FACT SHEET

HEALTH OF MOTHER EARTH FOUNDATION

NOT ON OUR PLATES! Nigeria does not need GM food

The National Biosafety Management Act came into being after the Bill was signed into law by former President Goodluck Jonathan on 18th April 2015. The Act established the National Biosafety Management Agency (NBMA) that has the "responsibility for providing regulatory framework, institutional and administrative mechanism for safety measures in the application of modern biotechnology in Nigeria with the view to preventing any adverse effect on human health, animals, plants and environment."[1]

From NBMA we have information that genetically modification events have been going on in Nigeria before the agency came into being. NBMA's approvals of genetically modified (GM) Cotton for Monsanto Agriculture Nigeria Ltd and two Maize events for Monsanto Agriculture Nigeria Ltd and the National Biotechnology Development Agency (NABDA) were issued on Sunday 1st may 2016 in the face of position to the application form over 5 million Nigerians. The list of GMO activities in Nigeria is given by NBDA as:

1. NBMA, Act 2015

Approved Confined Field Trials in Nigeria:

- § Bio-fortified cassava enhanced with pro-vitamin A, (concluded) – at National Root Crops Research Institute, Umudike
- § Bio-fortified cassava enhanced with Iron, (concluded) – at National Root Crops Research Institute, Umudike
- § Cowpea modified for resistance against *Maruca* insect pest currently at multi-locational level- at IAR,
- § African Biofortified Sorghum: bioavailability of iron, zinc, protein and pro- Vitamin A (on going)- at IAR
- § GM rice modified for Nitrogen use efficiency, water use efficiency and salt tolerance (on going)- at National Cereals Research Institute, Badeggi
- § GM Cassava resistant to cassava mosaic virus and brown streak virus (Just concluded) - at National Root Crops Research Institute, Umudike.
- § Maize resistant to insect and herbicide tolerance- Monsanto Agriculture Nigeria ltd, Collaborating with NABDA, IAR and Agric Research Council of Nigeria
- **c.** Approved Commercial Release: Bt. Cotton, herbicide tolerance -Monsanto Agriculture Nigeria Ltd, Collaborating with IAR and Agric Research Council of Nigeria

NBMA's Board is populated with GMO promoters, making its role as an unbiased Biosafety umpire untenable. Moreover, the agency repeatedly claims that it will oversee the safe '***deployment of GMOs***' in Nigeria[2] – presenting itself as a gateway for the unleashing of GMOs into Nigeria and Africa.

A Short History: Few Crops Commercialized, Numerous Rejections of GM Food

It was barely two decades ago that a genetically modified crop was first commercialized in the USA for human consumption. It was a GM tomato variety called the Flavr Savr. It failed in the marketplace and its commercialization ceased in 1997. That failure has been followed by numerous other failures. The recent failure of GM Cotton in Burkina Faso and the country's decision to return to non-GM cotton production is a telling example of how a nation should not swallow the unverified sales pitch of the biotech industry. The GM cotton in Burkina Faso yielded short fibre and led to massive losses to farmers and the nation. On returning to conventional cotton in 2016, the nation is already set for a bumper harvest and a return of the good days when Burkinabe cotton was one of the highest qualities in the world[3]. The failed GM cotton is exactly what has been approved for commercial release in Nigeria.

[2] *"Ebegba not NIREC member – NBMA." See at http://www.environewsnigeria.com/ebegba-not-nirec-membernbma/?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+EnvironewsNigeria+%28EnviroNews+Nigeria%29.*

[3] *"Burkina Faso cotton output to rise after discontinuing Monsanto variety" http://www.yarnsandfibers.com/news/textile-news/burkina-faso-cotton-output-rise-after-discontinuing-monsanto-variety#.WH44gLGcbeR*

The biotech industry has made several attempts to commercialize a wide range of GM varieties since the 1990s. However, it continues to encounter stiff opposition. For instance in Europe strong opposition against GM foods took root since the end of the 90s and is still strong as of today.

In 2000 field trials with a variety of GM potato in Bolivia, centre of origin of the potato, were stopped in the face of public opposition. That same year GM potatoes were withdrawn in the US due to commercial failure. In 2002 a number of African countries rejected GM food aid and in 2004 GM wheat was withdrawn from the market due to commercial reasons. China suspended commercialization of GM rice in 2011 and the US did not proceed with wide commercialization either of such products. The failures to market GM staple food in the past twenty years have been very notorious.

Biotech Industry Targets Staple Foods

Maize, rice and wheat are the staple food of more than two thirds of the world's population, but as of now, no wheat and rice has been legally commercialized in the human food chain. As of today, basically the GM crops that have been commercialized are those of soya, maize, oilseed rape and cotton. Most of these products are not intended directly for food, but for animal feed purposes.

For instance, GM maize is strongly resisted in many countries like Mexico, centre of origin of maize, where a Federal Court in 2013 ordered that two of the main Mexican authorities for authorizing GM crops must abstain from granting permits of release into the environment of GM maize whether on a commercial or on an experimental basis.[4]

While most GM crops are planted for animal feeds, those targeted in Nigeria are for our foods. Among the target crops is cassava, a staple for most citizens. In Uganda the target is bananas, a staple for Ugandans.

Few Countries, Few Traits, One Industry

The few crops commercialized during the past decades were composed only of two traits, and their area of cultivation has been limited to a handful of countries. Over 90% of GM crops grown are only in six countries – USA, Brazil, Argentina, India, Canada and China, with one country alone accounting for 40 per cent of all GM global area: the USA.

In any case, after two decades of GM crops commercialization, up to 95% of the staple crops which have been commercialized are insect resistant or herbicide tolerant. The push for the introduction of these type of GM staple crops has been led either directly by the big biotech corporations that developed the product or their subsidiaries.

None of these traits, however, provide any benefit to the consumer, and none of them as of today has managed to win the heart of the majority of the consumers. For instance, even in the US, the cradle of GM crops, a poll conducted by the New York Times in 2013 concluded that three-quarters of Americans expressed concern about genetically modified organisms in their food, with most of them worried about the effects on people's health. In The reality of such scepticism has forced the biotech industry to desperately seek to widen its market into Africa. The claim that Europe is influencing Africans to reject GMOs is nothing other than cheap blackmail.

More herbicides

Roundup Ready (RR), the most popular herbicide in the world, property of Monsanto, claimed when it was introduced that farmers would be able to use less herbicide. On the contrary it has been clearly proofed that, in less than two decades glyphosate resistant plant species have become a serious problem for US farmers and others around the world. This has necessitated the increased use of even stronger herbicides.

In addition to the growing use of RR, various scientific studies show concerns over health impacts of RR on the humans. A scientific study published in a European scientific review has identified serious health impacts on rats fed on 'Roundup Ready' GMO maize. A World Health Organisation (WHO) agency has declared the glyphosate, a key component of Roundup Ready, is probably a cancer-causing agent.
Efforts to convince Africans over GM food should fall on deaf ears

Today propagandists are attempting to convince the world that it is only through genetically modified foods that Africans can obtain sufficient nutrition and overcome food shortages.

[4] *"Hands off our maize! Resistance to GMOs in Mexico"*
https://www.grain.org/article/entries/4725-hands-off-our-maize-resistance-to-gmos-in-mexico

Institutions like USAID, and philanthropic organizations like the Bill and Melinda Gates Foundation are supporting efforts to genetically modify rice and bananas with enhanced levels of Vitamin A with the ostensible aim of keeping African children from being stunted and from going blind. Gates support of the creation of GM staple foods with nutritional traits derives from the fact that "in many developing countries, as much as 70 per cent of an individual's daily calories come from a single staple food, making it difficult to consume enough vitamins and minerals". Instead of promoting and supporting food sovereignty and one of its principles – diet diversification - they want us to lock our diet based on one food product for most of the day instead of supporting the tapping of the enormous food diversity existing in our countries, - such us fruits and vegetables, rich in vitamin A and other valuable vitamins.

In a 2009 report, the Union of Concerned Scientists stated, "recent studies have shown that organic and similar farming methods that minimize the use of pesticides and synthetic fertilizers can more than double crop yields at little cost to poor farmers in such developing regions as Sub-Saharan Africa." Scientists have also shown by research conducted in the USA and Europe that GM crops do not necessarily have higher yields than normal crops.

Nigeria

Nigeria does not need GM crops to satisfy its food and agriculture needs. We know exactly what we have to do and the Nigerian National Conference [5] of 2014 raised the caution with regard to then draft National Biosafety Bill. We agree with the concerns raised by the Conference and urge that the NBMA Act should be critically reviewed or repealed. The NBMA Act 2015 is deficient in key areas including the following:

a) Public participation: The Act does not make public participation obligatory when applications to introduce GMOs are being considered.
b) The Act does not specify clearly how large-scale field trials would be contained and regulated to avoid contamination of surroundings or farms.
c) Besides 'Conservation' NGOs and organised private sector, one representative of the Biotechnology Society of Nigeria, Farmer organisations are not represented on the Governing Board. The Board has GMO promoters and vested interests.
d) Risk Assessment: The Act does not state criteria for risk assessment nor does it stipulate that such assessments must be carried out in Nigeria and not offshore. This is important because the effect of the GMO on non-target organisms has to be measured with non-target organisms that exist in Nigeria and are ecologically important.
e) Strict liability and provisions for redress are not included in the Act. These is a key part to implementing the Kuala Lumpur-Nagoya Supplementary Protocol.
f) Gifts: The Act permits NBMA to receive gifts – something that is open to abuse and corruption.
g) Precautionary principle: The Act does not ensure the implementation of the precautionary principle that entitles our government to decide against approval or for restriction in cases of incomplete or controversial knowledge. This is the essential feature of the Cartagena Protocol on Biosafety (CPB), driven by the interests of African negotiators and should be implemented in Nigeria.

[5] *These came up in the debates on the Reports of the Committees on Environment as well as those on Science and Technology and Agriculture and Water Resources*

GMOS Never Deliver on Their Promises [6]

1. What is Eating You? In January 2008, news that scientists had modified a carrot to cure osteoporosis by providing calcium had to be weighed against the fact that you would need to eat 1.6 kilograms of these vegetables each day to meet your recommended calcium intake.
2. Extreme Costs: In India, an independent study found that BT cotton crops were costing farmers 10 per cent more than non-BT variants and bringing in 40 per cent lower profits. More than 300,000 Indian farmers have committed suicide, since 1995, most of them as a result of mounting debts caused by crop failures traceable to costs and failures related to GM crops cultivation.
3. The StarLink Contamination Scandal: The StarLink case provided clear evidence that GM contamination is one of the most urgent problems posed by GMO releases into the environment. StarLink is a variety of GM maize authorised in the Unites States only for animal feed purposes. It was not authorised for human consumption as food because of the potential allergencity of the protein Cry9C that was genetically engineered into the maize. Nevertheless, in 2000, Friends of the Earth campaigners discovered StarLink in 'Taco Bell' taco shells, a maize-derived food product. By extension ,SatrLink was present in the human food Chain.

   The magnitude and gravity of the StarLink Contamination was breathtaking. More than 300 Corn products were recalled across the US. Despite the fact that StarLink was only planted on 0.4 percent of total US corn acres, the numbers of acres contaminated was much greater. More surprising, the contamination was only supposed to be found in StarLink brand seeds. It was later reported however that the Cry9C protein was found in other 80 varieties of yellow corn seed, and more unexpectedly in a white corn product, when it was previously believed that contamination could only happen between varieties of yellow corn.

   StarLink contamination was not contained within the US, but was also detected in 2000 and 2001 in food shipments to Japan and South Korea. This led to a series of recalls in these countries as well. At the June 2002 United Nations World Food Summit in Rome, Latin American NGOs announced that StarLink had been found in US Food aid to Bolivia. And at the end of December 2002, StarLink was again discovered in Japan. In February 2005 the presence of StarLink in Central America food aid and was denounced. From this case, it is instructive to note that once an organism is released into the environment, the consequences are unpredictable and the impacts unknown. The fact that released organism is very difficult to recall has been downplayed by the proponents of these failed and risky technology. The Nigerian regulatory systems for GMOs from previous experience and from what we know of NBMA are clearly inadequate to prevent these kinds of incidents.
4. More Not Less Pesticides: BT maize, engineered to produce an insecticidal toxin, has never eliminated the use of pesticides, and because the BT gene cannot be 'switched off' the crops continue to produce the toxin right up until harvest, reaching the consumer at its highest possible concentrations.
5. Resistance by Nature: Superweeds are emerging as nature evolves to withstand the biotech industry's chemicals.
6. Creating Problems for Solutions: Herbicide-resistance was sold under the claim that because crops could be doused in chemicals, there would be much less need to weed mechanically or plough the soil, keeping more carbon and nitrates under the surface. But a new long-term study by the US Agricultural Research Service has shown that organic farming, even with ploughing, stores more carbon than the GM crops save.

[6] *Adapted from an article by Mark Anslow in The Ecologist, March 1, 2008.*

7. Health Risks: The results of tests on animals exposed to GM crops give serious cause for concern over their safety. In 1998, Scottish scientists found damage to every single internal organ in rats fed and getting set to promote land grabbing and impoverishment of our population of farmers. blight resistant GM potatoes. In a 2006 experiment, female rats fed on herbicide-resistant soybeans gave birth to severely stunted pups, of which half died within three weeks. The survivors were sterile. In the same year, Indian news agencies reported that thousands of sheep allowed to graze on BT cotton crop residues had died suddenly. Further cases of livestock deaths followed in 2007. There have also been reports of allergy-like symptoms among Indian labourers in BT cotton fields.
8. No Higher Yields: The story that GM crops yield higher is nothing other than myth. Considering that the best seeds are selected for modification, it is a huge minus that GM crops do not generally yield more than natural seeds.
9. GMOs are linked to artificial fertilizers and fossil fuels. The use of these two contribute to climate change.
10. GMOs depend on industrial, large-scale mono cropping thus negating the facts of our integrated agricultural systems

ABOUT HOMEF

HOMEF is an environmental/ecological think tank and advocacy organisation. It is rooted in solidarity and in the building and protection of human and collective dignity.

We believe that neoliberal agendas driven by globalization of exploitation of the weak, despoliation of ecosystems and lack of respect for Mother Earth thrive mostly because of the ascendancy of enforced creed of might is right.
This ethic permits the powerful to pollute, grab resources and degrade/destroy the rest simply because they can do so. HOMEF recognizes that this reign of (t)error can best be tackled through a conscious examination of the circumstances by which the trend crept in and got entrenched.
HOMEF's work track is continuous political education that examines the roots of exploitation of resources, labour, peoples, territories, nations and regions.
Through this HOMEF contributes to the building of movements for recovery of memory, dignity and harmonious living with full respect of natural cycles of Mother Earth.

Three key areas of focus are fossil politics, hunger politics and creating spaces for knowledge generation and sharing.

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References are available on request. For more information contact us at home@homef.org or visit www.homef.org
Address: Top Floor, #214 Uselu-Lagos Road, P.O. Box 10577, Ugbowo, Benin City, Nigeria. Phone: +234 817 370 6095

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