

GENETICALLY MODIFIED ORGANISMS (GMOs) AS AN ECONOMIC 'TROJAN HORSE' TO BUILDING BRIDGES FOR AFRICA'S ECONOMIC PROSPERITY

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Introduction

In Greek mythology, the Trojan Horse is a wooden structure gifted to the city of Troy by the Greeks, ostensibly as a peace offering. Unbeknownst to the Trojans, the horse concealed Greek soldiers who, once inside the city walls, emerged to conquer Troy. This ancient tale is a potent metaphor for the hidden dangers behind the aggressive marketing of GMOs, often promoted as the best advancement for Africa since the colonial incursion, which purportedly rescued Africa from a primitive society of savages and brought it into the fold of civilization.

In Afrika, Genetically Modified Organisms (GMOs) represent a similar threat – an economic Trojan Horse that will potentially undermine pan-continental agricultural sovereignty and economic stability. Some countries in Afrika have recently permitted the introduction of GMOs through specific permits for cotton and maize, an example is Nigeria with the “Permit for Commercial Release/Placing on Market of Cotton (MON15985) Genetically Modified for Lepidopteran Insect Pest Resistance” (Permit No: NBMA/CM/IM/001) and the "Permit for Confined Field Trial (CFT) of Maize (NK603 and MON 89034 x NK603) Genetically Modified for Insect Resistance and Herbicide Tolerance” (Permit No: NBMA/CFT/001).

While proponents of GMOs tout their potential to increase agricultural yields, enhance pest resistance, and improve nutritional content, the economic risks associated with their adoption are profound and multi-dimensional. The most potent risks include, increased dependence on foreign corporations for seeds and agricultural inputs which will lead to a massive outflow of capital from Afrika's economy, disruption of export markets due to international restrictions on GMO products with a capacity to reduce Afrika's foreign exchange earnings, economic displacement of small-scale farmers who will be unable to afford the high costs associated with GMO technology, and Long-term economic vulnerabilities that stem from reduced agricultural biodiversity and increased susceptibility to crop failure; and the Trade disputes and Sanctions that will have far-reaching economic consequences beyond the agricultural sector.

Looking at these economic risks, we will draw on case examples from other countries to illustrate the potential Trojan Horse effects of GMOs that would be visited on Afrika's agriculture, food systems and the economy; that would further undermine sovereignty, security and socio-political stability. By critically examining these hidden dangers, we will better understand the complex economic implications of GMO adoption and the importance of a cautious, well-informed approach to agricultural biotechnology in Afrika and for Afrika.

RISKS OF RELIANCE ON EXTERNAL MULTINATIONAL CORPORATIONS

The adoption of GMOs risks creating a dangerous economic dependency on multinational biotech corporations for seeds and agricultural inputs. The reason is simple, much of Afrika lacks the technology to domesticate GMO seed production and there are no indigenous Afrikan behemoth corporations in the likes of Bayer that can leverage on this technology. This dependence on foreign corporations manifests in several ways including:

Increase in Costs to Farmers

The experience of Bt cotton in India serves as a stark warning. Initially, Indian farmers saw higher yields and reduced pesticide use. However, over time, the high costs of patented Bt cotton seeds and associated inputs like herbicides and fertilizers led to mounting debts for many farmers. Between 1995 and 2013, more than 296,400 Indian farmers committed suicide, with many of these deaths attributed to agricultural liabilities and debts. This tragic situation is a red alert for the economic devastation that will occur when Afrikan farmers become trapped in the cycle of dependency on expensive GMO technologies from without.

Severe Economic Drain

The continuous outflow of capital to foreign corporations will significantly weaken the domestic economies of Afrikan countries, and hence the continent. Argentina's experience with GM soybeans illustrates this point. In 2018, Argentina spent approximately \$1.1 billion on imported seeds and agricultural chemicals, almost 80% of which went to foreign biotech companies. This represents a substantial economic drain that should have been invested in local businesses, infrastructure, or community development. As large funds are moved out of the continent by foreign corporations, the local, continental economy will suffer from limited growth opportunities that are known to usually exacerbate rural inequalities.

Vulnerability to International Price Fluctuations

Farmers will be exposed to, and become susceptible to price changes on the international seed market, prices imposed by seed companies will affect the financial viability of their operations. In Brazil, between 2010 and 2015, the cost of GM soybean seeds increased by 55%, while the price of soybeans only increased by 35%. This disparity made it increasingly difficult for farmers, particularly small-scale operators, to maintain profitability. Such vulnerability to price fluctuations will lead to economic instability in the agricultural sector and beyond.

RISK OF MARKET ACCESS AND TRADE ISSUES

The adoption of GMOs will significantly impact Afrika's position in international agricultural markets, which will lead to severe economic consequences like:

Export Limitations

The presence of GMOs in Afrika's agricultural products will certainly result to restrictions or bans in international markets with strict regulations, such as the European Union. The EU requires labeling for products containing more than 0.9% GMO content, and many EU countries have banned the cultivation of GM crops altogether. If the entirety of Afrika, or Afrikan countries become significant producers of GM crops, we will find most of our agricultural exports blocked or severely restricted in these markets, and this will result to a significant loss in foreign exchange earnings.

Decreased Market Competitiveness

Even in markets that accept GMOs, the preference for non-GMO products is a major factor that will hinder the competitiveness of Afrikan exports. In India, despite the adoption of Bt cotton, certain international markets imposed restrictions on GM products and this caused a limit to the export opportunities for farmers. In 2018, Indian cotton exports fell by 25% due to high domestic prices and competition from GM-free cotton producers. This decreased competitiveness is one of the effects of GMO dependent agriculture sector that will lead to lower prices for Afrikan farmers and reduced agricultural export revenues for the continent and its countries.

Trade Disputes

The presence of GMOs in agricultural exports is a precursor to trade disputes and sanctions as the case of Brazil. In 2013, shipments of Brazilian soybean meal were rejected by several EU countries due to traces of unapproved GM varieties, this resulted in significant economic losses for the Brazilian exporters. Such trade disruptions have far-reaching consequences beyond just the agricultural sector consequently having effects on economic stability and trade relations.

THE RISK OF ECONOMIC DISPLACEMENT OF SMALL-SCALE FARMERS

The economic benefits of GMOs often favour free market capitalists who owns the biotech companies and large-scale commercial farmers who can afford the associated high costs. This disparity between the corporations, large scale commercial farmers and subsistence or poor farmers is a bridge to several socio-economic issues with significant economic implications:

Marginalization of Small Farmers

Small-scale farmers, who constitute the majority of Afrika's agricultural workforce, will struggle to afford GMO seeds and necessary inputs leading to their economic marginalization and displacement. Like in the case of Brazil, between 2000 and 2012, the number of small farms (less than 10 hectares) decreased by 12.5%, while the number of large farms (more than 1,000 hectares) increased by 6.1%. This trend is a reminder of how the adoption of GM technology

contributes to the consolidation of agricultural land that successfully deals an economic death knell to small-scale farmers.

Land Consolidation

As small farmers struggle to compete, there is a risk of land consolidation, with large corporations acquiring the lands of small-scale farmers. In Argentina, between 1988 and 2002, the number of farms decreased by 24.5%, with small farms being the most affected. The average farm size increased from 421 hectares to 538 hectares during this period. This consolidation will lead to a concentration of wealth and economic power in the hands of a few large agribusinesses, drying up the livelihoods of the rural areas subsequently expanding the economic inequality in rural areas.

Loss of Livelihoods

The displacement of small farmers is one of the significant dangers of GMOs adoption which will result to loss of livelihoods for millions of Nigerians and drive the already burgeoning migration to urban areas to precarious levels with the attendant increase in unemployment and social instability in both rural and urban settings. This is best reflected in India, between 2004-05 and 2011-12, about 9 million farmers left agriculture. This rural-to-urban migration has contributed to rising urban unemployment and increased pressure on urban infrastructure and services for the Indian society and has created additional economic challenges for the country.

BIODIVERSITY LOSS AND LONG-TERM ECONOMIC RISKS

The widespread adoption of GMOs in Afrika is a sure way to a reduction of agricultural biodiversity, which has several long-term economic implications which will include:

Genetic Erosion

The displacement of traditional crop varieties by GMO varieties is a highway to genetic erosion. It makes crops more susceptible to pests and diseases and increases the vulnerability of Afrika's agricultural system. An example of this is reflected, again, in Brazil. By 2009, just six GM soybean varieties accounted for more than 90% of the soybean cropped area. This narrow genetic base increases the risk of large-scale crop failures if a new pest or disease emerges.

Ecological Conservation

The loss of biodiversity due to GMO monocultures will degrade vital ecological resources such as soil fertility, pollination activities, and water regulation as witnessed in India, Bt cotton fields had 22% fewer non-target insects than non-Bt cotton fields. This reduction in insect diversity impacts pollination activities and natural pest control, which leads to increased reliance on chemical inputs and higher production costs for farmers.

Long-Term Food Security and Sovereignty

Reduced biodiversity will significantly jeopardize long-term food security by limiting the ability of agricultural systems to adapt to environmental changes or outbreaks of new pests and diseases. The Irish Potato Famine of the 1840s serves as a historical example of the catastrophic economic and social consequences that arises from over-reliance on a single crop variety.

REGRETFUL TREND IN NIGERIA AND AFRICA

African countries are adopting GMO farming practices, replacing agroecological and conventional farming; and thus establishing a new global agricultural and food order. This shift poses economic challenges to those who depend on local knowledge of crops and soil. While proponents argue that GM crops will help address food security issues, Africa should look out for increased economic dependency on foreign corporations and the loss of traditional farming knowledge, which will have long-term economic implications for African nations.

POLICY RECOMMENDATIONS

To protect Afrika's agricultural economy from the potential economic Trojan horse effects of GMOs, the following policy measures should be considered, drawing inspiration from the European Union's precautionary and stringent approach to GMOs.

1. Implement a Moratorium on GMO Cultivation

Following the example of several EU member states, Afrikan countries should consider implementing an outright ban or long-term moratorium on the cultivation of GMO crops. This approach, similar to the bans in countries like Germany, France, and Italy, would prioritize the protection of Afrika's agricultural biodiversity, traditional farming practices, and economic sovereignty. The ban should be reviewed periodically based on scientific evidence and health, environmental, social and economic impact assessments (HESEIA).

2. Establish Stringent Regulatory Frameworks

Develop a robust regulatory system. This should include:

- a) Mandatorily require a comprehensive environmental and health risk assessments before any GMO product can be considered for approval, similar to the European Food Safety Authority's (EFSA) evaluation process.
- b) Implement mandatory labeling for all products containing GMOs, following the EU's threshold of 0.9% GMO content for labeling.
- c) Establish a system to trace GMOs throughout the production and distribution chain.

3. Support and Protect Small-Scale Farmers

Develop policies to support small-scale farmers and protect traditional farming practices.

- a) Provide financial incentives for farmers who maintain traditional, non-GMO farming practices.
- b) Offer comprehensive training on sustainable farming practices and the economic risks associated with GMO adoption.
- c) Establish national and regional seed banks to preserve indigenous crop varieties and facilitate seed exchange programs among farmers.

4. Promote Agricultural Biodiversity

Implement measures to preserve and enhance Nigeria's agricultural biodiversity; such as:

- a) Develop national and regional biodiversity action plans.
- b) Designate specific areas for the conservation of traditional crop varieties and agricultural practices, modeled after the EU's Natura 2000 network.
- c) Allocate significant funding for research into sustainable, non-GMO agricultural practices and the development of resilient, locally-adapted crop varieties.

5. Enhance Public Awareness and Participation

Foster transparency and public engagement in decision-making processes related to agricultural policies; such as:

- a) Conduct regular public consultations on sustainable agricultural practices and policies.
- b) Launch comprehensive public information campaigns about the potential health, economic social and environmental impacts of GMOs.
- c) Ensure representation of farmers, consumers, and environmental groups on policy-making bodies.

6. Pan-Continental Cooperation and Trade Policies

Develop new and leverage existing pan-continental cooperation strategies and trade policies that will prioritize non-GMO agriculture:

- a) Negotiate bilateral agreements with other Afrikan countries to mutually recognize and protect non-GMO agricultural products.
- b) Implement strict controls on the import of GMO products.
- c) Develop strategies to promote Afrikan non-GMO agricultural products in international markets, capitalizing on the growing global demand for non-GMO foods.

By adopting these policy recommendations, Afrika will safeguard its agricultural sovereignty, protect its farmers' economic interests, and position itself as a leader in sustainable, non-GMO agriculture. This approach would help mitigate the potential economic risks associated with GMO adoption at the same time foster a resilient and diverse agricultural sector that can sustainably meet the continent's food security and sovereignty.

AFTERWORD

The introduction of GMOs to Afrika's agricultural landscape, much like the Trojan Horse, will bring with it economic consequences that will reshape the continent's agriculture, the food sector and the economy in unimaginable ways. According to Duke Tagoe of Food Sovereignty Ghana "Whoever controls the seed controls the entire food chain."

The experiences of countries like Mexico, India, Brazil, and Argentina should provide valuable lessons on the potential economic pitfalls of widespread GMO adoption.

Without appropriate regulatory frameworks, support for small-scale farmers, and measures to preserve biodiversity, GMOs are indeed an economic Trojan Horse, that pushes reliance on foreign corporations further downhill, exacerbates economic displacement of small holder farmers, trade disruptions, and long-term vulnerabilities in the agricultural and food production sector.

Through careful consideration, strategic planning, and an intentional or deliberate focus on building internal bridges, Afrika can spring surprises from within her continental space and human resources to achieve long-term agriculture and food sovereignty, and avoid the economic pitfalls experienced by other nations. This is one major course to chart the building of bridges towards sustainable and equitable agricultural and human development; bridging productivity and pan-continental commerce and trade for Afrika's overall economic prosperity. The stakes are as high as the hawks are flying, and vultures are perched waiting once again; for the 'Fall of Troy'. The decisions made today by the political, scientific and economic leaders of Afrika, will shape the definition we give to "Building Bridges for Afrika's Economic Prosperity" for generations to come.

God Bless You!

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