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African Regulators and Decision-Makers Visit Biotech and Biosafety Institutions and Farms in India



Visit to a research greenhouse at the International Center for Genetic Engineering and Biotechnology (ICGEB) in Delhi.

The AUDA-NEPAD's African Biosafety Network of Expertise (ABNE), in partnership with The Energy and Resources Institute (TERI), Bejo Sheetal Biosciences Foundation in India, and Michigan State University (MSU) in the USA, organized a Biotechnology and Biosafety regulatory study tour to India for African regulators and decision-makers from 13 - 5 February 2023. The primary objective of this study tour was to provide a platform for hands-on experience in modern agricultural biotechnology development and its regulations. The visit also aimed to support the knowledge-based building of functional regulatory systems for biotechnology and emerging technologies like genome editing. A total of 13 participants from 8 African countries took part in the study tour.

Participants interacted with leaders of key institutions such as TERI, Biotechnology Consortium India Limited (BCIL), South Asia Biotechnology Center (SABC), Delhi University, National Academy of Agricultural Sciences (NAAS), and the International Centre for Genetic Engineering and Biotechnology (ICGEB New Delhi Campus) as well representatives of Biosafety and Food Safety regulatory agencies including the Food Safety and Standards Authority of India (FSSAI). The discussions highlighted the technological and regulatory developments in India, in the cotton and mustard crops in particular. The team also visited the seed production and processing facilities of Rasi Seeds and TERI's modern biotechnology labs near New Delhi

In Maharashtra State, they visited biotechnology facilities and fields operated by local seed industry giants like Maharashtra Hybrid Seeds Co Private Limited (Mahyco), Kalash Seeds, and SeedWorks International Pvt Ltd. The State hosts many of the critical actors in the seed industry in India. The team was briefed on the factors for India's successes and challenges in using modern biotechnology for agricultural development.

The final leg of the study tour was in Hyderabad. The team visited the field operations of another seed company called JK Agri Genetics Ltd. and had the opportunity to learn more about JK Seeds' operations in India and Africa. In addition, a representative from Farming Future Bangladesh (FFB) traveled from Dhaka to Hyderabad and shared experiences of Bangladesh on Bt. Brinjal/ Egg Plant with the participants.

India is the leading cotton-producing country in the world, with almost 12 million hectares cultivated in 2019, and %94 of the cotton produced was genetically modified. Africa has ecological zones similar to India, and the continent, through

South-South cooperation, stands to gain a lot in terms of knowledge and skill transfer in the biotechnology sector. AUDA-NEPAD has backed biotechnology and biosafety study tours to India over the years to help African regulators and decision-makers to garner hands-on experience in modern agricultural biotechnology development and the regulations thereof. AUDA-NEPAD, in its selection process, gives priority to the countries that are engaged in the use of this technology so that they learn from the Indian experience.

Agriculture remains a critical economic sector in Africa but it needs to be boosted to meet the food and nutrition needs of the continent and provide vital income for more than %80 of the population. The Indian experience in the cotton sector, which benefits more than 7.5 million farmers and their families, will undoubtedly inspire African stakeholders and decision-makers. Such vital lessons will help AU member states to implement functional biosafety regulatory systems to safely harness existing and emerging agricultural biotechnologies and nurture a commercial seed system attuned to smallholder farmers.

Biosafety capacity-building workshop for regulators, scientists, and other stakeholders in Zimbabwe

AUDA-NEPAD, in partnership with the National Biotechnology Authority of Zimbabwe, organized a biosafety capacity-building workshop for regulators, scientists, and other stakeholders from 16-14th March 2023 in Harare, Zimbabwe.

About 35 participants from various technology, regulatory, and development institutions attended the training workshop. Topics covered in the training on the 14th and 15th of March 2023 included the importance of genetic technologies for enhancing food and nutrition security and livelihoods, introduction to genetic



A view of participants during the meeting

approaches for crop improvement, environmental risk assessment, food safety assessment, legal issues pertaining to GM crops, regulation of stacked traits and genome editing, and considerations for environmental release and decision making of biotech crops. In addition, standard procedures for the conduct of confined field trials (CFTs) and inspection and compliance monitoring of CFTs were addressed.

On the 16th of March 2023, participants traveled to Kadoma, where one of the GM cotton CFTs is being conducted by the Cotton Research Institute of Zimbabwe in collaboration with Quton Seed Company, Mahyco Seeds, and Bayer Crop Sciences. Representatives of these

seed companies provided briefings about the CFTs, and discussions were held on-site.

A few months ago, in 2022, Zimbabwe made a leap in approving CFTs of insect-resistant GM cotton, which is a precursor for commercial cultivation of the crop. Hence a critical need to make sure the country follows the necessary steps in compliance with national and international standards. AUDA-NEPAD's biosafety programme (ABNE) will continue providing technical support to Zimbabwe to help the country safely harnesses biotechnology and, eventually, other new emerging breeding techniques for its development.

Technical support for a consultative meeting on post-release stewardship of GM Commodities in Ethiopia

AUDA-NEPAD, in partnership with the Environmental Protection Authority in Ethiopia, organized a consultation meeting

on post-release stewardship of GM Commodities from 8-7 February 2023 in Addis Ababa, Ethiopia.

In attendance were 40 participants from an array of institutions in each of the cotton and maize value chain, including cotton farmers, experts from the Ethiopian Textile Development Institute, researchers from the Ethiopian Institute of Agricultural Research, Ethiopian Bio and Emerging Technology Institute, Addis Ababa University, regulators from the Environmental Protection Authority of Ethiopia and members of the National Biosafety Advisory Committee.

In the field of new agricultural technologies, the Ethiopian case seems to be a textbook case; the introduction of agricultural biotechnology seems a bit of a victim of its success. The demand for agricultural biotechnology, in particular in the cotton sector, so far seems to outstrip the supply. It was reported that more than %80 of the cotton cultivated



in Ethiopia is GM cotton, integrating insect resistance and herbicide tolerance introduced cross-border from a neighboring country without regulatory authorization.

The issue of stewardship, particularly the danger of the bollworm developing resistance to the gene through lack of noncompliance with some technical requirements, was also highlighted. If the source of the unauthorized technology can be traced and the developer agrees, it was suggested that the full dossier of the unauthorized technology be submitted to the regulatory body and the technology regularized. Then, the quality seed will be supplied by a licensed seed company, and expert knowledge will be provided for the proper stewardship of the technology. It was also agreed to revive engagement with JK Seeds company of India to

scale up the Bt cotton technology already approved and commercialized in the country. The issue of fast-tracking insect-resistant and herbicide-tolerant GM cotton hybrids approved for testing and possible commercialization was also raised.

The meeting was also an opportunity for sharing ideas on the management of co-existence in maize and on a briefing on staked GM traits whose application is deposited with the regulatory. Given that maize is the number one cereal crop in terms of volume of production, there is a need for further consultation, especially with policymakers as to whether co-existence is a critical issue for stakeholders along the value chain, including maize producers, consumers, and traders.

Kenya holds its eleventh annual biosafety conference in Naivasha



Group picture of part of participants during the conference

Biotechnology and Biosafety Stakeholders in Kenya met for the country's eleventh annual biosafety conference under the auspices of the National Biosafety Authority. A team from AUDA-NEPAD participated and contributed to this meeting held from 24-21 February in Naivasha. The main topic was "harnessing agricultural biotechnology through effective biosafety management systems."

Over 170 participants, including members of the public, high-level decision-makers and parliamentarians, NGOs, and researchers, among others, were sensitized on biotechnology and biosafety and the potential benefits of this technology to Kenya's economic growth and sustainable development. The conference also helped establish linkages, networking, and partnerships among participants of various biotechnology and biosafety stakeholders.

Kenya is one of the leading African countries in

research and development on agricultural biotechnologies and genome editing. After the commercial release of Bt cotton, the country has many other GM commodities at an advanced research stage, including maize, cassava, sorghum, banana, and sweet potato. However, the acceptance of GMOs, and GM food crops in particular, remains challenging in the country.

It is expected that the 11th biosafety conference that explored the best strategies for safely harnessing biotechnologies will prompt a continuous and constructive dialog among key stakeholders to enable the country to fully benefit from the results of the tremendous ongoing R&D work in the agricultural sector. This aligns 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."

Mr Samuel Timpo Takes Office as New Head of AUDA-NEPAD's ABNE Programme

Mr Samuel E. Timpo has been appointed as the acting Head of the AUDA-NEPAD's biosafety programme, the African Biosafety Network of Expertise (ABNE), as well as the Officer-in-Charge of the AUDA-NEPAD Regional Office in Dakar. He takes over from Dr Jeremy Tinga Ouedraogo, who spent over seven years in this position.

In his statement during the handover meeting, Dr Ouedraogo praised the incoming Head of ABNE and acknowledged the tremendous support Mr Timpo had provided to the ABNE programme since joining the organisation almost a decade and a half. "I am proud that the AUDA-NEPAD CEO and the Senior Management Team deemed it fit to appoint Mr Timpo to this position. I am also proud of how we worked as a team to surmount challenges and to make sure we achieved the AUDA-NEPAD goals in biosafety matters for Africa", he said. He also called on all ABNE staff to provide all the support they can to Mr Timpo so that the biosafety programme would continue to thrive and achieve tangible results to the benefit of AU Member States.

Mr Samuel Timpo also acknowledged the great contribution of Dr Jeremy Ouedraogo to the ABNE programme during his tenure. "Thank you, Dr Ouedraogo, for your leadership, building on previous efforts and achievements and for your openness and readiness to work with all. My gratitude also goes to colleagues for the teamwork and support over the years. We need to continue in that same vein as a team and with everyone contributing their quota", he said.

Prior to this appointment, Mr Timpo was the Principal Programme Officer within ABNE and based at the Centre of Excellence for Rural Resources and Food Systems in Dakar, Senegal. He was responsible for the socio-economic aspects of the programme and biosafety communication. He has been involved in



Dr Ouedraogo and Mr. Timpo during the handover meeting
 biosafety capacity-building efforts in Africa for over a decade and is the focal person in AUDA-NEPAD on matters pertaining to the Convention on Biological Diversity and its Protocols, and coordination support to African countries during international negotiations.

Mr Timpo previously worked as a socio-economist with the Biotechnology and Nuclear Agriculture Research Institute of the Ghana Atomic Energy Commission, during which period he coordinated biosafety capacity development activities in Ghana. He holds a Master of Philosophy degree in agricultural economics from the University of Ghana, Legon. Mr. Samuel Timpo also previously taught courses in entrepreneurship; micro-enterprise development and management; agricultural economics; and agricultural finance and marketing at the University of Ghana, the Ghana Institute of Management and Public Administration, and the School of Nuclear and Allied Sciences.