

# Genetically Modified Foods and the Ethics of *Ọmọ́lúàbí*: An African Perspective on Biotechnology Policy in Nigeria

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## Abstract

This article explores the ethical dimensions of genetically modified (GM) foods in Nigeria through the lens of the African traditional ethics of *Ọmọ́lúàbí*. *Ọmọ́lúàbí*, a Yoruba concept, embodies the virtues of integrity, respect, responsibility, and communal well-being. The study critically examines the implications of GM foods on Nigerian society, considering both the potential benefits and ethical concerns. By integrating the principles of *Ọmọ́lúàbí*, the article provides a culturally grounded ethical framework for assessing the adoption and regulation of GM foods in Nigeria. It argues that while GM foods offer solutions to food security and agricultural challenges, their alignment with the values of *Ọmọ́lúàbí* is essential for their acceptance and sustainable integration into Nigerian society. The analysis reveals that ethical considerations such as environmental impact, health safety, socio-economic equity, and respect for traditional agricultural practices must be addressed to ensure that GM foods contribute positively to the common good. As a key recommendation, the study emphasizes the urgent need for Nigerian policymakers to incorporate indigenous ethical frameworks like *Ọmọ́lúàbí* into biotechnology governance, ensuring culturally informed and ethically sound policies. This article contributes to the broader discourse on biotechnology and ethics in Africa, highlighting the importance of cultural values in shaping policy and public perception.

**Keywords:** Genetically Modified Foods, *Ọmọ́lúàbí*, African Ethics, Yoruba Philosophy, Food Security, Biotechnology Policy.

## Introduction

Biotechnology is a multidisciplinary field that employs knowledge, techniques and genetic engineering methods to create various products using living organisms as raw material (Casotti et al., 2024). Genetic modification is an aspect of biotechnology. Genetic modification is one of these areas that biological technology has been exploring in recent years. The field of biotechnology continues to evolve at a breakneck pace. One could hardly know where it has been and what values and principles might steer where it is going in time to come. The concept of biotechnology goes back to the days when Human started making cheese, wine and beer. Biotechnology involves any technique that uses living organisms or any part of living organisms to make or modify products, to improve plant and animal or to develop microorganisms for specific uses (Ogunwola, et al, 2020:5). In other words, biotechnology is a helping hand in the provision of food for humans. The process of

biotechnology as regards to genetic modification involves taking the gene of a crop and inserting it into another crop to increase its productivity. For instance, instead of using chemicals to prevent insect/pest on crops, scientists prevent insect/pest genetically by removing the gene of another crop that is not susceptible to insect and putting it into the crop that is susceptible to insect/pest. This is made possible due to the cutting-edge technology that has allowed scientist to decipher, assemble and analyze the DNA of most organisms and to transform agriculture; human and animal health. Huge frontiers have been broken in food security.

*Ọmọlúàbí* is a Nigerian (Yoruba) word that is very difficult to translate into English language. It addresses the very essence of human being. African ethics of *Ọmọlúàbí* depicts Africans' deep understanding of their culture vis a vis the rightness and the wrongness of their words and deeds. African ethics of *Ọmọlúàbí* is the foundation of ought and ought not, dos and don'ts among Africans most especially south-western Nigeria. It is worthy of note that '*Ọmọlúàbí*', as a Yoruba word, resists easy definition. Over the years, it has been defined as ethics, philosophy, worldview, set of values and principle. *Ọmọlúàbí* cannot be given expression satisfactorily using non-African vocabularies and that is why it has remained in its native form anywhere it is being referred to. Most African cultural norms and moral consciousness have been eroded by the advancement of science and technology which has not reached its apex of breakthrough on African soil (Ogunwola, *et al*, 2020:22).

Genetically Modified (GM) foods have become a significant topic of discussion globally, including in Nigeria, due to their potential to address food security and agricultural challenges. However, the adoption of GM foods raises ethical questions that need to be considered within the cultural context of the societies they impact. In Nigeria, the ethics of *Ọmọlúàbí*, a Yoruba philosophical concept, provides a unique framework for evaluating the ethical dimensions of GM foods. *Ọmọlúàbí* encompasses virtues such as integrity, respect, responsibility, and communal well-being, which are essential for maintaining societal harmony and moral conduct.

### The Ethics of *Ọmọlúàbí*

'*Ọmọlúàbí*' is of Yoruba (southwestern Nigeria) origin and it denotes high regards for oneself and others. The word, *Ọmọlúàbí*, can serve as a noun or adjective. As a noun, *Ọmọlúàbí* is a person of personal integrity who is normally conscious in words and deeds. In other words, *Ọmọlúàbí* is the Yoruba ethics of positive essence of a total being. Etymologically, the ethics of *Ọmọlúàbí* showcases the inherent virtue and moral values of "*Iwapele*". *Iwapele* (good character) is the fundamental basis of moral conduct and an integral quality of '*Ọmọlúàbí*'. The ethics of *Ọmọlúàbí* has eight (8) major essential dimensions, which are:

1. Respect (*Iteriba*): Respect, for self and others, is a fundamental principle that must be upheld by every *Ọmọlúàbí*.
2. Spoken word (*Oro siso*): Yoruba people of southwestern Nigeria accord great regards for proficient and brilliant use of words.

3. Goodwill (*Inurere*): As in Kantian ethics, goodwill is that which is completely adjudicated by moral demands. *Ọmọlúàbí* ethics demands having good mind towards others. This work will rely heavily on this aspect of *Ọmọlúàbí* ethics.
4. Bravery (*Igboya*): This is often personified to be an 'Akinkanju'. An *Ọmọlúàbí* is bold and courageous.
5. Intelligence (*Opolo pipe*): Moral intelligence is the ability to understand and morally deal with new or trying situations.
6. Hard work (*Ise*): This is the sustained physical or mental force to achieve a task.
7. Truth (*Otito*): truth-saying is one of the major virtues of someone upholding the ethics of *Ọmọlúàbí*
8. Good character (*Iwapele*): this is the mental and moral qualities that distinguish an *Ọmọlúàbí* from others (Ogunnaike, 2020).

*Ọmọlúàbí*, as a Yoruba term, describes a person of good character, who embodies virtues such as honesty, hard work, respect for others, and a sense of communal responsibility. This is fully embedded in *Ifa* Corpus (a vast collection of sacred texts, proverbs and prescriptions that form the foundation of Yoruba people's spiritual and cultural knowledge). *Ifa* Corpus emphasizes the importance of developing good character which is responsible success and happiness in life (Ogunnaike, 2020). It is not merely a set of ethical guidelines but a holistic way of living that prioritizes the well-being of the community alongside individual integrity. The principles of *Ọmọlúàbí* are very instrumental in evaluating the ethical implications of GM foods in Nigeria which is presented in the later part of this work.

### Perceptions of Genetically Modified Foods (GMFs) in Nigeria

The presence of genetically modified crops in Nigeria is no longer debatable. In 2003, Nigeria received 11,000.6 metric tons of soy meal as food aid from the US Food for Progress programme. Taking into account that over 80% of soy beans in the US are genetically modified, it is therefore likely that Nigeria has been receiving GMFs without prior information to the government and the people. It has also been reported that China released genetically modified rice into the market in 2006. Considering the bulk of rice consumed in Nigeria coming from Asia prior to the ban on rice importation by Buhari-led Nigerian government and the continuous illegal importation of rice, it is a matter of time before genetically modified rice from China floods Nigerian markets (Olaniyan, Bakare and Morenikeji, 2007:198).

The growing population of the country and the introduction of infertility hybrid corns by Monsanto and other seed companies have raised a suspicion that these multinational companies have an intention to depopulate Nigeria and not to help us achieve food security. According to the United Nations estimates, the Nigerian population stands at 201, 971, 724 with half of its people less than 30 years of age (Worldometers, 2019). Population growth means industrial power, and could Nigeria be the next China or India in terms of industrial power. Nigeria may in the next decade attain the critical 300 persons per sq Km mark in

population growth that could spiral it into industrial development. Njemanze, (2019) opines this is what is most feared by some Western Eugenics who intends to keep Africa poor and underdeveloped. They have opted to apply deceptive means to achieve mass population control in Nigeria. The low acceptability of contraceptives among the Nigerian population has led the world population controllers including the Bill Gates Foundation, Rockefeller Foundation, WHO and even UN agencies to partner with biotechnology food companies such as Monsanto, Syngenta, Bayer, Cargill and Dupont among others to introduce genetically modified (GMO) foods and Hybrid seeds that will have genes and traits that control fertility inserted into it to make Nigerian men and women infertile (Njemanze, 2019). This is concomitant to the fact that the GM seeds themselves are not capable of reproduction. Unlike the natural process, the seed from GM crop cannot be used to grow another crop which means that the farmers have to depend on the seed companies for production.

Several strategies have been mounted by the multinational seed companies to gain approval of the federal government of Nigeria to introduce GMO and Hybrid seeds in the country. The Federal Government of Nigeria announced a generous Home-Grown School Feeding Program (schools and health.com, 2019) supported by Bill Gates. In India, BBC new reported that the Home-Grown School Feeding (HGSF) programme supported by Bill Gates poisoned many children with pesticides (bbc.co.uk, 2013) There is no doubt that the school children were fed with genetically modified foods, since GM crops are pesticides in themselves as will be discussed under ethical concern for GMF. The Bill and Melinda Gates Foundation and Dangote hope to catch them young with these GMO and Hybrid seeds provided in food commodities that will be served in Nigerian schools (Scalingupnutrition.org, 2016). Bill Gates is also doing the same in Ghana (HGSF-global.org, 2013). The acclaimed 'fortified nutrient foods' would also imprint the infertility genes and traits from Monsanto into the children reducing their fertility as they grow. They project that; African population could be decimated within a decade.

The Nigerian National Committee on Naming, Registration and Release of Crop Varieties, Livestock Breeds and Fisheries has approved the release of three conventional maize hybrids to Nigerian farmers (white maize hybrid, DK234 alongside the 2 yellow maize hybrids, DK920 and DK818) (Guardian.ng). This is a giant step towards saturating Nigerian farms with GM crops despite their immense risks and dangers. It must therefore be noted here that, articles published in the peer-reviewed high impact factor De Vendomois, et al (2009) in *International Journal of Biological Sciences* clearly demonstrates that Monsanto Corn has been found to cause massive organ damage. It is quite unfortunate that many Nigerians and even the policy makers do not know what scientific literatures are saying about genetically modified food crops and Hybrid seeds. Some others, who are aware of the dangers and risks, find it difficult to react as a result of corruption and unpatriotism. For instance, the Public Health Association Australia in 2019 reviewed the research of the Convention on Biological Diversity which reports that GM crops expressing double-stranded RNA ("dsRNA") technology, has a risk that the dsRNA could survive digestion to

change the expression of peoples' genes, while gene drives can alter the DNA of an entire target species (SCBD, 2015; PHAA, 2019:2).

It has been discovered that genetically modified foods are capable of causing infertility and are targeted at mass reduction in Nigerian population. These technologies, that cause infertility in Men, were first developed in the United States by a small company called Epicyte in 2001 and it was called contraceptive corn with the rationale of saving the world from overpopulation (McKie, 2001). This was later purchased by the big biotechnology companies, Monsanto and Dupont (Doowans News & Events, 2012). The second technology that cause infertility in women makes a vital hormone Human Chorionic Gonadotropin (HCG) to be very low by attacking it with anti-human chorionic gonadotropin (anti-HCG) antibody (Talwar, et al, 1994:8532). With this, no pregnancy can be sustained in women. It was first developed in India by the Indian Reproductive Health Institute with support of the Rockefeller Foundation (the owner of International Institutes of Tropical Agriculture –IITA Ibadan), World Health Organization, Bill and Melinda Gates Foundation and others. The same antibody has been inserted into plants through genetic engineering to cause infertility in humans (Njemanze, 2019).

In recent years, pressure has been mounted on the Nigerian National Assembly over GMO beans in the country. Nigeria has drafted a biosafety law allowing the use of GMF technology, which the National legislature is yet to approve. Furthermore, the country also does not have any policy on the importation of GMF, unlike some African nations such as Angola, Ethiopia, Kenya, Lesotho and Zambia, which have banned the import of GMFs (Olaniyan, Bakare and Morenikeji (2007:198). Taiwo Hassan (2017:24), in *New Telegraph*, reports the mass protests that have greeted Federal Government's plans to release Genetically Modified Organic (GMO) beans into the Nigerian market despite its side effects to the body. The introduction of GMO crops by the National Biosafety Management Agency (NBMA) has split the country's agricultural sector as some researchers, scientists, farmers, ethicists, geneticists, and academicians root against it while others are for the crops.

In 2017, Nigerians were alarmed to hear that the federal government, through National Biosafety Management Agency (NBMA), had concluded plans to introduce GMO bean (BT cowpea) into the market for citizens' consumption. The chairman of Global Pro-life Alliance (GPA), Dr. Philip Njemanze, explained in *New Telegraph* that GMO beans was funded by Bill and Melinda Gates Foundation with a \$4 million grant through the African Agricultural Technology Foundation (AATF) (Hassan in *New Telegraph*, 2017:24). Genetically modified beans (BT cowpea) contain a gene identified as Cry IAb Bt gene developed by Monsanto. The debut of this crop could spell doom for the health of millions of Nigerians if not stopped. Njemanze, in *New Telegraph*, also pointed out that the introduction of GMO beans into the Nigerian market by the government could cause damage to the liver and kidney of millions of Nigerians who feed on beans daily.

CryIAb Bt, in GMO beans, was first inserted into Monsanto Mon810 maize which resulted in massive toxicity of human liver cells, caused massive allergic reactions, caused damage to

blood cells, kidney, spleen and adrenal glands. This is the main reason why this Cry1Ab Bt gene in maize was discontinued but has now been inserted into beans for Nigerians (Njemanze, 2019). It is worthy of note that African Centre for Biodiversity (ACB) in May, 2019 has objected Monsanto's application for commodity import of GM maize for a number of events: herbicide tolerance, including for dicamba, as well as pest resistance. ACB has also urged the South African Biosafety Authorities and other African countries to reject the application as GMOS, including those that may be contained in imported GM maize shipments (even low-level presence) pose unacceptable risks to human and animal health (ACB, 2019). Few years ago, Monsanto lobbyists were banned from the European parliament. More also, Njemanze (2019) has revealed the African Centre for Biodiversity (ACB)'s scientific references that show that Cry1Ab gene in GM Bt Cotton and GM Bt Cowpeas pose unacceptable health risks to humans, which include; Damage to Liver, Allergic Reactions, Toxic to Blood Cells, Causes Kidney Failure and Toxic to Adrenals

In the year 2005, the G7 countries (USA, Japan, Germany, UK, France, Italy and Canada) and the world leading billionaires headed by Bill Gates at a meeting hosted by Prime Minister Tony Blair examined ways and means to achieve the setting up of the New Human Industry for Tissue Cloning. This cloning industry is worth over \$30 trillion dollars (one-third of world economy) and the main bedrock of Western economic recovery since the Western countries lost out to China and East Asia in the electronics industry (GPA's correspondence, 2019:5). Deceptively, this idea was sold as the "G7 Africa Action Plan" and tied abortion and other reproductive health issues to foreign aid. They gave the Africa debt forgiveness to make African Countries sign the Maputo Protocol that would allow abortions and human ovarian egg poaching from African women. Their aim is really to provide materials for the cloning industry to be successful (GPA's correspondence, 2019:6).

Over 100 million ovarian eggs will be required annually to be plundered from 10 million Nigerian women. These women would suffer and probably die from complications medically called Ovarian Hyper-stimulation Syndrome (OHSS) complex and when they donate their ovarian eggs, kidney failure, liver failure, cancers, infertility, and the likes will loom large. They have concluded that the science of cloning and its implications are too complex for the leaders and people of Nigeria to comprehend. Ever since 2006, Bill Gates has been closely and directly involved in Nigeria with the sole intention of devising different ways and means to achieve his goals of setting up the Tissue Cloning Industry. The main key to success as they believe is to control the agricultural and health sectors in Nigeria by changing the food system of the country to that of genetically modified organic (GMO) foods through genetic engineering (otherwise known as biotechnology) and also to take over the hospital system by promising ultra-modern hospitals, which are deceptively designed for extraction of the ovarian eggs and organs (GPA's correspondence, 2019:7). This can be simply put as Post-colonial Re-colonization of Nigeria and Africa as a whole.

Furthermore, Bill Gates has made bids even for Christian and Islamic hospitals to be taken over through Boston Consulting. Unfortunately, this was turned down by Catholics. Bill gates foundation also sponsored the National Biosafety Management Agency Act (NBMA

2015) and the National Health Act (NHA 2014) to provide the legal framework for their underground operations. There is a popular assertion that, 'if you control the food you control the people' by Henry Kissinger. This was the reason Bill Gates requested and got the position of Eminent Special Adviser on Agriculture to President Goodluck Ebele Jonathan. He appointed his acolyte, Dr Akinwumi Adesina, as the minister for agriculture under the same administration. The major goal they had was to bring Nigeria's agricultural sector under the full control of Monsanto (GMO seed company) owned by Bill Gates. They had the rationale that if they are able to take control of the supply of crop seeds in Nigeria and across Africa at large, they will be able to use food as a tool for blackmail to compel the women to donate their ovarian eggs or starve themselves and their children to death. This programme is labeled, 'the Ovarian Egg for Food' programme. They will also use food to blackmail the African countries to agree to any political conditions they bring forward (GPA, 2019:7). This is modern colonization indeed.

The Bill and Melinda Gates Foundation and Monsanto setup the seed councils and biosafety agencies in almost all countries in Black Africa to reinforce their GMO seeds as safe to eat. They have similar arrangements to take over the health and environmental sectors, where they control key appointments and direct policy. They need to strip Africa of her cultural and religious ties so that the women could freely donate their eggs and men their sperms to the stem cell industry for embryonic stem cell research. They target core Islamic beliefs and Christian doctrines they see that restrict women. Both Christianity and Islam are marked for destruction of their core faith, only to be left as ceremonial gatherings. The Billionaires who own the international mainstream press; blackmail Islamic clerics with encouraging violence and Christian/Catholic clerics with sex scandals, mostly fabricated and blown up by the international press to tarnish the image and reduce their influence (GPA's correspondence, 2019:7-8).

Some Nigerians have also related the current earth tremors in the country to the introduction of climate smart crops sponsored by Bill Gates in Nigeria. Punch newspaper in September, 2018 reported the occurrence of tremor in Abuja and four other states (punchng.com). Some experts believe that the earth tremors in Nigeria were induced using geoengineering technology. The initial tests are targeted at causing public anxiety and subsequent tremors will provoke discontent of the public with the government's handling of the matter. Once the matter is politicized, and the government becomes weak, then the tremors would target major dams that would break their banks and flood the region of agriculture and the aid would be offered with the Bill Gates sponsored Climate Smart Crops (GPA's correspondence, 2019:9) which can withstand flood of any velocity. The accomplishment of this will surrender the food security of over 200 million Nigerians to the hands of western biotechnology companies.

The National Inter-Religious Council (NIREC), following several complaints that it had received regarding the possible dangers of the unguarded release of genetically modified organisms (GMOs) into the Nigerian agriculture and food chain, set up a committee to

examine these issues and to advise NIREC thereof. This committee met from Sunday, 31st of July till Wednesday 3rd of August, 2016 at Petreus Royal Hotel, Abuja, inclusively, at Abuja. Sequel to a thorough and outstanding deliberation with some agencies involved with the development or regulation of agricultural processes and foods in Nigeria, NIREC committee on GMO foods made the following conclusions:

1. The noted claims of the GMO industries and promoters regarding increased crop yield by GMOs, reduced need for pesticides by GMO wide usages, of no notable human health risks, of GMO farming being in full keeping with biodiversity conservation and of not affecting environmental health, had many more data and published research refuting them that no confidence could as of now be placed on such wide claims.
2. That GMO farming is associated with mono cropping, decreasing crop yield over time and the possibility of foreign insertion of terminator genes in them, if any country depends on other countries or interest groups for the development and supply of such GMOs, among many such other liabilities.
3. That the National Biosafety Management Agency (NBMA) does not have enough equipment, laboratories, network of experts and funding for its work. So far, it has not policed the biotechnology industry enough for any opening of that sector of our national life to wide foreign interests as would now seem to be the growing case.
4. That the National Biotechnology Development Agency (NABDA) has so far functioned as a GMO advocacy agency than a national development one. In this case, due balance to the two nature-respecting ways of biotechnology - as improved plant and animal breeding on the one hand and pro-biotic microbes' biotechnology on the other - have not received the adequate attention that they deserve; as compared with their rather narrow and nature-manipulating GMO advocacy concentration. The potential for our vast arable lands for the two nature-supporting and nature-promoting methods of biotechnology in food production (compared with many of the interest group lands from where these wide GMO claims are coming) has not been reasonably explored or promoted to warrant the opening of our doors to these nature-manipulating one of the GMOs. National funding would also seem to us to be one of the issues here; and this would also need to be addressed urgently.
5. There are many areas of duplications, lack of re-enforcement and mutual working together by national agencies as well as internal deficiencies in the laws regulating agricultural, environmental, food and public health legislations in Nigeria which need urgent revisions in the full national interests (Committee Report, 2016).

Sequel to the above observations, the National Inter-Religious Council (NIREC)'s scientific committee on GMO foods and other alleged socio-economic threats to Nigeria therefore made the following recommendations, after determining the compatibility of those observations on GMO foods with the teachings of Christianity and Islam as well as national interest;

1. In the present situation, it is not advisable to go on with GMOs in Nigeria as has been going on. These must be curtailed and mechanisms for their indigenous research, development and self-ownership of the intellectual property rights in their regard guaranteed. The Biosafety Act 2015 and the National Health Act 2014 need to be urgently revised for these purposes.
2. The importation of foods and agricultural products in Nigeria must be seriously monitored and checked to ensure that they do not consist of unverified GMOs.
3. National agencies formed in the country should be properly equipped as well as funded to be able to perform their duties without reliance on foreign interest groups in ways that do not conform with national interests. These later (national interests) must now be properly articulated and duly implemented for our attainment of true nationhood.
4. NIREC should expand this committee to include all the intellectual sectors of national interest as well as make it a standing committee, with defined individual tenures. These experts, in the different interest areas as may arise from time to time in the future, can very easily be summoned to do this type of work in the national interest; both of NIREC but also of/for the national government, which NIREC should endeavour to advise rather frequently. The articulation of Nigeria's National Interests (which should include ethno-religious and therefore national peace, mutual respect, harmony and progress) should very importantly be part of these issues – as we so graciously enjoyed working in this committee (Committee Report, 2016).

Furthermore, the existence of Genetically Modified Foods in Nigeria is no longer debatable. In fact, a very large amount of the population of the country is aware of the presence of GMFs in the country. Although, there are still few individuals who still see it as a foreign trend. The reckless approval of GM foods in Nigeria without proper risk assessment, has created a security loophole that could be exploited by foreign powers for agricultural sabotage (Adebayo, 2025).

### **GM Foods in Nigeria: An Ethical Analysis through the Lens of *Ọmọlúàbí* Ethics**

*Ọmọlúàbí* is an ethical model of a completely perfect character among Yoruba people (south-western region) of Nigeria. It is so important to the *Yorùbás* that they bring up their children not only to recognize and admire the principles of being an *Ọmọlúàbí*; they must also strive to be one. Being an *Ọmọlúàbí* does not depend on wealth or high societal status; in fact, *Yorùbá* people will rather not appoint an individual to any post if they possess great wealth but do not show the honourable characters of an *Ọmọlúàbí*. The term '*Ọmọlúàbí*' has been variously interpreted by scholars. For example, '*Ọmọlúàbí*' is interpreted as "*Ọmọ tí Olúlùwàbí*" literally translated as "the baby begotten by the Prime of '*Ìwà* (character). Such a child is thought of as a paragon of excellence in character. '*Olúlùwà*' in *Yorùbá* language means a dignified parent with excellent character. '*Olúlùwà*' may create an exemplar of

character or a baby as a person of dignity; although, there is no guarantee that the baby would remain an exemplar of character like the creator of the biological father. Furthermore, public opinion rather than sanction of law is an important aspect of proper conduct in Yorùbá religion (Ogunajo, 2018:96-100).

On one hand, the child may turn out to be an '*Ọmọlúàbí*' while not born by someone with good character. This probably depends on the kind of upbringing such a child has. *Ọmọlúàbí* is the attainment and exhibition of the inherent virtue and value. An *Ọmọlúàbí* is seen as someone with a lofty character. *Ọmọlúàbí* is the preeminent moral responsibility expected of every African man or woman irrespective of circumstance and location. We say it is the embodiment of all goodness not kept within but given out for the good of human kind. It is attributed to someone with an admirable legacy and doggedness at ensuring justice prevails, in the course of his or her selfless and courageous struggle for the betterment of people.

The concept of *Ọmọlúàbí* has gone global and it should be recognized as such. Many Yorùbás have carried this noble moral philosophy far across oceans and seas, dry lands and through the air; we see the acts of *Ọmọlúàbí* everywhere. Many people exhibit these commendable characters; many transfer these moral codes of excellence to their children for it always leads to commendable success and good progression in all walks of life.

The environmental consequences of GM crops are a significant concern. From the perspective of *Ọmọlúàbí*, respect for the environment is crucial. The introduction of GM crops should be assessed for their potential to disrupt local ecosystems, harm non-target species, and reduce biodiversity. Ensuring that GM crops do not negatively impact the environment aligns with the *Ọmọlúàbí* principle of respecting and preserving natural resources for future generations.

The ethics of *Ọmọlúàbí* implies respect for self and others. The adoption of GM foods in Nigeria negates this ethics in such a way that it does not respect people's opinion on the choice of what to eat. In other words, the ethics of *Ọmọlúàbí* emphasizes high respects for the rights of every citizen irrespective of their social class and geographical location. The adoption of GM foods in Nigeria totally rips off the rights of Nigerian citizens, especially the less privileged ones, to choose what to eat. This is because when GMFs have fully penetrated the Nigerian food system, the natural (organic) foods will rapidly go high in price and the poor populace will not be able to afford natural foods, thereby making it mandatory for them to eat genetically modified foods against their will. This negates the *Ọmọlúàbí's dimension of respect for the will of others*.

Traditional agricultural practices in Nigeria are deeply rooted in cultural heritage and communal identity. *Ọmọlúàbí* requires respect for these traditions. The adoption of GM crops should not undermine traditional farming methods or erode local agricultural knowledge. Instead, there should be a dialogue between modern biotechnology and traditional practices, finding ways to integrate GM crops without displacing the cultural significance of indigenous farming techniques.

The ethics of *Ọmọlúàbí* is wholly conscious of *Èwò* (taboo or abomination) and abhors any act that would invite opprobrium and distaste from right-thinking members of society generally. The ethics of *Ọmọlúàbí* negates genetic modification of foods to be consumed by human most especially the toxic GM tomatoes (Hybrid Tomatoes otherwise called *Killer Tomatoes* in the United States). This GM tomatoes, now in Nigeria, is today promoted as Hybrid tomatoes in Nigeria by Dangote Foods (GPA Correspondence to UN, 2019:3). This genetically modified tomatoes is known to contain pig genes for anti-rot (flavr savr tomatoes). This is the reason for the longer shelf life.

Health safety is paramount in the ethics of *Ọmọlúàbí*, which emphasizes the well-being of individuals and communities. There are concerns about the long-term health effects of consuming GM foods. Comprehensive and transparent scientific evaluations are necessary to ensure that GM foods are safe for consumption. The integrity and honesty required by *Ọmọlúàbí* mandate that all health risks be clearly communicated to the public.

The scientists behind GMFs do not recognize food taboos and abominations that are of high prominence among cultures and religions. Christians, Jews and Muslims rejected this GM/Hybrid tomato immediately it was released in the United States before it was finally banned by the U.S. Food and Drug Administration because it caused life threatening intestinal bleeding (Smith, 2017). This 'pig gene' tomato is a taboo for people whose religion and/ or culture do not permit its consumption. More also, it will definitely create allergy problems for those allergic to pork. Would Nigerian Muslims and Christians, even traditional religionists who do not eat pig meat, accept to eat the Flavr Savr tomatoes (so-called Hybrid tomatoes) if they know it contains pig genes? And what happens if they consume such tomatoes without knowing its content? Even if other religions do not forbid things to do with pigs, the respect of Muslims and Levitical law-abiding Christians in Nigeria requires that such seed and foods should be disallowed.

*Ọmọlúàbí* promotes fairness and justice within the community. The introduction of GM foods should consider the socio-economic impact on smallholder farmers, who make up a significant portion of Nigeria's agricultural sector. There is a risk that GM crops, often owned and controlled by large multinational corporations such as Monsanto, could marginalize small farmers, leading to increased socio-economic inequality. Policies should ensure that the benefits of GM technology are accessible to all farmers and do not exacerbate existing disparities.

To align GM food policies with the ethics of *Ọmọlúàbí*, it is essential for Nigerian policymakers to engage in inclusive and transparent decision-making processes. Public awareness campaigns should educate citizens on both the benefits and risks of GM foods, ensuring informed consent. The principles of *Ọmọlúàbí* call for policies that prioritize the common good, environmental stewardship, and social justice.

### Conclusion and Recommendations

Ethically, it is not right to modify foods in as much as they have been perfectly designed by the Creator for a purpose. Besides, there are other health risks involved in genetic engineering. This can be deduced from the fact that these seeds are manipulated to make the plant itself a pesticide and that is why they are pest resistant (Njemanze, 2019). In other words, when one eats a plant like that, one is actually eating a pesticide. Furthermore, the amount that is unknown about genes significantly outweighs the amount that is known, prompting serious questions about how much risk is too much and who should bear the burden of this risk. Since foods with GM ingredients are not identified, Nigerian consumers will therefore be forced to accept the potential consequences of these foods. Consequently, consumers are now the guinea pigs in a grand experiment without their knowledge and consent especially if these genetically altered foods are not labeled, segregated, or monitored. With this, has the risk not reached the level where it has outweighed any potential benefit to Nigerians? Do individuals still have the right to determine their own fate?

GMF can spread through nature and interbreed with natural organisms, thereby contaminating non-genetic modified environments and future generations in an unforeseeable and uncontrollable manner. The release of GM crops and organisms in genetic pollution is a major threat, because GMF crops cannot be recalled once released. Biodiversity must be protected and respected as the global heritage of mankind, and one of our world's fundamental keys for survival. The purpose of biotechnology ought to be preservation and prolongation of health and life. The pursuit of many biotechnologists has deviated from this purpose, rather striving for mere cosmetic popularity. We have a very bad legal environment to protect Nigerians in terms of biosafety and biosecurity and we are at great risk of losing biodiversity or exposed to an untold health defect and impact and there will be no easy remedy. As the world progresses technologically, there seems to be a gradual, but steady drift from the norms and therefore the indispensability of this research work lies on the fact that it draws us back to our original religio-ethical tenets.

The ethics of *Ọmọlúàbí* provide a culturally relevant framework for evaluating the adoption of GM foods in Nigeria. By considering the virtues of integrity, respect, responsibility, and communal well-being, Nigeria can develop ethical guidelines that ensure the safe and equitable integration of GM foods. This approach not only addresses the immediate concerns related to GM technology but also fosters a sustainable and morally grounded agricultural future for Nigeria.

The regulatory framework for GM foods in Nigeria has faced significant challenges in implementation, including inadequate enforcement and limited public engagement (Alli, 2024). Policy development rooted in Cultural Ethics should be made and enforced. Policymakers in Nigeria should integrate indigenous ethical frameworks, such as *Ọmọlúàbí*, into national biosafety and biotechnology regulations. This cultural grounding will enhance public trust and ethical accountability in the adoption of GM foods.

There should be ethical Education and Public Awareness. There is an urgent need for widespread public education on genetically modified foods, emphasizing not only scientific facts but also ethical implications framed through African traditional values. This will promote informed consent and culturally sensitive discourse. There is also the need for inclusive stakeholder engagement. Farmers, traditional leaders, ethicists, scientists, and community representatives should be involved in decision-making processes surrounding GM food policy to ensure that diverse voices and ethical concerns are adequately represented.

Finally, there should be monitoring and evaluation mechanisms. Continuous ethical assessment frameworks should be instituted to monitor the long-term environmental, health, and socio-economic impacts of GM foods, ensuring they align with communal well-being and sustainable development goals.

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