

COUNTRY REPORT: NIGERIA
**The Cart before the Horse?: Biosafety Regulations and Modern
Biotechnology Activities in Nigeria**

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Introduction: The Need for Biosafety Regulations

'Modern biotechnology' is revolutionising the way we produce, perceive and decide on the food we consume as humans. To be clear, modern biotechnology is 'the application of: (a) In vitro nucleic acid techniques, including recombinant deoxyribonucleic acid (DNA) and direct injection of nucleic acid into cells or organelles, or (b) Fusion of cells beyond the taxonomic family, that overcome natural physiological reproductive or recombination barriers and that are not techniques used in traditional breeding and selection'.¹ In other words, modern biotechnology produces what is generally termed as 'Living (or Genetically) Modified Organisms' (LMOs or GMOs), i.e., 'any living organism [e.g. plants and animals] that possesses a novel combination of genetic material obtained through the use of modern biotechnology'.² And foods produced from or using GMOs are usually referred to as 'GM foods' which the World Health Organisation (WHO) has defined as 'foods derived from organisms whose genetic material (DNA) has been modified in a way that does not occur naturally, e.g. through the introduction of a gene from a different organism'.³

The advent of modern biotechnology has been associated with its potential for providing solutions to major agricultural problems – like low crop yields and stress related issues

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¹ Cartagena Protocol on Biosafety to the Convention on Biological Diversity, adopted 29 January 2000, art 3(i).

² *Ibid*, art 3(g).

³ Available at: http://www.who.int/topics/food_genetically_modified/en/.

arising from pests, diseases, drought etc. – that could aggravate world hunger and poverty.⁴ Essentially, modern biotechnology is said to be aimed at improving crops protection, productivity, durability and nutritional value, amongst other perceived benefits it is touted to be capable of delivering to its producers, farmers, consumers and the environment.⁵ While the deployment of biotechnology has been hailed as a success in some quarters, apart from serious concerns about the ethical and trade-related aspects of the application of the technology, there is the persistent evidence-based fear that GMOs could in fact be counterproductive, incapable of delivering some of its touted benefits and harmful to the health of its consumers and the environment.⁶ And to compound issues, only very limited testing has been done to properly evaluate the harm GMOs may have on humans and the environment.⁷

Giving the above legitimate concerns and the need to properly harness whatever potential benefits it embodies, the need to regulate the application of modern biotechnology and its output immediately becomes apparent. This need has since been clearly recognised and firmly established *in the 1992 UN Framework Convention on Biological Diversity*⁸ (CBD) which, whilst recognising the potential benefits biotechnology hold for human wellbeing, stresses the need for states to put in place measures aimed at addressing the risks to human health and the environmental associated with the use and release of GMOs.⁹ In furtherance of this position – and in accordance with Article 19(3) of the CBD – *the 2000 Protocol on Biosafety to the CBD*¹⁰ (Biosafety Protocol) was adopted and, focusing especially on transboundary movements, Article 2(2) of the regime obliges parties to ‘ensure that the development, handling, transport, use, transfer and release of any living modified organisms are undertaken in a manner that prevents or reduces the risks to biological

⁴ F Nang’ayo, *The Status of Regulations for Genetically Modified Crops in Countries of Sub-Saharan Africa* (African Agricultural Technology Foundation, 2006) 4.

⁵ WHO, *Frequently Asked Questions on Genetically Modified Food* (WHO, May 2014), available at: http://www.who.int/foodsafety/areas_work/food-technology/faq-genetically-modified-food/en/.

⁶ See Nang’ayo (n 4) 5; and E Turow, ‘You Need to Know: The Facts and Debate about GMOs’, *The Huffington Post*, 9 August, 2014, available at: http://www.huffingtonpost.com/eve-turow/you-need-to-know-the-fact_b_5570951.html.

⁷ Turow (n 6).

⁸ Rio de Janeiro (Brazil), 5 June 1992, in force 29 December, 1993, available at: <http://www.cbd.int/convention/text>. Ratified by Nigeria on 29 Aug. 1994.

⁹ See Arts 8(g) and 19

¹⁰ Montreal (Canada), 29 January, 2000, in force 11 Sept. 2003, available at: <http://www.cbd.int/doc/legal/cartagena-protocol-en.pdf>. Ratified by Nigeria on 15 July 2003.

diversity, taking also into account risks to human health'. Both *the CBD and the Biosafety Protocol* are currently in force.

Whilst the biotechnology/GMO debate – as to its pros, cons, concerns, acceptability and appropriate regulation – has been a major one internationally, it is only just becoming a major issue in Nigeria – a party to both *the CBD and the Biosafety Protocol*. In Nigeria, 2014 witnessed an increase in this debate by diverse stakeholders through the media; biotechnology and biosafety issues received the prime attention of the 2014 Nigerian National Conference, and in 2014 a Bill for *an act establishing the National Biotechnology Development Agency* was approved by the Nigerian Federal Executive Council to be sent to the National Assembly for passage into law. It is in the light of such recent developments (further discussed below), and earlier ones, that it was thought relevant to write this report which, hereinafter, examines the current status of biosafety regulation in Nigeria in relation to the extent of its modern biotechnology (permitted-) activities, and questions whether the country is 'placing the cart before the horse' in a manner potentially detrimental to human wellbeing and the environment.

The Status of Biosafety Regulation in Nigeria

With a view to harnessing the potential benefits of modern biotechnology whilst safeguarding against its potential risks, Nigeria, amongst other countries, has ratified the CBD and Biosafety Protocol. Consequently, under those treaties and in view of their detailed provisions, Nigeria is generally obliged to take appropriate legal, administrative and other measures. This includes putting in place adequate biosafety regulations to ensure that the development, handling, release and use of LMOs or GMOs is undertaken in a manner that prevents or reduces the risks to biological diversity and human health.¹¹ Moreover, section 12 of *the Constitution of the Federal Republic of Nigeria, 1999* (as amended) (Nigerian Constitution), provides that '[n]o treaty between the Federation and any other country shall have the force of law except to the extent to which any such treaty has been enacted into law by the National Assembly.' Hence, considering the aforementioned stipulations, the relevant question here is: has Nigeria taken adequate domestic legal steps to comply with its abovementioned international obligation? The answer is largely in the negative.

¹¹ See CBD, Arts 8(g) and 19(3); and Biosafety Protocol, Art 2(1).

Currently, Nigeria has no binding biosafety legislation regulating any aspect of the development and deployment of modern biotechnology or its output. In this respect, the major regime in existence is *the National Biotechnology Policy*¹² that was approved by the Federal Executive Council on 23 April, 2001, with its 'overall objective' being 'to provide a regulatory regime and guidance for the sustainable development of the science of modern biotechnology, its application and safe use of its products without prejudice and risk to public health, environmental health, national sovereignty, human dignity and fundamental human rights'.¹³ However, given its scope and nature as a non-binding instrument, the policy is largely inadequate to effectively regulate issues relating to biotechnology in Nigeria and in a manner that appropriately domesticates and implements the country's international obligations. And this is a fact that is clear to, and accepted by, the relevant government authorities - who now clamour for a legally binding instrument that more properly and adequately regulates issues relating to biotechnology and GMOs in Nigeria.¹⁴

It was in that light that a *Nigerian National Biosafety Bill*¹⁵ was developed, with the aim of ensuring adequate protection of humans and the environment in the development, handling, transfer and use of GMOs, in a manner that conforms to international obligations. The Bill also seeks to establish a National Biosafety Authority (NBA) generally charged with the responsibility of implementing the Biosafety Bill and addressing all matters connected thereto. In fact, this is in line with the 'mission' of the National Biotechnology Policy, which is to 'facilitate the development, enactment and implementation of a regulatory regime (legislation) that ensures the safe application and use of the products of Modern Biotechnology'.¹⁶ However, *the National Biosafety Bill* has suffered many setbacks: it was first placed before the National Assembly in 2006 for passage into law and was eventually passed by the house in 2010; however, it failed to get presidential assent before the expiration of the last administration, so had to be returned to the current National Assembly for further legislative action.¹⁷

¹² On file with author.

¹³ Para 4.

¹⁴ See generally, M Kandi, 'Revisiting Bio-safety Regulations for Agricultural Development in Nigeria', *Peoples Daily*, 26 December, 2014, available at: <http://www.peoplesdailyng.com/revisiting-bio-safety-regulations-for-agricultural-development-in-nigeria/>.

¹⁵ On file with author.

¹⁶ Para 3.

¹⁷ DH Samson, 'What Nigerians should know about Biosafety Bill', *Punch*, 27 November, 2014, available at: <http://www.punchng.com/opinion/what-nigerians-should-know-about-biosafety-bill/>.

The quality of the Bill has also been called into question, and there are significant calls for it to be improved before its passage into law so that it can fully achieve its aim and be more effective. For example, the Nigerian government recently organised a National Conference which was held from 17 March – 14 August, 2014, with the aim that the Conference – composed of 492 delegates that were considered broadly representative of the diverse political, social, cultural, religious and economic interests in Nigeria – proffers solutions to the diverse challenges facing the country.¹⁸ Part of the resolutions from the Conference includes the review of *the Biosafety Bill* to:

- make it 'obligatory to ensure public participation when applications to introduce GMOs are being considered';
- 'specify clearly how large-scale field [sic - field] trials would be contained and regulated to avoid contamination of surroundings or farm[s]';
- include environmental NGOs and farmers organisations in the Governing Board of the Agency created under the Bill to oversee the regulation of modern biotechnology and GMOs in Nigeria;
- 'state [the] criteria for risk assessment and [that] such assessments must be carried out in Nigeria and not offshore';
- 'include the implementation of the precautionary principle that entitles our government to decide against approval or for restriction in cases of incomplete or controversial knowledge';
- include 'strict liability' provisions; and
- 'ensure the independence of the Biosafety Agency to guarantee its efficacy'.¹⁹

The above recommendations from the Conference are yet to be acted on or reflected in the Bill.

Moreover, there are also serious concerns that the Nigerian public has not been given adequate opportunity to meaningfully participate in the process of making or (re)shaping the

¹⁸ See 2014 National Conference Report, 2-4 and 23 (on file with author); Daily Independent, 'Text of President Goodluck Jonathan's Address at the Inauguration of National Conference', *Daily Independent*, 17 March, 2014, available at: www.dailyindependentnig.com/2014/03/text-of-president-goodluck-jonathans-address-at-the-inauguration-of-national-conference/; and F Olorok, 'Confab Report: FG set up Implementation Committee', *Punch*, 6 September, 2014, available at: www.punchng.com/news/confab-report-fg-set-up-implementation-committee/.

¹⁹ 2014 National Conference Report, 92-93 and 482.

highly significant Biosafety Bill which, amongst others, seeks to potentially legitimise the application of modern biotechnology and the use of GMOs in Nigeria – a change with enormous implications for the public and the environment.²⁰ Indeed, the dearth of meaningful public participation in law-making in Nigeria is a perennial problem that is yet to be solved; the Nigerian public, it has been argued, has ‘little or no opportunity to meaningfully partake in the design or formulation of regulatory law’.²¹ Corroborating this point and stressing the need for improvement, the current Deputy Senate President of Nigeria recently conceded that:

If we must get better laws, then we must first endeavour to get the lawmaking processes right and in tandem with global best practices. If we must also get our law making processes right, then, we must necessarily...enrich interface between it [the legislature] and other critical stakeholders such as the...civil society, etc... If we must tag our laws as people’s laws, it is only reasonable and moral for the process to be a [sic] truly people-driven... [There is] the need to integrate the larger population of Nigerians residing in the rural areas into the law reform and lawmaking process... [and] unless we find a way of properly integrating our rural populations [many of whom are faced with challenges of illiteracy, poverty and mobility] as active participants in the process of making laws under which they are compelled to live, we would have short-changed the greater majority of Nigerians’.²²

Furthermore, there has since been in existence in Nigeria the National Biotechnology Development Agency (NABDA) which was established (under the aegis of the Federal Ministry of Science and Technology) by the Federal Executive Council in November 2001 to implement the National Biotechnology Policy.²³ Specifically, the mandate of NABDA is the ‘promotion, coordination and deployment of cutting-edge biotechnology research & development, processes and products for the socio-economic well-being of the nation’.²⁴

²⁰ Health of Mother Earth Foundation, ‘Genetic Engineering as Threat to Nigeria’s Food Security’, available at: <http://www.homef.org/article/genetic-engineering-threat-nigerias-food-security>.

²¹ Oshionebo E, ‘Transnational Corporations, Civil Society Organisations and Social Accountability in Nigeria’s Oil and Gas Industry’ (2007) 15 (1) *African Journal of International and Comparative Law* 107, 123.

²² I Ekweremadu, ‘Opening Address’, delivered at the International Conference on Law Reform and Law-making Process in Nigeria, held in Abuja, Nigeria, on 16 July 2012, available at: <http://www.nassnig.org/nass/news.php?id=366>.

²³ Available at: www.nabdagov.ng/about.

²⁴ *Ibid.*

However, it has been reasonably argued that ‘the idea of setting up the Nigeria Biotechnology Development Agency was hasty as it was set up in a situation where Nigeria did not have and still does not have an adequate regulatory framework such as a Biosafety Law’.²⁵ Accordingly, the Director-General of NABDA has protested that the absence of a biosafety law has made it difficult for the agency to perform its designated assignment.²⁶ Also, NABDA has faced further challenges given that it has been operating since 2001 without a legislation backing its existence. Thus, according to the Nigeria’s Minister for Science and Technology, ‘in realisation of this and the challenges posed by lack of enabling law’ and the inadequacy of subsisting regimes, the Federal Executive Council in 2014 approved a draft Bill for an act establishing NABDA to be sent to the National Assembly for passage into law.²⁷

In summary, considering the above discussion and the country reports submitted by the relevant Nigerian authorities to the CBD Biosafety Clearing-House,²⁸ it is quite clear that for a country (whose officials are) actively seeking to harness the potential benefits of modern biotechnology, the legal, administrative and scientific structures in place on the subject-matter are too weak and inadequate to ensure any reasonable level of protection to humans and the environment, with respect to the application of biotechnology and the use of its output.

Unfolding Biotechnology Activities in Nigeria: Jumping the Gun?

One would ordinarily think that considering the dearth of effective legal and administrative biosafety structure in Nigeria, the government would put on hold modern biotechnology activities and deployments that could adversely affect human health and the environment,

²⁵ Health of Mother Earth Foundation (n 20).

²⁶ O Alawode, ‘Bio-safety Law Holds Many Possibilities for Nigeria Agribusiness’, *Business Day*, October 22, 2014, available at: http://businessdayonline.com/2014/10/bio-safety-law-holds-many-possibilities-for-nigerias-agribusinesses/#.VMHR-SvF_Hs.

²⁷ J Andrew, ‘FEC Approves NABDA Bill, to Transmit it to National Assembly’, *ThisDay*, 30 October, 2014, available at: <http://www.thisdaylive.com/articles/fec-approves-nabda-bill-to-transmit-it-to-national-assembly/192674/>.

²⁸ Nigeria, ‘Second Regular National Report on the Implementation of the Cartagena Protocol on Biosafety’ (2011), available at: <https://bch.cbd.int/database/reports/>; and Nigeria, ‘First Regular National Report on the Implementation of the Cartagena Protocol on Biosafety’ (2008), available at: <https://bch.cbd.int/database/reports/>.

until the necessary biosafety measures are in place. But, quite sadly, this does not seem to be the case as there is evidence suggesting and indicating the advancement of such modern biotechnology activities in the country with the backing of the government.

First, in that regard, there have long been credible allegations about the introduction of GMO products into the Nigerian market, to which the majority of the Nigerian public are ignorant of. Nnimmon Bassey, Nigerian environmentalist and Chair of Friends of the Earth International 2008-2012 – in an article titled ‘*Do not Force-Feed Nigerians with GMOs*’, recalled that:

in 2006/7 when an unauthorised (Liberty Link Rice 601) GMO rice was known to have been introduced into the market, Friends of the Earth Africa in efforts coordinated by Nigeria’s Environmental Rights Action conducted tests on rice samples obtained from markets in...Nigeria... [and] the illegal rice was found in Nigeria... Reports [about this development] forwarded to Nigerian authorities and agencies including NAFDAC where [sic] neither acknowledged nor acted upon.²⁹

Also, without appropriate legal, administrative or even technical structures to adequately regulate and monitor their activities, the Nigerian government has activity sought and allowed major global GMO producers like Monsanto, Syngenta and DuPont to establish bases in Nigeria.³⁰ Also, the Chairman, Senate Committee on Science and Technology, Prof. Robert Boroffice was noted to have said: ‘I can speak authoritatively that Mr. President will be anxious to enact a bio-safety law, when he gets the passed bill... for the interest of the country... So, [sic] that Monsanto and other countries [sic] can come to Nigeria to assist us in boosting agricultural production not only in food but also in area of cotton, cowpea, maize, tomatoes’.³¹ However, apart from the fact Monsanto and the likes are already on the ground before the passage of the Biosafety Bill, it appears from that statement that the major focus is to use the Bill as ‘a gateway to guarantee Monsanto’s [and the likes] entry into

²⁹ See N Bassey, ‘Do not Force-Feed Nigerians with GMOs’, *Sahara Reporters*, 27 June 2013, available at: <http://saharareporters.com/2013/06/27/do-not-force-feed-nigerians-gmos-nnimmo-bassey>. See also, Health of Mother Earth Foundation (n 20).

³⁰ A Adesina, ‘Score Card: Federal Ministry of Agriculture and Rural Development Mid-Term Report – January 1, 2013 – December 31, 2013’ (Federal Ministry of Agriculture and Rural Development, 14 January, 2014) 9, available at: <http://www.fmard.gov.ng/library>.

³¹ The Guardian, ‘Minister, Stakeholders Disagree over Genetically Modified Foods’, *The Guardian Mobile*, 29 June, 2014, available at: <http://www.theguardianmobile.com/readNewsItem1.php?nid=29127>.

Nigeria',³² rather than as a measure to strictly regulate and monitor such enterprises and ensure biosafety. This is worrisome.

In addition, confined field trials of several GM crops are being carried out in several locations in Nigeria without adequate public consultation and information or adequate biosafety mechanisms in place.³³ For example, there is the BT Cowpeas – developed with BT genes supplied by Monsanto and its transformation research complete by CSIRO in Australia – that is undergoing field trials in Nigeria under the Institute for Agricultural Research (IAR) in Zaria, Nigeria.³⁴ Other confirmed GM crops undergoing such trials in Nigeria include 'the African bio-fortified sorghum also in Zaria and the cassava plus at the National Root Crops Institute at Umudike, Abia State'.³⁵ Worried, a writer comments: 'the scientist[s] at (IAR) Zaria [and others institutes] without Bio-safety laws or public discourse, are carrying out field trials with technology they don't have the ability to create, test or assess the effects on the humans that will consume them'.³⁶ Others are concerned about the lack of adequate information about these activities and question: 'Have these test crops already been smuggled into the farms? Are we eating them already?'.³⁷

Conclusion

This report has established that the development and application of modern biotechnology and its output, though bearing in mind its potential benefits, could adversely affect humans and the environment, and thus needs to be adequately regulated with the aim of protecting humans and the environment. With respect to Nigeria, adequate structures and mechanisms needed to protect humans and the environment from the possible adverse effects of modern biotechnology and its output have not yet been put in place. However, the Nigerian government is already taking what may be considered major steps in the advancement of

³² Ibid.

³³ Ibid.

³⁴ OC Ezezika and AS Daar, 'Overcoming Barriers to Trust in Agricultural Biotechnology Projects: A Case Study of Bt Cowpea in Nigeria' (2012) 1 (1) *Agriculture & Food Security*, 1-8

³⁵ The Guardian (n 31). See also, Ezezika and AS Daar (n 34).

³⁶ G Rhodes-Vivour, 'Why We Must Reject Monsanto's Trojan Horse – A Response to Monsanto', *African Health Magazine*, 20 June, 2014, available at: <http://africanhealthmagazine.com/2014/06/20/why-we-must-reject-monsantos-trojan-horse-a-response-to-monsanto/>.

³⁷ Health of Mother Earth Foundation (n 20).

the practice of modern biotechnology in the country, accompanied with a 'body language' that suggests that the government is indifferent about ensuring that adequate biosafety measures are first in place before any deployment of the technology or its output, if at all. This is placing the cart before the horse, and the government should reconsider its approach to this important issue. Before dabbling in modern biotechnology activities that could have adverse effects on humans and the environment, the relevant international laws (applicable to Nigeria) and common-sense all warrant that adequate biosafety measure should *first* be established.