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ABNE

African Biosafety Network of Expertise

Africa Biosafety Watch

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AUDA-NEPAD convenes 12th Annual Meeting of the Technical Advisory Committee for her Flagship Biosafety

Group picture of part of participants during the meeting

The Technical Advisory Committee (TAC) of AUDA-NEPAD's flagship programme for biosafety held its 12th annual meeting from 8 to 9 June in Harare, Zimbabwe to review progress made thus far and provide advice in implementing strategic interventions to support the functionality of biosafety systems in member states. The TAC has representation from multistakeholder groupings including member states, the public and private sector, and the African Union.

In her opening remarks, Ms Estherine Fotabong, Director of Agriculture, Food Security and Environmental Sustainability welcomed participants on behalf of the AUDA-NEPAD CEO. She highlighted the importance of the biosafety programme in addressing member states' priorities and how the programme objectives align with Agenda 63 goals, in particular, sustainable development and economic growth through the safe use of relevant emerging technological tools and techniques.

Dr Doug Buhler, on behalf of Michigan State University, stated the need to take advantage of the lessons learned over the years to move forward more effectively. He also highlighted the importance of science, technology and innovation (STI) for Africa and the rest of the world and reiterated the need for a better public understanding of their contribution to development.

Mr Lawrence Kent, from BMGF, a partner of the programme, commended the programme for the progress made particularly in developing regulatory tools for emerging technologies such as genome editing technology. He also pointed out the need to strive to achieve more going forward.

Dr Dave Keetch, the Chair of TAC, welcomed participants and commended the ABNE team for their continued efforts in the implementation of

the programme. On behalf of TAC, he congratulated Mr Timpo on his promotion as Head of the AUDA-NEPAD Regional Office in Dakar and also Head of the Biosafety Programme, and wished him every success in his new position. He also expressed the sincere gratitude of TAC to Dr Jeremy Ouedraogo for his leadership and achievements during his tenure as Head of the Biosafety programme in the past seven years.

At the end of the meeting, TAC commended progress and recommended strategies and priorities to optimize the effective implementation of the work plan.

The AUDA-NEPAD biosafety programme is implemented through a project called the African Biosafety Network of Expertise (ABNE). ABNE is designed to support African countries develop functional biosafety regulatory systems that will allow them to make informed decisions on biotechnology and emerging gene technologies such as gene drive and genome editing. Safely harnessing these technological tools may help the African continent leapfrog in the achievement of some of the critical goals encrusted in Agenda 2063, in particular regarding Aspiration 1 which envisions "a prosperous Africa based on inclusive growth and sustainable development, and Goal Number 5, which targets "Modern agriculture for increased productivity and production."

Malawi reviews biosafety applications for field trials of insect-resistant and herbicide-tolerant GM maize

From 4-3 July 2023, in Lilongwe, Malawi, AUDA-NEPAD's biosafety flagship programme provided technical support to Malawi for the review of its applications for confined field trials (CFTs) of genetically modified maize. About 20 participants, including members of the National Biosafety Regulatory Committee, attended the meeting.

Malawi continues to expand its biotech crop technological portfolio by introducing new GM crops and traits. The country has received three applications for the conduct of CFTs of GM maize, bearing traits for insect resistance, herbicide tolerance, and a combination of both insect resistance and herbicide tolerance traits.

In the past few years, maize farming in African countries has been heavily affected by the fall armyworm and other pests that destroy crops thus undermining productivity. Up to now, the efficacy of bio-pesticides and chemicals tested against these pests has proved low, hence the need to also test other technological options to preserve and increase crop yield.

During the meeting, a presentation was made on the outcome of the preliminary review that was undertaken in September 2022 with the support of AUDA-NEPAD.

Group picture of part of participants during the meeting

An expert commissioned to review and provide expert opinion on the applications also presented his findings and recommendation, for the Committee to further assess and decide on the applications. Finally, the members of the NBRC held closed sessions for deliberations and the drafting of decision documents.

The technical support of the AUDA-NEPAD Biosafety Programme in the review process is critical to ensure full compliance with national biosafety legal instruments and international best practices. The key mandate of AUDA-NEPAD's Biosafety Programme is to support African countries to safely harness modern biotechnology to help enhance crop productivity and improve food security and nutrition in the continent. This mandate is aligned with the African Union's Agenda 2063 Aspiration 1, which envisions "a prosperous Africa based on inclusive growth and sustainable development, and Goal Number 5, which targets "Modern agriculture for increased productivity and production."

Michigan State University Trains African Delegates on Agricultural Biotechnology and Biosafety

According to experts, Africa is currently the only food-insecure continent and at the same time the continent that harnesses fewer technologies and innovations to improve its agriculture. In this regard, building the capacity of African stakeholders in agricultural innovations such as biotechnologies and other emerging gene technologies may help change the food and nutrition narrative in the continent.

In light of the above reality, the African Union Development Agency-NEPAD in partnership with The World Technology Access Program at Michigan State University's College of Agriculture and Natural Resources, held a two-week-long International Short Course in Agricultural Biotechnology and Biosafety from 6-18 August 2023. Thirty-four participants from 10 African countries namely Ethiopia, Ghana, Kenya, Malawi, Mozambique, Namibia, Nigeria, South Africa, Zambia, and Zimbabwe, and 5 Asian countries, Bangladesh, India, Indonesia, Philippines, and Vietnam attended the programme.

The training brought together delegates from diverse backgrounds, including biosafety regulators, policymakers, research scientists, academia, lawyers, communication specialists, and representatives from international centers and non-governmental organizations.

The course featured speakers from relevant U.S. government regulatory agencies, academia, three seed and biotech companies and two non-profit organizations, Michigan Crop Improvement Association and Donald Danforth Plant Science Center. The participants also toured research laboratories, greenhouses, a confined field trial, and demonstration plots, and they had the opportunity to interact with local farmers in Michigan and Iowa.

Participants got hands-on experience on the development and management of biotechnology and biosafety in the U.S.

International experiences in biotechnology and biosafety in Europe, Asia, and Africa were shared through virtual presentations from representatives of International Plant Biotechnology Outreach (IPBO), Ghent University, Belgium, International Institute of Tropical Agriculture (IITA), and Farming Future Bangladesh. While in Washington, D.C., two special panels were organized with U.S. regulatory agencies and biotech industry representatives across the value chain. Representatives from the USDA-Foreign Agricultural Service (USDA-FAS) shared experiences and policies on international trade issues as they relate to biotechnology products. The African perspective on international negotiations on biotechnology products was shared by the Head of the AUDA-NEPAD's Biosafety Division, ABNE.

The program provided opportunities for each of the 15 countries to share their experiences and perspectives on biotechnology and biosafety. Key issues that emerged from country presentations included the need for greater outreach and communication, building functional regulatory policies on genome-edited crops, and increased support on legal issues and court cases related to biotechnology products. Building on these issues, a novel idea emerged to establish a global platform for enhanced science communication to build greater awareness and education of stakeholders and the general public on emerging science and technologies.

The training aligns with African Union Agenda 63 Aspiration 1 which envisions "a prosperous Africa based on inclusive growth and sustainable development, and Goal Number 5, which targets "Modern agriculture for increased productivity and production."

Genome Editing at center of discussions in Burkina Faso

The African Union, through its High-Level Panel on Emerging Technologies (APET) recommends the use of emerging technologies such as genome editing to help solve hunger and malnutrition issues on the continent. In this regard, the National Biosafety Agency (ANB) of Burkina Faso In partnership with AUDA-NEPAD ABNE, held a technical workshop to review and validate the country guidelines on Genome Editing and to update the regulatory processes for GM crop varieties approval and registration. The workshop was held from 17 – 15 May 2023 in Ouagadougou, Burkina Faso.

A view of participants during the meeting

Genome editing is an emerging and affordable biotechnology tool that holds great promise to deliver high-yielding crop varieties that withstand various stresses such as droughts, floods, insect pests, or diseases and that possess quality traits for use as food, feed, or for processing. Very few countries in Africa, namely Malawi, Kenya, Ethiopia, and Nigeria, have produced guidelines that help regulate genome-edited crops that would facilitate the in-country development or the introduction, testing, and commercialization of genome-edited crop varieties developed elsewhere.

The meeting brought together stakeholders from relevant institutions including the National Agriculture Research Institute (INERA), ANB, the Biosafety Scientific and Technical Advisory Committee, the Ministry of Agriculture, the National Variety Registration Committee, and the Ministry of Environment.

In his opening remarks, Mr Samuel Timpo, Head of ABNE, highlighted the importance of having functional regulatory guidelines for emerging technologies such as Genome Editing. This technology has proven to be more precise, effective and more affordable to African researchers than the usual modern biotechnologies. Hence the importance for the continent to put in place necessary regulatory frameworks which will enable African countries to safely harness the opportunities arising from genome editing for their development.

The Director General of ANB, Dr Oumar Traoré highlighted that since the start of the debate on genome editing, Burkina Faso's researchers have been keen to add this innovative tool to their technological toolbox to help develop and improve crop varieties in order for the country to meet its food and nutrition needs.

Mr Samuel Timpo (mic), provided clarifications on AUDA-NEPAD›s guidelines on genome editing

AUDA-NEPAD advocates for the use of any relevant technological tool that may help enhance crop productivity, and improve food security and nutrition in Africa. . This stance is aligned to the African Union's Agenda 2063 vision's Aspiration 1 which envisions "a prosperous Africa based on inclusive growth and sustainable development, and Goal Number 5 in particular, which targets "Modern agriculture for increased productivity and production."

Working group meeting to review GM maize and GM enset application dossiers for CFTs in Ethiopia

A group picture of part of participants during the meeting

The Environmental Protection Authority of Ethiopia with the technical support of AUDA-NEPAD's African Biosafety Network of Expertise (ABNE) conducted the review and decision-making on biosafety applications for confined field trials of insect-resistant and drought-tolerant maize, and bacterial wilt-resistant enset from 10-8 May 2023 in Addis Ababa.

About 25 participants including members of the National Biosafety Advisory Committee (NBAC) attended the event. Key issues discussed during the meeting included the status of biotech and biosafety in Ethiopia, the concepts of data transportability, considerations on risk assessment and decision-making, and regulatory considerations for breeding stacks focusing on the TELA maize applications. In addition, the enset CFT application was also introduced by the scientist responsible for the development of the technology.

NBAC worked on the review and decision-making on the maize application. They also reviewed the enset application and made recommendations. One of the key points raised during this meeting was the need for guidelines for risk assessment and decision-making on staked traits GM events. It was agreed that a guideline shall be drafted and, subsequently, validated by stakeholders. A draft standard operating procedure (SOP) for the management of confined field trials of genetically engineered plants was also reviewed during the meeting.

Providing Member States with functional regulatory frameworks to safely harness biotechnology opportunities to combat food insecurity and malnutrition is an important pillar of AUDA-NEPAD's mandate. This is in line with Agenda 2063 Aspiration 1, which envisions "a prosperous Africa based on inclusive growth and sustainable development, and Goal Number 5 in particular, which targets "Modern agriculture for increased productivity and production."