



ZAAB Briefing to the Ministry of Green Economy and Environment

***Stakeholders concerns and considerations regarding the
Draft Biotechnology and Biosafety Policy and going revision process
June 2022***

Introduction

This Policy Brief deals with processes that have been underway to revise Zambia's National Biosafety and Biotechnology Policy, which will change how genetically modified organisms (GMOs) are regulated. Such a process is an issue of great importance for many Zambian people. It therefore requires extensive public consultation and judicious consideration of broad Human Rights. In this regard, the briefing lays out key public concerns with the policy review process, particularly related to GMOs in the agriculture and food system, the impacts on biodiversity, and why there are concerns regarding Zambia's development interests. It also provides consequent recommendations for immediate action by government.

Background

Zambia's National Biosafety Authority was established in 2005, and the Biosafety Act was passed in 2007 to regulate research, import, contained use and commercial release of products containing GMOs. Live GMOs, or Living Modified Organisms (LMOs), are banned in Zambia. Cautious consideration was also required before allowing GMO products into the country. However, from 2009, a shift began to happen when the import of products containing GMOs started being permitted, and in more recent years, increasing attempts have been made to weaken the National Precautionary Principle position, as upheld in the Policy and also undermine Zambia's strong Liability and Redress mechanisms. The proposed changes envisioned by the new draft National Policy opens Zambia for environmental release of live GMOs, weakens Liability and Redress, and diminished socio-economic risk assessments and thus limits public consideration and participation.

ZAAB members strongly believe that this move, started under the previous government, to take a promotional (rather than precautionary) approach through the draft new Policy and further drafts of new guidelines and regulations for live GMOs¹, will be detrimental to Zambians and the economy. ZAAB and many concerned key sector representatives, have made this objection clear over the course of many years. These concerns are not addressed in the revised draft Policy.

¹ 2018 meeting of the National Biosafety Authority to develop guidelines for the contained use and confined field trials; among others that have not been made available to the public.

Ongoing unaddressed public concerns and technical inconsistency

There is a *fundamental* difference between: conventional biotechnology versus Modern Biotechnology; the products of Modern Biotechnology or GMOs, versus live GMOs¹; and contained use versus environmental release.

The current draft Policy does not technically differentiate between these *fundamental* issues, and has not addressed the concerns regarding these principle issues that have been raised over the years by stakeholders. This is especially problematic considering high risk probability and high economic, social and environmental impacts. These national issues *have* to be addressed through comprehensive public and budgetary evaluation before *any* policy amendment can be considered. Particularly given the case that this policy revision and *complete change in national position*, is being supported and influenced by foreign agency directives.

Second generation technology and ‘synthetic biology’

Zambia must consider the fast-evolving ‘second generation’ genetic modification and corporate industry promotion and false promises of new technologies in Africa. These high-risk technologies are being channeled through public-private partnerships (PPPs) and foreign agency funding influence through the African Union.

‘Old’ GM technology is based on modifying genetics of plants by inserting foreign DNA in a laboratory setting. New techniques, involve a process of gene editing within organisms, and those organisms will then reproduce that change on their own and into the environment. An example is editing the genes of a type of malaria-carrying mosquito so that when they breed, they can only produce females. The intended purpose is to cause population crash, an effective means of population scale ‘terminator technology’. The genetic change happens once the organism is released into the environment, and is unstoppable. Unsurprisingly, this creates widespread and significant risks for animal and human health and safety, and environmental management. These significant impacts cannot be predicted nor adequately regulated given complex environmental factors and change over time and scale.

This is very critical context that *must* be considered in relation to the industry and public-private sector support for Zambia’s policy changes and weakening of national Liability and Redress mechanisms. New technologies are promoted by powerful lobby groups and corporate control of research and multilateral public-policy mechanisms that are driving African agendas now. Particular concern for Africa was raised in 2021 regarding the adoption of ill-fitting guidelines under the African Union for continental harmonisation of biotechnology policies despite public opposition and the large divergence of African country contexts. Zambia’s relationship to these continental processes and industry / foreign agency policy influence requires greater scrutiny for our country and sovereign state policy position.

Key Concerns

Our key concerns with the process to revise Zambia's Biosafety and Biotechnology Policy and the legislative framework fall into policy content issues; the requirements for democratic process; the threats posed to Zambian economy, biodiversity and human rights; and ethics.

Content of the Policy

- The draft new Policy takes a promotional approach to GM technology. This is a dramatic shift from our current country position and conflicts with Zambia's commitments under the Cartagena Protocol which requires the precautionary approach to be the guiding principle of any biosafety policy. The revised draft also lacks proper position for liability and redress, in line with the Supplementary Protocol on Liability and Redress. This is critical to ensure that where there is any non-compliance with biosafety provisions as per the law and regulations, that responsible actors will be held accountable and that appropriate response measures are taken in anticipation of or in the case of potential damage.
- The proposed new policy has a weak technical base that uses terminology interchangeably and not in accordance with international frameworks, standards, terms and definitions. GMOs are treated the same as biotechnology, which is a very broad field that also includes modern conventional plant breeding. Due to the wide variation in specific biotechnologies, any necessary policy, legislation and regulations need to reflect this, ensuring loopholes or irregularity are not created.
- The draft new Policy lumps very different issues, uses and sectors together under one policy, making implementation, management and regulation highly cumbersome, increasing strain on government, and therefore raising the risks to people and the environment. The draft Policy treats GMOs for medicine, food, engineering and research, contained and environmental release, amongst other, all as the same: with no regard for how GMOs in these sectors have vastly different impacts and consequences. For example, medical applications of GMOs mostly use bacteria isolated in a laboratory and used under medical regulations. These GMOs cannot cause contamination of the wider environment (like genetically modified seeds can). These differences call for highly targeted and technical regulatory frameworks. This misunderstanding and that raised in the first point raise serious concerns about capacity to regulate this field.
- In the light of new and exceptionally risky GM technologies being pushed by industry onto the continent there is real need for increased transboundary monitoring and regulation. Zambia needs to be forward thinking, ensuring adequate precautionary protection – and strong liability and redress - to safeguard national economic interests and human and environmental rights. The weak technical and promotional framing which the new proposed policy adopts creates an opening for these new technologies into the Zambian environment without a full understanding of their implications, nor capacity to regulate them and deal with their contamination. The policy should ban the import or release of LMOs and second generation technologies. Given the complexity and extensive dangers of the latter, no regulatory standards have yet been developed globally, and it would be reckless of Zambia to allow these technologies.

Democratic Process

- Zambia needs a revised policy. However, the current revision was initiated in an undemocratic process under the previous government, pushed and informed by the pro-GM industry rather than public interest. Agencies like the Gates Foundation and AUDA-NEPAD have been pushing for and funding reform of biosafety frameworks across Africa, including Zambia, on behalf of the biotech and seed industry. It is therefore not an African-driven process and serves the interests of corporations rather than ordinary Zambians and the Zambian economy.
- In this context, the major shift from Zambia's precautionary approach to a promotional approach, which is adopted in the draft new policy, is a clear reflection of the policy drafting process driven by the agenda of the foreign corporate lobbies, not through wide public demand and effective consultation. This undermines citizens' rights, all the more important regarding issues with far-reaching consequences for them.

Threats to Zambia's economy, biodiversity and human rights

- In line with the Cartagena Protocol, the current policy and law ensure that social and economic considerations are paramount. It also recognises that environmental changes over time and space cannot be controlled or predicted (especially in the light of climate change), and will affect gene expressions and responses in different ways. The fact that we cannot make these predictions poses significant risks for future generations of environmental release of GMOs.
- The Zambian government has committed itself to upholding Human Rights (HR), but the private interests driving the policy revision and the promotional approach undermine the national HR based approach. Weakly regulating GMOs pose a threat to a number of HRs, including to participation, to health, to a safe and healthy environment, to food and seed, and economic and social rights – including to Free, Prior and Informed Consent (FPIC).
- Allowing the entry of live GMOs in Zambia's agricultural food systems and the natural food web will enable the contamination of farmer seed systems, and destroy agro- and wild biodiversity, threatening the growth of the green economy. Once released into the environment, cross-pollination and interaction with other elements like soils, water and other species cannot be fully contained.² Unforeseen changes can be introduced into ecosystems, with implications for Zambia's sovereignty over its natural resource base and food system.
- Growing GM crops would increase farmer's input and production costs beyond the already unsustainable levels, making farming an unviable business for the majority. GM crops deepen the economically and ecologically destructive industrial food system by locking farmers into monoculture production and cultivation of a narrow range of high cost, patented crop varieties, that have with little to no food-nutrient value, and require large use of pesticide and synthetic fertilizer (which increases over time). This destroys

² Issues of environmental release and containment of GM organisms do not exist in international law, and so there are no international recourse mechanisms against transnational companies who control the technology should negative ecosystem or human impacts be encountered.

soil fertility and further pollutes the environment, biodiversity and increases farmer dependency.

- Admirably, much of Zambian agricultural and food policy is informed by the need to improve food security. GMOs are sold as a 'false solution' to the food insecurity crisis by missing the major drivers of food shortages or inequitable access, and poor nutrition which many developing countries face. There is mounting evidence that GMOs undermine food security in the long run, whilst instead benefit corporate business profit. Where GM crops have been adopted in Africa, they have dismally failed to live up to their promises. Zambia cannot promote a failed technology to its farmers and consumers.
- GMOs will further hand over control of Zambia's food and seed systems to foreign corporations that control the technology. It will therefore make Zambian farmers and consumers more reliant on foreign corporations through having to buy new seed each season. It is another form of colonialism that sucks resources out of the country, and will seriously negate efforts to achieve the Right to Food and raise rural incomes.
- Zambia will lose its GMO-free reputation. This will have consequences for agricultural exports from the country. There will be an increased burden on the government's budget to finance the required international standards for regulatory systems, and expand the regulatory testing and monitoring facilities in the country.
- Given the proven damaging human health effects of pesticides like glyphosate, the increased pesticide use required by GM crops will increase the health burden that will be paid for by the Zambian government and taxpayers.

Ethical Concerns

- Promoting GMOs is not just a technical issue, but is closely linked to questions of ethics, values, and religion, with deep respect for communal life, sharing of food and living in harmony with one another and the earth. GMOs potentially disrupt many of these ethics and relationships, many of which would be irreversible. GMOs in our food system require deep public discussions about their implications in this regard.

Recommendations

The decisions taken now regarding the introduction of live GMOs into Zambia's agricultural and food systems will have intra- and intergenerational consequences, for the economy and for the sustainability and sovereignty of the food system. We therefore request and recommend:

- Maintain the ban on Living Modified Organisms in Zambia, and prohibit environmental release of GMOs, crops or other occur.
- Maintain the Precautionary Principle and strong Liability and Redress mechanisms as a matter of fundamental principle relating to any work on Modern Biotechnology and GMOs.
- The Ministry of Green Economy and Environment halt the proposed revision of the Policy immediately and instead undertake extensive national evaluation and public hearings on the complete changes to the national position on genetic engineering to garner the positions of Zambians on this critical matter. Many stakeholders have not been consulted regarding this significant change in national position and have a democratic right to such participation. This is also an important opportunity for the new government to ensure the National Biosafety Authority and the policies of Zambia, maintain positions of neutrality rather than prioritising the interests of foreign agencies and corporations, regional and international actors that have vested interests in Zambia embracing modern biotechnology.
- Instead of silver bullet 'solutions' like GMOs, to build the Green Economy and address persistent food insecurity and poverty, effort and resources should be devoted to upholding the new government's commitment to support agricultural and economic development that is meaningful for the majority, not an elite corporate and foreign minority. Particularly upholding the commitment to equitable livelihood development for women and youth. This requires a comprehensive support approach to diversify the agriculture sector, build resilience to climate change, soil fertility, and long term nutritional security. Zambia needs stable food systems that provide a diversity of nutritious foods, not monocultures of a few commodity crops.

ⁱ Products containing GMOs use derivatives or ingredients that are produced from LMOs, like GM crops such as soya flour in bread that was made from GM soya, or Corn Flakes made with GM maize. Products containing processed GMOs may pose individual and population wide health risks, and should therefore be regulated accordingly, considering socio-economic and ethical aspects in full respect of human rights. However - risks here are contained - GM products are processed and so cannot reproduce in the environment. LMOs on the other hand, which include GM seed, organisms (like mosquitoes), viruses or bacteria, can cross, breed, reproduce and spread GE genes onto other natural organisms in the environment.