ADDITIONAL ANSWERS IN BIOSAFETY FAQS

1. **What is Biosafety?**
   Biosafety refers to the need to protect human health and the environment from the possible adverse effects of the products of modern biotechnology.
2. **What are the functions of the National Biosafety Management Agency (NBMA) in Nigeria?**
   As an Agency of the government, NBMA has the responsibility of regulating modern biotechnology activities in Nigeria. The functions of NBMA include:
   a. proposing the overall policy guidance on issues of Biosafety in Nigeria for the approval of the Board;
   b. implementing the provisions of the Conventions (Convention on Biological Diversity (CBD)) and the Protocols (Cartagena Protocol on Biosafety, and Kuala Lumpur Protocol on Liability and Redress) on matters relating to GMOs;
   c. rendering reports to the Secretariat of the Convention on the implementation of the Convention and Protocol on matters relating to the use of GMOs;
   d. developing measures and criteria for risk assessment, peer review and decision making;
   e. developing risk management plan and strategy for protecting human health, biological diversity and the environment from potential risks associated with GMOs;
   f. accepting, verifying and processing applications in respect of GMOs for Permit and keeping records of all approvals and unapproved applications as contained in Part VIII, subsection 24 (1);
   g. taking samples and carrying out laboratory analysis of living materials and products for purposes of determining if they are genetically modified and ensuring compliance with the Act;
   h. carrying out actions necessary to ensure compliance with the legal obligations set out in the Act, including, but not limited to, the inspection of facilities undertaking GMO research, conducting research activities with GMOs covered by the Act, the collection and analysis of samples of materials covered by the Act, the monitoring of human health and the environment to determine the effects of GMOs regulated by the Act;
   i. liaising with the Secretariat of the Convention and the Biosafety Clearing House (BCH) with respect to the administrative functions required under the Protocol;
   j. carrying out and maintaining inventory of laboratories with physical and human capacities to conduct research in modern biotechnology;

k. monitoring the activities of Institutional Biosafety Committees (IBCs) and Biosafety officers;
l. building, equipping and maintaining offices and premises for the performance of its mandate under the Act;
m. carrying out capacity building activities in the regulation of modern biotechnology;
n. performing other duties as may be necessary for the full discharge of its functions under the Act; and
o. partnering with other relevant local and international agencies for the speedy realization of the Agency's mandate.

3. **Why have there been concerns about GM foods among some public interest groups and consumers.**
These concerns are not only peculiar to public interest groups and consumers, but to the NBMA as well. This is because, GM foods are officially new and with any new technology, there may be concerns. But it is in the interest of the whole nation to know that no GM foods will be officially released into the market until they are confirmed safe by the NBMA and other relevant Agencies. So far, no GM food has been declared unsafe for human consumption (by WHO and FAO). Therefore, it is natural to be concerned about something one is not familiar with.

4. **If I have question on biosafety in Nigeria, whom should I direct my inquiries to?**
For enquiries, issues, clarifications and questions on biosafety in Nigeria, the Director-General/Chief Executive Officer can be contacted, through email to nbma@nbma.gov.ng or in person to the Planning, Research and Statistics Department of the Agency located at National Park Service Complex, Umaru Musa Yar'adua Way, Near City Gate, Abuja, www.nbma.gov.ng, +2348180805451.

5. **What are the GMO Permits that have been approved in Nigeria?**
The NBMA has given Permits to the following Institutions:

- Bio-fortified Cassava (increased levels of β-carotene & iron) at National Root Crops Research Institute (NRCRI), Umudike, Abia State.
- Africa Bio-fortified Sorghum (ABS) modified for decreased phytate levels and increased β-carotene, zinc & iron contents at Institute of Agricultural Research, Ahmadu Bello University, Zaria, Kaduna State.
- Pod-borer resistant cowpea at Institute of Agricultural Research, Ahmadu Bello University, Zaria, Kaduna State.
- Nitrogen Efficient Water Efficient Salt Tolerant (NEWEST) Rice at National Cereals Research Institute, Badeggi, Niger State.

- Monsanto Agriculture Nigeria Limited: CFT for Herbicide Tolerant Maize

6. **What are Genetically Modified Organisms (GMOs)?**
   Genetically Modified Organisms are plants, animals or microorganisms that have been altered genetically by the addition, deletion, or silencing of a gene for better performance of the recipient organism. The gene source could be from any organism not necessarily from a related species.
7. **What GMOs are in Nigeria?**
   There are no officially approved GMOs in the Nigerian markets. The only GMOs officially approved are those on trials (Confined Field Trials) and cotton approved for commercial release, which would not be in the market until 2019 after 2-3 years of on-farm demonstrations.

7. **What are genetically modified (GM) food?**
   Genetically Modified (GM) foods are those foods derived from GMOs as a whole, or ingredients derived from genetically modified source.

8. **Are GM foods safe?**
   This is not only a concern for the public but for NBMA as well. No GM foods will be allowed into Nigerian markets unless they are confirmed safe by the NBMA even if they are declared safe from the source, or country of importation.

9. **What are the processes for obtaining a Permit?**
   For a GMO Permit to be granted to an individual or a corporation, the first step is to visit the NBMA website or the NBMA office to obtain appropriate guidelines and regulations for Terms and Conditions on any dealings on modern biotechnology and GMOs. If it is a permit for modern biotechnology activity, then, the Facility will be required to be certified. If a permit is required for CFT, General Release (GR) or any other release, an appropriate application form should be completed and submitted to the NBMA. The NBMA will receive and process the application within 270 days after which a decision will be made and then be communicated to the applicant**.**

10. **What gives the NBMA authority to be a regulatory body in Nigeria?**
    The NBMA Act 2015 charges the Agency with the responsibility of providing regulatory framework, institutional and administrative mechanisms for safety measures in the application of modern biotechnology in Nigeria. Thus, the Agency is the national competent authority on all biosafety issues.

11. **What does the NBMA regulate?**
    The NBMA Act 2015 empowers the Agency to regulate the application of modern biotechnology, with the view to preventing any adverse effect on human health, animals, plants and the environment, and any other related matters.

The NBMA Act 2015 regulates GMOs for import and export. It generally regulates all trans- boundary movements of GMOs in Nigeria

12. What capacity does the NBMA have to carry out its duties?

The Agency has staff that have been well trained both nationally and internationally on diverse biosafety related matters and has also established a state-of-the-art GMO Detection and Analysis Laboratory. In addition, the Agency has developed the following regulatory instruments to enhance its capability for its duties;

i. The National Biosafety Management Agency Act 2015
ii. National Biosafety Policy
iii. National Biosafety Risk Analysis Framework
iv. GM Detection and Analysis Manual
v. National Biosafety Application Administration Guidelines
vi. Biosafety Containment Facilities Guidelines
vii. Confined Field Trial Monitoring and Inspection Manual
viii. Biosafety Application forms
ix. Decision Document
x. National Biosafety Communication Strategy
xi. National Biosafety Emergency Response Strategy
xii. Cessation Order
xiii. Revocation Order
xiv. Biosafety Regulations
    - GMOs Import, Export and Transit
    - GMOs Packaging, Identification and Transport
    - GMOs Commercial Release
    - Biosafety Liability and Redress
    - GMOs Contained Use and Confined Field Trial

13. What are Confined Field Trials (CFTs)?

Confined Field Trials (CFTs) are the on-farm, small-scale experimental phase of any GMO development process, with the intention of restricting genes and other genetic materials to the trial site. The trials are essential to ascertain the performance of the organism in the open, obtain safety data or other information. The restriction is to avoid the consumption of the organism and the persistence of the gene in the environment.

14. How does the NBMA confirm that a GMO is safe for consumption?

As an Agency, the NBMA has the responsibility of declaring a GMO safe for human consumption only after it carries out thorough analysis of that GMO called Risk Analysis. Risk Analysis is a case-by-case scientific review of the safety issues associated with the

GMO, history of its use, biological characteristics of the donor organism and the recipient organism, the magnitude of risk involved, the management measures of the risk, etc. to ensure there is no harm. For those GMOs for consumption, food safety analysis is carried out to ensure it is safe for consumption.

15. What is the NBMA doing to ensure that illegal GM foods are not found in Nigeria?

The NBMA as the Competent National Authority on Biosafety in Nigeria, has put in place measures to curtail the illegal importation of GM foods into the country. Individuals or corporations were given a time frame to apply for permits so as to make their importation official. For any GM food, it must be clearly labelled for ease of identification. The Agency sends, on regular basis, Biosafety Enforcement Officers to various super stores and markets for GMO suspect survey. This is to ensure total compliance. For non-compliance, a jail term, fine or both can be used to take action against any individual or corporation found guilty as specified in the NBMA Act 2015.

Furthermore, memoranda of understanding (MoU) have been signed between the Agency and the Nigeria Customs Service (NCS), and other relevant agencies to safeguard Nigeria's borders against illegal entry of GM food products.

16. What facilities in Nigeria have the capability to carry out genetic modification?

For any facility to be declared capable of carrying out genetic modification, the NBMA has to certify the facility.

17. **How does the NBMA notify the public of its activities and any new Permit that is granted?**

The NBMA, in order to ensure public participation in decision making process, notifies the public using various channels of communication. The Biosafety Clearing House (BCH), NBMA website, Facebook and Twitter pages, publications in national and local newspapers and the notice board in the NBMA office Complex.

18. What is the next step for GMOs in Nigeria?

The next step for GMOs in Nigeria is commercialization, particularly those crops in the pipeline, in the advanced stage of CFTs. For GMOs in Nigeria, permits given to institutions were only for CFTs, except Bt-Cotton for commercial release which is still undergoing requirements of other agencies.

20. What do certain terminologies in Biosafety and Modern Biotechnology mean?

These are words, acronyms or group of words that are mostly scientific, sometimes normal words that people use on daily basis but with different or slightly different meaning. Some of such are:

- **GMOs**: Genetically Modified Organisms
- **CFTs**: Confined Field Trials
- **BCH**: Biosafety Clearing House
- **DNA**: Deoxyribonucleic Acid

- **RNA**: Ribonucleic Acid
- **LMO**s: Living Modified Organisms
- **Landraces**: varieties that are peculiar and available in a locality
- **Facility**: A laboratory, greenhouse or glasshouse where genetic modification takes place
- **Gene transfer**: movement of genetic materials between two related species or varieties
- **DIR**: GMO dealings involving release
- **DNIR**: GMO dealings not involving release
- **Containment**: putting or placing under a four walled facility
- **Confinement**: putting in an open but restricted field, e**tc**.