

# THE POLITICAL ECONOMY OF GMO FOODS IN AFRICA: A NEOCOLONIALIST STRATEGY FOR RECOLONIZATION

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## Abstract

*This study critically examines the political economy of genetically modified organism (GMO) foods in Africa, arguing that their proliferation reflects a neocolonialist strategy aimed at economic and ideological recolonization. While proponents of GMO technology flaunt its potential to enhance crop resilience and alleviate hunger, this research interrogates the geopolitical and economic interests embedded in its promotion, particularly by Western governments, multinational agribusinesses, and philanthropic actors such as the Bill & Melinda Gates Foundation. Drawing on postcolonial theory and dependency paradigms, the paper explores how GMO adoption in Africa is shaped not by local agency but by external pressure, conditional aid, and intellectual property regimes that favor foreign corporations. The analysis highlights how seed patenting, restrictive trade agreements, and donor-driven policy frameworks erode indigenous farming systems and entrench a cycle of technological reliance. Through case studies in Nigeria, Kenya, and South Africa, the research reveals how GMO policies often bypass democratic consultation and marginalize smallholder farmers, reinforcing asymmetrical power relations reminiscent of colonial governance. The paper thus argues that the GMO agenda in Africa is not merely a scientific or humanitarian endeavor but a strategic extension of global capital interests, cloaked in the rhetoric of development. Ultimately, the study calls for a reimagining of food sovereignty in Africa – one that centers indigenous knowledge and genuine self-determination in agricultural policy.*

**Keywords:** Food Sovereignty, Backward Agriculture, Green Revolution, Seed Colonization, Biotechnological Imperialism

## Introduction

Genetically modified organism (GMO) technology emerged in the 20th century as a transformative innovation in agricultural science. It refers to the deliberate alteration of the

genetic material of an organism to express desired traits. By altering the genetic structure of crops, GMO technology promised to revolutionize food production. Its global expansion, however, has been shaped not only by scientific advancement but by the political economy of agribusinesses, intellectual property and developmental aid. The initial wave of GMO adoption occurred in the United States and Canada, where crops like maize and soybean were engineered for herbicide tolerance and insect resistance. By the early 2000s, these technologies had spread to other parts of the world, often through trade agreements and corporate partnership (Charles 2001).

In Africa, GMO expansion has been more contested. While proponents argue that biotechnology can address food insecurity, critics emphasize the asymmetrical power relations embedded in its promotion. Scholars have noted that GMO adoption often occurs through donor-driven initiatives, bypassing local consultation and privileging foreign expertise over indigenous knowledge system (Shiva 2000; Paarlberg 2008). The result is a form of agricultural restructuring that aligns with neocolonial patterns of control – what this paper terms *seed colonization*. As Kloppenburg (2004) observes, “The commodification of genetic resources represents a new frontier of enclosure, one that transforms the very basis of life into a site of corporate control.” This dynamic is particularly acute in African context, where traditional seed-sharing practices and communal land tenure systems clash with the proprietary logic of GMO technologies. The global expansion of GMOs, therefore, cannot be understood in isolation from the political and economic structures that govern their diffusion. While advocates emphasize the potential of genetic engineering to combat food insecurity, this study argues that the technology is embedded within a neocolonial framework that reinforces dependency. It interrogates the political economy of GMO foods in Africa, asserting that their adoption reflects a strategic recolonization of the African continent through food-seed colonization.

The study begins with the allegory of Esau and Jacob to frame the symbolic stakes of GMO foods adoption in Africa, where short-term relief risks long-term sovereignty. It then develops a theoretical framework rooted in political economy traditions and decolonial critique, followed by an analysis of the mechanisms through which control is exerted in the name of help. The next section interrogates the promises of biotech transformation and their failures, before turning to case studies that illustrate these dynamics in practice. A decolonial alternative is then proposed through agroecology, seed sovereignty and regional governance. The evaluation weighs competing perspectives, and the conclusion reaffirms food sovereignty as the path to liberation.

### **The Allegory of Esau and Jacob**

This framing invites a deeper reflection on the nature of transactional compromises in African political and economic policies – where immediate solutions are often pursued at the expense of long-term sovereignty. The metaphor of Esau in the bible underscores the stakes: the adoption of GMO food technologies in Africa is not simply a matter of scientific progress, but a calculated exchange that risks forfeiting control over the politico-economic

future of the continent. Below is an extract from the Esau narrative:

Once when Jacob was cooking a stew, Esau came in from the field, and he was famished. Esau said to Jacob, "Let me eat some of that red stuff, for I am famished!..." Jacob said, "First sell me your birthright." Esau said, "I am about to die; of what use is a birthright to me?" Jacob said, "Swear to me first." So he swore to him, and sold his birthright to Jacob. Then Jacob gave Esau bread and lentil stew, and he ate and drank, and rose and went his way. Thus, Esau despised his birthright (Gen.25:29-34).

In the above allegory, a man trades his birthright for a bowl of stew – an impulsive exchange that forfeits generational inheritance for immediate gratification. This allegory resonates profoundly with the contemporary political economy of genetically modified organism (GMO) foods in Africa. Much like Esau, African nations are being positioned to relinquish agricultural sovereignty in exchange for promises of food security and technological advancement. The transaction, however, is not neutral. It is structured by global power asymmetries, corporate monopolies, as well as donor-driven imperatives that echo the logic of colonial extraction.

The proliferation of GMO crops across the continent is often framed as a humanitarian intervention aiming to combat hunger and low agricultural productivity. Yet beneath this rhetoric lies a strategic agenda of seed colonization, wherein biotechnologies and intellectual property regimes serve as instrument of control. Multinational agribusinesses, backed by Western governments and philanthropic actors, are reshaping African food systems in ways that prioritize external interests over indigenous knowledge and ecological autonomy (Hoang 2023; Birn 2014).

This paper argues that GMO propagation in Africa is not merely a scientific or developmental endeavor but a neocolonist strategy for recolonization through seed colonization. The imposition of genetically engineered seeds, often tied to conditional aid, restrictive trade agreements, and biosafety legislation, undermines local agency and enhances technological dependency. As Hoang (2023, 27) aptly notes, "The new colonialism is not about land grabs – it is about seed grabs." Through this lens, the GMO agenda emerges not as a solution to African agricultural challenges but as a continuation of imperial logics cloaked in the language of progress.

### **Theoretical Framework**

*Political economy*, as a tradition, is concerned with the ways material conditions and economic structures shape political power and social relations. It does not treat economic activity as isolated from culture or governance, but rather sees it as the foundation upon which institutions, ideologies, and authority are built. Within this tradition, Karl Marx's

conception of the economic base and superstructure offers a lens through which to understand the GMO regime in Africa; not as a neutral scientific development, but as a strategic intervention in the material foundations of the continent. In other words, it offers a compelling lens for understanding the spread of genetically modified organisms in Africa as a neocolonial strategy of recolonization.

Marx argues that the economic base, comprising the forces and relations of production, determines the character of the superstructure (law, politics, and ideology). According to him, the mode of production – who owns the means of production and how labor is organized – fundamentally shapes the legal, political, and ideological institutions of society (Marx 1859). When the base is altered, therefore, the entire social order is reconfigured. In the context of GMO foods, the introduction of patented seeds and proprietary agricultural technologies represent a transformation of the productive base. These technologies are not simply tools for increasing yield; they are embedded in global capitalist relations, owned and controlled by multinational corporations whose interests lie in expanding markets and consolidating control over agricultural value chains. This shift from communal seed-saving practices to dependence on corporate inputs restructures the agrarian economy, displacing traditional modes of production and embedding African agriculture more deeply into global circuits of capital.

This transformation is not accidental. It is orchestrated through mechanisms that appear technical but are deeply political. The framing of GMOs as solutions to hunger masks the underlying economic logic: the commodification of life itself (Kloppenborg 2004). Seeds, once shared freely within communities, become intellectual property. Farmers, once autonomous in their production decisions, become consumers in a global marketplace. The economic base is thus reshaped to serve external interests, and with it, the superstructure evolves to legitimize and sustain this new order.

Legal frameworks, public discourse, and scientific narratives all shift in tandem. Regulatory institutions are reoriented to facilitate market access for foreign technologies, while indigenous knowledge systems are sidelined as unscientific or backward. Such ideological apparatus promotes a vision of progress that aligns with Western models of industrial agriculture, reinforcing the notion that Africa must be modernized through external expertise. This is not merely a case of technological adoption. It is a reconfiguration of sovereignty, where control over food systems is ceded to actors beyond the continent.

Marx's (1859) insight that the ruling ideas of any epoch are those of the ruling class finds resonance here. The dominant narrative around GMOs is shaped not by African farmers or local communities, but by corporate scientists, international donors, and policy elites. Their interests are reflected in the discourse, which presents GMOs adoption as inevitable, desirable, and rational. This ideological dominance, then, is a function of power. It stems from control over the means of production and the institutions that govern them.

In this light, the spread of GMO technologies in Africa is best understood as a neocolonial strategy for recolonization. It is not territorial conquest, but economic restructuring. It is not overt domination, but the subtle imposition of dependency. The political economy tradition reveals that beneath the surface of scientific innovation lies a deeper struggle over who controls the material conditions of life; and whose knowledge, labor, and sovereignty are subordinated in the process. The recolonization here is basically economic, achieved through the reorganization of production and the imposition of foreign legal and ideological frameworks.

Moreover, the dominance of Western scientific epistemologies in GMO discourse silences indigenous knowledge systems and agroecological practices. As Spivak (1988) argued, the subaltern cannot speak when dominant structures render their knowledge illegible. The political economy of GMOs thus entails not only economic exploitation but epistemic violence – the erasure of alternative ways of knowing and being. Marx's theory of economic base and superstructure thus reveals how GMO technologies function as instruments of neocolonial control. They structure the material foundations of Africa, reshape its legal and ideological institutions, and deepen its dependency on external powers. This is not development. It is recolonization by other means. This economic structuring, driven by global capital and legitimized through ideological and legal instruments, sets the stage for a deeper interrogation of power through postcolonial theory. If Marxist political economy exposes the material foundations of recolonization, postcolonial theories illuminate its cultural and epistemic dimensions, revealing how the GMO regime not only reorganizes production but also reasserts imperial narrative, silences indigenous voices, and perpetuates dependency under the guise of scientific progress.

Indeed, *Postcolonial theory* offers a vital analytical lens for interrogating the contemporary dynamics of GMO proliferation in Africa. At its core, postcolonial thought critiques the enduring legacies of colonialism, particularly the ways in which power, knowledge, and economic structures continue to shape formerly colonized societies. In the context of agricultural biotechnology, the concepts of recolonization, dependency, and epistemic violence illuminate how GMO interventions function as neutral scientific advancements but as mechanisms of control and subjugation.

The term recolonization refers to the reassertion of colonial-style domination through new modalities: economic, technological, epistemic, cultural, etc. Scholars like Ngugi wa Thiong'o have warned that "colonialism never really ended; it simply mutated" (Thiong'o 2009, 15). In the realm of agriculture, recolonization manifests through the imposition of patented seeds, biosafety protocols, and donor-driven policy frameworks that mirror the extractive logic of empire. As Ake (1996, 3) argues, "The development of Africa has been externally driven, shaped by interests that are not African." The GMO agenda, often spearheaded by multinational corporations and Western philanthropic institutions, exemplifies this dynamic. African governments are pressured to adopt biotechnologies

under the guise of modernization, yet the terms of engagement are directed by external actors, echoing colonial hierarchies.

Yet recolonization is not merely a symbolic or ideological phenomenon; it is materially sustained through structures of dependency that bind African nations to external actors. The logic of recolonization finds its operational form in the technologies, trade agreements, and aid mechanisms that enforce reliance on foreign systems. As such, dependency is not a separate concern but the very mechanism through which recolonization is enacted and maintained. Postcolonial theorists have long critiqued the structural dependencies that bind the Global South to the Global North. Dependency theory, as articulated by thinkers like Samir Amin and Walter Rodney, emphasizes how economic and technical reliance perpetuates underdevelopment. In the GMO context, dependency is not merely economic – it is technological and regulatory.

African farmers are increasingly dependent on imported seeds, proprietary chemicals, and foreign expertise. This undermines local innovation and entrenches a cycle of reliance. According to Shiva, “Seed is not just the source of life. It is the very foundation of food sovereignty. When control over seed is lost, control over food is lost” (2000, 8). The shift from open-pollinated varieties to genetically engineered seeds, often protected by intellectual property regimes, represents a profound loss of autonomy. Moreover, aid conditionality plays a pivotal role. Biosafety legislation, often drafted with donor input, creates legal infrastructures that favor GMO adoption while marginalizing traditional practices.

A clear example is India's biosafety approval of Bt Brinjal, a genetically modified eggplant. The legislation and regulatory process were heavily influenced by donor-backed institutions and corporate stakeholders. Despite widespread opposition from farmers and scientists advocating for agroecological alternatives, the regulatory framework prioritized GMO adoption over traditional seed systems and indigenous agricultural knowledge (Oguamanam 2018). This case illustrates how biosafety laws, framed as scientific and safety-driven, can subtly reinforce corporate control and marginalize local epistemologies and practices. Such legal dependency reinforces the technological one, creating a feedback loop of external control. Yet dependency is not confined to material or institutional dimensions. It extends into the realm of knowledge itself. The technologies and policies that enforce reliance are underpinned by dominant epistemologies that marginalize indigenous ways of knowing. In this sense, epistemic violence becomes the cognitive counterpart to technological dependency, enacting a subtler form of recolonization through the silencing of alternative agricultural logics. Gayatri Chakravorty Spivak's seminal essay *Can the Subaltern Speak?* (1988) introduced the concept of epistemic violence: the erasure of marginalized voices through dominant knowledge systems. In the GMO debate, epistemic violence is enacted through the privileging of Western scientific paradigms over indigenous agricultural knowledge.

As Brunner (2021, 198) explains, epistemic violence “operates through the coloniality of power, knowledge, and being.” African agroecological systems, which have sustained communities for centuries, are dismissed as backward or inefficient. This dismissal is not merely rhetorical; it informs policy, funding, and research priorities. Edward Said's critique of Orientalism remains instructive here. He warned that “the production and consumption of sociological knowledge within a still palpable imperial framework makes...violences possible, or even likely (Guhin & Wyrzten 2013, 234). In other words, when sociological knowledge is produced and consumed within lingering imperial structures, it can reinforce systems of domination, subtly shaping what is considered valid or valuable. As such, the GMO narrative, framed as a scientific salvation, silences alternative epistemologies and enacts a subtle but pervasive form of domination.

### **Mechanisms of Control**

The mechanism of control underpinning GMO proliferation in Africa is neither accidental nor benign. It is a carefully constructed system of governance, ownership, and influence that consolidates power in the hands of transnational corporations and philanthropic actors, while systematically disempowering local producers and knowledge systems. This architecture operates through interlocking mechanisms – legal, financial, and ideological – that shape African agriculture in ways that serve external interests. Fundamentally, this system reflects a shift from sovereign control over food production to a regime dominated by donor-driven policy frameworks and market dependencies. The promise of technological innovation, often framed in humanitarian terms, conceals a deeper logic of accumulation and control. This transformation is not unique to Africa. Scholars such as Kloppenburg (2004) and McMichael (2009) have long argued that the global food system is structured to benefit capital-intensive agriculture and corporate monopolies. In Africa, however, the stakes are intensified by histories of colonial extraction and ongoing struggle for food sovereignty. Thus, the GMO regime represents not merely a technological shift, but a continuation of imperial logics; repackaged in the pretence of development and innovation.

African scholars have been vocal in critiquing this trajectory. Olukoshi (2006) warns that externally imposed agricultural reforms often undermine local autonomy and entrench dependency. Similarly, the Alliance for Food Sovereignty in Africa (AFSA) has documented how seed laws and donor-funded initiatives erode indigenous seed systems and marginalize smallholder farmers. This critiques highlight that the mechanism of control is not just about who owns the seeds; it is about who defines the future of African agriculture.

One of the most potent mechanisms in the architecture of control is *corporate patent control*, which configures ownership over life itself – particularly seeds – into proprietary commodities governed by intellectual property regimes. Again, this shift marks a profound departure from centuries of communal seed stewardship in Africa, replacing it with a legal and economic framework that privileges multinational corporations and marginalizes local

producers. At the heart of this mechanism is the global expansion of plant variety protection (PVP) and patent laws, often harmonized through international agreements such as the WTO's TRIPS (Trade-Related Aspects of Intellectual Property Rights). These frameworks allow corporation to claim exclusive rights over genetically modified seeds, preventing farmers from saving, exchanging, or replanting them without legal consequences. Kloppenburg (2004) describes this as the “commodification of the germplasm,” where genetic resources are extracted, modified, and reinserted into the market as patented technologies. This can lead to erosion of seed sovereignty and the criminalization of traditional practices in Africa.

The case of *Monsanto's Bt cotton* in Burkina Faso illustrates this dynamic vividly. Initially promoted as a solution to pest problems and low yields, the technology was introduced under licensing agreements that restricted the ability of farmers to reuse seeds. When the fiber quality of the cotton failed to meet export standards, the program was discontinued; but not before farmers had become dependent on external inputs and lost control over their seed systems (Dowd-Urbe & Schnurr 2016). This episode underscores how patent control not only imposes economic costs but also reshapes agrarian relations and undermines local autonomy.

African scholars have been vocal in resisting this trend. Oguamanam (2018) argues that the imposition of Western-style intellectual property regimes in African agriculture constitutes a form of *biopiracy*, where indigenous genetic resources are appropriated and privatized without equitable benefit-sharing. He emphasizes the need for legal pluralism that recognizes customary seed systems and protects farmers' rights to innovate and share freely. Similarly, the Alliance for Food Sovereignty in Africa (AFSA) has documented how seed laws aligned with biodiversity and food security across the continent. The broader consequence of corporate patent control is the consolidation of power in the hands of a few transnational firms – which not only control the genetic material but also shape research agendas, influence policy, and dictate the terms of agricultural development. As Shiva (2000) warns, this is not just a technological shift but a political one, where control over seeds becomes a proxy for control over life, livelihoods and sovereignty.

Building on the legal and proprietary mechanisms of corporate patent control, another critical pillar in the mechanism of control is *philanthropic capital*, which operates through a softer, yet equally potent, form of governance. While corporate actors assert control through ownership and legal instruments, philanthropic foundations – most notably the Bill & Melinda Gates Foundation – shape the trajectory of African agriculture by funding research, influencing policy, influencing ideology, and framing the discourse around food security and innovation.

Philanthropic capital presents itself as benevolence, often claiming to fill gaps left by public institutions. However, as Ogbo and Ogbuishi (2017) argue, this form of capital can be deeply ideological and self-interested, promoting solutions and technical fixes that align

with neoliberal development paradigms. In the case of GMOs, philanthropic actors have played a central role in legitimizing biotechnology as the future of African agriculture. The Gates Foundation, for instance, has invested heavily in the Alliance for a Green Revolution in Africa (AGRA), which promotes improved seed varieties, fertilizer use, and commercial farming models.

Bill Gates has consistently advocated for the use of genetically modified organisms (GMOs) in agriculture, especially as a tool to combat hunger and malnutrition in developing regions. He views GMOs as part of a modern agricultural solution, stating: “What are called GMOs are done by changing the genes off the plant, and it is done in a way where there is a very thorough safety procedure...it reduces the amount of pesticide you need, raises productivity, can help with malnutrition by getting vitamin fortification” (Gates 2015). While framed as pro-poor interventions, these programs often sideline agroecological approaches and entrench input dependency (Wise 2000).

African scholars have raised concerns about the implications of this philanthropic influence. Mamadou Goita and Fatoumata Bagayoko (2017) argue that donor-driven agricultural agenda frequently override local priorities and democratic processes. They note that philanthropic funding tends to favor large-scale, high-tech interventions, marginalizing smallholder farmers and indigenous knowledge systems. This dynamic reflects what Ferguson (1990) termed the “anti-politics machine” – a depoliticization of development that obscures power relations and presents technical solutions as universally beneficial.

Moreover, philanthropic capital often works in tandem with corporate interests. Foundations fund research institutions, sponsor policy dialogues, and support regulatory reforms that facilitate the entry of patented technologies. This convergence of private and philanthropic power creates a dense web of influence that shapes not only what technologies are adopted, but also how problems are defined and whose voices are heard. According to Selwyn (2016), such arrangements reinforce elite control over development pathways, sidelining democratic deliberation and grassroots alternatives. In this way, philanthropic capital does not merely support agricultural development. It actively constructs the conditions under which control is exercised. By funding specific models of innovation and embedding them within policy and institutional frameworks, it contributes to the recolonization of African agriculture under the guise of humanitarianism and progress.

Extending from the ideological influence of philanthropic capital, yet another fundamental mechanism of control is the *creation of market dependencies*, which embeds African agriculture within global circuits and erodes local autonomy. While patents and philanthropy shape the legal and discursive terrain, market dependencies operationalize control through economic relationships, thus, structuring how farmers access inputs, sell

outputs and navigate fluctuating global prices, This dependency is cultivated through the promotion of input-intensive farming systems, where access to seeds, fertilizer, and pesticides is mediated by corporate supply chains. African farmers would be encouraged or compelled to adopt standardized so-called packages of technologies, often bundled through donor programs or public-private partnership.

As Olukoshi (2006) notes, these arrangements rarely emerge from grassroots demand; rather, they reflect externally driven models of development that prioritize export-oriented production and integration into global markets. The result is a narrowing of choices. Farmers who adopt GMO crops often find themselves locked into cycles of debt and dependency, unable to revert to traditional practices due to legal restrictions, degraded soil, or loss of seed diversity. This mirrors what Watts (2003) described in his analysis of oil economies as “enclaved development,” where economic activity is spatially and socially disconnected from broader national development goals. In agriculture, this manifests as isolated packets of high-tech production that serve external markets while bypassing local food needs.

The dangers of this model are imminent. Bassey (2012) warns that the commodification of agriculture transforms farmers into mere laborers in a system they do not control. He advocates for food sovereignty as a counter-framework – one that centers local control and cultural relevance. Without such alternatives, market dependencies risk entrenching a new form of colonialism, where economic survival is contingent on participation in systems designed elsewhere and governed by distant actors. As such, the creation of market dependencies completes the foreseen mechanism of control: patents restrict ownership, philanthropy shapes ideology, and markets enforce compliance. Together, they constitute a regime that reconfigures African agriculture not for local nourishment but for global extraction.

### **Promised Revolution and Its Failure**

How multinational corporations, philanthropic foundations, and global governance institutions engineered a framework to dominate the agriculture future of Africa, often under the guise of development and hunger alleviation, has been outlined in the foregoing. This mechanism was not merely structural; it was ideological, embedding market-driven logics and technological determinism into policy and practice. Within this framework emerged the Alliance for Green Revolution in Africa (AGRA), heralded as transformative force that would usher in a new era of food security, prosperity, and self-sufficiency. Yet, beneath the rhetoric of empowerment lay a deeper entrenchment of dependency, debt, and ecological vulnerability. The promised revolution, rooted in high-yield seeds, synthetic fertilizers, and corporate partnerships, was more of a political project. And its failure reveals the limits of externally imposed solutions in a continent still grappling with the legacies of colonial extraction.

The launch of AGRA in 2006 was framed as a historic turning point; a revolution that would

finally liberate African agriculture from the shackles of low productivity and food insecurity. Backed by powerful actors like the Bill & Melinda Gates Foundation and the Rockefeller Foundation, AGRA promised to deliver a Green Revolution tailored to the unique conditions of Africa. The vision was seductive: improved seeds, access to fertilizers, better infrastructure, and market integration. Yet, this revolution was not born of grassroots demand; it was architected by external actors with deep ties to global business (Wise 2022). The language of transformation masked as a logic of political control where African farmers were repositioned as consumers of patented technologies rather than autonomous producers (Wise 2022).

The promised revolution was fundamentally techno-centric, privileging scientific innovation over indigenous knowledge systems. The emphasis on genetically modified seeds and chemical inputs sidelined agroecological practices that had sustained Africa for generations. This shift was basically epistemological, displacing local wisdom with corporate science. The revolution also reconfigured land use, pushing monoculture cash crops over diverse subsistence farming. In doing so, it aligned African agriculture with global commodity chains, making it more vulnerable to market shocks and less responsive to local nutritional needs (Mkindi et al. 2020). As Goita observed, AGRA in fact harms small-scale food producers by subjecting them to high levels of debt (Mkindi et al. 2020).

Moreover, the revolution was entangled with neoliberal policy prescriptions. Governments were encouraged or pressurized to deregulate seeds markets, privatize extension services, and subsidize inputs sourced from multinational corporations. These reforms eroded state capacity and democratic accountability. The result was a system where farmers became dependent on external inputs and increasingly alienated from their land and traditions. The revolution, far from liberating African agriculture, entrenched new forms of dependency and inequality – echoing the very dynamics of neocolonialism it claimed to overcome (ASFA 2025).

Despite receiving over one billion dollars in funding (Wise 2022), AGRA has failed to meet its core objectives of doubling yields and eradicating hunger in Africa. A donor-funded evaluation concluded blatantly: “AGRA did not meet its headline goal of increased incomes and food security for 9 million smallholders” (Wise 2022). Wise's independent assessment further revealed that hunger increased by 30% in AGRA's 13 focus countries during its implementation period (Wise 2020). These findings are especially damning given the scale of investment and the aggressive promotion of commercial seeds and synthetic fertilizers.

The socioecological consequences have been equally severe. AGRA's push for monoculture, especially maize, has led to a decline in traditional, climate-resilient crops. According to a multi-author study, “millet production fell by 24 percent in the 13 AGRA focus countries from 2006 to 2018 (Mkindi et al. 2020). This erosion of crop diversity undermines food sovereignty and increases vulnerability to climate shocks. Moreover, small-scale farmers in Zambia and Tanzania were “unable to repay the loans for fertilizer and hybrid seeds after the first harvest,” leading to cycles of debt and dispossession

(Mkindi et al. 2020). These outcomes reflect a systemic failure to align agricultural interventions with local ecological and economic realities.

The influence of AGRA extends beyond farming practices into policy architecture. Investigations shows that AGRA has embedded consultants into African ministries, promoted export-oriented supply chains, and marginalized agroecological alternatives. As Belay of AFSA warns, “AGRA's fingerprints are all over the agricultural policies of Africa. They represent an attack on African food sovereignty” (Environment Africa Magazine 2025). This policy capture has weakened farmer-management seed systems and entrenched corporate-driven models that threaten biodiversity and soil health. The evidence is clear: AGRA's revolution has not only failed to deliver on its promise; it has deepened structural vulnerabilities and compromised the ecological integrity.

### **Case Studies: Nigeria, Kenya, and South Africa**

To ground the preceding analysis in concrete realities, it is necessary to examine three national contexts – Nigeria, Kenya, and South Africa- where GMO adoption has unfolded through distinct political and economic trajectories. These cases were selected not for their uniformity, but for their diversity: Nigeria exemplifies philanthropic-driven policy capture, Kenya reveals the power of grassroots resistance and judicial intervention, and South Africa illustrates the long-term entrenchment of corporate biotech interests. Together, they illuminate the multifaceted ways in which GMO technologies operate as instruments of neocolonial influence across the continent.

Nigeria's embrace of genetically modified crops, particularly maize and cassava, has accelerated in recent years, culminating in the 2024 launch of the *TELA Maize Variety*, a drought-and-pest-resistant GMO seed developed through a partnership between the Institute of Agricultural Research (IRA), the African Agricultural Technology Foundation (AATF), and the Bill & Melinda Gates Foundation (Pypers et al. 2021). This move positioned Nigeria as the second African country to approve GMO maize for commercial planting (Pypers et al. 2021). The Gate Foundations involvement is emblematic of what some scholars call “philanthrocapitalism” – a form of development aid that merges humanitarian goals with market-driven solutions. While the Foundation frames its support as empowering smallholder farmers, critics argue it entrenches dependency on proprietary technologies and external actors (Mkindi 2020). This reflects a broader tension between technological optimism and structural inequality in African agricultural policy.

The Nigerian government's enthusiastic adoption of GMO maize followed meetings between Bill Gates and president Bola Tinubu in Riyadh, where GMO technology was promoted as a solution to food insecurity (Federal Character 2024). This elite alignment raises questions about policy autonomy and the influence of external actors in shaping national agenda. The framing of GMOs as “Nigeria-driven” technology, despite foreign funding and design, reflects a strategic narrative aimed at deflecting criticism and legitimizing the intervention (West Africa Weekly 2024). Yet, civil society groups like the

Health of Mother Earth Foundation (HOMEF) have consistently challenged this narrative, warning of ecological risks and corporate control over seeds (HOMEF 2022).

This tension reflects broader postcolonial dynamics where technological “solutions” are often imposed without meaningful engagement with local knowledge systems. The campaign of HOMEF, for instance, argues that GMO foods represent a form of “food colonialism,” restructuring African food systems to serve global agribusiness interests (HOMEF 2022). This lack of public debate and transparency in regulatory processes further compounds these concerns.

In Kenya, GMO policy landscape has become a battleground for competing visions of agricultural development, sovereignty, and scientific authority. In October 2022, the Kenyan government lifted a decade-long ban on the importation and cultivation of genetically modified organisms, citing the need to address food insecurity and climate-introduced crop failures (Hoang 2023). This decision, however, was not merely technocratic. It was fundamentally political, reflecting an alignment with global biotech interests and a neoliberal development agenda. As such, critiques immediately challenged the move, arguing that it was less about food security and more about Kenyan markets to multinational seed corporations. Eighteen civil societies including the Kenyan Peasants League (KPL) and the Biodiversity and Biosafety Association of Kenya (BIBA), filed a legal petition contesting the decision. Their argument was rooted in both biosafety concerns and the political economy of dependency, asserting that adoption would erode seed sovereignty and enthrone corporate control over food systems in Kenya (Kenyan National Farmers Federation 2025).

This resistance was not marginal. It drew on a long-standing critique of what scholars have termed “biotechnological imperialism” – the imposition of Western scientific paradigms onto African agricultural systems (Shiva 2000). The Kenyan case exemplifies this dynamic, where the state's embrace of GMO foods was framed as rational, science-based policy, while opposition was dismissed as anti-science or regressive. Yet, this binary obscures the epistemic violence embedded in sidelining indigenous knowledge systems and agroecological alternatives.

In March 2025, the Court of Appeal ruled in favor of the petitioners, reinstating the GMO ban and halting the plans of government to import genetically modified maize. David Otieno of the KPL welcomed the ruling as a “major victory for small-scale farmers across Kenya,” emphasizing that “GMO foods are not the solution to food insecurity in our country” (KENAFF 2025). The decision of the court was not simply a legal outcome. It was a symbolic assertion of food sovereignty and a rejection of recolonization through seed technologies. What emerged from the Kenyan case is thus a clear tension between national policy elites and grassroots movements. While the former often align with global philanthropic and corporate actors in the name of modernization, the latter articulate a counter-vision rooted in autonomy, ecological sustainability and democratic participation.

South Africa's GMO trajectory stands in stark contrast to Kenya's contested terrain. Since the early 2000s, GM maize, cotton, and soybeans have dominated South African agriculture, with over 85% of maize now genetically modified (Farmers Magazine 2025). This widespread adoption is often framed as success story of agricultural modernization, yet it conceals a deeper political economy marked by regulatory opacity and corporate consolidation. The Genetically Modified Organisms Act of 1997, while emphasizing biosafety, has been criticized for its lack of engagement and transparency (Mayet 2007). The African Center for Biosafety has equally highlighted how this framework enables multinational corporations to dominate the seed market, marginalizing smallholder farmers and shaping national policy in ways that favor proprietary technologies. The facts remain that while commercial farmers may benefit from increased yields and reduced pesticide use, emerging farmers face prohibitive costs and restrictive intellectual property regime. Moreover, the blanket classification of gene-edited crops under the GMO Act has sparked concern among scientists and seed organizations, who warn that such rigidity could stifle innovation and isolate South Africa from global markets (Farmers Magazine 2025).

Taken together, the case studies of Nigeria, Kenya, and South Africa reveal a spectrum of GMO governance in Africa shaped by external influence. Nigeria's embrace of GMO maize under philanthropic patronage illustrates elite-driven policy capture; Kenya's judicial reversal underscores the potency of local resistance and legal activism; while South Africa's entrenched biotech regime exposes the long-term consequences of corporate consolidation and technocratic policymaking. These cases collectively demonstrate that GMO adoption in Africa is not a neutral endeavor but a political process, entangled in questions of sovereignty and the enduring legacy of colonial structures.

### **Agroecology: A Decolonial Alternative**

In the face of mounting critiques of GMO adoption as a neocolonial strategy, agroecology emerges as a decolonial alternative – one that centers ecological integrity, cultural relevance, and political autonomy. Agroecology is not merely a set of farming techniques; it is a paradigm rooted in indigenous knowledge systems, biodiversity, and social justice. As the Alliance for Food Sovereignty in Africa (AFSA 2023) argues, “agroecology offers a pathway to rebuild African food systems from the ground up, and based on local realities and farmer-led innovation. Unlike the top-down imposition of biotech solutions, agroecology fosters horizontal learning, community resilience, and climate adaptation without creating new dependencies on proprietary technologies.

Seed sovereignty is a critical pillar of this alternative. It is not just about producing more food or achieving food security. It is about who controls the food system, whose knowledge counts, and whose interests are served. Across the continent, farmers' rights to save, exchange, and breed seeds are under threat from intellectual property regimes modeled on

the International Union of New Varieties of Plants (UPOV) 1991, which grant monopoly rights to breeders and criminalize traditional practices. As GRAIN (2024) reports, “efforts to regulate, standardize and privatize seeds aim to expand corporate markets...but communities around the world are fighting back.” African civil society has mobilized against these pressures, with countries like Benin halting UPOV accession after grassroots resistance (Thiong'o 2009). Protecting farmer-managed seed systems is essential not only for biodiversity and nutrition but also for resisting recolonization through legal economic instruments.

To support agroecology and seed sovereignty, Africa must also reimagine its biosafety governance. Current regulatory frameworks are fragmented and often shaped by donor agenda or external models. A Pan-African approach – adapted to regional realities – could offer a more democratic and ecologically sound alternative. In Hoang's (2023) view, biosafety regulation ought to be an inclusive endeavor: transparent, impartial, and evidence-base. Such frameworks would prioritize public participation, risk assessment tailored to local ecosystems, and safeguards against corporate capture of the African continent. They would also enable African countries to collectively resist pressure to harmonize laws in favor biotech interests.

Agroecology, therefore, as a decolonial alternative is not a rejection of science, but a reclamation of epistemic sovereignty of Africa. It affirms that African agricultural futures must be shaped by Africans through systems that honor ecological balance, cultural diversity, and democratic control. The African Center for Biodiversity (2025) aptly captures this idea when it cautions that seed sovereignty and agroecology are inseparable and that they are the foundation of food security and resistance to foreign domination. In this vision, the continent moves beyond the binary of GMO adoption or rejection, towards a holistic transformation rooted in justice, autonomy, and sustainability.

### Evaluation

The debate over GMO foods in Africa has drawn sharp criticism from advocates who argue that opposition to the system is indefensible. The Nuffield Council on Bioethics, for instance, asserts that “there is an ethical obligation to explore these potential benefits responsibly, in order to contribute to the reduction of poverty, and to improve food security and profitable agriculture in developing countries (Nuffield Council on Bioethics 2003, 13). This *moral imperative critique* suggests that resistance to GM crops may obstruct life-saving innovations for the global poor. However, such moral imperative is not universally accepted. (Hoang 2023) counters that “if there is a moral imperative, it is in fact in the opposite direction,” arguing that the prioritization of high-tech, proprietary solutions over low-cost, sustainable agriculture is ethically questionable. True morality, in this context, lies not in technological imposition but in safeguarding sovereignty, ecological integrity, and the right of communities to define their own agricultural futures.

Closely linked to this is the argument of *scientific solutionism*, which frames GMO foods

as the most rational and effective tools for solving the agricultural challenges of Africa. Proponents like Mmbando (2024) claims that GM technology increases yield, develops disease-resistant crops, and creates varieties that can tolerate drought. This narrative positions biotechnology as a neutral, science-based fix for food insecurity, while casting opposition as irrational or anti-science. Yet such narrative obscures the political economy of GMO foods and the monopolistic structures they reinforce. As Hoang observes, GMO opened up a new world of possibilities, but also a new era of monopolization and dependency (Hoang 2023). Scientific legitimacy cannot be divorced from democratic accountability. Reducing complex socio-ecological systems to technical fixes, risks silencing alternative epistemologies and imposing foreign control over African agriculture.

Another line of defense takes a more conciliatory stance, acknowledging the controversies but advocating for improved regulation and ethical safeguards. Mmbando argues that “addressing public concerns, harmonizing regulation, and upholding ethical standards will improve the adoption of GM crops in Africa” (2024, 187). This middle-ground position suggests that GM technology need not be rejected outright, but rather integrated more responsibly. However, such pragmatism risks underestimating the depth of power asymmetries in GMO governance. Regulatory harmonization often benefits multinational corporations and donor agencies while sidelining grassroots voices and indigenous knowledge systems. As Hoang (2023) cautions, adoption faces multifaceted challenges, including regulatory, technological, socio-cultural, and economic dimensions. Ethical integration should begin not with refining the instruments of biotechnology but with democratizing the governance structures that determine its use.

### **Conclusion**

The political economy of GMO foods in Africa reveals a troubling pattern of recolonization; one in which multinational corporations, donor-driven policies, and technocratic narratives converge to reshape African agriculture in their own image. While proponents invoke moral imperatives and scientific rationality to justify GMO adoption, these arguments often obscure more fundamental questions of sovereignty, equity, and ecological stewardship. As Nuffield Council's (2023) ethical framing suggests, biotechnology may offer benefits, but when imposed through opaque regulatory systems and proprietary seed regimes, it risks replicating the very structures of domination it claims to dismantle.

This research has shown that resistance to GMOs is not anti-science but a defense of epistemic plurality and democratic control. It emphasizes that the push for GMOs is primarily a political project of control. Falling for its promises will mirror the biblical Esau metaphor, where Africa risks trading its birthright of agricultural sovereignty for the short-term relief of donor-driven GMO foods solution. In this exchange, the continent forfeits its ancestral knowledge, seed autonomy, and ecological balance for a bowl of engineered promises. Yet resistance to this trajectory is not anti-progress; it is a defense of epistemic

plurality and democratic agency.

Agroecology, seed sovereignty, and Pan-African biosafety governance offer not just technical alternatives, but a decolonial vision of liberation. In reclaiming the right to define its food systems, Africa can escape the Esau trap and cultivate a future rooted not in dependency but in dignity. Only then can Africa escape the cycle of recolonization and cultivate a future that is not engineered from outside, but grown from within.

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