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Summary

Communication has been acknowledged as key in moderating modern biotechnology debate to ensure the public is empowered with factual information to allay fears and concerns thus enable informed choices. Communicating agricultural biotechnology and biosafety issues however, is complex and encompasses a spectrum of issues from the factual dissemination of scientific research to societal values and beliefs. This affirms the need for deliberate strategies to implement biotechnology and biosafety communication, in order for knowledge and experiences shared to make meaning in diverse social cultural orientations.

The ABBC 2015 conference brought together over 150 global biotech stakeholders ranging from scientist, policymakers, journalists and farmers for two days intensive discussions with the purpose of taking stock on the progress and dynamics of agri-biotech communication over the past two decades.

Over the course of the conference, this group of key stakeholders agreed that coordinated and unified approach in communication was important, timely and unduly ignored. Ranging from speaker to speaker, presentations and comments laid out a complex picture of how uncoordinated approach limit the impact of efforts to promote a higher level and fairer uptake of modern agricultural practices. There was also emphasizes on the need to have the correct packaging of the messages, with the target audience in mind.

The conference focused on four themes and keys recommendation mad. The themes were;

1. Stakeholder information needs, engagement strategies and messaging for agri-biotech and biosafety communications,
2. Assessing impact in Agri-biotech and biosafety communication,
3. The use of new media and campaigns in agri-biotech and biosafety communications,
4. The evolving nature of “balance” and “evidence” in agri-biotech and biosafety communications.

As a way forward, the participants suggested a comprehensive and well-coordinated program of action in which stakeholders would;

- Collectively work to improve the communication strategies to ensure effectiveness,
- Work inclusively, with all stakeholders in an effort to build consensus,
- Promote choice, so that end-users can make informed decisions that reflect their best interests,
- Demonstrate how agricultural production challenges can be tackled using biotechnology, and how it can directly contribute to food and nutrition security, poverty alleviation, job creation and sustainable economic development,
- Support credible scientists who are most trusted by the public and governments, to be effective communicators and to have a closer relationship with media and policymakers to ensure that scientifically-informed messages reach target audiences.

Introduction

While appreciating the potential of modern biotechnology in revolutionizing agriculture, it's unprecedented growth has been accompanied by intense controversy, divergent views and polarized positions on perceived risks and potential benefits, leaving the general public in a mixed state of fear, pessimism and optimism in equal measure.

For last two decades biotech communicators have been involved in knowledge generation and sharing for informed choices. It is worth noting that agricultural biotechnology and biosafety communication is complex and varies from region to region. This in turn dictates the strategies a communicator should use while packaging and sharing the message based on locality and target audience. Experiences and impacts also vary depending on the effectiveness of the preferred strategies. Thus, is very strategic for key actors to come together to share experiences, on the various approaches and identify the best practices to optimize impact.

The April 2015, International Conference on Agri-Biotechnology and Biosafety Communication (ABBC) was organized on the premise of the need for global biotech actors to converge and brainstorm on best communication practices. The conference brought together participants from 29 countries. Countries represented were; Bangladesh, Brazil, Burkina Faso, China, Egypt, Ethiopia, Ghana, India, Indonesia, Iran, Kenya, Malawi, Malaysia, Netherlands, Nigeria, Pakistan, Philippines, Singapore, South Africa, Sudan, Tanzania, Thailand, Uganda, United Kingdom, United States of America, Vietnam, Zambia, and Zimbabwe. The International Service for the Acquisition of Agri-biotech Applications (ISAAA) worked in partnership with the Government of Kenya, National Commission for Science Technology and Innovation (NACOSTI), African Agricultural Technology Foundation (AATF), Open Forum on Agricultural Biotechnology in Africa (OFAB), International Food Information Council (IFIC), Michigan State University (MSU), Program for Biosafety Systems (PBS), Alliance for Science-Cornell University, Biosciences for Farming in Africa (B4FA) and the African Biosafety Network of Expertise – ABNE NEPAD to convene this event.

The meeting had four specific objectives;

1. To share global experiences in agricultural biotechnology and biosafety communications for increased efficiency and effective messaging.
2. To provide opportunities for multi-stakeholder dialogue on common challenges and best practices for effective agri-biotech and biosafety communication.
3. To facilitate networking and collaboration among agri-biotech communicators from around the world for synergy and optimal impact.
4. To synthesize and package the identified best practices into several communication modules for guiding effective agri-biotech and biosafety communication globally.

Conference Expectations

The participant's shared their pre-workshop expectations which were classified in five broad themes:

Communication partnership:

The development of a *communication partnership* among the stakeholders was identified as key by the delegates, to help drive the biotech agenda globally. This partnership would link biotech experts (scientist & researchers), communicators, media and industry players in biotechnology. Thus allowing scientists and communicators to publish and disseminate technical information in a more simplified manner.

Communication Strategy:

The need for an effective *communication strategy* to help define challenges, available options and the best practices to address them. With this approach, similar challenges will be addressed in a similar manner to effectively communicate agricultural biotechnology and biosafety across the globe.

Gain Advocacy skills

Gain advocacy skills on how to communicate and influence GMO debate and biosafety regulations favorably. This will in turn help the delegates learn how to maintain a consistent debate that will lead to public attitude change about biotechnology. Researchers expected to be better communicators and be equipped with grassroots mobilization skills, and also learn how to situate biotech information in the various contexts of food security, climate change and livelihoods.

Understand the role of media in biotechnology

Learn from each other, countries' experiences on the role of the media and how to maximize media relations to drive modern agricultural biotechnology uptake.

Kenyas' ban on GMO products import

There was expectation to know how the delegates could garner more support to impress on the government of Kenya to lift the ban on GMO products import.

Main Discussions

Assessing impact in Agri-biotech and biosafety communication

The purpose of this session was to enable delegates to understand the importance of tailoring appropriate messages to communicate agri-biotech and biosafety information to specific categories of stake holders. It also sought to disaggregate stakeholders on the type of

information needed and best packaging methods and finally to assess the most effective and far reaching messaging packages.

Presentation by: Prof. Paul Teng, ISAAA Board Chair

Stakeholder information needs engagement strategies and messaging for agri-biotech and biosafety communications

Appropriate agri-biotech communication to meet evolving agri-food landscapes

i) the evolving agri-food landscape

Prof. Teng highlighted that there are number of evolving factors shaping the agri-food landscape globally, these are high population growth, rapid urbanization, increased incomes, diet change - especially the rise in demand for protein. These factors act as the drivers of change in farming of food and adoption of modern agricultural technologies. He further noted that as more and more pressure is being exerted on the available arable land and scarce water resources, the farmers' population worldwide continues to decline due to conversion of agricultural land to other uses. The problem is further compounded by the reduction in yield per hectare as a result of environmental degradation and climate change. In a totally interconnected world -the food system is now susceptible to more shocks in prices because it is mostly purchased from far beyond where it is grown.

ii) the communication efforts addressing the needs for agri-biotech and their relevance

A comparison of the food status for a few countries revealed that countries that use biotechnology to grow food such as the USA and Canada, have surplus that they even export while those that do not use biotechnology such as China and Vietnam, are food deficit countries that import to meet their domestic consumption.

iii) Appropriate communication to create impact.

Appropriate communication to create impact on biotechnology in emerging economies, will address the following aspects: How can biotechnology offer solutions to small scale farmers in the developing world? How can biotech crops produce more affordable food, feed and fiber, and are they safe? How can biotech crops contribute to sustainability? How can biotech crops help with climate change mitigation and adaptation? How can biotech crops contribute to food security and to the alleviation of poverty and hunger? How can biotech crops increase farmer competitiveness? Can technological farming such as aeroponics - the use of artificial lighting lead us to develop new types of crops?

The combination of science and technology will produce entrepreneurs who will produce surplus food plus cash for better livelihood. Converting farmers to entrepreneurs will require empowerment so that they are able to add value to their primary produce. The communication efforts should address the needs for agri biotech in relevant context- small scale farming. It calls for the bridging of the expert-layman discrepancy and creation of trust.

Presentation by: Madam Florence Mutua, Kenya Member of Parliament

Madam Florence appreciated the efforts made in bringing the biotechnology debate to the Kenyan Parliament. She noted that many members of parliament now support agricultural biotechnology. Efforts should however be made to delink agri-biotechnology from cancer, which led to the import ban of GMO products into Kenya yet the country continues to have the highest rate of infections. The media was also urged as a key stakeholder to make the clarion call in support of agricultural biotechnology.

Presentation by: Dr. Wilfred Otichillo, Kenya Member of Parliament

Dr. Otichillo, gave a history of the Biosafety Bill process in Kenya. The progress made by the country towards commercialization of GM crops till the ban in 2012 on health grounds. He noted that, prior to 2012; the government of Kenya had developed a comprehensive national

policy to guide research, development and commercialization of modern biotechnology products.

The policy, which was approved in September 2006, was a result of several years of work involving all major biotechnology stakeholders nationally and relevant government departments. The policy charts the Kenyan government vision towards the development and safe application of biotechnology. It provides a clear framework for safe development and application of the technology.

The policy further commits the government to give priority to the provision of relevant institutional, infrastructural and legislative framework and, in particular, the enactment of new legislation on biosafety. However, following concerns about application of biotechnology products on the health of humans, the use of its products was banned in Kenya until such a time as the government is convinced that the products were safe to humans. Otichillo is leading a parliamentary lobby to lift the ban.

Presentation by: Mark Lynas- Alliance for Science, Cornell University

Pro Science Communication Challenges and Opportunities in an anti-Science age

Mark observed that, we are living in a world that is rapidly urbanizing, where more people lives in the cities with less or no space at all to grow crops. There is no or little understanding of where food comes from and driven by 'a crisis of modernity' to an intensive search for cultural/religious authenticity.

All these have led to rejection of Science as anti-modern with beliefs that vaccines cause autism and an increased search for food/health authenticity. A recent opinion poll in the United States of America (USA) for example, showed there are prevailing anti science attitudes reflecting major gaps between the public and scientists on key issues and continued fear and emotion which is an effective combination used by anti-GMOs lobbies.

Even in 2015, scientists still lack the public trust, yet to feed the world, there is need for sustainable and intensified research that only science can provide. Perhaps the term 'GMO' is what is standing between Science and the public yet it doesn't reflect any scientific agricultural innovation. New innovative words might help in acceptance of biotechnology.

Use of pictures and good story telling ability may turn the story around, so that science is no longer the villain once the people are positively impacted to become the story tellers. Culture and norms of audiences should be explored and understood to make communication relevant to them. Communication that addresses attitude and behavior change is needed.

Presentation by: Dr Mahaletchumy Arujanan- Malaysian Biotechnology Information Centre

The Changing Terrain of Agri-biotech communications: GMO Communication Needs Storytellers: Are you game for it?

The changing terrain of Agri-biotech Communications demands that scientists tells the new story in a way that appeals to the hearts and minds of stakeholders. Science should make itself more believable and trustworthy by finding new story tellers who take science beyond the rational brain to the hearts where beliefs are largely motivated by emotions.

Scientific ideas and presentations are abstract, aimed at the brain and disconnected from everyone's lives. On the other hand, the anti-GMO lobby uses risk-driven storytelling techniques to shape public opinion and influence policies. It uses three characters- Villain,

Victim and Heroes. The pictures circulated online about biotech are from anti GMO activists rather than from the world of science.

Science uses one way communication – telling the people what they ought to hear and the tools used remain in elite websites (universities, science-based organisations) and publications that the public lacks access to. To be effective, scientific data should be repackaged into a story with emotion that touches the hearts, addressing the needs and answering the questions of the audiences. Having a game changer in communicating with our audiences means; developing new words, adopting new media, touching emotions to make them rock solid towards biotechnology. This is an important next step in the biotechnology story. Information on the search engines should aim at reaching the farmers audience levels.

Presentation by: Nancy Muchiri, AATF

Project based communication in Agri-biotech and biosafety

Reputation is key to earn farmers' trust and in seeking society's approval for any project. This means that managing the reputation of the project or product will increase the probability of its acceptance. The objective of science communication thus should be to help the public get to the level of scientific appreciation that is present. For age's biotechnology as a science has largely been developed in isolation from societal inputs. On the other hand the social debate on biotechnology has been held in isolation of scientific input.

Communication is a strategic tool to influence and/or change perceptions and attitudes. It supports buy-in by helping build an enabling environment, trust and knowledge. It helps to identify needs in the specific community thus preparing an objective based outreach strategy with known key issues and blind spots, exploration of best means to address and key players to work with. A phased approach helps to manage expectations and create a clear link to progress.

Communication supports in bridging the 'gap' and informing decision-making around key issues. With this strategic approach, risks and benefits can be identified ahead of time and ensure that there is no room for surprises. Looking for approval and support of community is a continuous process throughout the project life. Focus should be on the issues, key players and the mechanisms one will use to communicate and nothing will replace proper strategic planning.

Sessions' Q & A:

Q. The ban on GMOs in Kenya still exists yet the Deputy President says the country has no other way but adopt biotechnology. What is the way forward?

Stakeholders should arm him (DP) with the necessary information so that he can convincingly answer the questions that will be raised. Scientists have the capacity to demonstrate the effectiveness of these biotechnology products and should be more proactive in communicating the issue to the leaders.

Q. ICT is key component in information sharing and we see the youth on tweeter with wrong information. Why can scientists not take the lead in giving the correct information even on twitter?

A. Scientists should be proactive and share information with stakeholders wherever they are. This will ensure the right information is out there and help change attitudes towards biotechnology.

Q. How are you engaging the anti-biotechnology critics in your communication strategy? Are they left out in the approach?

A. There are different types of anti GMO groups; those that will want to engage with us and those will not. Anti GM Groups should not be a priority because basically they are not going to change their opinion. We need therefore to target our discussions to decision makers and stakeholders.

Q. What do the images we use to identify GMOs and Biotech such as a tomato with a syringe mean?

A: That tomato is not typical of biotechnology and is used to spread fear. The term GMO is a label polluted with fear

In summary, one needs to identify and classify the different stakeholders, their information needs and the engagement strategy to use. See below table;

<i>Stakeholder</i>	<i>Information Need</i>	<i>Engagement Strategy</i>
Polymakers	A complete brief, a description of what the technology means for serving their constituents.	Face to face, lobbying, seeing is believing, understanding constituents' needs, media
Consumers	Information on safety from trusted sources	Media, champion (contact from opinion leaders), exhibition education, multi sectoral approach
Farmers	Simple information on the risks and benefits	Face to face, seeing is believing, media (radio, print)
Media	Stories, simple explanations of the "what" and the "why", educational resources	Training, seeing is believing tours
Technology Developers	Business potential of the technology, regulatory context	Forums, briefings, face to face
Opinion Leaders (Chief, Religious Leaders)	Tailored briefs	Training, seeing is believing tours
Educators/ Academia	Educational resources images, video etc.	Forums, training workshops, electronic materials
Non- Governmental Organizations	Tailored briefs	Engagement TBD
Donors And Investors	Tailored briefs	One on one discussions at senior level
Women's groups	Information on safety from trusted sources, risks and benefits, implications for children	Training, seeing is believing tours (tailored for women)
Scientists	Sensitivity and communications training	Networking Partnering, forums
Industry (Food, Agriculture)	Business potential of the technology, regulatory context	Face to face, information for consumers

This session sought to identify the best approaches in gauging the impacts derived from various agri biotechnology and biosafety communication interventions. This involved defining impact in the context of agri biotech and biosafety communication, differentiating the impacts, outputs and outcomes, outlining the best practices in assessing impacts, determining when to undertake an impact assessment and understanding the importance of impact analysis findings.

Presentation by: James Watiti, CABI

Communication in biotechnology supports public information and participation. It is also responsible for demand-creation and supports effective replication of products, persuading skeptical audiences to take up the new knowledge. The challenge in biotech communications is to be present throughout the scientific process as part of an information

supply chain. This covers four steps: announcement of the project (engage), trials/research (demonstrate), results (convince), advocacy (persuade).

Engagement calls for informing audiences about the existence of specific technologies. The success indicator is the sharing of coherent messages in public discourse describing the technology. The demonstration explains the research set up and the 'how to' – the success indicator is the numbers and spread of success from farmer replication cases and learning.

Convincing means to show that the technology works with positive outcomes. Here, the success indicators will be the number of instances of success stories with farmer adoption as a prevalent theme. Finally, is the need to persuade, which is to advocates for formal recognition and support by decision makers and users. The success indicator is the number and instances of national regulatory supportive messages and technologies including commercialization.

A robust communications strategy will anticipate the fears and concerns of the audience, the Biosafety aspects and the business case (public and private). It also addresses intellectual property (IP) and ownership issues and has an alignment with public discourse (work with media). It also addresses the policy effects of communications, the scale up, adoption and outreach estimates and commercialization in public discourse.

Sessions' Q & A:

Q. Scientists are stuck with the challenge of explaining to the layman the scientific information. This is due to the jargon used by scientists. How should this challenge be addressed?

A. The challenge for scientists is to think carefully about how to step down the jargon and explain biotechnology in a clear way that removes fear. Careful planning in communicating biotechnology is necessary so as to simplify the information for the farmer while making sure that the factual information from science remains.

Q. When you have so many communication actors and you want to be specific with your information, how do you do it? And how do you measure impact?

You must plan with very realistic indicators and targets. For example, when you say two million farmers will be reached, you must state how you will achieve this target. It is a challenge especially explaining to donors how many people were reached by the media stories on biotechnology. Every time, you have to account for how to realistically measure the impact.

Case Studies:

Presentation by: Gyanendra Shukla: Monsanto – CEO Africa Region

Case Study 1: Industry perspective

Farming is a business in most parts of America and South Africa. However, this approach doesn't work mostly in Asia and Africa where farmers are a political vote bank. This calls for a very clear agricultural and biotechnology policy, preferably led by the Ministry of Agriculture involving both the industry and non-industry whose are voices critical.

Positioning biotechnology as an income generation venture especially for non-food crops is part of the solution. For example in providing export linked employment such as cotton farming which stands out as an example of success.

While the political will is necessary, science will have to be more humble and share itself as one of the solutions rather than the only solution. It will be necessary to organize the farmers and let other commercial players besides Monsanto to come on board. To make biotechnology and its adoption successful, stakeholders need to be more organized, such as having loud farmers' voices, alignment of the commodity sector, extensive education of the government sector as well as the print and electronic media. With the increase of use of social media, the ability to respond to social media as part of the debate led by consumers is also key.

Presentation by: Andy Benson, International Food Information Council (IFIC)

Case Study 2:

IFIC's mission is "to effectively communicate science-based information about health, food safety, and nutrition for the public good". Each year, the International Food Information Council (IFIC) and the IFIC Foundation plan and execute consumer opinion research on the most important issues facing consumers and the food and beverage industry. The research includes a food & health survey, American perceptions/approaches to eating and drinking occasion and behavior research, views toward nutrition and healthy eating among millennials, consumer attitudes toward chemicals and foods, food ingredient warning statements and consumer perceptions of food technology.

To understand what one is doing and why they are doing it, identify goals and targets in advance. Do a pre and post workshop survey, obtain recommendations from engaged experts; media monitoring to track trends as well as monitoring the regulatory process. Throughout the process, capture feedback from key stakeholders and monitor trade statistics, track ISAAA briefs, USDA GAIN Reports.

Finally, assessing the progress and adjusting forward-looking goals and targets would be done. A report is then made in a way that resonates with stakeholders and the target audience.

Presentation by: Daniel Otunge - Open Forum on Agricultural Biotechnology in Africa (OFAB)

Case Study 3:

The Open Forum on Agricultural Biotechnology in Africa (OFAB) was initiated and revolves around a careful thought process about who can add value and how. There should be close information sharing within the circle before moving out to create awareness and information sharing beyond science to legislative audiences. The next step is advocacy and outreach which have four dimensions. These are how to impact media; how to impact policy, followed by issue management and finally mainstreaming farmer voices. Success has been registered particularly with the media and currently about 500 stories favorable to biotech have now been published out of OFAB program.

There still remain some key challenges on the path to success. These include an unpredictable policy environment, increasing unified activities including court action in Sub Saharan Africa (SSA) and low farmer demand for access to products.

Panel discussion:

Stakeholder communication experiences with Biotech crops

Brazil

The question for them is: Who is going to be our public, our audience and what is our message to them? What impact could it have? They have learnt from experience that scientists have to be prepared to talk, standing side by side with communicators. They have to be on board whenever there is an opportunity but should not go on board unless they have a communicator. Scientists have learned to coin messages in teams that include communicators.

Europe:

In Europe, only 1 (one) event is allowed for commercialization. However, farmers and scientists have been part of a team developing material that is shared with the European Commission. There are growing voices to influence the European policy process towards biotechnology.

Philippines

In the past farmers were invited to seminars and workshops, but now they have turned the tables – they are the ones conducting the seminars and workshops. They are raising farmers' voices on biotech crops and have become the resource persons in organic farming workshops because they support co-existence of both types of farming. They have registered success in engaging local media and the local people, and they have also been able to develop a very influential farmer group – ASFARNET. Consequently, politicians listen to farmers.

South Africa:

Biotech is one of three pillars advanced for economic growth. The country has both GM and non GM crops with BT cotton being 95 % GM. Technology makes business sense to the farmers.

Sudan:

What worked was that the biotech regulator established the Bt cotton technology in a small area and by the third year they had almost 30% adoption which keep on increasing. In comparison the new Bt varieties were yielding more than traditional cotton and farmers abandoned it, which led to even more acreage under cotton. The main challenge is how to communicate to the public what kind of intervention is this Bt cotton technology. There is dire need to simplify the language to the public level.

Sessions' Q & A:

Q. How can farmers who have seen the success of biotechnology be involved in spreading the message to their fellow farmers?

A: If farmer groups can participate in research, as they see what is happening, they will be in a better position to spread the message forward to their members. Researchers rely more on governments for funding and this gives them opportunity to go directly to farmers.

Q: In South Africa; have small scale farmers benefitted from biotechnology?

A: Technology benefits both the emerging farmers and the commercial farmers both large scale and small scale. They benefitted the same way from Bt.

Q: Philippines: what is the current status of Bt and are the farmers achieving anything?

A: Bt in the Philippines has been riddled with court cases so we cannot move much in releasing products.

In conclusion; the trust from government agencies is very important because public approval and adoption becomes easier. These are lessons learnt from both Sudan and Brazil. Interaction through popular media has been used in Sudan while in South Africa; it is showing biotechnology as an important tool for economic development that worked to enhance adoption. Farmers' voices have been heard in the Philippines. What could work in Europe is producing potato with blight resistance. Finally, creating confidence that they have a home grown product is important for scientists in any country.

The use of new media and campaigns in agri-biotech and biosafety communications

This theme aimed at assessing how the use of social media platforms such as Facebook and Twitter could help in reaching a wider audience as well as having effective campaigns on biotechnology.

Case Studies

Presentation by: Prof Sarah Davidson – Cornell University: The alliance for Science.

Case Study 1: The use of new media and campaigns in Agri-biotech and biosafety communications;

Prof. Sarah reported how the Alliance for Science focused on effective communication to ensure that farmers and consumers make the right choices in regard to biotechnology.

According to her, the farmers' voices have not been heard and the voices of science have been hijacked by a small minority. Therefore, there is need to inspire grassroots movements to push GMO agenda. Currently, the organization is working to develop a curriculum for farmers on biotechnology. Training has so far been offered on digital communication and building a network of dedicated communication specialists to work with teams around the world to amplify their voices. Multimedia messages on biotechnology earned impressive social media ratings after embracing communication strategies.

Presentation by: Tom Sheldon, senior press manager

Case Study 2: Science media center, London

Tom shared various media articles that demonized biotechnology. He challenged scientists to go out and write the articles educating the public about GMOs, lest the critics win the war against biotechnology.

Presentation by: Ochieng Ogodo: SCidevnet

Case study 3:

Ogodo noted that, social media gives opportunity for further studies on biotechnology, by giving new leads to the readers.

Presentation by: Bernie Jones, Biosciences for Farming in Africa (B4FA)

Case study 4:

Mr. Bernie highlighted, there is need for more informed reporting by journalists about science and biotechnology. Long term collaboration with journalists and farmers will help in achieving this. One of the ways in which journalists can learn more is by joining scientists in scientific practical's so they can appreciate biotechnology.

Presentation by: Tezira Lore (ILRI)

Case study 5: The CGIAR Experience

Tezira emphasized on the need for scientists to avail to the public all the information they publish about biotechnology. This way, the media will not misreport scientific information. She likened scientific information to a whole meal that needs the scientists to break into small 'snacks' that journalists can effectively 'digest'. She, however, pointed out that scientists are often afraid of journalists, especially when the latter misquote them, something that may endanger a hard earned career of the scientist.

Sessions' Q & A:

Q: Is there a big problem with scientists misinterpreting figures, and are they dominating the discussions?

A: We do not have many scientists. We have only 3. And 2 of them are social scientists. But they are all perceived as scientists.

Q: How do you carry the conversation on biotechnology in an environment where the media is owned by big companies that have money and most of them are shareholders in the science industry?

A: Take the conversations away from the venues where it is controlled.

Q: What strategies do you use when you find yourself in the same room with the anti GMO activists who do not find common grounds with you and disagree with everything you say? And how do you deal with the challenge of having editors who favour information from the anti GMO activists?

A: If you are having an argument on a scientific issue that is predictable, don't have it. Just switch the conversation to a topic where they do not have ready answers and do not have information about. Convince them on individual basis as opposed to when they are in groups. Give them relevant examples of the benefits of biotechnology.

Q: How can we reach the media, for example in a case where it is owned by such big companies as organic or pesticide companies?

A: Tackle the conversation out of the media. For example, you could ask face to face questions after workshops and conferences. Use very different questions and questioning style to find a solution.

The Parliamentary Session

The session centered on how the parliamentarians perceive the packaging of biotech messages.

The following questions were the centre of the discussion;

- How do parliamentarians perceive biotechnology is being communicated?
- What is the most effective communication strategy to reach out to the policy makers?
- What messages do they (politicians) want to hear about biotech?
- What do constituents want to know about biotech?

At the end of the panel discussions, scientists were asked to package information in a realistic and convincing manner if they are to convince politicians and other law makers to adopt biotechnology. They noted that working with policy makers and politicians across the political divide all through would yield favorable results. The message has to be continuously propagated, not just a one-time conversation. How safe is biotech? How will it affect our environment, community, health? How will it impact on nutritional hunger and normal hunger? Politicians want to know how farmers will benefit from biotechnology

The panel also urged scientists to demonstrate the usefulness of biotech to farmers and they will in turn demand it from government from an informed position. Credibility of the biotech products was emphasized.

The evolving nature of "balance" and "evidence" in agri-biotech and biosafety communications

This theme sought to discuss the rise and influence of 'false experts' or celebrities in agri-biotech and biosafety communications, the role of personal networks in influencing opinions, attitudes and behaviors as well as the mistrust between scientists and the general public.

It is evident that all the factual information needed to be shared to policy makers and general public in regard to biotechnology is readily available. But since journalists have to 'balance the story' around biotechnology, the agenda in media circles still remains a challenge for scientists.

In order for the media to appreciate the need for evidence and balance whenever communicating biotechnology, journalists need to keep close contact with scientists and possible accompany them to the labs. This way, the journalists will be reporting from a more informed position. But the challenge of scientists being unavailable for media interviews may badly affect this possibility. For example, many scientists today are more afraid of losing their hard-earned career to a media story than they are willing to be heard out there. This resulted from past interactions where journalist reports differently from scientist position or worse still with the voices of the biotechnology critics. Below are some recommendations on how to ensure balance and evidence in agricultural biotechnology communication:

Case Studies

Presentation by: Tamar Haspel, Washington post

Tamar emphasized on the need to remove jargon from scientific information being disseminated to the public. Instead move to where the people are, interact with them and have a conversation there. On how to handle biotech critics, Haspel urged scientists and GMO promoters to reach out more to people who disagrees with them. Such a move will open up room for constructive dialogue. Tamar highlighted the challenge of media teaming up with GMO critics which paralyses the effort by scientists.

Presentation by: Prof. Zhen Zhu- Chinese Academy of Sciences

Agri-Biotech Communication trends

Prof Zhen Zhu gave an overview of the Chinese Academy of Sciences and some of the activities that they are engaged in, in a bid to promote biotechnology in the country.

Presentation by: Barbara Zawedde, Uganda Biosciences Information Center (UBIC)

Challenges for Scientists Communicating Biotechnology in Uganda

Zawedde noted that, there is need to increase visibility of communication by pro-biotech scientists. Also, repackage the messages as well as train the scientists in order for them to better communicate biotechnology.

Group Discussions

Participants were divided into groups to discuss the conference themes. Below is a summary of the groups' recommendations in terms of the best practices, lesson learnt and challenges per each conference theme;

Appropriate agri-biotech communication to meet evolving agri-food landscapes"

<i>Best Practices</i>	<i>Lessons Learnt</i>	<i>Challenges</i>
• Share information and experiences • Adopt biotechnology, lift the ban in Kenya • Use information to convert to small scale farmer to entrepreneur	• Agricultural information sharing is a continuous process of improvement • A strength, weaknesses, opportunity and threat (SWOT) analysis would be useful in informing communications to the farmer and other stakeholders • Bring biotech knowledge to the basic level where it is understood by all stakeholders • Seeds to the farmer accompanied by information on care and risks will help in the adoption of new farming methods • Efficient regional approach for information and communication technology (ICT) will help participation in the market • Countries that produce biotech foods have surplus while those that don't grow biotech foods have a deficit • Create expert-lay person trust • Clear message about agri-biotech to delink it from ills currently associated with it such as cancer	• Busy schedules limit the time experts and lay people, especially farmers and policy makers can meet • Importance of communication is underplayed • The fear of biotechnology spreads faster than its benefits • The language of science is not known to the farmers. Language should be simplified for farmers. • Illiteracy among farmers reduces rate of adoption of technology • Agro-processing is poorly addressed and misunderstood yet is a potentially huge employer • Declining farmer populations , food production and increase food price shocks and little information shared to prepare stakeholders • Bt ban in Kenya hinders progress and vital decision making such as adoption by stakeholders

Stakeholder information needs, engagement strategies and messaging for agri-biotech and biosafety communications

<i>Best Practices</i>	<i>Lessons Learnt</i>	<i>Challenges</i>
• Two way communication- listen to stakeholders • Communications helps to build trust • Communication informs decision making • Identify risks and benefits ahead of time	• Look for good messaging (science-based, targeted) • Keep the message consistent • Share the message: determine and prioritize the appropriate channels • Make the message accessible, appropriate to the target audience	• Major gap between science and public knowledge levels on Bt • Mistrust of science by the public

Assessing impact in Agri-biotech and biosafety communication

<i>Best Practices</i>	<i>Lessons Learnt</i>	<i>Challenges</i>
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• Use communications to support public information and participation • Share coherent information on specific technology • Anticipate fears and concerns; business cases, in the communications strategy	• There is need to define impact in the context of agri biotech and biosafety communication • There is need to outline best practices in assessing impacts • Determine when to undertake an impact assessment • Have continuous work before, mid and after the implementation of the communication plan	• Communication to be present throughout the entire scientific process
<i>The use of new media and campaigns in agri-biotech and biosafety communications</i>		
<i>Best Practices</i>	<i>Lessons Learnt</i>	<i>Challenges</i>
• New media is cost effective • New media can attain a global reach • New media is has an instant feedback feature • Create an agri-biotech fans page • Follow up on social media networks to connect with other stakeholders • Use social media tools to evaluate impact	• Let us be careful not to concentrate so much on social media in the urban areas and forget those upcountry where biotechnology may make more sense • Need to use existing social media platforms to communicate biotechnology. Such avenues include the weekly Crop biotech update • Look for ways to integrate both traditional and social media in communicating biotechnology • When communicating, use open-ended questions that trigger engagement • With new media, one is able to have a global reach • Social media has a quick feedback mechanism	• Limited access to internet facilities particularly in developing and under developed countries • Immediate response not always attainable • Online insecurity e.g cyber crime • High illiteracy levels, especially mong rural farmers • New media provides an increasing opportunity for negative feedback • There is no censorship of social media in most countries • There is a high possibility of unreliable sources hence credibility is compromised
<i>The evolving nature of "balance" and "evidence" in agri-biotech and biosafety communications</i>		
<i>Best Practices</i>	<i>Lessons Learnt</i>	<i>Challenges</i>
• Engage all stakeholders • Have a robust communications strategy • Inform and sensitize existence of specific technologies • Draft coherent messages in public discourse describing the technology	• There is need to tailor our messages for the various target groups • here is also need to find the right devices to carry the message to the people • Listen carefully to all stakeholders and understand their diverse needs	• Poor relationship between scientists and the media. • All-powerful anti GMO critics.

Conclusion

The convening of the Agricultural Biotechnology and Biosafety Conference (ABBC) 2015 is a clear indication that scientists and key players in the biotechnology sector are determined to ensure that the farmers, government, media, researchers and all the targeted stakeholders obtain the correct information regarding biotechnology.

The conference brought out the many alternatives and communication avenues that these stakeholders can use in order to effectively communicate with the various target groups. It also emphasized on the need to have the correct packaging of the messages. The conference is seen as a vital step in engaging the relevant voices in the talk on biotechnology in world at large.

As a way forward, the participants suggested a comprehensive and well-coordinated program of action in which stakeholders would;

- Collectively work to improve the communication strategies to ensure effectiveness,
- Work inclusively, with all stakeholders in an effort to build consensus,
- Promote choice, so that end-users can make informed decisions that reflect their best interests,
- Demonstrate how agricultural production challenges can be tackled using biotechnology, and how it can directly contribute to food and nutrition security, poverty alleviation, job creation and sustainable economic development,
- Support credible scientists who are most trusted by the public and governments, to be effective communicators and to have a closer relationship with media and policymakers to ensure that scientifically-informed messages reach target audiences.

Appendices

Appendix 1: Conference Communiqué/Nairobi Declaration

Nairobi Declaration 2015

Declaration of the International Conference on Agri-Biotechnology and Biosafety Communication (ABBC) 2015

We, the participants of the International Conference on Agri-Biotechnology and Biosafety Communication, held on 12-14 April 2015 in Nairobi, representing the academic and research community, civil society, law makers and policy advisors, the media, farmers and other stakeholders drawn from 29 countries across the world, collectively issue the following statement resulting from this conference:

Whereas:

- The world faces unique and particular food security challenges in future, as the human population increases towards a likely 9.5 billion by 2050 and climate change raises additional problems for agriculture in terms of water and temperature stress, increased disasters and extreme weather
- Some progress has been made in meeting the Millennium Development Goals on extreme poverty, malnutrition, infant mortality and food security. Much work remains to be done to ensure that citizens of all countries enjoy the full opportunity of healthy and sustainable access to food
- Biotechnology and genetic modification, while not being the only solution to these challenges, offers great potential in addressing many specific concerns in food production, including micro-nutrient deficiencies, productivity and yield gaps, pest and disease problems and other issues
- There exists an international scientific consensus that the genetic modification process itself does not raise any risks over conventional breeding approaches
- The debate around genetically modified products continues and is often characterized by emotive and misleading information about purported dangers that are not supported by any scientific evidence
- Highly restrictive policy and regulatory environments exist in parts of the world, greatly hampering the capacity of farmers to access innovations that will improve farm productivity, household incomes and food security

Hereby declare our commitment and determination:

- To work **collectively** to improve the communications environment, including the use of the latest as well as traditional communication strategies to ensure effectiveness
- To work **inclusively**, with all stakeholders, including those opposed to this technology, in an effort to build consensus and common understanding
- To **promote choice**, so that farmers, consumers, and other end-users can make informed decisions that reflect their best interests
- To address the concerns of people at all levels, to ensure the widest participation possible
- To demonstrate how agricultural production challenges can be tackled using biotechnology, and how it can directly contribute to food and nutrition security, poverty alleviation, job creation and sustainable economic development
- To support **credible scientists** who are **most trusted** by the public and governments, to be effective communicators and to have a closer relationship with media and policymakers to ensure that scientifically-informed messages reach target audiences

Appendix 2: Media coverage

Below is an excerpt from the media coverage of the conference:

<http://www.nigeriannewspapers.today/international-conference-calls-on-kenya-to-lift-ban-on-gmo-imports/>

<http://www.standardmedia.co.ke/article/2000158671/we-have-biotech-structures-to-deal-with-gmo-issues>

<http://www.isaaa.org/kc/cropbiotechupdate/specialedition/2015abbc/default.asp>

Appendix 3: Conference Program

DAY ONE: Sunday 12th April 2015 - 1400 hrs to 2000 hrs	
Conference Opening Session and Orientation (Venue outside hotel)	
DAY TWO: 13th April 2015	
0730hrs-0830hrs	Registration
Session chair	Dr. Stephen Karimi - Head of Agricultural Science NACOSTI
0830hrs-1030hrs	- Welcoming remarks: Dr. Denis Kyetere- AATF - Introductory and Opening remarks: Dr. Randy Hautea-ISAAA - Keynote speech: <i>Appropriate Agri-Biotech Communication to meet Evolving Agri-food Landscape</i>, Prof. Paul Teng, ISAAA Board Chair
1030hrs-11hrs	Group photo/ Health break
	Facilitators: Drs. Paulo Melo and Dan Kiambi
11hrs-13hrs	Keynote presentation: Stakeholder information needs, engagement strategies and messaging for agri-biotech and biosafety communications -Dr. Wilson Songa- Principal Secretary, Ministry of Industrialization and Enterprise Development- Kenya - 20 minutes Discussions- 20 minutes Presentation 1: Pro-science Communications Challenges and Opportunities in an Anti-science Age – Mark Lynas – Alliance for Science, Cornell Univ.-20 mins Presentation 2: The Changing Terrain of Agri-biotech Communications Dr. Maha Arujanan- Malaysian Biotechnology Information Center-20 mins Presentation 3: Project based communication in Agri-biotech and biosafety Mrs Nancy Muchiri – African Agricultural Technology Foundation-20 mins Plenary session/ Discussions- 20 mins- Chairs- Dr. Mariechel Navarro, Dr. Simon Gichuki and Mr.Peter Wamboga
Facilitators to guide the discussions	
13hrs -14hrs	Lunch break
Afternoon session	

14hrs- 16hrs	Assessing impact in Agri-biotech and biosafety communication - 20 mins Keynote speaker: CABI Case Study 1: Industry Perspective –Dr. Shukla- 10 mins Case Study 2- International Food Information Council (IFIC)-Dr. Andy Benson -10 mins Case Study 3- The Open Forum on Agricultural Biotechnology in Africa –Daniel Otunge-10 mins <i>Stakeholders communication experiences with Biotech crops:</i> Chair - Bhagirath Choudhary Sudan-Prof. Asim Abu Sarra-; South Africa– Dr. Bongani Maseko; Asia - Reynaldo Cabanao ; Europe -Delphine Carron; Brazil – Dr. Deise Capalbo -30 mins Group work- 40 mins- Chairs: Dr. Fred Kanampiu , Prof. Naglaa Abdallah and Mr Kefyalew Negisho
16hrs- 16.30hrs	Health Break
16.30hrs-18hrs	Book launch and New Initiatives: 1. Food Safety Communications Guide by International Food Information Council (IFIC)- Dr. David Schmidt- 35 mins 2. Voices and Views: Why Biotech? By Global Knowledge Center c/o KC team, ISAAA)-Dr. Mariechel Navarro-10 mins 3. ISAAA AfriCenter 10 year report- Dr. Margaret Karembu-10 mins MARKET PLACE- Showcasing Knowledge Products on Biotechnology and Biosafety-25 mins
19hrs	Group Dinner
DAY THREE: 14th April 2015 Facilitators: Drs. Paulo Melo and Dan Kiambi	
08hrs- 0830hrs	Recap of day one’s activities- Emerging trends- Dr. Margaret Ottah Atikpo & Jane Otadoh
0830hrs- 1010hrs	Keynote presentation: The Use of New Media and Campaigns in Agri-biotech and Biosafety communications- 15 minutes- Prof. Sarah Davidson- Cornell University Case study 1- Science Media Center-UK: Tom Sheldon- 10 mins Case Study 2- SciDev.net- Ochieng Ogodo-10 mins Case Study 3- B4FA: Bernie Jones-10 mins Case Study 4-The CGIAR experience- Tezira Lore (ILRI)-10 mins Group work- 25 minutes- Chairs- Dr. Samuel Timpo, Dr. Jonathan Mufandaedza; Otula Owour Practical session- 20 mins- Drs. Dan Kiambi and Paulo Melo
1010hrs- 1030hrs	Health Break
1030hrs- 1230hrs	Keynote presentation: The evolving nature of “balance” and “evidence” in Agri-biotech and biosafety communications- 20 mins Keynote speaker: Dr Jay Byrne - VFluence Case Study 1- Dr. Barbara Mugwanya – UBIC, Uganda – 10 mins Case Study 2- Prof. Zhu Zhen, Chinese Academy of Sciences, China-10 mins Case Study 3- Tamar Haspel, Washington Post, US-10 mins Group work- Chair: Prof. Eucharika Kenya, Prof. Dorington Ogoyi, Ryan Lee - 40 mins Panel Discussion by Parliamentarians: Chairs– Daniel Kamanga & Prof.

	Walter S. Alhassan -30 mins <i>Facilitators to guide the discussions</i>
1230hrs-1330hrs	Lunch break
1330hrs-15.30hrs	Synthesis of best practices in groups (Facilitators to guide the discussions of the groups to derive best-bet practices on the following): Stakeholder information needs, engagement strategies and messaging for Agri-biotech and biosafety communications- Chairs: Drs. Aldemita Rhodora and Andy Benson Assessing impact in Agri-biotech communication Chairs: John Komen and Prof. James Bokosi The use of new media and campaigns in Agri-biotech and biosafety communications Chairs: Drs. Rose Gidado and Fidèle Tiendrebeogo The evolving nature of “balance” and “evidence” in Agri-biotech and biosafety communications Chairs: Ryan Lee and Jean Kebere
15.30hrs-16.00hrs	Way Forward: Action points, roles and responsibilities/ Conference evaluation Chair: Dr. Nicholas Nyange & Dr Karim Maredia
16.30hrs- 17.00hrs	Closing Ceremony: Facilitators: Drs. Paulo Melo and Dan Kiambi - Closing remarks- Dr. Denis Kyetere, Executive Director, AATF - Closing remarks- Dr. Margaret Karembu, Director, ISAAA AfriCenter - Closing remarks- Prof. Dorington Ogoyi, Director of Technical Services, National Biosafety Authority, Kenya
17.00hrs- 17.30hrs	Health Break Networking/ Media interactions

Appendix 4: List of Participant's

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