



Africa Biosafety Watch ABNE NEWSLETTER (April - June, 2018)

Key reports on emerging technologies officially launched at the African Innovation Summit



The President of APET – on left – with the CEO of Rwanda Development Board, representing President Paul Kagame during the launch of the reports

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Advances in modern technologies are occurring at an accelerating pace, ranging from the fields of robotics, nanotechnology and biotechnology to materials science and artificial intelligence. Globally, these technologies are bringing about transformation in all dimensions of life, and this provides an opportunity for Africa to harness these technologies to advance its socio-economic development agenda and position itself as a frontrunner in the 4th Industrial Revolution (4IR).

Hence, on 08 June 2018, three reports were launched by Ms Clare Akamanzi, CEO of Rwanda Development Board and the African Union (AU) High Level Panel on Emerging Technologies (APET) at the Africa Innovation Summit II held in Kigali, Rwanda.

The reports focus on malaria control and elimination, increasing Africa's agricultural productivity and enhancing Africa's energy security.

Recognising the role of science, technology and innovation, the APET was established by the AU to provide advice on emerging technologies and has since identified three emerging technologies that have the potential to benefit Africa; (i) Gene Drives for Malaria Control and Elimination in Africa; (ii) Drones on the Horizon: Transforming Africa's Agriculture; and (iii) Micro-grids: Empowering Communities and Enabling Transformation in Africa. In addition, APET has called for functional regulatory systems at national and regional levels.

Speaking during the official launch of the three reports, Ms Clare Akamanzi commended the High Level Panel for the achievement of this milestone. She further reiterated Rwanda government's commitment and urged other Member States to harness emerging technologies for accelerated socio-economic transformation of the continent. Ms Akamanzi was speaking on behalf of His Excellency Paul Kagame, President of Rwanda and Chair of the African Union.

Chair of the High Level Panel, Prof. Gassama Dia emphasized the need to strengthen regulatory systems in order to ensure timely access and effectiveness of these technologies. She also stated that there are perceived risks associated with these technologies and further research is encouraged with full participation of African scientists, policy makers, with active engagement of the target communities.

"Advances in science, technology and innovation, particularly in gene technology, big data, artificial intelligence and robotics, offer unprecedented opportunities to speed up Africa's development and transformation process. High-tech, reliable technologies at affordable cost, exist to address many problems in agriculture, energy production and health", Prof. Gassama Dia said.

Prof Gassama Dia was speaking while presenting the three reports to the Guest of Honour, Ms Akamanzi, of Rwanda Development Board. Prof. Gassama Dia is also the Vice President of the Senegalese Academy of Sciences, former Chairperson of the African Ministerial Conference on Science and Technology (AMCOST) and former Senegalese Minister of Scientific Research.

Earlier during the summit, the Chief Executive Officer of the New Partnership for Africa's Development (NEPAD) Agency, Dr. Ibrahim Assane Mayaki, noted that African scientists are actively involved in innovations and have necessary competences to apply the three technologies to address Africa's challenges and opportunities for transformation.

"... in order to effectively advance science, technology and innovation, Africa needs to adopt a co-evolutionary approach in which technology development should go hand in hand with regulation. The function of regulation is to promote innovation", Dr Mayaki argued.

The three reports will serve as valuable resource in unpacking emerging technologies and building a culture of science, technology and innovation in Africa. The APET has made its recommendations on the three emerging technologies taking into account the capacity strengthening needs, regulatory and ethical considerations, and requirements for domestic and international investment.

APET further argues that Africa cannot afford to play the "waiting-game" in putting together regulatory requirements for technologies that are on the horizon but should be actively involved and come up with harmonised policies, guidelines and standard operating procedures taking advantage of its regional integration agenda.

The APET calls upon research and development institutions and entrepreneurs to examine these recommendations, and further calls upon African governments, regional organisations and partners to support them in taking this work to the next level.

NEPAD Agency ABNE's side event during the African Innovation Summit 2018

NEPAD Agency African Biosafety Network of Expertise (ABNE) held a side event on biosafety capacity building in Africa during the African Innovation Summit, on 7 June in Kigali, Rwanda. The objective of the event was to highlight NEPAD Agency's contribution to ongoing efforts at creating conducive environments for the development and management of emerging technologies for socio-economic development in Africa.

Co-chaired by Hon. Dr Gérardine Mukeshimana, Minister for Agriculture and Animal Resources of Rwanda, and



Dr Ibrahim Assane Mayaki, CEO of the NEPAD Agency, the event also served as a commemorative milestone of a decade of ABNE service delivery to AU member states and Regional Economic Communities.

In his welcome remarks, Dr Mayaki stated that “The advent of modern biotechnology, while presenting new tools and techniques for crop improvement, continues to raise safety concerns to human health and the environment, and thus the relevance

Dr Ibrahim A. Mayaki



Hon. Dr Gérardine Mukeshimana

of regulation. There is the need to adopt a co-evolutionary approach by which the function of regulation is to promote innovation while at the same time safeguard human health and the environment.”

“It was within this context that the African Ministerial Council on Science and Technology resolved over a decade ago to develop a 20-year Biotechnology strategy with specific technology goals that would be implemented through regional economic communities. Today the landscape regarding the regulatory systems looks much more different than was the case 5 years ago. This could be attributed to improved knowledge and understanding emanating from improved capacity in the management of the technology. And this is why ABNE is a critical space, instrument and mechanism in forging a conducive environment and providing the right tools for regulatory systems, the very essence of ABNE’s existence for the past 10 years,” Dr Mayaki said.



Discussions were very animated during the side event. On left ABNE Director contributing to the debate and on right a representative from Ethiopia talking of ABNE’s contribution to the improvement of the regulatory framework in his country.

Dr Gérardine Mukeshimana thanked NEPAD Agency for responding to Rwanda’s request for technical assistance in building a functional biosafety system in Rwanda.

“This meeting is very timely. It is happening at a time when the agricultural sector is facing unprecedented challenges that could be associated with the effects of climate change, including extreme weather, pests and diseases as well as urbanisation and population growth.

Our farmers on the continent are still facing challenges of access to improved technologies. Consequently, it is important that as a continent, we deepen our understanding on how best to explore modern biotechnologies to mitigate these challenges for the benefit of our people,” she said.

Dr Jeremy Ouedraogo, Head of NEPAD Agency ABNE made a presentation on ABNE’s achievements during its 10 years of supporting African Union member states in the building of functional biosafety systems.

He pointed out the continent's enormous assets and the need for industrial transformation based on modern transformation of Agriculture, mainly in rural areas. He further highlighted several AU decisions and initiatives on agriculture from the Malabo declaration to Agenda 2063 all of which prioritised the eradication of poverty and hunger and the attainment of food security. He also highlighted NEPAD Agency ABNE's role in empowering African regulators and policy-makers in making evidence-based decisions in order to access safe and useful agricultural technologies.

The side event also afforded participants the opportunity to exchange views with the Minister and NEPAD Agency CEO, and also obtain information on impact of ABNE's services from member states. The floor was especially given to Dr Tesfaye Disasa, Director of the National Agricultural Biotechnology Research Center of the Ethiopian Institute of Agricultural Research. He outlined the range of technical support services received from ABNE and how it contributed to observed progress in the implementation of a functional biosafety regulatory system.

Capacity building in biosafety for Ethiopian lawyers

NEPAD Agency ABNE, in partnership with the National Biosafety Authority in Ethiopia, organized a biosafety training workshop for Ethiopian lawyers from 1st – 2nd June, 2018 in Addis Ababa. About 30 legal professionals attended this sensitization and awareness creation workshop.



Group picture of workshop participants

Ethiopia has made significant progress in building a functional biosafety system with the support from NEPAD Agency ABNE. However, to sustain and incrementally build upon the gains made so far, it was important that the country bring onboard and keep abreast critical national stakeholders on issues related to modern biotechnology and its regulation.

ABNE Programme Officers made presentations on the global status and outlooks of modern agricultural biotechnology and its regulation. However, the majority of the presentations focused on the current state of biotechnology development and its regulation in Ethiopia were presented by domestic experts. This approach proved successful as most of the participants were not aware of the status of biotechnology in Ethiopia and developments in the regulatory front.

In addition, more focus on local developments underscored the relevance and ownership of the workshop.

Future support for similar capacity building initiatives for lawyers and other stakeholders are necessary to sustain and improve the progress the country has made in building a functional biosafety system to enable safe adoption of modern biotechnology for agricultural and economic development.

Needs Assessment Meeting towards Technical Support Services to the Biosafety Regulatory System in Rwanda

In recognition of NEPAD Agency African Biosafety Network of Expertise's mandate to provide biosafety regulatory capacity building support to AU member states, the Government of Rwanda requested for technical support in developing a functional biosafety regulatory framework. To this end, a two-day meeting was held on May 31 – June 1, 2018 in Kigali, Rwanda.



3 ABNE Programme Officers – on left -- exchanging with some Rwanda biosafety stakeholders

Participants were drawn from the Rwanda Environment Management Authority (REMA), the Ministry of Agriculture, Rwanda Agriculture and Animal Resources Development Board, the Ministry of Health, the College of Science & Technology of the University of Rwanda, the Rwanda Development Board and the Ministry of Education.

The meeting discussed the current state of biotechnology and biosafety in Rwanda, how agricultural biotechnology is regulated worldwide and in Africa, and the roles and responsibilities of stakeholders in ensuring a functional biosafety regulatory system.

With leadership from the REMA, a biosafety needs assessment was conducted subsequent to which a roadmap was developed detailing areas of technical cooperation with NEPAD Agency ABNE and outlining a system to ensure effective technical backstopping. Key among the identified priority areas of intervention was the need to review legal instruments including the draft biosafety policy, the biosafety law and regulations as well as the need to augment human resource capacity in biosafety.

A regional platform for regulating vector management technologies in West Africa

The NEPAD Agency has initiated regional consultations on establishment of a regional platform for regulating vector management technologies. Within this framework, a meeting was held in Accra from 20 – 22 June, 2018. The Agency is collaborating with the West Africa Health Organization (WAHO) to establish the regional platform which is being designed by experts from member states within the ECOWAS region.

The consultative meeting brought together environmental regulators, health regulators, members of ethics committees and malaria control programme managers from six West African countries, Burkina Faso, Cote d'Ivoire, Ghana, Mali, Nigeria, and Senegal.

The main objective of the consultation was to examine a draft scope and approach document of the West Africa Integrated Vector Management Platform (WAIVMP), and to plan its roll-out in the region.



NEPAD Agency experts with health and environment regulators from six West African countries

In his opening remarks, Prof. Aggrey Ambali, Head of NEPAD Agency's Industrialization, Science, Technology and Innovation programme welcomed participants and thanked them for taking time out of their busy schedules to attend the consultative meeting. He thanked experts, various stakeholders and AU and NEPAD colleagues for contributing to the work of the AU High Level Panel on Emerging Technologies (APET), which has recommended ten emerging technologies for the socio-economic

development of the continent.

He also stated that "we need to move with the regional platform process through appropriate coordination and networking. We are in a world of "One Health", looking at all necessary sectors. We all need to play our part, either in the prevention, treatment or the regulation. Vectors such as mosquitoes cross borders and therefore we need to have a conversation as a region and adopt a regional approach to integrated vector management".

Ms Delese Mimi Darko, Chief Executive Officer of the Food and Drugs Authority in Ghana also welcomed participants. She said that her country was honored to host such a consultative meeting and wished the consultations result in a clear roadmap and workplan for implementing the regional platform in West Africa.

This initiative came after a series of recommendations by African Heads of state at regional and continental level. In 2013, ECOWAS Heads of state approved development strategies for malaria control and regional initiatives for vector management. In 2017, during the AU summit, member states committed to invest in the development and application of new tools for controlling and eliminating malaria. And in January 2018, the AU executive council called upon member states to harness emerging technologies including gene drive in their development initiatives.

During the consultative meeting, presentations were made by NEPAD experts on different topics relating to emerging technologies and integrated vector management. Experts from Member States expressed concern on the high

burden of malaria in the region and indicated the need for innovative approaches such as the establishment of WAIVMP to compliment current interventions in the fight against malaria in Sub-Saharan Africa.

It was clear from the discussions that countries are at different stages with respect to environmental and health regulations as well as the adoption of innovative approaches to disease management. During the meeting member States deliberated on the modalities for the development, implementation and monitoring and evaluation of the platform in order to ensure sustainability and benefit to key populations.

Discussions were quite productive during the different sessions and some participants pointed out the challenges incurred by most West African countries in working on individual basis on matters of vector management. The experts commended the NEPAD Agency for spearheading this initiative and highlighted its relevance and called on ECOWAS member countries to collaborate on the establishment of the West Africa Integrated Vector Management Platform.

Signing of MoU and workshop on food safety assessment and environmental risk assessment in Namibia



From Left to Right are Ms. Enid Keramen (Acting CEO), Dr. Jeremy T. Ouedraogo (Director), and Dr Olalekan Akinbo (Senior Programme Officer) during the ceremony.

NEPAD Agency ABNE and The National Commission on Research, Science and Technology (NCRST), responsible by law to administer the Biosafety Act 2006 (Act No. 7 of 2006), in Namibia, signed a memorandum of understanding (MoU) for capacity building of the regulatory body with the international best practices and other regulatory technical partnership on 9 April, 2018, in Windhoek, Namibia.

Dr. Jeremy T. Ouedraogo, led the NEPAD ABNE delegation while NCRST was represented by the Acting Chief Executive Officer Ms. Enid Keramen. In his opening speech, Dr. Ouedraogo affirmed that signing the MoU aligns with NEPAD Agency ABNE mandate and is meant to forge strategic partnership on biosafety that enables capacity strengthening of the Namibian regulators and other relevant stakeholders. In her response, Ms. Keramen said that NCRST equally recognize the importance of science, technology and innovation for national growth, sustainable development and competitiveness that would translate into the improvement of socioeconomic standards of life.

The Biosafety Act 2006 of Namibia provides measures to regulate the activities that involve the research, development, production, marketing, transportation, applications and other uses of genetically modified organisms (GMOs) and specific products derived from these GMOs as they are harnessed safely.

ABNE has the continental mandate to assist member states in developing capacity for a functional biosafety system that can receive, review applications and make decision on GMOs products.

The signing of the MoU was followed by a workshop organised by ABNE and the National Biosafety Secretariat and took place in Swakopmund. Participants in the workshop include staff of the Biosafety secretariat (NCRST) and Biosafety council members as well as technical experts in line ministries (Ministry of Health & Social Services, Ministry of Agriculture, Water and Forestry, Ministry of Environment and Tourism, Ministry of Industrialization, Trade and SME development).

The workshop participants were successfully introduced to basic concepts of GMO decision making (risk analysis), an in-depth understanding of food and feed safety assessment and environmental risk assessment. They were further introduced to methods of finding risk analysis resources and data on the internet, and obtained experience in a useful tool used to enhance communication between applicants and regulators. They took part in practical sessions and successfully formulated hypotheses, brainstormed on identification of protection goals and drafted data deficit letters.

Inception Training Workshop for Members of Institutional Biosafety Committee in Burkina Faso

NEPAD Agency ABNE, in partnership with Agence Nationale de Biosécurité (ANB) and Institut de Recherche en Sciences de la Sante (IRSS), organized an Inception training workshop for the members of the Institutional Biosafety Committee (IBC) of IRSS, from 2 – 4 May 2018 in Bobo - Dioulasso, Burkina Faso.

32 participants attended the workshop, including members of the IRSS Institutional Biosafety Committee but also scientists from other institutions that envision to implement their own IBCs.

IRSS, which is the department responsible for health research programs within the Burkina Faso's *Centre National de la Recherche Scientifique et Technologique (CNRST)*, has been conducting

researches that include the use of modern biotechnology to control the *Anopheles gambiae* mosquito populations. This program is conducted in partnership with Target Malaria which is an international consortium engaged in working to reduce or eliminate malaria and other diseases transmitted by mosquitoes.

In order to fully comply with regulatory requirements for biosafety, IRSS was requested by the National Biosafety Agency to set up an institutional Biosafety Committee.

Main topics addressed during the workshop were mainly the principles of modern biotechnology and their applications in the health sector, especially in the area of malaria vector control new tools and more importantly the roles and responsibilities of Institutional Biosafety



Group picture of part of participants

Committee's members. The workshop provided participants with solid knowledge concerning the roles and responsibilities of IBC members, and enhanced their capacities on biosafety regulations in the country. It also helped current IBC members and future members to understand what it takes to meet the International standards, drawing on experiences and best practices from other African IBCs. The training workshop also provide the opportunity for a refresher over the scientific fundamentals

underpinning the use of modern biotechnology, especially the work on recombinant DNA.

After the training workshop NEPAD Agency experts visited an insectarium at Bama, 25 Kilometres distant from Bobo. There, trials are carried to test the efficacy of new sprays on mosquitoes and also study their reproductive behaviour in natural conditions. In future, necessary field testing for the Target Malaria project could be hosted on this site at Bama, if the current laboratory trials prove successful.

Some participants share their views on the meeting

Dr Moussa Namountougou, Lecturer at Nazi Boni University of Bobo-Dioulasso and Associate Researcher at IRSS and Centre Muraz

“This training was very enlightening. We work in laboratories and we needed information on biosafety regulation in the country. Implementing IBC will allow us to work in safer conditions and to make sure that everyone follows the necessary biosafety measures.”



Dr Diane Celestine Valea, Scientist at IRSS/Bobo

I would like to thank ANB and their partner NEPAD Agency for organising this biosafety training workshop for IRSS scientists and the scientific community in Bobo-Dioulasso. This training was really timely because it will all the different research centres and institutes to implement IBCs to help scientists strictly follow the regulatory requirements.



Dr Dari Frederic Da, Researcher at IRSS/Bobo, working on new strategies to block malaria transmission, through development of medicine, vaccine and other

“This training workshop is very timely because we have been working following certain biosafety rules in laboratory practices without knowing all the implications of the national regulations. When you work in translational science, ensuring transition between fundamental research and applied research, it is really useful to master the different legal measures that backstop laboratory work, especially in modern biotechnologies and biosafety area. We have very rich discussions as the training brought together experts with different



backgrounds. This allowed useful interactions and it also helped to take account of all various concerns.

Upcoming events

- **16 – 19 July;** International biosafety short course at the Godfrey Okoye University; Enugu, Nigeria
- **17 – 19 July;** Capacity Building of the National Performance Trial Committee, National Variety Release Committee and National Biosafety Authority to facilitate NPT trials in Kenya; Nairobi, Kenya
- **6 – 16 August;** International training program on Agricultural Biotechnology and Biosafety, and study tour; USA
- **7 – 9 August;** Training on international negotiations and Pre-COP-MOP meeting for the African Group of Negotiators on issues of the Convention on Biological Diversity (CBD) and its Protocols; Addis Ababa, Ethiopia
- **12 – 16 August;** Information sharing for sensitization of the Senegalese MPs in view of the revision of the biosafety law; Dakar, Senegal
- **20 – 21 August;** Training workshop on CFT inspection and monitoring of compliance; Lilongwe, Malawi
- **23 – 24 August;** Training workshop on biosafety Inspection, monitoring and compliance; Maputo, Mozambique
- **27 – 29 August;** Capacity building in biosafety regulation and the decision making pathway, and biosafety communication; Ezulwini, Swaziland
- **4 – 5 September;** Ministerial consultative meeting for the adoption of the revised implementing regulations for the biosafety law; Accra, Ghana
- **6 – 7 September;** Consultative meeting with the National Biosafety Agency and the National Ethics Committee on the development of the implementing regulations of the biosafety law; Abidjan, Cote d'Ivoire
- **14 – 16 September;** Capacity Building in Review and approval of application for CFT, Development form for Monitoring and Inspection of CFT, Follow-up on Completion of Revised Biotechnology and Biosafety Review process, Lusaka, Zambia.
- **24 – 25 September;** Sensitization meeting for the parliamentary select committee on subsidiary legislation; Accra, Ghana.



NEPAD Agency – African Biosafety Network of Expertise

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