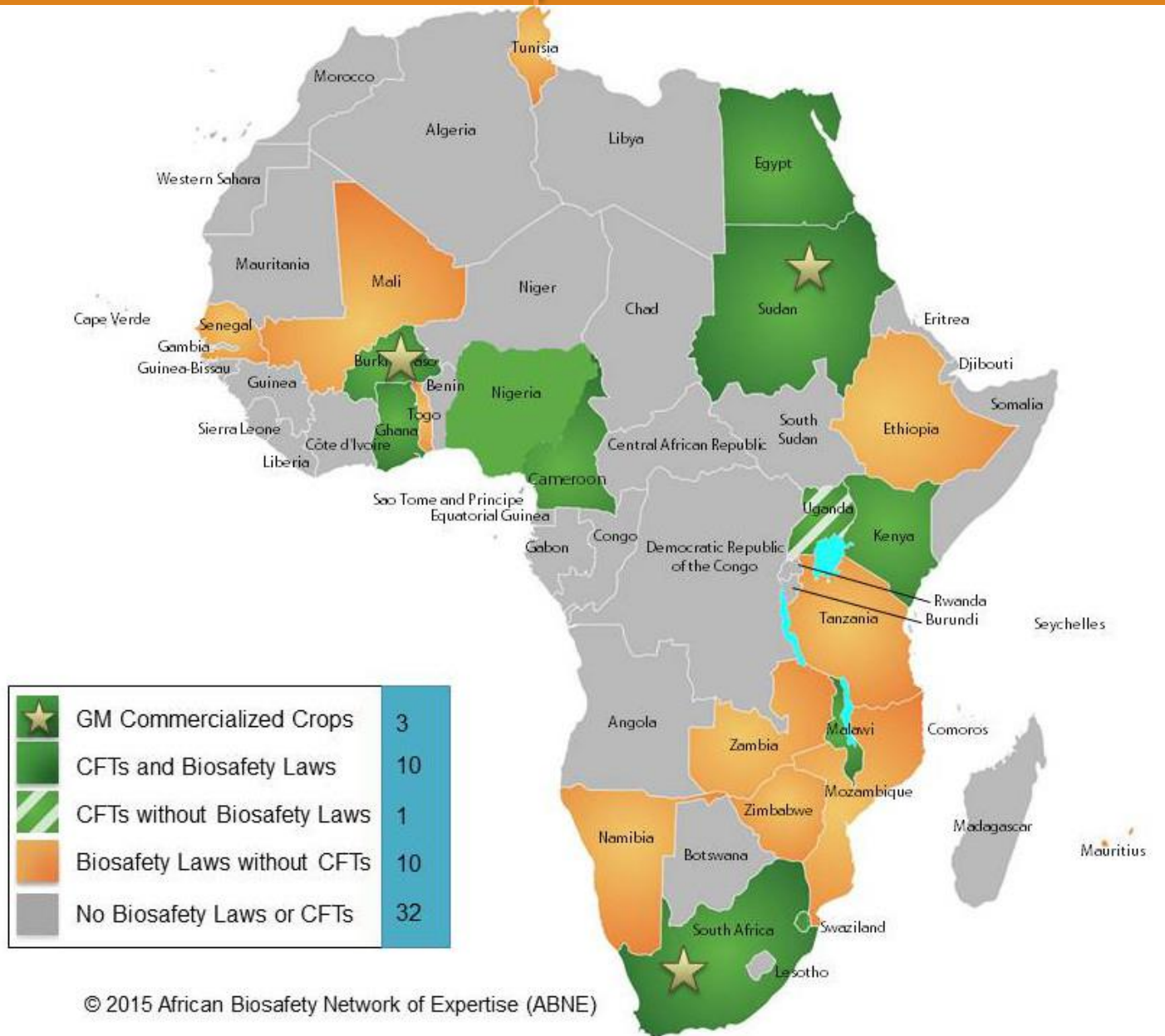




ABNE in Africa

Towards Building Functional Biosafety Systems in Africa



African Biosafety Network of Expertise (ABNE)

January 2016

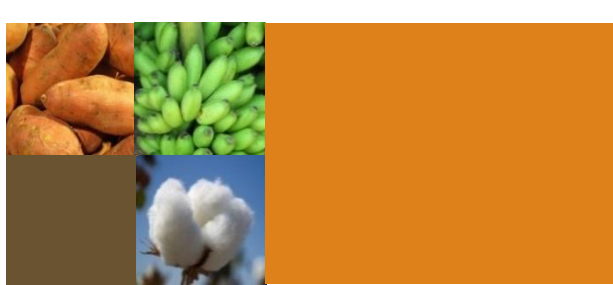


Table of content

Message from NEPAD Agency ABNE Director.....	2
Burkina Faso.....	4
Côte d'Ivoire.....	9
Ethiopia.....	10
Ghana.....	13
Kenya.....	20
Malawi.....	25
Mali.....	28
Mozambique.....	29
Nigeria.....	33
Senegal.....	39
Soudan.....	41
Swaziland.....	44
Tanzania.....	47
Togo.....	49
Uganda.....	52
Zambia.....	55
The WAEMU & ECOWAS harmonized biosafety framework.....	58





Message from NEPAD Agency ABNE Director

Partners and stakeholders in biosafety regulation and policy making in Africa, although NEPAD Agency ABNE faced some tough challenges this year, it is gratifying to note that 2015 has been a good year in the biosafety sector on the continent. Indeed, ABNE node in Ouagadougou faced serious security challenges due to a series of political turmoil in Burkina Faso. Following an uprising that occurred in late October 2014, the transitional government came into place thereafter and some disturbances soon appeared and led to a failed coup d'état with its attendant violence and insecurity and the postponement of the elections by one month. This affected some of our programmatic activities and some staff had to go on home leave for safety reasons.

Despite these challenges, ABNE has successfully implemented most of its planned activities to support the development of workable biosafety frameworks across Africa. Important milestones have been reached this year in countries like Ethiopia, Nigeria, Senegal, Sudan, Swaziland and Zambia.

In Ethiopia a new biosafety law (Proclamation) has been adopted with a clear political engagement towards a fast adoption of the technology for agricultural development. Nigeria biosafety Act came into being with the assent by the former President of the Republic of Nigeria. Thereafter, the National Biosafety Management Agency was established and its first Director-General appointed. Swaziland came into the loop of ABNE focus countries. Efforts are being made to revise the Swaziland biosafety law to make it investor-friendly as the country is poised for confined field trials for Bt cotton. Mali has also recently ratified the Nagoya Kuala-Lumpur supplementary protocol on liability and redress, paving the way to a revision and improvement of its regulatory framework. Zambia, Senegal and Sudan, became ABNE focus countries after requesting for our services and we intervened accordingly to assist them in capacity building towards developing and managing functional biosafety administrative and regulatory systems.

It is also important to report that African Union has again this year shown clear commitment to the development and modernization of agriculture in Africa through science, technology and innovation. Speaking at the last AU summit in South Africa in June 2015, African Union Commission Chairperson Dr Nkosazana Dlamini-Zuma emphasised that the NEPAD Agency has a key role to play in realising Agenda 2063, particularly with regard to the empowerment of farmers and women. As the implementing Agency of the African Union, "NEPAD needs to support women to access finance in agriculture and agro-processing and support their participation in the whole value chain for the transformation of agriculture and Africa's economy", Dr Dlamini-Zuma said at the closing session of the 2nd African Union High Level Panel on Gender Equality and Women's Empowerment (GEWE) in Sandton, South Africa. She emphasised that it was now time to banish the hand hoe to museums, instead of it being the symbol of women farmers in Africa, and to prioritise the modernisation and use of science and technology.

As NEPAD Agency ABNE is starting the second phase of its programme, the demand for functional biosafety framework is still growing across the continent. ABNE will continue to do its best to respond to the needs of AU members countries as far as our resources allow



ABNE in Africa

Building Functional Biosafety Systems in Africa

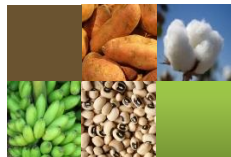


it. It is encouraging to note that some member states are significantly contributing to some of our activities and such initiatives are most welcome as they strengthen ownership and sustainability of ABNE work.

As this may be the last message I will be sending through this medium having led the wonderful team for the last six years and stepping aside early next year, let me seize the opportunity to thank you all. I acknowledge with thanks the unflinching support and cordial relationship we enjoyed working with MSU, Dr Karim Maredia, the programme PI and his team, the able leadership and guidance I received from Prof Aggrey Ambali, the encouragement and support received from Mr Lawrence Kent and BMGF, our technical advisory committee members (past and current) and the cooperation from UNCST Management for accommodating ABNE second node in Kampala, Uganda. I am very much indebted to the CEO, Dr Ibrahim Mayaki for his ever ready support and concern for our safety and wellbeing and for finding time to visit us in Ouagadougou during his annual vacations. Last, but not the least, my team members both in Ouagadougou and Kampala. Thanks very much for your hard work and cooperation. I wish you extend same to whoever will step into my shoes.

With best wishes to you all as we celebrate the festive season.

Prof. Diran Makinde
Director, ABNE
December 2015



Burkina Faso

While Burkina Faso entered its 8th consecutive year of commercial cultivation of Bt cotton in 2015, the country faced a difficult political situation subsequent to the insurrection of last year and the subsequent establishment of a transitional government. The political crisis aggravated with the unsuccessful military coup of October 16. This situation has caused serious security threat that negatively impacted on some of ABNE activities in the country. For instance, the last Management Committee meeting slated from October 17 – 18 in Ouagadougou was seriously disturbed. The Biosafety Short Course to be organised in partnership with the Polytechnic University of Bobo-Dioulasso could not take place at the scheduled time. In view of this unstable political situation and concern for staff safety, the NEPAD Agency CEO through the Management Committee directed that Ouaga staff should proceed on home leave in October.

Another challenge facing the country relates to the cotton production itself. Disappointingly, the adoption rate of Bt cotton cultivation, of around 73% was slightly reduced compared to the previous year's rates. This was a result of an unprecedented anti-technology campaign that caused a serious threat to the technology adoption, using the cotton lint fibre length as an excuse. Activists organized a protest against the technology globally on May 23 but with concentration of its efforts in Burkina Faso where they took advantage of the transitional government to ask for the ban of all biotech products in the country. Ministers in charge of Agriculture, Science and Technology were then urged by the Parliament to provide clarifications on the allegations claimed by the activists. ABNE actively participated in drafting technical papers required to support the Government official position.

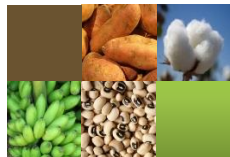
Status of agricultural biotechnology

In addition to Bt cotton of which the permit for commercialisation was renewed in 2013 for ten year, the regulatory agency has approved the following crops for trials.

- Cotton: confined field trial of stacked insect resistant and herbicide tolerant cotton are going on at the INERA Research stations. Data that have been collected and preliminary conclusions show promising benefits including a fibre length longer than Bollgard II and its conventional counterpart.
- Cowpea: Confined field trials (CFT) for Bt cowpea has been experimented now for four years. Currently the Maruca resistant gene is being introgressed into commercial varieties.
- Maize is the second food crop after cowpea to be approved for field trials in Burkina Faso. The National Biosafety Agency approved CFTs of insect resistant maize (Bt maize) and a stacked insect resistant and herbicide resistant maize (Bt X RRF) this year.

The status is summarised as follows (Table I)

Table I: Status of agricultural biotechnology in Burkina Faso



Crop	Trait	Status
Cotton	Insect resistance (Bt)	Commercialization since 2008 with permit renewed for 10 years starting from 2013
Cotton	Stacked : Insect resistance (Bollgard II) x Herbicide tolerance (RRF) :	CFT
Cowpea	Insect (<i>Maruca vitrata</i>) resistance (Bt)	4th year of CFT
Sorghum	Vitamin A, Zinc	Approval for Greenhouse experiment
Maize	Stacked : Insect resistance (Bollgard II) x Herbicide tolerance (RRF)	CFT : approval given in 2015
Non crop organisms : Transgenic mosquitoes	Reduce malaria vector population (<i>Anopheles gambiae</i>)	Application to be submitted in 2015

Regulatory capacity building efforts

Early this year the Government adopted the implementing regulations for the revised biosafety law of 2012. The Government also approved a new status for the National Biosafety Agency (ANB) providing it with enough autonomy to operate independently. Consequently, ANB has improved on the technical staff critical mass required to meet the new challenges.

Based on these new developments and the priority needs expressed by the national agency, ABNE provided the necessary support for the following:

- training ANB staff on Food Safety in Michigan State University
- training ANB staff at Ghent University, Belgium
- organized training workshop on Environmental Post-Release Monitoring in Ouagadougou

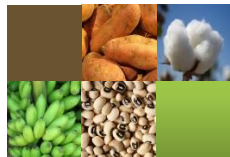


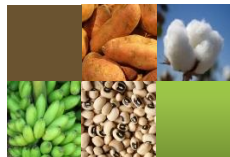
Table II below summarises capacity building activities in 2015

Table II: Summary of 2015 capacity building activities for Burkina Faso’s regulators

Activity	Date and venue	Beneficiaries
Training on Food Safety	Michigan State University	01 participant
Training on Biosafety Fundamentals	Ghent University, Belgium	03 participants
Training on Post Release Environmental Monitoring	Ouagadougou, Burkina Faso	13 participants
Total		16



Training on Environmental Post Release Monitoring of GE Crops, Ouagadougou, September 2015



ABNE in Africa

Building Functional Biosafety Systems in Africa

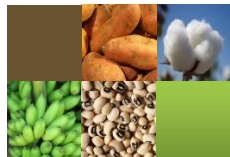


ANB young staff sponsored by ABNE to participate in training at Ghent University, September 2015

Areas of focus for future intervention in Burkina Faso

- With the presidential and legislative elections coming by the end of 2015, there will be a contingent of new government officials and members of parliament completely unaware of biosafety and biotechnologies issues, i.e benefits and challenges. They will need to be educated and sensitized in order to keep the country on the path of harnessing the benefits from the agricultural technology
- With the new status conferred to the national regulatory body to freely operate, young personnel are being appointed and these will need to be properly trained.
- With the growing anti-technology activism aiming to stop the technology in Burkina Faso and prevent its adoption in neighbouring countries there is a need for more efficient communication
- ABNE future intervention will focus on the following objectives :
 - o Build a critical mass of well-trained young biosafety experts newly appointed at ANB
 - o Create awareness and build knowledge among the decision makers and law makers of the new administration coming on board after the elections,
 - o Improve public communication on the safety of agricultural biotechnology
 - o Assist scientists and researchers in their role and for more engagement in biosafety while increasing their participation in the public debate.
 - o Facilitate the establishment of IBCs within research institutions.
 - o Pursue the partnership with the universities

It is also important to note that Burkina Faso is involved together with Mali and Uganda ABNE in a non-crop GM program targeting to control Malaria vectors. ABNE is assisting with the regulatory aspects of this project in partnership with the US Danforth Center. The



ABNE in Africa

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National Biosafety Agency has seen the value to establish Institutional Biosafety Committees. ABNE has been approached to assist with this.

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Cote d'Ivoire

In June this year, the Government of Côte d'Ivoire signed the Cartagena Protocol on Biosafety after the process was stalled for many years due to the national political crisis. This was indeed considered a key milestone. Last year an international service provider was selected to assist the country develop a strategic plan for biotechnology and biosafety. Preliminary discussions emerged from this process demonstrated that Ivoirians are determined to go ahead and experience agricultural biotechnology by themselves. This is in spite of the recent activists' manipulative communication from Burkina Faso.

Currently the Government is in a process of passing a biosafety law, and interest has been expressed by the interim NBC to benefit from ABNE technical assistance. While waiting for an official request for such assistance, ABNE together with other partners this year provided technical assistance to reach out to Ivorian stakeholders. It is also worth noting that Cote d'Ivoire is part of WAEMU and plays an important role in the regional approach to biosafety.

Focus areas for ABNE future interventions

Upon official request from the Government of Cote d'Ivoire, ABNE will:

- provide technical assistance to finalize the draft bill and the related implementing regulations;
- provide support for sensitization and awareness creation for decision makers and law makers; and provide training to Media personnel in order to improve public communication, in response to activists' manipulative communication from Burkina Faso.

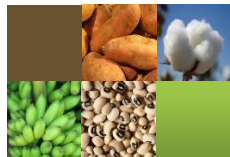
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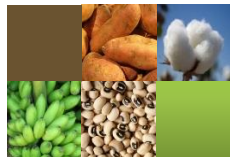
Ethiopia

In the year 2015, Ethiopia has taken significant positive measures to build functional biosafety regulatory systems by amending its Biosafety Proclamation of 2009. This came as a result of a concerted effort ABNE has made in inculcating the importance of putting in place a workable biosafety regulatory system in the country. At a time when the draft amendment on the Biosafety Proclamation was stalled at the parliament, ABNE conducted a national biosafety and biotechnology sensitization and awareness creation workshop from 27 – 29 March 2015 for parliamentarians drawn from three standing committees, namely Parliamentary Standing Committees for Agriculture, Environment and Science and Technology. Among others, 57 parliamentarians attended this three day workshop.



The limelight of NEPAD Agency ABNE's engagement on building functional biosafety system in Ethiopia in 2015 is its convening of a biosafety /biotechnology sensitization and awareness creation workshop for three standing committees of the House of People's Representatives. A total of 70 people including 57 members of parliamentary standing committees for Agriculture, Environment and Science and Technology attended the workshop. The workshop was conceived and organized by ABNE and co-sponsored by PBS.

This helped the parliamentarians to pass the amendment to the Biosafety Proclamation in May 2015. During the workshop, parliamentarians attested that the adoption of GM crops for Ethiopia is no more a choice but a necessity to enhance food security and the supply of raw materials for the rapidly emerging textile industry. This gave a very critical lead for the national agricultural research system, technology developers and partner institutions to engage in discussions with the national biosafety focal point on modalities for the submission of CFT applications.



ABNE partnered with Program for Biosafety Systems in convening the workshop. Both ABNE and PBS contributed resource persons and finances. ABNE and PBS resource persons discussing salient issues in between sessions.



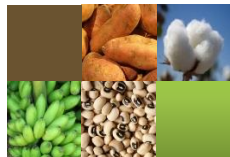
Active discussion with parliamentarians at the workshop (27 - 29 March 2015) sessions was instrumental in building confidence and in imparting the vital information needed for building a workable biosafety regulatory environment in Ethiopia.

Looking Ahead: Biosafety Needs and Gaps

Ethiopia has displayed quite a lot of political will to embrace biotechnology for economic development. The country has amended its Biosafety Proclamation and has made it workable. The revision of its Implementing Directives is underway and will soon be made compliant with the amended proclamation. For all intents and purposes, Ethiopia has made visibly significant progress in making its biosafety regulatory system functional. However, the country needs continuous engagement and support as it looks forward to officially approving and implementing CFTS in 2016.

Importantly, with the recent openness of the country for GM crops, misinformation and distortion by opponents of GMOs may soon increase. As a result, ABNE needs to integrate and scale up its capacity development endeavors on science-based biosafety information dissemination, education and awareness creation for the public in general and parliamentarians and policy makers in particular.

Table 3: Summary of ABNE Human Capacity Development Activities in Ethiopia



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Building Functional Biosafety Systems in Africa



Type of intervention	Venue and date	Number of regulators / Stakeholders empowered
Basics of Building Functional Biosafety System in Ethiopia” from	Ambassador Hotel, Addis Ababa, 8 - 10 October, 2014	60
International Short Course on Biosafety /Biotechnology for Lawyers	July 28 - August 2, 2013	1
Regulatory study tour to India	October 2013	1
Regulatory study tour	South Africa, June 4 – 11, 2014	1
Biosafety short course	Makerere University, Uganda, 14-17 July 2014	3
International Short Course on Environmental Biosafety of Agricultural Biotechnology	Michigan State University, August 3 – 8, 2014	1
International Short Course on Agricultural Biotechnology	Michigan State University, September 8 – 20, 2014 at MSU	2
Biosafety /Biotechnology Sensitization and Awareness Creation for Parliamentarians and Decision Makers	Harmony Hotel, Addis Ababa, 27 - 29 March 2015	70
African Biosafety Lawyers Roundtable Meeting	Ghana, 29 – 31 July 2015	1
Total		140

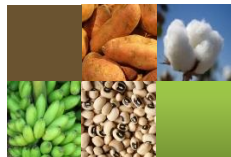
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Ghana

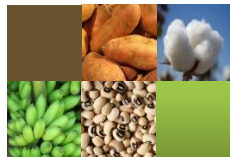
Ghana's biosafety regulatory system is maturing. This year, the final administrative component of Ghana's biosafety regulatory system was completed with the i) inauguration of the Board of the National Biosafety Authority (NBA); ii) appointment of a chief executive office of the NBA; iii) completion of an office complex to house the administrative staff of the NBA; iv) Creation of a cost centre for the Authority by the Ministry of Finance to enable it operate on its own budget; and the allocation of some budget by the Sector Ministry. It will be recalled that in 2014, ABNE undertook a number of high level visits to advocate for the establishment of and government support to the NBA. The establishment of the NBA is an important milestone for the regulatory system in Ghana and a demonstration of political will by government to ensure the safe management of modern biotechnology in Ghana. Notwithstanding this important milestone, Ghana is yet to pass regulations to implement the Biosafety law, 2011 (Act 831).

Prior to the passage of the Biosafety act in 2011, Ghana took an interim measure by passing an implementing regulation to the CSIR Act (Act 521 of 1996) titled Biosafety (Management of biotechnology) Regulations, 2007 (LI 1887). This served to regulate research in modern biotechnology while the substantive act was being worked on. LI1887 created and empowered the then National Biosafety Committee (NBC) to receive and process applications for research purposes only and is yet to be repealed. To ensure that the NBA exercises its full mandate under the biosafety act (Act 831, 2011), an implementing regulation is required to repeal and replace the existing regulation (with limited scope). This has and still remains one of the strategic focus areas for ABNE. Considerable progress was made this year which will be sustained next year until the regulations are passed.

The biosafety system of Ghana exhibited considerable resilience this year following a legal suit that challenged the setup, mandate and operations of the NBA (previously NBC). A civil society group earlier this year (2015) brought a suit against the NBC, NBA and other state actors seeking an interlocutory injunction on the development and release of GMOs in Ghana. Ultimately, the group wanted a ban on the release of GMOs in Ghana for any purpose. A high court of the republic of Ghana currently hearing the case has dismissed the application for injunction on the grounds that it lacked merit. This case notwithstanding, the biosafety Authority is functioning with commendable confidence. This is an important indication that Ghana has a robust and resilient regulatory system.

Status of biotech R&D in Ghana

Two applications to amend existing permits of two projects were considered for the approval of the NBA in 2015. These were the Maruca Resistant Cowpea (Bt Cowpea) by the Savanna Agriculture Research Institute (SARI) and the Nitrogen Use, Water efficient and Salt Tolerant (NEWEST) rice by the Crop Research Institute (CRI). The Bt Cowpea project sought an amendment to commence multi-location confined trials at Manga in the Upper East Region and Damogo in the Northern Region. The NEWEST rice project sought to change the location to an upland site. The current trial location is no more suitable for the trial and may affect the reliability of data obtained from the trials. This is an indication



that Ghana's regulatory system is flexible and adaptable and also speaks to the maturing nature of the regulatory system in Ghana given the enormous pressure from civil society.

Crop currently being tested under confinement include cowpea, cotton and rice. Even though High protein potato was approved for CFT earlier, it was not conducted. See summary in table 4 below:

Table 4: Status of CFTs and MLTs in Ghana

TRIAL (TRAIT)	RESPONSIBLE INSTITUTION	APPROVAL CATEGORY	CURRENT STATUS
Herbicide tolerant Cotton	Savanna Agricultural Research Institute (SARI)	Confined Field Trials	Trial on-going
Herbicide tolerant cotton x Bt cotton (Stacked traits)	Savanna Agricultural Research Institute (SARI)	Confined Field Trials	Trial on-going
Nitrogen-use efficiency (NUE) rice	Crop Research Institute (CRI)	Confined Trials	On-going; Change of location approved
Nitrogen-use efficiency, Water Use efficiency and Salt Tolerant Rice (NEWEST) triple stack	Crop Research Institute (CRI)	Confined Trials	Approved; yet to commence
Bt (Maruca resistant) Cowpea	Savanna Agricultural Research Institute (SARI)	Multi Location Confined Field Trials	Approved; to commence in 2016
High protein sweet potato	Crop Research Institute (CRI)	Confined field trials	Yet to commence

ABNE Biosafety Capacity Building Interventions in Ghana

ABNE has since 2010 been providing assistance to Ghanaian regulators; including the NBC, Institutional Biosafety Committees (IBCs) of research institutes, and state regulatory agencies charged with biosafety monitoring and inspection under the LI 1887 and the Biosafety act 2011. This has been in the form of logistical support to make the Biosafety secretariat functional, b) Human resources capacity building, and c) Provision of technical assistance and expertise. Our core strategic thrusts in 2015 remained;

- i. creation of an enabling policy, legal and institutional environment for biosafety regulation,
- ii. empowering a critical mass of regulators with improved competencies to administer the biosafety regulatory regime
- iii. enhancing biosafety communication to promote general biosafety awareness and public participation in Ghana.



ABNE in Africa

Building Functional Biosafety Systems in Africa



Five (5) main activities were led by ABNE in Ghana in 2015:

i) **Augmenting the regulatory capacity of the NBA;** following the inauguration of the Board of the NBA, ABNE worked with the biosafety Authority to provide **training on biosafety administration and decision making** for the Board members and administrative staff of the NBA. This was necessary to get them started and to help new members catch up.

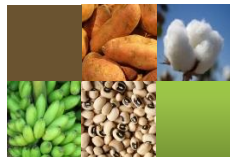
ii) During the on-going legal suit in Ghana brought against the NBA by civil society, ABNE provided **extensive technical and legal support** to the NBA to help the Authority and the government legal team representing the NBA prepare adequately to respond to the affidavit filed by the plaintiff and to defend the response in court. This was done through close meetings with the NBA and the legal team, sensitization meetings for the legal team, training workshops for lawyers and support to participate in study tours (seeing is believing) and interact with experts in the field.

iii) **sensitization of news editors;** ABNE recognized the significance of the print and electronic media in facilitating public awareness and participation in biosafety activities and decision making. News editors are thus pivotal in this regard, as the final decision to publish or not resides with them. In this vein, ABNE partnered with the NBA to sensitize news editors to ensure that biosafety issues get a fair and balanced coverage in Ghana. This will ensure that the public are equipped with factual information on biosafety.



Group photo of participants in the News Editors' roundtable

iv) **sensitization of farmer leaders;** Farmers are the end users of the technology and thus an important stakeholder. Following a request from the leadership of the farmers and the NBA, ABNE partnered with other initiatives to conduct a sensitization workshop for the leadership and representatives of the farmer unions in Ghana. This was also important to facilitate dialogue and contribute to the process of mending the divided front of the farmer leadership.



ABNE in Africa

Building Functional Biosafety Systems in Africa



v) **biosafety short course** organized in collaboration with the University of Ghana, Legon. This was part of on-going efforts to institutionalize biosafety capacity building in the universities in Africa. This was the maiden course with participants from Anglophone west Africa (Ghana and Nigeria).



Group photo of part of participants during the short course

vi) Others; Ghanaian regulators, policy makers and important stakeholders were also supported to participate in other capacity building opportunities including; i) food safety and Biotechnology short courses both at Michigan state university, and ii) Lawyers training in Ghana and Kenya.

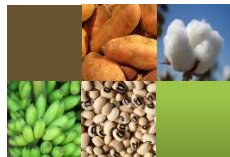
Table 5 below (Annex 1) summarizes all the activities that were undertaken by ABNE from 2010 – 2015 to support regulators, policy makers and other stakeholders through various training and education platforms such as workshops, internships and study tours, and biosafety short-courses *inter alia*.

In addition, regulators were empowered to effectively access biosafety information resources available on ABNE web portal and on trusted biosafety/biotechnology information sources on the internet. ABNE continues to maintain an open communication with the Ghanaian regulators for guidance and rapid technical support when necessary. This has established ABNE as a credible and trusted source of biosafety regulatory information for the competent authorities in Ghana.

Impact of ABNE's Partnership with Ghana in 2015

ABNE provided leadership and technical support that led to the achievement of all the important milestones that have been captured in earlier sections of this publication and summarized below;

1. **Competent administration established;** the NBA in Ghana has been established and given basic training.
2. Commendable progress in finalizing the regulations to implement the biosafety act



ABNE in Africa

Building Functional Biosafety Systems in Africa



3. **Resilience**; strategic interventions and technical support to Ghana ensured that the biosafety system remained resilient in the face of legal challenges by civil society.
4. **Changing media landscape and awareness among key stakeholders**; sustained multi-stakeholder sensitization ensured that some key stakeholders that were previously misinformed are gradually getting the facts right and are joining the drive to increase public awareness.
5. **Political will and sustainability**; continuous engagement with policy makers is beginning to yield fruits with an increasing government buy-in and funding of biosafety related activities. Government providing matching funds for activities
6. **Increasing confidence of regulators and the biosafety Authority**; technical backstopping to the NBA ensured that regulators remained confident even in the face of a legal battle. The NBA received and processed two applications for variation of permit for Bt Cowpea and NEWEST rice.
7. **Institutionalization of biosafety training in Ghanaian University**; Inaugural Biosafety Short course successfully organized in Ghana (University of Ghana). This was a well-attended and hugely successful course targeted at key stakeholders in Ghana. Opportunities for sustainability and ownership by the university are being explored.

2016 in focus; Future Capacity Building Efforts

In 2016, ABNE will strive to sustain and build on progress made in 2015. The broad focus in 2016 will be on sustaining and further broadening biosafety awareness amongst key stakeholders particularly the media and farmer groups; supporting the NBA to conduct public education to inform the masses on the activities of the NBA under the Biosafety Act; improving the legal environment by supporting the finalization of guidelines and implementing regulations; preparing the regulatory system in Ghana for general release, i.e. through hands-on technical training on risk assessment and decision making for general release; and to assist the competent Authority to effectively coordinate biosafety communication to further improve biosafety awareness across the country. ABNE will continuously review Ghana's capacity gap through proactive issue sensing and design tailored interventions to help sustain gains made so far.

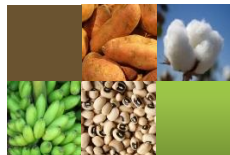
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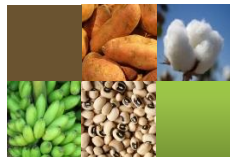
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Annex 1: List of activities conducted in Ghana by ABNE 2010 – 2015

Activity	Venue and Date	Numbers Benefited
Training workshop on biosafety administration; application handling and biosafety decision-making	Ghana; - March 2010 - November 2010 - May 2013 - May 2015	40 27 15 16
Biotechnology and Environmental biosafety short course	Michigan State University –USA; - July 2010 - August 2012 - August 2015	1 2 1
Food safety short course	Michigan State University –USA; - August 2010 - July 2015	1 1
Internship	South Africa; - November 2010 - May 2012	2 1
Study tour	South Africa; - November 2010 - May 2012 India; - December 2010 - October 2013 Ghana (Tamale); - October 2014	2 2 1 1 3
Sensitization workshop for Members of Parliament in Ghana on the Biosafety Bill	Ghana; - January 2011	40
Training & technical support to strengthen regulatory capacity for risk assessment (application review, decision making)	Ghana; - January 2012 - August 2012 - April 2013 - May 2014	31 30 27 24
Training to strengthen regulatory capacity of for inspections, monitoring and compliance (Institutional Biosafety Committees in Ghana)	Ghana; - June 2012 - July 2013	20 30
Training to strengthen biosafety communication capacity	Ghana; - August 2012 - May 2013	25 13
Preparatory meeting on multi-location trial of GE crops in Ghana; Case of Bt cotton	Ghana, April 2013	12
Biosafety for lawyers short course	Michigan State University –USA; - July 2013 Ghana; - February 2015 Nairobi; - October 2015	1 8 4
Training of Trainers (ToT) programme	Michigan State University –USA; - May 2013	2
Biosafety short-course in partnership with African Universities	Polytechnic University of Bobo-Dioulasso – Burkina Faso;	



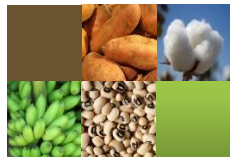
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	- November 2013 University of Ghana;	3
	- July 2015	35
Regional food/feed safety workshop	Accra, Ghana	11
Biosafety awareness workshops for stakeholders (Farmers, Media, Editors, Policy makers, etc.)	Accra;	
	- March 2014	32
	Kumasi;	
	- August 2014	26
	Ada;	
	- September 2015	27
	Accra	
	- November 2015	47
TOTAL		554





Kenya

Kenya, among other East African Community countries has been tipped to lead in the commercialization of GM crops, since becoming the first East African country to enact her Biosafety Act in 2009 and implementing regulations in 2011. Since the legal framework is in place the focus since 2012 have shifted from commercialization of the GMOs product to the removal of the ban that was imposed in 2012. The ban was pronounced by the executive arm of government and it is only logical that a political process must be used to remove it. The Deputy President, HE William Ruto made a proclamation during the 2015 biosafety conference in Nairobi that the ban would be lifted within two months but this has to follow a legislative procedure through the Parliamentary Cabinet.



Group picture with the selected participants with the Deputy president HE William Ruto during the Biosafety conference at Kenya School of Monetary Studies (KSMS), August, 2015



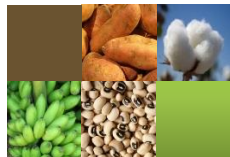
Close door meeting with the Deputy President of Kenya HE William Ruto during the Biosafety conference at Kenya School of Monetary Studies (KSMS), August, 2015

ABNE in its efforts in Kenya towards the lifting of the ban hired a consultant to assist in this regard.



Group Picture with the consultant (Prof Crispus Kiimba) during the Biosafety conference at Kenya School of Monetary Studies (KSMS), August, 2015

Despite the ban, the National Biosafety Authority (NBA) claimed that the issue of the ban does not stop them from commercializing biotech crops in Kenya. True to this statement, two applications for commercial release of GM Maize (WEMA) and Bt cotton have been



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submitted for review to the NBA and it is being processed now. NBA has published these applications in two widely read national newspapers in compliance with the national biosafety Act. In anticipation for these application submissions for commercial release, ABNE organised a training workshop on the application review process for the commercial release of GM crops in Kenya in April, 2015. The training was well received both for the regulators, NBA members and the board of the management that will take the final decision on the pre-empted application that was expected to be submitted later in the year in collaboration with other service providers in Kenya.

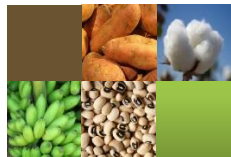


Group picture of the regulators and NBA during the workshop “Towards Strengthening Regulatory Capacity on Risk Assessment during Review and Processing of Applications for Environmental Release of GM Crops, March, 2015, Maanzoni Lodge, Nairobi, Kenya

In addition to the preceding efforts, ABNE in collaboration with Program for Biosafety Systems (PBS) successfully organised a review process of a Guideline Document for the Operationalization of the Kenya’s Institutional Biosafety Committees (IBCs), to enhance their functionality at the institutional level as specified in the Biosafety Act 2009.



Participants group picture during the review workshop on Strengthening Regulatory Capacity of Institutional Biosafety Committees, Lukenya Gateway, June, Kenya



In a follow up to the Review Guideline Document, ABNE in collaboration with PBS, conducted an additional training workshop for IBC members from nine research Institutions and universities where GMO research is being conducted in Kenya, in October 2015 to further capacitate them for optimized performance.

All these activities were geared towards building and enhancing the capacities of Kenyan regulators. These endeavours in addition expose regulators and NBA staff to the best practices on biosafety issues as practised elsewhere. For example, in August 2015, Kenyan regulators were part of the ABNE-MSU organized annual training in the Michigan State University.



Cross section picture of Kenyan regulators during the Biosafety Short Course for African Regulators, Makerere University, July 2015, Uganda



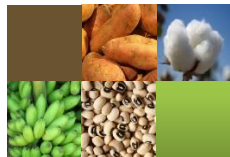
Cross section picture of Kenya regulator with other participants in Washington during the short course organised by Michigan State University

In 2015, ABNE partnered with, MSU to train African biosafety lawyers in Ghana and Kenya. Eight Kenyan lawyers were part of this training which was aimed at widening the scope of lawyers understanding of the biotechnology, its regulations and possible scenarios of court cases.

In this same year still, ABNE and ISAAA under the auspices of the NEPAD Planning and Coordinating Agency (NPCA) led regulators and policy makers from the African countries, including Kenya on a study tour to Brazil. This tour was a success as these policymakers and regulators got the opportunity to directly interact with their peers and industry practitioners in South America.

ABNE biosafety capacity building activities in Kenya

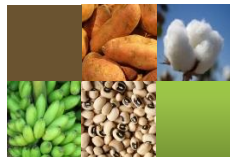
A summary of ABNE’s biosafety capacity building activities in Kenya is presented in table 6.



Cross section picture of study tour to soybean farms in Brazil, March 2015, Londrina, Brazil

Table 6: Summary of ABNE Activities for Kenya

Activity	Venue and Date	Numbers Benefited
Workshop on risk assessment, risk management, and decision making processes for Kenyan regulators	Kenya, July 2010, March 23 – 24, 2015	69
Training workshop on biosafety regulatory processes in agricultural biotechnology for the National Biosafety Authority	Kenya, April 2011	17
IBC training	Lukenya June 2015, Nairobi October 5 – 6 2015	40
Short courses in Agricultural Biotechnology; Environmental Biosafety; Food Safety; Science and Technology Communication; and Biosafety Training for Lawyers	Michigan State University –USA, July - September, 2011; July – September 2012; and July – August 2013, August 2015	14
Regulatory study tours	South Africa, November 2010; February 2012, USA February 23 – 26, 2015, Brazil March 14 – 21, 2015	16
Strengthening biosafety communication capacity of the Board of the National Biosafety Authority	Kenya, September 2012	22
Building decision making capacity for commercialization of genetically modified crops in Kenya	Mombasa, Kenya, November 2012	20
International training programme on biosafety for African regulators, policy, and decision makers	Polytechnic University of Bobo-Dioulasso – Burkina Faso,	1



	November 2013	
Masters e-biosafety course	Italy, January – December 2013	1
Regulatory study tour	India, October 2013	2
Biosafety internships	Pretoria, South Africa, November – December 2010; May 2012	2
International Meetings	Burkina Faso, South Africa and Sri Lanka, December 2010 and 2013	16
Training for African Lawyers in Biosafety	Cape Town, South Africa, March 2014; Ghana 2015, Kenya October 28-29, 2015	13
Biosafety study tour to South Africa	Pretoria, June 2014	1
Biosafety Short Course	Makerere University, Kampala Uganda 14 th -17 th July 2014	6
International Short Course on Environmental Biosafety of Agricultural Biotechnology	Michigan State University, August 3 – 8, 2014	4
TOTAL		231

Future Areas of Capacity Building

1. ABNE will continue to provide support in form of Technical backstopping towards the review on the GMO ban in Kenya.
2. ABNE will continue working with its partners in order to achieve this goal. ABNE will continue to provide technical assistance to the NBA (Bio-safety secretariat) for functionality and will follow up training on commercialization of GMOs in Kenya.
3. ABNE aims at conducting a GM crop environmental risk management strategy training workshop.
4. ABNE will provide Technical support for the finalization of the development of national Biosafety communication strategy.

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Malawi

Malawi has been conducting CFT of Bt cotton since 2013. In the year 2015, two CFTs of Bt cotton, one at Bunda College and the other in Toleza Farm in Balaka were conducted.

In the year 2015, Malawi approved the first confined field trial of a genetically modified food



ABNE Management Team paid a visit to the Bt cotton CFT in Balaka in April 2015

crop: cowpea variety bearing the Bt gene conferring resistance to Maruca pod borer. This approval came in the wake of the convening by ABNE of a training workshop on key issues of a food crop CFT conducted from 14 - 15 March 2015 at Salima, Malawi.

In the first two days of the workshop, participants received insights on managing a food crop CFT application and on regulating a food crop CFT. Topics addressed included:

- elements of a food crop CFT application, application review and decision making
- introduction to GM food crop CFTs
- quality management systems for food crop CFTs
- principles of CFT inspection and compliance monitoring
- addressing compliance shortcomings
- challenges of biosciences communication
- strategies to enhance visibility of the national biosafety regulatory system in order to win public trust, and
- emerging legal issues in biosafety regulation in Africa.

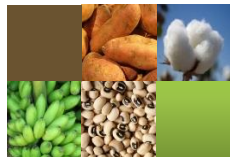


Training workshop on key issues of a food crop CFT (14-15 March 2015, Salima, Malawi)

On the third day, participants gained insights on the importance of biosafety communication and also shared their views on the state of communication and interaction among the national stakeholders to move the biosafety agenda forward in support of the safe adoption of modern biotechnology for agricultural development.

Looking Ahead: Biosafety Needs and Gaps

Malawi has made significant progress in building workable policies and regulations. The



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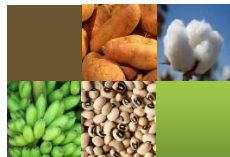


country has also acquired experience in testing a genetically modified crop variety, namely Bt cotton. Malawi is preparing to undertake a CFT on cowpea – the first GM food crop to be tested in the country. Successful conduct of this food crop CFT and on-farm testing and commercialization of Bt cotton in the country requires a renewed engagement and regulatory support for the country to make economic benefit from investments made so far.

It is important to note that with these apparent progresses made, the usual misinformation and distortion activities of anti-GMO activists have grown considerably in recent months. To counter this imminent challenge, ABNE along with other partners has noted the importance of strengthening biosafety communication and awareness creation capacity and has shared its biosafety communication manual with the Malawian biosafety office and encouraged the office to build national biosafety communication strategy. ABNE will pursue this activity with a renewed strength in 2016.

Table 7: Summary of ABNE Human Capacity Development Activities in Malawi

Type of intervention	Venue and date	Number of regulators / Stakeholders empowered
Environmental biosafety short course	Michigan State University, 25– 30 July 2010	1
Study tour	South Africa, 28 November – 4 December 2010	2
Study tour	India/ Sri Lanka, 6– 18 December 2010	1
Malawi Biotech/Biosafety Net-mapping in collaboration with IFPRI/PBS	Livingstonia Beach Hotel, Malawi 7-8 April 2011	34
ABNE Scientist and Regulators' Forum	Arusha, Tanzania, September 2012	1
1-year Biosafety Certificate Program	Michigan State University, 2012-2013	1
Strengthening the Capacity of Inspectors in CFT Inspection, Monitoring, and Compliance	Pacific Hotel, Lilongwe, Malawi, 26 - 28 February 2013	23
Bt Cotton Confined Field Trial Regulatory Progress Review and Training	Pacific Hotel, Lilongwe, Malawi, 9 – 11 July 2013	15
Biosafety and Biotechnology for Lawyers	Michigan State University, July 28 - August 2, 2013	1
Training workshop on regulatory handling of GM crop multi-location trials	Pacific Hotel, Lilongwe, Malawi, 19-20 March, 2014	24
Regulatory study tour	South Africa, June 4 – 11, 2014	1
Biosafety short course	Makerere University, Uganda, 14-17 July 2014	3



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International Short Course on Environmental Biosafety of Agricultural Biotechnology	Michigan State University, August 3 – 8, 2014	1
International Short Course on Agricultural Biotechnology	Michigan State University, September 8 – 20, 2014	2
Biosafety short course	Makerere University, Uganda, 13-17 July 2015	2
Training Workshop for Regulators on key issues of a Food Crop Confined Field Trial and Workshop for Enhancing Communication/ Interaction among Regulators and Agricultural Researchers in Malawi	Mpatsa Lodge, Salima, Malawi, March 17 - 19, 2015	38
Total		150

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Mali

Farmers in Mali are still demanding Bt cotton despite the anti-technology manipulative communication from Burkina Faso activists that has affected some of stakeholders in Mali.

Mali is actively involved in the Target Malaria project together with Burkina Faso and Uganda, aiming to reduce malaria transmission using transgenesis to control the population of *Anopheles gambiae*. Applications for field trials may be submitted early next year. Regulators will then need to be empowered on the dossier review and decision making processes.

It also seems that the country may soon receive applications for confined field trials of Bt cowpea and bio-fortified banana.

Biosafety Capacity Building Efforts

In February 2015, ABNE assisted to draft a roadmap for Mali targeting the establishment of an enabling legal environment necessary for the adoption of Bt cotton as requested by farmers.

Based on this roadmap, the Government in September ratified the Kuala Lumpur Supplementary Protocol on Liability and redress. This is considered a key milestone which will justify and trigger the revision of the Mali biosafety law.

Areas of focus for ABNE future intervention

Pending a stronger engagement from the Government and taking into consideration the national security conditions, ABNE will continue providing the necessary support:

- For the review of the law and to improve the institutional arrangements within the NBC, i.e establishment of IBCs for e.g.
- To empower regulators on the risk assessment and decision making processes in case applications being submitted
- To improve public communication over risks and benefits in response to activists' manipulative communication spread over Francophone West Africa
- To reach out to high ranking decision makers

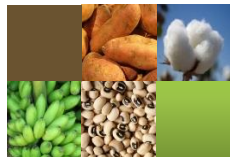
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Mozambique

The government of Mozambique acknowledges the contribution that modern biotechnology can make to meet critical needs for food and nutritional security. At the same time, the government also recognizes that the development of modern biotechnology must go hand-in-hand with appropriate regulations in order to maximize the benefits while minimizing potential risks. The government has taken positive steps towards achieving this goal, including: i) the ratification of the Cartagena Protocol on Biosafety in December 2001, ii) the establishment of an inter-institutional working group (GIIBS - Grupo Inter-Institucional Sobre Bio-Segurança) in 2002 to serve as the National Biosafety Committee (NBC) followed by the designation of the Ministry of Science and Technology to serve as the National Biosafety Authority, and iii) the drafting of biosafety regulations/guidelines in 2007.

Mozambique is part of the WEMA project, together with Kenya, Uganda, Tanzania and South Africa. Mock field trials were conducted in 2010 in Mozambique as part of the training programme offered by the WEMA team. Mozambique is also a cotton growing country and faces the same challenges posed by the need to control damaging pests as in many other cotton producing countries. Yet, no application for the use of the new modern biotechnology tools has been submitted due to the lack of a workable regulatory process.



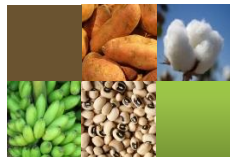
A working visit by ABNE Director and Agricultural Biosafety Programme Officer to the Biosafety Focal office in Maputo in August 2014

ABNE Support to the GIBBS in Mozambique

ABNE is engaged with the Government of Mozambique through the GIIBS to set up a fully functional biosafety system that would allow the country to efficiently regulate the use of agricultural biotechnology towards meeting the current challenges. Table 8 summarizes the ABNE capacity building activities that were carried out for Mozambican regulators from December 2009 to October 2014. Around 57 Mozambican regulators have directly benefited from these ABNE training activities. In addition to this, in May 2011, ABNE provided GIBBS with office supplies in order to facilitate the functioning of the biosafety secretariat, particularly to help with access to internet that would allow GIIBS members to benefit from the network.

Main Impact of ABNE interventions in Mozambique

Acknowledging the relevance of ABNE capacity building programme in Mozambique and following the recommendations made at the workshop of May 2011, the Honorable Minister for Science and Technology requested NEPAD Agency ABNE to assist the



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national regulatory body (GIBBS): 1) to review and revise the Biosafety Decree No 6/2007 in order to expand its scope to adequately cover R&D activities on GMOs in Mozambique and specifically align its content to reflect current developments in modern biotechnology and biosafety such as the recently adopted Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress, and 2) to review and help develop a final draft of Biosafety Implementing Regulations for consideration and endorsement by the government of Mozambique as an official Ministerial document. Based on a MoU signed with GIBBS, ABNE provided consultancy support to develop a revised draft decree. This task was successfully completed and the final report was officially submitted to the Minister's office by the Director of ABNE in February 2012. The revised decree would then be approved by the ministerial council, so that the country could start confined field trials of Bt cotton and water efficient maize for Africa (WEMA) soon.



ABNE and AATF signing a MoU to work together in building a functional biosafety system in Mozambique, Maputo May 2011

In 2014, two high level visits were made by NEPAD Agency ABNE and MSU team to encourage relevant Mozambican senior government officials to pass the revised biosafety decree. These efforts finally appear to have paid off. ABNE noted with appreciation the approval of the revised biosafety bill by the Government of Mozambique on 30 September 2014.

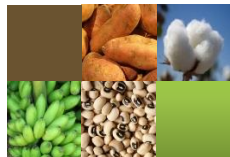
Looking ahead

ABNE together with its partners will follow up with the final assenting of the biosafety decree by the Mozambican Parliament. ABNE will backstop the development of implementing regulations, guidelines and SOPs.

It is expected that after the assenting of the revised biosafety bill, applications for CFTs of the water efficient maize and Bt cotton will be submitted to GIIBS. ABNE will then avail technical assistance to GIIBS to review the applications, and conduct inspections and monitor the CFTs.

In 2015, ABNE team made a consultation visit in February to GIIBs secretariat to develop road map for ABNE intervention in Mozambique. Some of the areas identified were to assist on how to take first step on the new stage of functional regulatory system, prepared to train the GIIBs members for effective functionality after their constitution, training of the GIIBs secretariat staff for effective biosafety administration, and a timeline of April 21 was agreed upon but these intervention could not be done because of challenges of non-constitution of GIIBs.

As is elsewhere in Africa, misinformation and misperception about GMOs is widespread in Mozambique. To counter this, ABNE will assist the GIIBS in public education



and awareness creation.

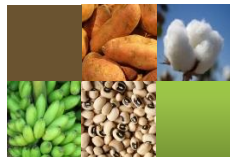


ABNE team and the contact person for the GIIBs secretariat during the Visit

In addition, ABNE will continue supporting biosafety capacity building in Mozambique through in-country workshops, study tours and biosafety short courses in Africa and elsewhere.

Table 8: Summary of ABNE Human Capacity Development Activities in Mozambique

Activity	Venue and date	Number of regulators / stakeholders empowered
International meeting in Ouagadougou	Ouagadougou, April 2010	1
Training workshop on CFTs	Maputo, March 2010	30
Environmental Biosafety Short Course	Michigan State University July 2010	3
Science and Technology communication and Short Course	Michigan State University, August 2010	1
Study tour	South Africa, November 2010 and India, December 2010; Brazil March 2015	4
Technical assistance workshop on	Maputo, May 2011	14
1-year Biosafety Certificate Program	Michigan State University, 2012- 2013	1
Regulatory study tour	South Africa, June 4 – 11, 2014	1



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Biosafety short course	Makerere University, Uganda, 14-17 July 2014	2
International Short Course on Environmental Biosafety of Agricultural Biotechnology	Michigan State University, August 3 – 8, 2014	1
International Short Course on Agricultural Biotechnology	Michigan State University, September 8 – 20, 2014	1
Total		59

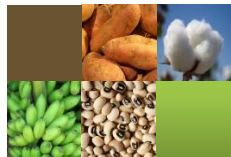
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Nigeria

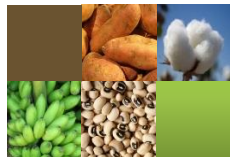
Building on impetus gained from the enactment of the national biosafety law

Nigeria chalked a significant milestone in the quest for establishing a functional biosafety regulatory system following the enactment of the biosafety law on the 18th of April 2015, and the subsequent establishment of National Biosafety Management Agency (NBMA). The law, the National Biosafety Management Agency Act 2015, mandates the NBMA to develop regulatory and administrative systems for the environmentally sound management of modern biotechnology practices. National institutions, particularly the Federal Ministry of Environment, which was the competent national authority for biosafety, and the National Biotechnology Development Agency, provided leadership for the law enactment process. ABNE and other biosafety stakeholders also provided strategic support during the process. A key element of the process was public awareness and education campaigns and public consultations on the provisions of the biosafety bill that made for stakeholder ownership of the process as a national endeavour that was aligned to the national development agenda. The biosafety bill was subsequently debated and passed by both the House of Representatives and the Senate after which executive assent was obtained. Beyond the executive assent for the law, the government also appointed a Director-General/Chief Executive Officer for the NBMA.

Another key development was efforts at operationalizing the biosafety law. Prior to the advent of the Biosafety Act, a national biosafety policy and a set of biosafety regulations and guidelines were developed. As part of the process of ownership, validation and subsequent finalization of these documents, the newly established competent national authority (the NBMA) identified the need to subject these documents to review by stakeholder Ministries and other national institutions. In addition, some Biosafety Guidelines predating the passage and assent to the NBMA Act 2015 had been in use and required review to ensure conformity with the Act and other pieces of legislation and to also ensure that current knowledge and information were incorporated into these guidelines.

ABNE's biosafety capacity building activities in Nigeria (2010 – 2015)

Towards ensuring a safe and responsive regulatory system for the management of agricultural biotechnology, the government of Nigeria prioritized domestic regulatory capacity strengthening, the continuous engagement with stakeholders, and partnership with international biosafety initiatives for learning and adoption of best practices. Recognizing ABNE's increasing and impactful role in biosafety capacity building in Africa, the Competent National Authority on Biosafety requested for ABNE's assistance in this regard. In response to this request, ABNE has since 2010 assisted Nigeria through a multi-faceted capacity strengthening philosophy to address biosafety needs using continuous status



assessment; harnessing earlier gains and existing capacity; collaborating with other regional and global biosafety initiatives in service delivery; forging strategic partnerships with institutions and stakeholders within the national system; and adopting a flexible but robust approach to accommodate demand-driven evolving needs.

ABNE has, to date, offered biosafety expertise to Nigeria, covering issues in environmental safety; food safety; socio-economic considerations in biosafety; biotech/biosafety policy and regulations; and biosafety communication with 1,187 regulators, scientists, lawyers, farmers, the media, policy and decision makers directly benefiting from ABNE services (Table 9).

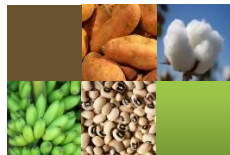


Group photo of participants in a workshop for the review of biosafety regulations in August 2015, in Abuja

Technical assistance was provided through biosafety training workshops; short courses in key subject matter areas; access to biosafety information resources through ABNE's web portal, policy briefs, newsletters, news bulletins and training manuals; technical support in the review and adaptation of guidelines for biosafety administration; biosafety internship programme in South Africa; study tours to Brazil, India, and South Africa; and global networking opportunities through participation in international meetings. Regulators were enrolled in a Masters e-biosafety course, which is a distance-learning programme designed to assist regulators who cannot be away from their duty posts for extended periods of time.

Table 9: Summary of ABNE activities for Nigeria

Activity	Venue and Date	Numbers Benefited
1. Creating an enabling legal environment		
Technical support for the development and	Nigeria, April, 2013; May, 2013;	121

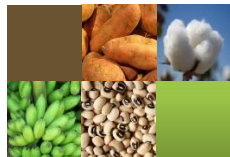


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review of implementing regulations	August 2015	
Training workshop on biosafety decision-making	Ghana, March, 2010	12
High level meeting on the importance and provisions of the Biosafety Bill	Nigeria, September 2013	28
Technical support for the review of guidelines on socio-economic considerations in biosafety	Nigeria, December 2013	28
Sensitization workshop for stakeholders in Nigeria on the importance and provisions of the Biosafety Bill (including legislators)	Nigeria, February 2011; September 10, 2013; March 2014	229
Biosafety Bill harmonization conference (for stakeholders including legislators)	Nigeria, March 2015	200
Farmers' conference on the importance of having a biosafety law	Nigeria, March 2015	161
2. Building a critical mass of regulators with enhanced competencies		
International short course in environmental biosafety; International short course in agricultural biotechnology and biosafety	Michigan State University (USA), July 2010; July – August 2011; August 2013; August 2014; August 2015	11
Science and technology communication short course	Michigan State University (USA) August, 2011	1
International short course on biosafety for lawyers	Michigan State University (USA), July – August, 2013; Ghana, February 2015	14
International biosafety short course for African regulators, policy-, and decision-makers	Polytechnic University of Bobo-Dioulasso – Burkina Faso, November 2013; University of Ghana, Legon, July 2015	16
Masters e-biosafety course	Italy, January – December 2011 - 2014	2
Training workshop on CFT compliance and in-country study tour (including field visits to CFT sites)	Nigeria, September 2010	52
Training to strengthen regulatory capacity for CFTs and multi-location trial inspection, monitoring, compliance and biosafety communication	Nigeria, June 2012; July 2013	83
Training to strengthen regulatory capacity of Institutional Biosafety Committees	Nigeria, November 2012; April 2014	90
Regional food/feed safety assessment of GM crops	Ghana, March 2014	5
Regulatory study tours	South Africa, November – December 2010, May 2012; India, December 2010; India, October 2013; Brazil 2015	14
Biosafety internships for African regulators	South Africa, May 2012	1
1-year Biosafety Certificate Programme (Long Term Training Programme)	Michigan State University (USA), 2012 – 2013	1
3. Enhancing biosafety communication and cooperation		
Strengthening biosafety communication capacity of the Competent National Authority and stakeholder institutions	Nigeria, November 2012	52
Technical support for review of national	Nigeria, December 2013	32



biosafety communication strategy		
Sensitization seminar for farmers in Nigeria on biosafety issues	Nigeria, December 2013	34
TOTAL		1,187

Impact of ABNE activities in Nigeria (2010 – 2015)

Biosafety capacity building requires coordinated and concerted efforts hence ABNE continues to work closely with various local institutions and biosafety initiatives in Africa to promote progress in Nigeria. Impact was achieved through partnerships and cooperation shaped by a shared vision and mechanisms for joint decision-making.

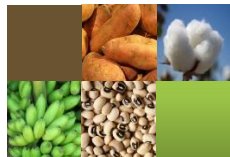
Impact has been observed during the past half-decade in the following three areas of strategic thrusts.

1) Creating an enabling legal environment for biosafety regulation

The national biosafety law was eventually enacted following sustained efforts by stakeholders. Technical guidance provided during the review of various implementing regulations and guidelines would make for more workable provisions in operationalizing the biosafety law. The review of the implementing regulations also afforded an opportunity to train lawyers involved in drafting legislation on biosafety issues and stakeholders on key considerations for workable implementing regulations. Four regulations were reviewed in 2015, i.e., regulations for contained use and confined field trials; commercial release; import, export and transit; and handling, transporting, packaging. Nigeria's national biosafety administration guidelines were adapted from the ABNE administrative manual to help improve quality management systems and this, coupled with presentation of office equipment, has resulted in increased functionality of the national biosafety secretariat. Applications received are reviewed and informed decisions made timeously.

2) Building the critical mass of regulators with enhanced competencies in biosafety

To attain a critical mass of regulators, scientists, lawyers, and policy/decision-makers with expertise in the performance of mandated functions, training workshops were conducted in biosafety administration and decision-making, biosafety compliance monitoring and inspections for ongoing confined field and multi-location trials (see Table 9). These efforts were complemented by biosafety short courses at Michigan State University, Polytechnic University of Bobo-Dioulasso and the University of Ghana. The trainings resulted in the adoption of best practices, strengthened competencies, and increased confidence in the regulatory system. The sensitization seminars for farmers and high-level stakeholder meetings helped promote understanding of the regulation of GMOs and to explain myths and misperceptions. This resulted in increased stakeholder awareness and involvement as



well as their support for biosafety processes including the law enactment process. Participation in the study tours enabled Nigerian regulators to build a network of regulators and practitioners that would facilitate continuous cross-learning and sharing of experiences and lessons.

Table 10: Status of CFTs and MLTs in Nigeria

Crop/Trait	Institution(s)	Status
Bio-fortified cassava with increased level of beta-carotene, provitamin A	National Root Crops Research Institute	CFT completed for 2 seasons
Biofortified cassava with increased Iron content	National Root Crops Research Institute	CFT completed for 2 seasons
Maruca-resistant cowpea	African Agricultural Technology Foundation, Institute of Agricultural Research (IAR)	CFT completed for 3 seasons, back crossed with preferred varieties; Multi-locational trials at 3 sites (Kaduna, Zamfara and Kano States)
Biofortified sorghum (bioavailability of Iron, Zinc and increase in Protein and Vitamin A contents)	Africa Harvest, Pioneer Hi-Bred, a company of DuPont business, IAR and National Biotechnology Development Agency	3 rd season of CFTs and back crossing with preferred local varieties
Nitrogen-use, water-efficient and salt-tolerant (NUWEST) rice	National Cereals Research Institute	Permit granted but trial yet to commence
Cassava resistant to the African cassava mosaic virus (ACMV) and Cassava brown streak virus (CBSV)	National Root Crops Research Institute	Permit granted but trial yet to commence

1) Enhancing biosafety communication and cooperation

Technical support was provided in developing a national biosafety communication strategy. This communication plan will support the day-to-day communication activities of the Competent National Authority. It will also provide a platform for enhanced public understanding on issues of biosafety and improve public participation in biosafety decision-making and policy. The training for Institutional Biosafety Committees and ABNE's multi-stakeholder approach to capacity building resulted in improved networking and cooperation among scientists, regulators, and policy-makers. Towards having a harmonised regional biosafety regulations and cooperation, technical guidance was provided in clarifying the implications of the proposed ECOWAS harmonised regulations for Nigeria. This resulted in submissions to the ECOWAS Secretariat to ensure Nigeria's best interests are served within the regional framework.



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Overall, the various biosafety activities in the three areas of strategic thrusts contributed to enhancing knowledge and skills of Nigerian regulators, scientists, lawyers, and policy/decision-makers in adopting best practices for performing mandated functions and also broadened their understanding of core issues in biosafety decision-making thus resulting in increased confidence in the regulatory system.

Future capacity building efforts

Following a consultative needs assessment, ABNE envisages continual support to the National Biosafety Management Agency (NBMA) in 2016. The NBMA has requested assistance to review and finalize regulations and to operationalize the regulatory framework. Further technical assistance will be provided to the NBMA for increased functionality in biosafety administration through an internship programme in a more advanced regulatory system. This will enhance competencies in administrative handling of applications and biosafety decision-making. Assistance has also been requested for the review of guidelines including the biosafety decision document, IBC guidelines, and for developing additional standard operating procedures and guidelines on emergency response. Another key area of support will be to provide further training to regulators in the research institutions, regulatory agencies, and the Competent National Authority on Biosafety to ensure strengthened competencies in monitoring compliance and regulation enforcement. A study tour to India and in-country seminars on biosafety issues are planned for regulators, scientists, lawyers, farmers, and the media to improve understanding of biosafety and biotechnology management. Participation in biosafety short courses at Michigan State University, the University of Ghana and a national biosafety conference in 2016 will also improve regulator's knowledge and understanding of biosafety and biotechnology. Technical support will be provided to implement the national biosafety communications strategy to ensure the continuous and systematic process of information sharing while elevating the visibility of the competent national authority. Stakeholder fora are planned to serve as platforms for enhanced public understanding on issues of biosafety and also help improve the quality of public participation in decision-making and policy development regarding issues of biotechnology management and biosafety.

Going forward into 2016, ABNE will ensure that the current impetus is sustained in the broad areas of technical assistance through effective post-training support and follow-up programmes.

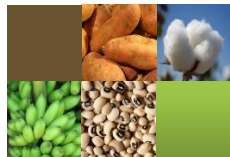
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Senegal

The Government of Senegal shows interest in developing a workable biosafety system within the next two years. Farmers are also interested in reviving the cotton sector using the same experience of the Burkina Faso. Partners including the Dakar based USDA office are willing to support the Government achieve the biosafety agenda. ABNE works in close collaboration with USDA in Senegal. Based on a roadmap developed in 2013 with support from ABNE, the Government of Senegal appointed a CEO to operationalize the National Biosafety Authority (NBA). This is indeed an important milestone.

Biosafety Capacity Building Efforts

Based on an official request from the NBA and in partnership with USDA, ABNE provided technical and material support for two main activities in Senegal in 2015. These were the conduct of an outreach workshop for decision makers and law makers selected from the National Assembly and from the Socio-Economic and Environmental Council that led to the kick-off of the process to revising the biosafety law.



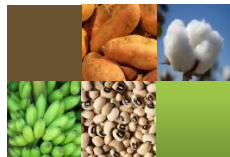
Sensitisation of Parliamentarians and Members of the Socio Economic and Environmental Council, Dakar, September 2015

The two day outreach workshop held in September in Dakar had about 40 participants including parliamentarians and members of socio-economic and environmental council. This was believed impactful in the sense that the participants at the end acknowledged that the benefits of biotechnology outweigh the risks and many of the Parliamentarians lamented the fact that Senegal is lagging behind Burkina Faso.

Areas of focus for ABNE future intervention

In view of the positive development in Senegal which reflects a clear political will and considering the influential role of this country within the West Africa Economic and Monetary Union (WAEMU) community, Senegal is expected to be the ABNE's next francophone priority country.

ABNE's future actions will focus on providing the necessary support to complete the revision of the biosafety law. This will also include an important outreach program to media personnel.



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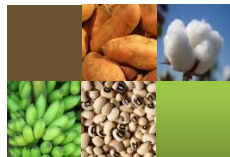
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Sudan

Sudan approved commercial release of the first Bt cotton variety in 2012 and is one of the three countries in Africa that have been producing genetically modified crops at commercial scale. The country developed its biosafety framework in 2005 and issued its National Biosafety Law to regulate agricultural biotechnology in June 2010. From the outset, Sudan has worked toward creating an enabling legal environment to access safe and economically useful modern agricultural biotechnology for economic development. Research work on Bt cotton in the Sudan started in 2009 in compliance with the national biosafety framework and the draft biosafety law that was already in place. The work was carried out under the close scrutiny of the Biotechnology and the Biosafety Research Center of the Agricultural Research Corporation at Shambat.

In the year 2015, NEPAD Agency ABNE in collaboration with Alliance for Commodity Trade in Eastern and Southern Africa (ACTESA) /COMESA organized a biosafety training workshop for Sudanese regulators and other stakeholders from June 2 to 4, 2015 in Khartoum, Sudan. Topics addressed in the workshop included:



A partial view of the participants

- Biosafety regulation in the Sudan
- Status of biotechnology and its regulation in Africa
- Biosafety and biotechnology in the COMESA Region
- Basics of functional biosafety administration
- Introduction, maintenance, seed production and commercialization of Bt cotton in the Sudan: Experiences of China-Aid Center
- Status, opportunities and challenges with Bt cotton in the Sudan
- Key building blocks of biosafety regulatory system
- Environmental risk assessment of GM crops
- Introduction to confined field trials of GM crops, CFT inspection and compliance monitoring
- Food and feed safety considerations of GM crops
- Biosafety concerns of GM crops: myth versus reality
- Overview of international regulations on biosafety including comparative analysis of major regulatory systems.

The workshop also offered a platform to discuss needs and future collaboration with the National Biosafety Council of the Sudan. The workshop was opened by the Minister for



Environment, Forestry and Physical Construction of the Republic of the Sudan, His Excellency Dr. Hassan A. Hilal.

➤ **Short courses and study tours abroad for Sudanese Regulators in 2015**

- Four participants (three from National Biosafety Agency and one from the National Biotechnology and Biosafety Research Centre) attended a biosafety short course conducted from 13-17 July 2015 at Makerere University in Kampala, Uganda.
- The Director of National Biotechnology and Biosafety Research Centre attended an International Short Course on Environmental Biosafety of Agricultural Biotechnology conducted at Michigan State University from August 2 – 14, 2015.



Sudanese delegates at the biosafety short course at Makerere University in July, 2015

Looking Ahead: Biosafety Needs and Gaps

Sudan has joined South Africa and Burkina Faso as the third country growing GM crop at commercial scale in Africa. The introduction of Bt cotton salvaged the collapsing cotton sector by easing pest problem and increasing the competitiveness of the cotton crop in the country. Despite this success, there is a growing challenge of misinformation of the public on the technology. Hence, NEPAD Agency ABNE may continue supporting the building of biosafety capacity focusing on biosafety communication and awareness creation.

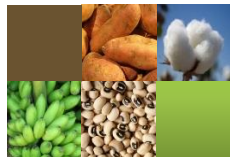


Table 11: Summary of ABNE Human Capacity Development Activities in the Sudan

Type of intervention	Venue and date	Number of regulators / Stakeholders
A Biosafety in Agricultural Biotechnology Training Workshop for Regulators and other Stakeholders in the Sudan	Corinthia Hotel, Khartoum, Sudan, 2 - 4 June 2015	50
Biosafety short course	Makerere University, Uganda, 13-17 July 2015	4
International Short Course on Agricultural Biotechnology and Biosafety	Michigan State University, August 2 – 14, 2015	1
Total		55

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Swaziland

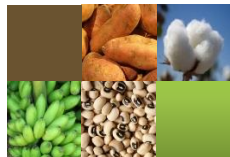
The Kingdom of Swaziland passed the Biosafety Act in 2012 and currently finalizing the implementing regulations under the Act. The custodians of the Act, the Swaziland Environment Authority (SEA), has set up the Biosafety Registrar's Office which is responsible for implementing the Act and has also identified a group of experts to form the National Biosafety Advisory Committee (NBAC). Following an application from the Swaziland Cotton Board the country successfully conducted multi-location trials for Bt cotton. Considering this evolving dynamics on biosafety in agricultural biotechnology and upon request by SEA, NEPAD Agency ABNE organized a biosafety sensitization training workshop for stakeholders in Swaziland in July 2015.



Participants during biosafety workshop for general stakeholders, July, 2015, Ezulwini, Swaziland

The workshop besides identifying a wide range of stakeholders to contemporary agricultural biotechnology regulatory issues in Swaziland also provided areas for action and partnership with national, regional and continental biosafety and biotechnology service providers such as NEPAD-ABNE and COMESA-ACTESA.

NEPAD Agency ABNE considers Swaziland as one of the rapidly emerging countries for its biosafety services. As a result, ABNE continues to involve Swazi regulators in a number of regional undertakings including biosafety short courses and regional training workshops.



A Swazi regulator participated in the biosafety short course held at Makerere University in July 2015.

ABNE biosafety capacity building activities in Swaziland

A summary of ABNE’s biosafety capacity building activities in Swaziland is presented in Table 12.

Table 12: Summary of ABNE activities in Swaziland

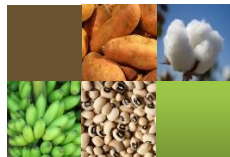
Activity	Venue and Date	Numbers Benefited
BIOSAFETY WORKSHOP FOR GENERAL STAKEHOLDERS	Ezulwini, July 2, 2015, Swaziland	43
Biosafety Short Course	Makerere University, July 13-15, 2015, Kampala Uganda.	1
TOTAL		44

Future capacity building efforts

1. Review of the clauses for amendment
2. Need for the National Biosafety Advisory Committee to be capacitated on Risk Assessment
3. Technical support for the review of the Act and SOP document
4. Training of SEA staff on biosafety administration/ decision making
5. Technical review support of applications for CFTs of GMOs
6. Training workshop on CFT monitoring, inspection and compliance for SEA and IBC

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Tanzania

The NEPAD Agency ABNE has continued to support Tanzania towards establishing a functional regulatory system. The Agency has extended its support either directly or through collaboration with local and international partners working in the country.

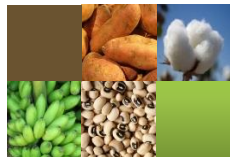
It was for quite some time that many prospective biotechnology developers cowered from conducting any activity in Tanzania due to the biosafety law, which provided for strict liability against the operator. NEPAD Agency ABNE joined many other stakeholders in encouraging the country's leadership to provide an enabling environment by amending the legislation. Indeed these high-level policy advocacies paid off as the Government early this year took positive step forward by amending the biosafety law to pave way for research in the country. This amendment to the effect revised the strict liability clause in the country's biosafety law to all GM research activities.

Following this positive development in the country, the NEPAD Agency-ABNE in collaboration with Tanzania Commission for Science and Technology (COSTECH) organized a biosafety needs assessment workshop in Dar Es Salaam, Tanzania, from 16 to 18 June 2015. This activity attracted 20 participants from Government Agencies, research institutes, the biosafety service and the biotechnology industry in the country took part in this workshop.



Group photo of participants with the team from NEPAD Agency

The biosafety needs assessment interaction with various stakeholders in Tanzania came immediately at the heels of the legislative review because it appeared evident that the country needed to establish a functional biosafety system to receive applications, process and review them. The needs assessment workshop was organized to identify and take



stock of the biosafety regulatory needs of the country for possible intervention by ABNE and other service providers aimed at supporting the country establish a functional biosafety regulatory system to facilitate research.

At the conclusion of the workshop, stock was taken of the country's biosafety needs, which was categorized according to their urgency. NEPAD Agency ABNE team took advantage of their visit to pay a courtesy call on the Permanent Secretary to the office of the Vice President, and to the office of the Director General of country's Agricultural Organization. The Vice President's office is also the office of the Biosafety focal point in the country. These courtesy visits yielded valuable promises of collaboration by government to NEPAD Agency ABNE to provide services towards strengthening biosafety regulatory systems in Tanzania.

Participants' views



Ms. Gloria Wapalila, Biosafety Inspector and Research Officer based at Tropical Pesticides Research Institute, which is a Plant Biosafety Centre of Excellency.

This workshop was very informative on biosafety and GM technology issues worldwide. I particularly like the down-up approach used by NEPAD ABNE, which come to discuss biosafety needs from Tanzania representatives. They need to closely follow up to ensure what is agreed is in place concerning the biosafety issues.



Mr. Moses Urio, Senior Research Officer at Tanzania Food and Nutrition Centre in the Department of Food Science and Nutrition
This workshop was timely because of the need of having in place a functional Biosafety Regulatory Authority in Tanzania.

The presentations were good, clear and easy to follow. I particularly like the socio-economic and environmental impacts of GM crops. It would be good that NEPAD ABNE assists in building the capacity of biosafety inspectors in risk assessment and application evaluation for GM activities.



Mr. Gasper Shao, Lawyer at the Vice President's Office.

This workshop was very useful especially for us as regulatory body for biosafety in Tanzania. Coming from different professional backgrounds, we managed to share with scientists, lawyers and others on biosafety benefits, challenges involved, and the way forward. I have been moved by efforts taken at national, regional and global levels to ensure science is used safely to health and environment but maximizing the benefits to all the people.

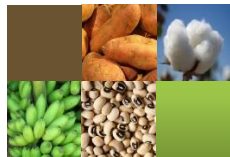


Table 13: Summary of ABNE Activities for Tanzania

Activity	Venue	Numbers Benefited
Regulatory Study tour	India, December 2010	1
Collaboration meeting with PBS	Tanzania, August 2012	15
Study tours and internship	South Africa and Burkina Faso, February and November 2012	20
International Meetings	Various meetings	2
Collaboration Meeting with PBS	Tanzania, May 2013	27
Biosafety Short Course	Michigan State University-USA, August 2013	2
Biosafety training for African Lawyers	Cape Town, March 2014	5
Biosafety Short Course	Makerere University, Kampala, Uganda 14 th -17 th July 2014	3
High Level Meetings with Government officials	Dar-Salam, Tanzania July 2014	3
Meeting with Journalists	Dar-Salam, Tanzania, July 2014	3
Participation in the COP-MOP7	Pyeongchang, South Korea 29 th - 4th September/October 2014	1
Bisafety Needs Assessment Workshop 16-18 June 2015	Dar-es Salaam	20
Biosafety Short Course, Makerere University Kampala, July 2015	Makerere University	6
2 nd African Biosafety Lawyers Meeting 29-30 October 2015	Nairobi, Kenya	2
Total		110

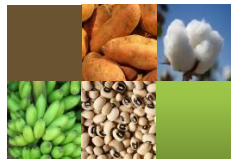
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Togo

For the last three years ABNE has been assisting the Government of Togo to revise the biosafety law with the aim to create an enabling legal environment for the safe adoption of agricultural biotechnology. While this process was going to conclude last year the country went through presidential elections early this year. Then it took some time to form a new government. As of now there is no biotech crop under experimentation in Togo. It is worth noting that the country is considered to possess the best cotton variety in the West Africa sub-region and therefore supplies cotton seeds to a number of neighbouring countries. These countries have not yet approved GM products.

On the regulatory side, the country has made good progress by signing the Cartagena Protocol on Biosafety in 2004, passing a biosafety law in 2009 and being among the first African countries to sign the Nagoya Kuala Lumpur Supplementary Protocol on Liability and Redress in 2011. Currently a revised version of the law and four implementing regulations are ready for submission to the Parliament for final adoption. An inter-ministerial *ad hoc* committee has been established to oversee the progress of the revision process.

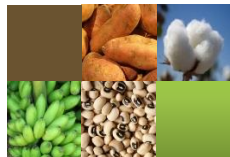
Regulatory capacity building efforts

In 2015, ABNE mainly focused on the follow-up of the law review process. These included:

- A technical meeting with the inter-ministerial *ad hoc* committee members; and
- A high level advocacy mission meant to discuss with the high ranking governmental authorities on how to move the law revision process forward.

In addition ABNE provided support for two Togolese to attend the training on food safety in Michigan State University (MSU). In September 2015, NEPAD Agency ABNE jointly with MSU conducted a high level advocacy mission to Togo to check on the status of the revised law and identify the gaps to be addressed to fast track the process. The mission aimed to meet with the key ministers involved in the biosafety system in Togo, i.e. the Minister of Environment, the Minister of Agriculture and the Minister of Science and Education. From the various discussions held, the key conclusions to be drawn and lessons to learn include the following:

- Ministers seem not at the same level of information on the biosafety law review process;
- There is a need for more education, sensitization, awareness on the benefits and risks of biotech products;
- It clearly appeared that the Science and Technology department needs to be given a more prominent role in the process with the University playing a more critical role.
- It is worth noting that the misinformation by the activists from Burkina Faso, especially with regard to the shortening of the cotton fibre length, has echoed in Togo and this is going to affect the readiness of Togo farmers to adopt Bt cotton.



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Technical meeting on the law review process, Lomé, March 2015



Meeting with Hon. Minister of Agriculture, 14 September, 2015, Lomé, Togo



Meeting with Chief of Staff, Ministry of Environment and Forest Resources, 14 September, 2015, Lomé, Togo



Meeting with Hon. Minister of High Education and Research, 15 September, 2015, Lomé



In September 2015 NEPAD Agency ABNE jointly with Michigan State University conducted a high level advocacy mission to Togo to check on the status of the revised law and identify



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the gaps to be addressed to fast track the process. The mission aimed to meet with key ministers involved in the biosafety system in Togo, i.e. the Minister of Environment, the Minister of Agriculture and the Minister of Science and Education.

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- There is a need for more education, sensitization, awareness on the benefits and risks of biotech products,
- It clearly appeared that the Science and Technology department needs to be given a more prominent role in the process. The University could play a critical role.
- It is worth noting that the manipulative messages by the activists from Burkina Faso, especially with regard to the shortening of the cotton fiber length, has echoed in Togo and this is going to affect the readiness of Togo to adopt Bt cotton. .

Areas of focus for ABNE future intervention

These include the need to conduct biosafety seminars for the newly appointed Government officials (selected from ministries of environment, agriculture, science and technology, and trade) and for the Parliamentarians (members of the select committee); Provide support for sensitization activities deemed relevant by the Ministry of Environment; Organize training for media personnel in preparation to communicate on the revised law; Provide support to high ranking Government officials to participate in study tours organized by ABNE and MSU; Sponsor regulators to biosafety short course in MSU and in African Universities such as Polytechnic University of Bobo-Dioulasso.

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Uganda

The slow process of having the Biotechnology and Biosafety Bill, 2012 passed into law in Uganda has not slowed down activities of Biotechnology and Biosafety regulation in the country. For a better part of 2015, the Bill has been on the Order paper of parliament awaiting debate but other pressing issues that the country's legislative Assembly had to deal with always overtook it. The head of state and the caucus of the ruling party have repeatedly reminded the nation about the importance of Biotechnology for the country once harnessed safely.

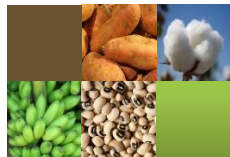
Uganda still enjoys numerous successes in GM research having conducted the biggest number of Confined Field Trials (CFTs) in Sub-Saharan Africa. With this impressive record, public research institutions and Universities such as Makerere Universities have embraced the establishment of modern Biotechnology infrastructure and capacity enhancement of Biosafety regulators.

NEPAD Agency ABNE, and Michigan State University in collaboration with Uganda's leading public University, Makerere University, has been organizing a Biosafety short courses for African regulators in Kampala, Uganda, for two years now. The first of the courses was last year 2014 and the second was this year 2015. This annual summer course has been very successful attracting participants (regulators) from the whole of East and Southern Africa. In 2014, the course attracted participants from Ethiopia, Kenya, Malawi, Mozambique, Tanzania, Uganda, and Zimbabwe. However, in 2015 the course-generated interest in countries like Sudan and Zambia who did not take part the year before. Sudan alone had four (4) participants and Zambia had three (3) in this year's edition.

A Minister of the Government of Uganda, **Hon. David Bahati** who is the state Minister for Finance, Planning and Economic Development, officially opened the short course this year 2015. Officials from Uganda National Council for Science and Technology and Makerere University graced the opening ceremonies.

The course attracted 56 participants from the Africa region and resource experts were drawn from the USA, India and within the region. During the short course, twenty six (26) topics were addressed which was an opportunity to keep participants abreast of the fundamental knowledge and the recent developments of Biotechnology and Biosafety in Africa and at the global level. Presentations focused on agricultural biotechnology and Biosafety, environmental Biosafety, food and feed safety aspects, commercial release, socio-economics, law and policy and Biosafety communication.

This short course was an opportunity for participants to share the lessons learnt in African countries with significant experience in agricultural biotechnology regulation such as Burkina Faso, Sudan, Ghana, Uganda and Malawi. A field visit was organized for the participants to allow them see GM banana trials in the laboratory and confined field trials at Kawanda Research Centre, near Kampala.



A Group Photo of participants and the Guest of Honor (standing in the forefront, in the centre, with a blue necktie)- Biosafety Short Course, 2015

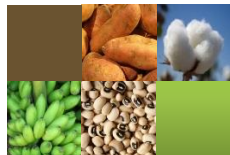
At the closure of the course, the leadership of Makerere University of Uganda and NEPAD Agency ABNE (Kampala node) pledged to continue with this annual event. This pledge to continue working together is strengthened by a memorandum of understanding the two have executed for future collaboration.

Since the establishment of the Kampala node in 2012 at the Uganda National Council for Science and Technology (UNCST), UNCST and NEPAD Agency ABNE have enjoyed an excellent relationship. This good relationship toes along the path set by the collaboration memorandum they signed in 2012. Early this year 2015, the NEPAD Agency extended a backstopping support to the National Biosafety Committee and staff of the Biosafety secretariat towards a planning meeting for the year and review of three pending Biosafety applications. Ugandan regulators have participated in several NEPAD supported Biosafety activities on the continent and outside Africa.

The activities ABNE has supported for Uganda are summarized in the table below:

Table 14: Summary of ABNE activities for Uganda

Activity	Venue and Date	Numbers Benefited
Workshops	Uganda December, 2012	30
Biosafety and Biotechnology Courses	Michigan State University-USA, July September, 2012	7
Study tours and internship	South Africa, February 2012	2
International Meeting	Various	4
1- year Biosafety certificate Programme (Long Term training)	Michigan State University- USA, 2012-2013	1



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programme)		
Biosafety short courses (environmental and food safety and lawyers training)	Michigan State University- USA, 2013	1
Regulatory study tour	South Africa, March, 2013	25
Regulatory study tour	India, October 2013	2
Biosafety training for African Lawyers	Cape Town South Africa, March, 2014	6
Biosafety short Course	College of Agriculture and Environmental Science, Makerere University, Kampala, Uganda, 14 th -17 th July 2014	25
Collaboration meeting and MOU with College of Agriculture and Environmental Science, Makerere University	College of Agriculture and Environmental Science, Makerere University, Kampala Uganda, July 2014 and October 2014	2
Support to the NBC January 28 th -29 th 2015	A two day residential meeting held at Rider Hotel, Mukono	22
Biosafety short Course for African Regulators	College of Agriculture and Environmental Science, Makerere University, Kampala, Uganda, 13 th -17 th July 2015	30
Enhancement of capacities of expert	A summer course at the Michigan State University for Technical Biosafety Experts in Food and Feed safety, 2015	1
Training of Biosafety lawyers for African Lawyers	NEPAD Agency- ABNE in collaboration with Michigan State University. The Meeting held in Accra, Ghana and the 2 nd held in Nairobi, Kenya, 2015	2
Total		160

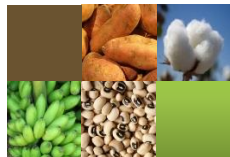
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Zambia

The National Biosafety Authority (NBA) of Zambia noted that the biosafety regulatory system was comparatively nascent in Africa and required technical and administrative capacity strengthening that is informed by best practices to ensure the effective discharge of duties by mandated institutions. Subsequently, the NBA requested NEPAD Agency ABNE to assist with a capacity strengthening and skills enhancement for staff of the NBA (administrative handling of applications); the Scientific Advisory Committee (SAC) (application review); and the Board of the NBA (biosafety decision-making). A technical meeting to support the administrative handling and review of application for GM imports identified key elements for a functional biosafety regulatory system and resulted in a request by stakeholders for a biosafety regulation that would ensure an adequate level of safety while enabling access to the technology in a manner that will contribute to the socio-economic development agenda of the country. Stakeholders noted that though Zambia’s Biosafety Act of 2007 broadly sought to safely regulate modern biotechnology, the Act had some provisions that could make this objective unattainable by the very spirit and letter of the law. Subsequently, the Board of National Biosafety Authority and the Scientific Advisory Committee commenced the review of the biosafety law to reflect national interest and stakeholder expectations.

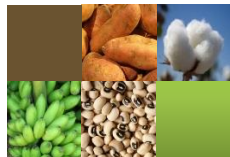
ABNE’s biosafety capacity building activities in Zambia

Prior to Zambia becoming a focus country for ABNE’s intervention in 2015, some regulators and policy makers had benefitted from regulatory study tour visits to Kenya and South Africa in 2012. Subsequently, ABNE has offered biosafety training on a range of issues including biotech/biosafety policy and regulations; food safety; environmental safety; socio-economic considerations in biosafety; and biosafety communication to staff of the National Biosafety Authority and its Board, and to the members of the Scientific Advisory Committee (Table 15).

Table 15: Summary of ABNE activities for Zambia

Activity	Venue and Date	Numbers Benefited
Regulatory study tour	South Africa, May 2012	1
Zambia Regulators Exchange Visit to the National Biosafety Authority of Kenya	Kenya, July 2012	##
International biosafety short course for African regulators, policy-, and decision-makers	Makerere University (Uganda), July 2015	3
Technical support for administrative handling and review of application for	Zambia, February 23 - 26, 2015	26





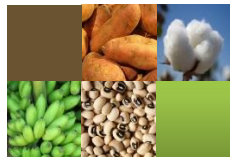
GM imports		
Technical support to Zambia for review of the Biosafety Law	Zambia May 26 - 29, 2015	27
International short course in agricultural biotechnology and biosafety	Michigan State University (USA), August 2015	2
TOTAL		59

Impact of ABNE activities in Zambia in 2015

Participating stakeholders in the two technical meetings declared that they now had a better appreciation of the issues pertaining to the regulatory processes involved in the effective regulation of GMOs. The Board and SAC both opined that the meetings enabled them better understand and appreciate each other's role. The consensus was to work towards increased functionality of the biosafety regulatory system by reviewing the current regulations to make for more workable provisions. This would be a domestically led process that would involve national experts and with technical support from ABNE. Participants also indicated a lot of the previously held myths and misperceptions had been satisfactorily clarified. Representatives from some key sector ministries who held certain biases based on limited information or misinformation stated that they now would regulate the technology with an objective mind devoid of prejudices.



Group photo of the first biosafety workshop in Lusaka in February, 2015



Future capacity building efforts

Following a formal request by Zambia, ABNE commenced biosafety capacity strengthening interventions informed by a consultative needs assessment. In 2016 further support is planned for the National Biosafety Authority (NBA) of Zambia including development of biosafety administration guidelines to help improve quality management systems. The competent national authority for biosafety had done a great job translating key terminologies in biodiversity, biotechnology and biosafety into major local languages. However, what was crucially absent was a communication strategy that would enable them to effectively communicate with key stakeholders. The NBA indicated an urgent need for biosafety communication capacity strengthening for mandated institutions to enable them effectively engage in public awareness creation, education and consultations. The NBA will also be considered for a technical assistance programme through an internship in a more advanced regulatory system. This will enhance competencies in administrative handling of applications and biosafety decision-making. A study tour to India and in-country seminars on biosafety issues are also planned to improve stakeholder understanding of biosafety and biotechnology management. Participation in biosafety short courses at Makerere University and Michigan State University would help improve stakeholders' knowledge and understanding of biosafety and biotechnology. All these interventions would be supported by effective post-training support and follow-up programmes.

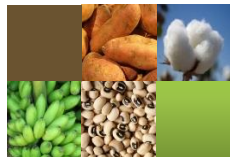
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The WAEMU & ECOWAS harmonized biosafety framework

The West Africa regional economic bodies namely the West Africa Economic and Monetary Union (WAEMU, 8 member states) and the Economic Community of West Africa States (ECOWAS, 15 member states including those of WAEMU) together with the Permanent Interstates Committee for Drought Control in the Sahel (*Le Comité Permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel (CILSS, 13 Members states)*) are in a process to jointly develop a regional biosafety framework. The process started in 2007 and was expected to conclude this year. WAEMU is leading the process. Once the framework is adopted, it will apply to all member states, superseding the national laws. This is unlike the regional biosafety policy framework of the Eastern and Southern Africa (COMESA) which shows flexibility by focusing on policies and guidelines while providing opinion to national biosafety bodies.

In focusing on regulations, the West African biosafety framework holds a high potential to impact on national decisions and if properly harmonized will be of great benefit to the sub-region. This is why ABNE strives to keep an eye on the process and monitor its various steps and progress. An important milestone of this process was reached this year in February with the member states' ministers meeting in Ouagadougou to endorse the draft framework developed by WAEMU before it is taken to its next step for final adoption. The meeting turns out not to adopt the framework but to profoundly amend it.

Another Experts' meeting was held in Abidjan in July this year to finalize the implementing regulations of the regional framework and move the adoption process forward. Until now, NEPAD Agency ABNE has not been fully and officially involved in the process. We only could work to empower individual countries' delegates for meaningful participation to the various meetings. The argument from WAEMU's side has been that ABNE is not considered a participating stakeholder to this process. Fortunately, our CEO raised the issue with the President of WAEMU during his working visit to Ouagadougou last August.

ABNE future efforts

Upon request from WAEMU or ECOWAS or a group of Member States, ABNE will provide the necessary technical support to make sure that the regional process will always favour the national policies and decisions on agricultural biosafety and biotechnology. ABNE will keep monitoring the progress and empower individual countries' representatives to the process.

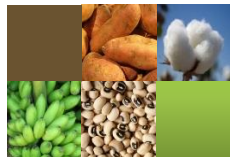
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African Biosafety Network of Expertise

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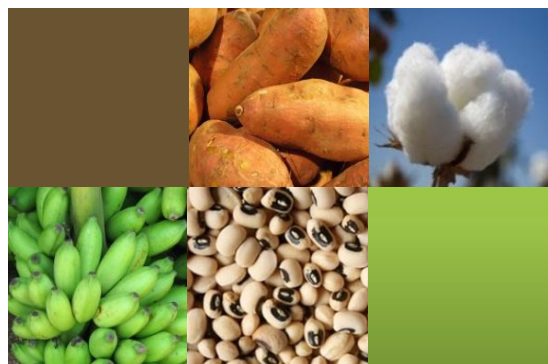
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ABNE in Africa

Towards Building
Functional Biosafety
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