentum for agriculture production), and the celebration of the 2019 World Food Day organised on 31 October 2019 in Rutsiro District/Eastern Province of Rwanda, under the theme 'Our actions are our future. Healthy diets for a Zero Hunger World'.

Ladies and gentlemen,

Rwanda is scored among the best performing countries in implementing the Comprehensive African Agriculture Development Program (CAADP), and continues to foster its commitment towards attaining a free hunger and food and nutrition secured continent, through establishment of supporting policies and strategies that leverage on agricultural productivity of small scale and traditional farmers, and which aspire for a capable private-led agriculture sector.

The 2018 National Agriculture Policy and the Strategic Plan for Agriculture Transformation (PSTA) IV were established to ensure agriculture transformation through four pillars: 1) Substantial investments by the private sector; 2) Demand-driven research and extension services to close technology and skills gaps and increased workforce; 3) Agricultural production increase to meet socio-economic and food and nutrition security needs; and 4) Promotion of improved productivity and inclusiveness of agricultural market systems and increased off-farm opportunities for diversified agricultural products for domestic, regional, and international markets.

Agriculture growth was witnessed consequent to enactment of these enabling policy tools: recent statistics have attested that the agriculture sector contributed 28 percent of the Gross Domestic Product (GDP) in the second quarter of 2019, with a growth of 5% and a contribution of 1.5 percentage points to overall GDP growth.

Nevertheless, impediments ranging from land scarcity and fragmentation due to population pressure and increased urbanisation, yield gaps, climatic change and hazards, low capacity in factors of production, malnutrition and early childhood stunting continue to negatively impact the social and economic aspects, especially at the smallholder farmers level.

Synergies from all stakeholders and development partners at national, regional and continental levels are more than ever indispensable to boost innovation and adoption of agricultural technologies and ensure sustainable economic growth.

Ladies and gentlemen,

This high-level roundtable meeting is foreseen to pave the way towards elaboration of concrete actions necessary to drive agricultural production as well as the social and economic development of the Sub-Saharan African farmers.

Specifically, three key impact areas are anticipated:

- Initiatives that enable smallholder farmers (focusing on women and youth) to take advantage of appropriate and affordable agricultural technologies.
- Sustainable seed systems that not only convey assurance for quality and productivity increase, but also attract private sector engagement.
- Enhanced finance for agriculture to leverage efforts of the private sector (through PPPs and SMEs) in research and development, production, value addition, and marketing.

I wish you fruitful deliberations and I hereby declare the High-Level Roundtable Meeting on Transforming Smallholder Farming in Africa Through Innovative Agricultural Technologies officially open.

I thank you for your kind attention.



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