

Protestors with seeds at UNFCCC negotiations in Durban.



food  
sovereignty

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# who benefits from gm crops?

the expansion of agribusiness interests  
in Africa through biosafety policy

february 2015 | report



Matooke banana seller.

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**Funders** With thanks to our funders Brot für die Welt/Evangelische Entwicklungsdienst and the Dutch Ministry of Foreign Affairs.

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## introduction

## introduction

*“There could hardly be a more effective form of colonialism. The genetic engineering industry will effectively be able to hold us hostage.”*

Dr Tewolde Egziabher, head of the African Group and Like Minded Group of Developing Countries in the negotiations toward the Cartagena Protocol on Biosafety.<sup>1</sup>

Since genetically modified (GM) crops such as maize and soya were first commercialised, the country most associated with their development, the United States of America, has fought tooth and nail against any form of regulation of the technology and the resulting crops.

This included an aggressive campaign during the negotiations that began on biosafety in the mid-1990's and resulted in the Cartagena Protocol on Biosafety (CPB), which was finalised in January 2000 and came into force in September 2003. This international Protocol was developed to ensure adequate safe use, handling and transfer of genetically modified organisms<sup>2</sup> (GMOs) that may have adverse effects on human and environmental health.<sup>3</sup> The USA represented a minority view in the negotiations arguing that there was no need for a biosafety protocol.<sup>4</sup> In the end the Cartagena Protocol was agreed and established under the auspices of the United Nations Convention on Biological Diversity, but the USA is not a party to it.

The existence of the Protocol means that the majority of African countries have signed up to an agreement to implement national biosafety regimes, even though they have little expertise or resources to do so. This is the double-edged sword of the Protocol. The specific way that biosafety policies and laws are crafted by national governments can determine whether they regulate GMOs to ensure safety, or whether they actually facilitate the promotion, cultivation and trade of GMOs with minimal restrictions and oversight. The latter is clearly *not* the aim of the Cartagena Protocol.

In preparation for the coming into force of the Cartagena Protocol, the Global Project on the Development of National Biosafety Frameworks, implemented by the United Nations

Environment Programme (UNEP) with support from the Global Environment Facility (GEF), supported the development of biosafety frameworks at the national level.<sup>5</sup> In spite of these efforts, however, the extensive lack of resources and expertise in many developing countries created an opportunity for the USA government to step in and offer funds for legal and scientific capacity building as well as the development of necessary infrastructure, such as specialised greenhouse facilities and laboratories. However the USA stance is that GM crops offer important technological advances in agriculture that can significantly increase crop production and that they pose no new risks. Hence, the kind of regulatory systems they are training regulators and scientists to craft are most likely to have an absolute minimum of regulation, creating attractive environments for agribusiness investors.

The Agricultural Biotechnology Support Programme (ABSP) and the Programme for Biosafety Systems (PBS) are two projects which have effectively infiltrated African policy space through an elaborate network of organisations (some of which were set up by them) to advance their agenda of deregulating GMOs.

Both projects are funded by USAID, the lead U.S. government development agency, and typically characterise concerns about GMOs as anti-science, anti-progress and an attempt to keep Africa poor. Many of the African biosafety regimes that have been developed, or are in development in Africa with USAID assistance, may contravene the provisions of the Cartagena Protocol, providing a lower standard of biosafety than that envisioned by the Protocol.

However, more than a decade after the Cartagena Protocol entered into force, and despite a plethora of biosafety capacity building programmes in Africa only a handful of African countries have implemented full Biosafety Frameworks<sup>6</sup> (including South Africa, Kenya, Malawi, Tanzania, Burkina Faso and Zimbabwe). These countries have enacted a Biosafety Act and regulations, thus enabling research, field trials and the commercial release of GMOs.

Other governments' biosafety regimes are at various stages of development, with some having regulations in place that enable experimentation and field trials but no provision for commercial release.<sup>7</sup> Only four countries (South Africa, Burkina Faso, Egypt and Sudan) have actually approved the cultivation of a specific GM crop.<sup>8</sup>

This slow pace of implementation has led USAID to refocus its efforts on promoting regional biosafety policies in an attempt to bypass national biosafety and decision-making. This is being done through capacity building within various Regional Economic Communities (RECs) in Africa. By their very nature RECs are more concerned with promoting trade in GMOs than safeguarding health and the environment, meaning that they are closely aligned with the agenda of USAID (as opposed to the outlook of environmental ministries or agencies responsible for national implementation of the Cartagena Protocol).

This report takes a closer look at the various ways in which the USA government, its sponsored programmes and projects, funders such as Bill and Melinda Gates, and companies such as Monsanto, are collectively attempting to force unwilling African countries to accept expensive and inappropriate GM technologies.

#### footnotes

- 1 <http://www.greenpeace.org/sweden/se/vad-vi-jobbar-for/gmo/agriculture/problem/genetic-engineering/feeding-the-world-facts-vers/risks/> (undated)
- 2 The Cartagena Protocol refers to GMOs as 'living modified organisms' (LMOs).
- 3 Cartagena Protocol on Biosafety to the Convention on Biological Diversity. Article 1. <http://bch.cbd.int/protocol/text/>
- 4 Tewolde Egziabher (2007). The Cartagena Protocol on Biosafety: History, Content and Implementation from a Developing Country Perspective, <http://genok.no/wp-content/uploads/2013/04/Chapter-25.pdf> published in Biosafety First (2007.) Traavik, T. and Lim, L.C. (eds.), Tapir Academic Publishers.
- 5 African Union & GIZ (2011). Biosafety Policy of the African Union. Background, Instruments, Activities, <http://www2.gtz.de/dokumente/bib-2011/giz2011-0618en-biosafety-au.pdf>
- 6 Chambers, A. et al 2014. GM Agricultural Technologies for Africa: A State of Affairs. International Food Policy Research Institute (IFPRI), [http://www.ifpri.org/sites/default/files/publications/pbs\\_afdb\\_report.pdf](http://www.ifpri.org/sites/default/files/publications/pbs_afdb_report.pdf)
- 7 For example, see AU/NPCA African Biosafety Network of Expertise (ABNE) Building Functional Biosafety Systems in Africa for a sample of Biosafety regimes in progress. <http://www.nepadbiosafety.net/abne/wp-content/uploads/2013/02/ABNE-in-Africa-with-cover-1-28-13.pdf>
- 8 Chambers, A. et al 2014. GM Agricultural Technologies for Africa: A State of Affairs. International Food Policy Research Institute (IFPRI), [http://www.ifpri.org/sites/default/files/publications/pbs\\_afdb\\_report.pdf](http://www.ifpri.org/sites/default/files/publications/pbs_afdb_report.pdf)



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Maize growing in Lesotho.



## background

The Cartagena Protocol on Biosafety (CPB),<sup>9</sup> the international agreement dealing with genetically modified organisms under the United Nations, is the outcome of a vicious David and Goliath battle. In the ring were the Miami Group (comprised of the USA, Canada, Australia, Argentina, Uruguay and Chile) and the Like Minded Group of Developing Nations, comprised of developing nations (excluding Mexico, Argentina, Chile and Uruguay).<sup>10</sup> The Like Minded Group included the African Group, and was led by Dr Tewolde Egziabher of Ethiopia.

The Miami Group consisted of those countries most involved in genetic engineering and/or caught up in trade agreements with the USA. Their position was that genetic modification of crops poses no new risks and does not require special regulation. They viewed the implementation of safety assessments and regulation of any kind as 'non-tariff trade barriers' to their product and fought to minimise these as much as possible.

In contrast, the Like Minded Group's position was that this new technology posed a plethora of unknown risks that would be hard to assess and manage in the resource poor nations. Their position in the negotiations, which included insistence that socio-economic concerns be addressed, stemmed from the following concerns:<sup>11</sup>

- **Limited financial resources.** Developing countries have limited financial resources to deal with damages should they occur, and also to develop the capacity to regulate and monitor GMOs, necessitating high levels of caution and decision-making at a national level.
- **More complex environments and richer biodiversity.** Most developing countries enjoy higher levels of biodiversity, creating a more complex risk environment for GMOs. In addition, risk assessment needs to be on a case-by-case basis as results may not be transferred from one country to another.
- **Centres of origin and genetic diversity.** Centres of origin are areas where the crops we know today were domesticated and diversified. They are the gene pools of the world's major crops, representing vast reservoirs of genetic diversity needed to deal with future agricultural problems, especially in the face of climate change. Two centres of diversity occur in Africa (the Ethiopian centre and parts of the Mediterranean centre). They must be protected from genetic contamination.
- **Greater diversity of environment-related health problems.** Most developing countries are in biodiverse tropical and sub-tropical climates where more voracious diseases can flourish, making health risk assessment more complex.

- **Impacts on indigenous and local communities and their traditional knowledge.** These impacts mean that the inclusion of socio-economic issues in risk assessment is crucial.

After many rounds in a protracted and bloody battle, the Cartagena Protocol finally came into force on 11 September 2003. Although it is a highly compromised Protocol, it was still the first international environmental law to be based on the Precautionary Principle<sup>12</sup> thanks largely to the tenacity of the Like Minded Group, which would not allow the Precautionary Principle to be deleted from the text under any circumstances.<sup>13</sup> This binding international environmental agreement is specifically designed to protect human health, the environment and biodiversity from the risks posed by GMOs.<sup>14</sup> It was countries from the South, and the African group in particular, that consistently championed biosafety and reaffirmed the right of importing countries to ban or severely restrict imports of GMOs in the face of scientific uncertainty, based on the precautionary principle.<sup>15</sup> To date 168 countries, including 42 African countries are parties to the Protocol.<sup>16</sup>

African leaders also drafted an African Model Law on Biosafety to give guidance to African governments in the drafting of their national laws on biosafety. The limited scope and compromised nature of the Cartagena Protocol served as a significant reason to continue this work on the Model Law,<sup>17</sup> which set a high benchmark for biosafety for Africa. At the African Union (AU) summit in July 2003, Member States were formally urged to use the African Model Law on Safety in Biotechnology as a basis for drafting their national legal instruments on biosafety.<sup>18</sup> The Model Law has since been revised and updated, and adopted by the Specialized Technical Committee on Justice and Legal Affairs, the body mandated to endorse the AU's legal instruments as of May 2014.<sup>19</sup> The Model is currently the endorsed position of the AU in matters of biosafety, although it is not legally binding but serves rather as a voluntary guideline.<sup>20</sup>

### footnotes

- 9 The full name of the Protocol is the Cartagena Protocol to the Convention on Biological Diversity.
- 10 Other negotiating blocs were the European Union, the Compromise Group (Japan, Mexico, Norway, Singapore, South Korea, Switzerland and, in Montreal, New Zealand) and the Central and Eastern European bloc of countries (CEE).
- 11 African Union & GIZ (2011). Biosafety Policy of the African Union. Background, Instruments, Activities, <http://www2.gtz.de/dokumente/bib-2011/giz2011-0618en-biosafety-au.pdf>
- 12 Tewolde Egziabher (2007). The Cartagena Protocol on Biosafety: History, Content and Implementation from a Developing Country Perspective, <http://genok.no/wp-content/uploads/2013/04/Chapter-25.pdf> published in Biosafety First (2007), Traavik, T. and Lim, L.C. (eds.), Tapir Academic Publishers.
- 13 Ibid.
- 14 Mayet, M. 2004. Africa - the new frontier for the GE industry, published in Third World Resurgence No. 159-160 (Nov/Dec 2003), <http://www.biosafety-info.net/article.php?aid=75>
- 15 Ibid.
- 16 Biosafety Clearing House website <https://bch.cbd.int/protocol/parties/>
- 17 African Union & GIZ (2011). Biosafety Policy of the African Union. Background, Instruments, Activities, <http://www2.gtz.de/dokumente/bib-2011/giz2011-0618en-biosafety-au.pdf>
- 18 Ibid.
- 19 <https://appablog.wordpress.com/2014/05/07/first-session-of-the-specialised-technical-committee-stc-on-justice-and-legal-affairs/>
- 20 Personal Correspondence, Mahlet Teshome, African Union Commission.

## one the USA fights back on biosafety

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### the USA fights back on biosafety

Overall, the USA has received a heavy blow. Globally, markets for their GM crops have been severely curbed by biosafety laws and regulations, and the technology has been rejected outright by consumers in some regions. One of their responses to this situation has been to embark on a long-term strategy of assisting developing countries to meet their obligations under the Protocol, in terms of implementing National Biosafety Frameworks (NBFs).

This is a costly process that requires specific legal and scientific expertise and specialised infrastructure, a tall task for most African nations. The USA stepped in to fill this capacity and resource vacuum, but with a vastly different agenda to that of the Cartagena Protocol, characterising genetic engineering as an essential tool to combat persistent hunger in the developing South. Instead of helping governments to craft NBFs to safeguard nature and human health, their assistance has focused on creating legislative instruments to enable the adoption and trade of GMOs by minimising safety assessment and regulation. Another strand of their strategy has been to pursue the development of strong intellectual property rights (IPR) regimes, in order to give investors' confidence with respect to returns on their investments, as well as the opportunity to ply a very lucrative trade licensing their patented technologies.

USAID launched two high-profile projects designed to align the policy environments in African and Asian countries with USA goals—the Agricultural Biosafety Support Project (ABSP) and the Programme for Biosafety Systems (PBS). These aim to develop and implement “favourable policies to govern the important issues of biosafety, food safety, intellectual property rights and technology transfer...in order for countries to access these new technologies and commercialize biotechnology products.” In addition, they noted that a “sound policy framework is also required if countries are to meet the requirements of international treaties, to facilitate trade and the receiving of food aid, and to attract private sector investment.” These projects were deemed essential initiatives that needed to “become effective as soon as possible to provide an alternative to the anti-technology ‘precautionary principle’ being disseminated widely by the United Nations Environmental Program and nongovernmental organizations throughout the developing world.”<sup>21</sup>

The ABSP was launched in 1991, and housed within Michigan State University, with an initial budget of US\$13 million for phase one.<sup>22</sup> About a dozen projects involving the national agricultural research organisations (NAROs) of at least seven African donor countries were initiated.<sup>23</sup> These projects aimed to develop GM products for the market in collaboration with African scientists, thereby training up a new cadre of local scientists who would become future government advisors, profoundly capable of influencing fledgling policy regarding biosafety and intellectual property rights. As GM experiments were being carried out they could also serve as real examples around which to develop policy as the research progressed step by step. These experiments would also necessitate the building of scientific infrastructure such as specialised laboratories and greenhouses. The ABSP typically works on indigenous crops rather than the GM commodity crops currently available on the market. The programme connects the National Agricultural Research Organisations (NAROs) of donor countries with CGIAR institutions, American academic institutions and the private sector.

None of these GM experiments have made it to market to date, primarily because the envisaged genetic enhancements have not worked in the trials. (See for example the box regarding virus resistant sweet potato in Kenya on pg 10.) In other cases, such as the Bt potato in Egypt, concern over the potential loss of markets with major trading partners in the European Union<sup>24</sup> led to the termination of further research. The same potato was rejected in South Africa mostly because the pest that the Bt-producing gene was intended to control, tuber moth, was not ranked as a high priority by South African farmers, whether large- or small-scale.<sup>25</sup> In addition, the South African regulators were not satisfied with the safety data presented in the commercial application.

The Programme for Biosafety Systems forms the other prong of USAID's biosafety offensive and is responsible for orchestrating public relations campaigns and crafting GM crop approval processes, regulations, and IPR regimes. It was kicked off with an initial US\$15 million budget from USAID.<sup>26</sup> PBS is run by a consortium of groups, under the direction of the International Food Policy Research Institute (IFPRI), which brings together the bulk of the groups and people involved in USAID's biotechnology policy work.<sup>27</sup>

## one the USA fights back on biosafety

continued

One of its most powerful implementers is the International Service for the Acquisition of Agri-biotech Applications (ISAAA), perhaps most well-known for its annual publications on the adoption of GMOs around the globe. These boast unsubstantiated statistics intended to demonstrate the extensive adoption and acceptance of GM crops across the globe. Friends of the Earth International analyses their data on a regular basis and has shown that ISAAA employs a number of tricks to inflate figures, such as ‘double counting’ crops that have more than one trait engineered into them and rounding the number of hectares planted in a country to the nearest million.<sup>28</sup> In addition, many governments do not gather official statistics on GM hectares cultivated and ISAAA’s figures for these countries are largely speculative. However, ISAAA’s data is still faithfully reproduced in the media and academic papers as evidence of the success of GM crops.

ISAAA is funded by the private sector, ABSP II and USAID.<sup>29</sup> Its functions include:

- brokering intellectual property deals between USA corporations and participating public research centres in the South
- offering fellowships to scientists in target countries to train in GM techniques at USA private and public laboratories
- carrying out socio-economic impact assessments of potential GM crops, and
- handling much of the industry’s ‘communication and outreach’ work through its network of Biotechnology Information Centres.<sup>30</sup>

Key service providers in the ABSP and PBS campaign include:

- AfricaBio
- the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) and the West and Central African Council for Agricultural Research and Development (CORAF/WECARD)
- the African Biosafety Network of Expertise (ABNE)
- the Regional Approach to Biotechnology and Biosafety Policy in Eastern and Southern Africa (RABESA) and the Alliance for Commodity Trade in Eastern and Southern Africa (ACTESA)
- the Forum for Agricultural Research in Africa (FARA)
- Africa Harvest
- the Donald Danforth Plant Centre, Michigan State University, Cornell University and Iowa State University

In addition, national agricultural research institutions in African countries often assist in promoting GMOs and lobbying for policy to enable the continuance of their research and projects funded under USAID programmes. The CGIAR organisations, including the International Maize and Wheat Improvement Centre (CYMMIT), the International Institute for Tropical Agriculture (IITA) and others, are also essential partners, particularly for work on locally important and indigenous crops. A very real concern about switching to the use of proprietary technology in public research institutions is that it could weaken public research and undermine the free exchange of knowledge and public goods produced through national research programmes.<sup>31</sup>

According to a document prepared for the International Food Policy Research Institute on the status of GMOs in Africa, the approach of the PBS “provides a constant in-country presence with an ability to directly interface with African governments” and it has “helped to establish field trials in Kenya, Nigeria, and Uganda; has developed policies and aided the passage of biosafety laws in Ghana, Kenya, Malawi, Nigeria and Uganda; and has developed tools for strategic and systematic outreach to create awareness among stakeholders.”<sup>32</sup> However, it must be noted that while the Nigerian and Ugandan Biosafety Acts are on the brink of being passed into law, they are yet to be finally enacted. Nevertheless, both countries do have laws that enable experimentation and field trials of GM crops and this has also been a particular aim of PBS—to ensure that field trials can go ahead in the absence of fully functional biosafety frameworks.

USAID is the spider at the centre of an elaborate web constructed to shift biosafety policy in Africa from being precautionary to promotional, thus opening new markets for agribusiness on the continent. This web provides funding, legal and scientific capacity building, scientific infrastructure development, technical support and project implementation and media exposure.



## one the USA fights back on biosafety

continued

### BOX 1: The failed sweet potato – a template for ABSP

The project that set the blueprint for the Agricultural Biosafety Support Project (ABSP) was undertaken in collaboration with the Kenyan Agricultural Research Institute (KARI) and Monsanto (which provided material ‘royalty-free’). Launched in 1991, it set out to develop a GM sweet potato that would be resistant to the sweet potato feathery mottle virus. It was claimed that “yields will increase by approximately 18–25%”<sup>33</sup> and that where sold the “increased income will be between 28–39%.” USAID, the World Bank and Monsanto spent an estimated US\$10 million<sup>34</sup> over a decade on the project, but ultimately, as the Kenyan Daily Nation reported, “The transgenic material did not quite withstand virus challenge in the field.” It added that, “all lines tested were susceptible to viral attacks.” Furthermore control (non-GM) crops yielded more tuber compared to the GM sweet potato.<sup>35</sup> Another issue was that weevils, not the virus, are the major production constraint for Kenyan sweet potato producers.<sup>36</sup>

However, although it never came to market, “research on the transgenic sweet potato...spurred and accelerated biopolicy development”<sup>37</sup> in Kenya, with scientists involved in the project lobbying hard for enabling policy to allow their projects to progress,<sup>38</sup> long before the country was ready to pass a complete and functional biosafety framework. And even though the Monsanto/KARI collaboration on sweet potato was launched in 1991, the National Council for Science and Technology (NCST) didn’t formulate guidelines on the various aspects of risk assessment and management of GMOs until 1998. This was done under the auspices of the UNEP-GEF Pilot Project. However, as the sweet potato project progressed from stage to stage and seemed to be nearing the possibility of commercial release, it was clear that these guidelines were not sufficient to handle the movement of GM crops from the laboratories to farms.<sup>39</sup>

As the sweet potato was the first GM crop to be handled in the country, it served as a basis for the development of policy and regulation, and the ABSP was well placed to train scientists, administrators and policy makers on the application of biosafety procedures and intellectual property rights (IPRs). The ISAAA played an important role in supporting KARI researchers to attend short-term capacity building courses on the establishment of institutional biosafety structures, the preparation and submission of biosafety permit applications, and laboratory and field biosafety evaluation of transgenic crops.<sup>40</sup> In addition officials from the Kenya Intellectual Property Office (KIPO) were supported to attend workshops on IPRs.

In summary then, although the sweet potato never came to market, the project had served as an excellent vehicle to train Kenyan officials in the American approach to biosafety, train a cadre of scientists to lobby for American-style biosafety risk assessments and procedures, and begin acquainting research institutions with the practice of negotiating intellectual property agreements for proprietary technology.

The local scientist that was employed by Monsanto to spearhead this project, Florence Wambugu, went on to set up her own NGO called Africa Harvest Biotechnology Foundation International, and remains one of the most staunch and loyal advocates for GMOs on the continent. As an African scientist with rare expertise on the continent, she is an extremely influential person. Her organisation is funded by, amongst others, the Gates Foundation, the Alliance for a Green Revolution in Africa (AGRA), the International Fund for Agricultural Development (IFAD), and the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA).<sup>41</sup> Africa Harvest is an implementer of projects such as the Gates Foundation’s African Biofortified Sorghum Project, which aims to increase vitamin A content through genetic engineering. ABSP has repeated this kind of arrangement with multiple partners throughout the continent, creating a complex and influential web of networks and allegiances.



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Principal scientist and maize breeder at CIMMYT Global Maize Program and coordinator of the Insect Resistant Maize for Africa (IRMA) and Water Efficient Maize for Africa (WEMA) projects, explains the process of effective nursery pollination to the trainees at the CIMMYT/KARI (Kenya Agricultural Research Institute) research station in Kiboko, Kenya.

### footnotes

- 21 Kent, L. (2004). What's the holdup? Addressing constraints to the use of plant biotechnology in developing countries, *AgBioForum*, 7(1&2), 63-69. <http://www.agbioforum.org>
- 22 Brenner, C. (2004). Telling Transgenic Technology Tales: Lessons from the Agricultural Biotechnology Support Project (ABSP) Experience, ISAAA Briefs No. 31. ISAAA: Ithaca, NY. 2004, <http://www.isaaa.org/purchasepublications/itemdescription.asp?ItemType=BRIEFS&Control=IB031-2004>
- 23 Brenner, C. (2004). Telling Transgenic Technology Tales: Lessons from the Agricultural Biotechnology Support Project (ABSP) Experience, ISAAA Briefs No. 31. ISAAA: Ithaca, NY. 2004, <http://www.isaaa.org/purchasepublications/itemdescription.asp?ItemType=BRIEFS&Control=IB031-2004>
- 24 (2008). Hot Potato. GM potato in South Africa; a critical analysis. African Centre for Biosafety. <http://www.acbio.org.za/images/stories/dmdocuments/hotpotatoscreen.pdf>
- 25 African Centre for Biosafety (2009). South African government rejects GM potato. <http://www.acbio.org.za/index.php/media/64-media-releases/245-south-african-govt-rejects-gm-potato>
- 26 GRAIN (2005). USAID: making the world hungry for GM crops, <http://www.grain.org/article/entries/21-usaid-making-the-world-hungry-for-gm-crops>
- 27 Schnurr, M.A. (2013). Biotechnology and bio-hegemony in Uganda: unraveling the social relations underpinning the promotion of genetically modified crops into new African markets, *The Journal of Peasant Studies*, 40:4, 639-658. <http://dx.doi.org/10.1080/03066150.2013.814106>
- 28 Friends of the Earth (2009). Who benefits from GM crops? the great climate change swindle. September 2010. Issue 117, [http://www.foeeurope.org/sites/default/files/publications/who\\_benefits\\_full\\_report\\_2010.pdf](http://www.foeeurope.org/sites/default/files/publications/who_benefits_full_report_2010.pdf)
- 29 Grain (2005). USAID in Africa. For the American corporations, <http://www.grain.org/es/article/entries/493-usaid-in-africa-for-the-american-corporations>
- 30 Grain (2005). USAID in Africa. For the American corporations, <http://www.grain.org/es/article/entries/493-usaid-in-africa-for-the-american-corporations>
- 31 Odame, H. *et al.* (2003). Globalisation and the International Governance of Modern Biotechnology: The Implications for Food Security in Kenya, International Environmental Law Research Centre, <http://www.ielrc.org/content/w0302.pdf>
- 32 Chambers, A. *et al.* 2014. GM Agricultural Technologies for Africa: A State of Affairs. International Food Policy Research Institute (IFPRI), [http://www.ifpri.org/sites/default/files/publications/pbs\\_afdb\\_report.pdf](http://www.ifpri.org/sites/default/files/publications/pbs_afdb_report.pdf)
- 33 Nuffield Council on Bioethics (2004). The use of genetically modified crops in developing countries, [http://www.nuffieldbioethics.org/filelibrary/pdf/gm\\_crops\\_paper\\_final.pdf](http://www.nuffieldbioethics.org/filelibrary/pdf/gm_crops_paper_final.pdf) quoted in Lim Li Ching. Broken Promises: GM sweet potato project turns sour. Institute for Science in Society. <http://www.greens.org/s-r/35/35-03.html>
- 34 Lim Li Ching. Broken Promises: GM sweet potato project turns sour. Institute for Science in Society <http://www.greens.org/s-r/35/35-03.html>
- 35 Daily Nation (2004). GM technology fails local potatoes, by Gatonye Gathura, Daily Nation (Kenya), 29 January 2004.
- 36 Lim Li Ching (2004). Broken Promises: GM sweet potato project turns sour. Institute for Science in Society. <http://www.greens.org/s-r/35/35-03.html>
- 37 Odame, H. *et al.* (2003). Globalisation and the International Governance of Modern Biotechnology: The Implications for Food Security in Kenya. International Environmental Law Research Centre. <http://www.ielrc.org/content/w0302.pdf>
- 38 Mabeya, J. *et al.* (2010). The Role of Trust Building in the Development of Biosafety Regulations in Kenya, 6/2 Law, Environment and Development Journal (2010), p. 216, <http://www.lead-journal.org/content/10216.pdf>
- 39 Odame, H. *et al.* (2003). Globalisation and the International Governance of Modern Biotechnology: The Implications for Food Security in Kenya, International Environmental Law Research Centre, <http://www.ielrc.org/content/w0302.pdf>
- 40 Odame, H. *et al.* (2003). Globalisation and the International Governance of Modern Biotechnology: The Implications for Food Security in Kenya, International Environmental Law Research Centre, <http://www.ielrc.org/content/w0302.pdf>
- 41 Africa Harvest Annual Report (2010). [http://www.sourcewatch.org/images/d/d2/Africa\\_Harvest\\_Annual\\_Report\\_2010.pdf](http://www.sourcewatch.org/images/d/d2/Africa_Harvest_Annual_Report_2010.pdf)

## two the Bill and Melinda Gates Foundation

# the Bill and Melinda Gates Foundation aggressively promotes GMOs in Africa

The Bill and Melinda Gates Foundation (BMGF) deserves a special mention regarding the development of biosafety capacity in Africa.

The BMGF has ploughed millions of dollars into projects to develop GM indigenous crops, and has been generous with its funding for two crucial organisations that have become deeply influential in regional and national policy making arenas—the African Biosafety Network of Expertise (ABNE), which is the

official advisory committee in the African Union’s New Economic Partnership for African Development’s (NEPAD’s) biosafety initiative; and the African Agricultural Technology Foundation (AATF), which is tasked with smoothing the regulatory environment for the introduction of GMOs, and brokers licensing deals between the private and public sectors. Below is a table outlining some of the contributions that the BMGF has made to GM projects in Africa.

**TABLE 1** BILL AND MELINDA GATES FOUNDATION BIOTECHNOLOGY FUNDING 2007-2012

YEAR	ORGANIZATION	AMOUNT (USD)	PURPOSE
2007	Michigan State University	1,498,485	To undertake a consultation, design, and training process to develop an African Biosafety Center of Expertise
2008	African Agricultural Technology Foundation	39,149,859	To develop drought-tolerant maize for small farmers in Africa
2008	International Centre for Genetic Engineering and Biotechnology	323,113	To develop effective safety and regularity systems in the field of modern biotechnology
2008	Donald Danforth Plant Science Center	5,345,895	To support the creation of a biosafety resource support network for the Grand Challenges #9 projects
2009	AfricaBio	270,170	To identify the most effective means of raising public awareness of biotechnology issues in Africa south of the Sahara
2009	Michigan State University	13,294,412	To create a center in Africa that provides support for the African regulators
2009	Harvard University	1,474,392	To promote the benefits of science and technology for African agriculture and endorse an independent expert report issued by the African High-Level Panel on Biotechnology
2010	African Agricultural Technology Foundation	200,000	To support conferences that enhance knowledge sharing and awareness related to biotechnology
2010	Donald Danforth Plant Science Center	8,257,560	To support the development of high-iron, protein, and provitamin A cassava for Kenya and Nigeria
2011	African Agricultural Technology Foundation	56,001,491	To increase the availability and accessibility of more resilient and higher yielding seed varieties of important food crops in Africa south of the Sahara
2011	Donald Danforth Plant Science Center	5,548,750	To support work on mosaic and brown streak-resistant cassava
2012	African Agricultural Technology Foundation	45,696,202	To develop and distribute improved maize hybrids for Africa that are drought tolerant, insect resistant, and higher yielding.
2012	African Agricultural Technology Foundation	3,149,015	To enhance knowledge sharing and awareness on agricultural biotechnology
2012	African Agricultural Technology Foundation	4,200,000	To support conference that enhance knowledge sharing and awareness related to biotechnology
2012	International Centre for Genetic Engineering and Biotechnology	6,328,737	To develop effective safety and regulatory systems in the field of modern biotechnology
2012	Donald Danforth Plant Science Center	329,150	To support a conference that is part of a triennial series of global meetings on cassava
2012	Purdue University	1,000,000	To develop a genetic and genomic resource that will assist sorghum researchers

Source: BMGF (2012).

Note: Grand Challenge is an initiative to seek “Innovative solutions to some of the world’s most pressing global health and development problems” (BMGF 2014).

# three status of biosafety policies and legislation in Africa, 2014

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## status of biosafety policies and legislation in Africa, 2014

Despite millions of dollars of investment from UNEP-GEF, USAID and others, and even though more than a decade has passed since the Cartagena Protocol came into force, implementation of the Protocol in Africa has been limited. As stated above, a recent IFPRI report on the status of GM agriculture in Africa reports that, “Only seven African countries currently have functional regulatory frameworks. (Ghana may soon be added to the list.)”<sup>42</sup>

Such regulatory frameworks are necessary for the commercialisation of GM crops in a country but, depending on how the framework is crafted, they can either promote the introduction of GMOs with minimal safety assessment (the approach of the USA), or promote rigorous safety assessment and the protection of the environment, health and socio-economic wellbeing. The latter approach is closer to the African Model Law on Biosafety mentioned above.

It should also be noted that it is not only USAID that has been supporting biosafety capacity building to date. This was also provided by the Global Project on the Development of National Biosafety Frameworks, implemented by UNEP with support from the Global Environment Facility (GEF), in order to prepare for the entry into force of the Cartagena Protocol.<sup>43</sup> An initial amount of US\$56 million was made available through the fund, specifically to offer capacity building to draft biosafety frameworks<sup>44</sup> with the strategic objective of safeguarding biodiversity.<sup>45</sup> Other contributors have included The Eastern Africa Regional Program and Research Network for Biotechnology, Biosafety and Biotechnology Policy Development (BIO-EARN), initiated in 1998 with resources provided by the Swedish International Development Cooperation Agency (SIDA); and the Strengthening Capacity for Safe Biotechnology Management in Sub-Saharan Africa (SABIMA), which is a Syngenta Foundation project implemented by the Forum for Agricultural Research in Africa (FARA).

TABLE 2

STATUS OF BIOSAFETY POLICIES AND LEGISLATION IN AFRICA, 2014

STATUS OF POLICIES OR LEGISLATION	COUNTRIES
Enacted biosafety laws or regulations (full biosafety regimes or regulations to enable certain activities.)	Burkina Faso, Cameroon, Ethiopia, Ghana, Kenya, Libya, Malawi, Mali, Mauritius, Namibia, Senegal, South Africa, Sudan, Tanzania, Togo, Zambia, Zimbabwe
Drafted biosafety bills	Algeria, Burundi, Cote d'Ivoire, Democratic Republic of Congo, Eritrea, Guinea-Bissau, Madagascar, Morocco, Nigeria, Rwanda, Seychelles, Swaziland, Tunisia, Uganda
Approved biotech or biosafety policy	Cameroon, Kenya, Madagascar, Malawi, Namibia, Seychelles, Sudan, Swaziland, Uganda, Zambia, Zimbabwe
Drafted biotech or biosafety policy	Comoros, Democratic Republic of Congo, Eritrea, Rwanda
Developed sectoral legislation with reference to biosafety	Egypt
Developed sectoral biotech or biosafety policies with reference to biotech and biosafety	Djibouti, Egypt, Ethiopia, Mauritius, Seychelles

Source: Chambers, A. et al (2014). *GM agricultural technologies for Africa, a state of affairs.*

Note: In this table, 'Sudan' refers to the former Sudan, which is now two independent nations, Sudan and South Sudan.

## three the state of biosafety frameworks in Africa

continued

Only four African countries, South Africa, Egypt,<sup>46</sup> Burkina Faso and Sudan, have released GM crops commercially, and trade in GM commodities generally remains mired in confusion and difficulties. A preliminary table of commercial releases, field trials, greenhouse and contained experiments is given below, although it is extremely difficult to obtain reliable information on country-level decisions and applications in the pipeline as these are often not made public. Accessing information on applications through government channels is difficult and the issue of 'confidential business information' being withheld is a problem even if some information is indeed supplied. The Biosafety Clearing House (BCH), the mechanism for information sharing set out in Article 20(1) of the Cartagena Protocol,<sup>47</sup> is used erratically if at all. Posts made to the BCH often contain glaring errors, making it wholly unreliable.<sup>48</sup>

In general, lack of transparency in decision-making processes, lack of access to information and the excessive use of commercial confidentiality to withhold information are major problems with regard to GMOs in Africa. For example, Malawian civil society has so far been unable to access any information on Bt cotton field trials in that country, despite having been invited to comment on an application by Monsanto for release of its GM cotton, Bollgard II. (Further details can be found later in this document).

It is important to note that the Cartagena Protocol (Article 23) obliges governments to ensure effective public participation in decision-making, including access to information upon which this is contingent. Indeed, access to information is a basic human right and is key to all other rights; the "touchstone of all freedoms."<sup>49</sup> According to the Convention on Biological Diversity secretariat, access to information should facilitate effective public participation in decision-making and foster greater transparency and accountability and greater public trust in the regulatory process. "It empowers citizens to effectively scrutinize government processes and decisions, combat arbitrariness and ensure transparency in the management of environmental affairs."<sup>50</sup>

The information in the following table was compiled by researchers commissioned by IFPRI in order to publish a status report on GMOs in Africa. As explained above, it is difficult to verify the accuracy of this information. Nevertheless, it is clear that there are errors. For example, in some instances where field trials (FT), greenhouse testing (GH) or transformations (TR)<sup>51</sup> are listed, it could be the case that these trials were run and discontinued. There are also errors relating to field trials and approvals listed for South Africa. For example, the table lists field trials of canola and commercial release of sugarcane, which is inaccurate when verified against permits listed on the website of South Africa's Department of Agriculture, Forests and Fisheries (DAFF). An application to trial canola was brought by Monsanto in 2010 but was withdrawn and hence never commercialised.<sup>52</sup> There is no commercial release of sugarcane in South Africa. Such confusion over GM decisions is unfortunately the norm.



© International Wheat and Maize Improvement Center/flickr

A technician at work on DNA molecular analysis of maize breeders' samples in a laboratory run jointly by CIMMYT and the Kenya Agricultural Research Institute (KARI), which offers and trains researchers in the use of molecular marker techniques, making them available to researchers in sub-Saharan Africa.

**TABLE 3** CONFINED FIELD TRIALS (CFTS), COMMERCIAL RELEASES (CR), GREENHOUSE TESTING (GH), AND TRANSFORMATIONS (TR) IN SELECTED COUNTRIES, 2014

CROP	BURKINO FASO	EGYPT	GHANA	KENYA	MALAWI	MOZAMBIQUE	NIGERIA	SOUTH AFRICA	SUDAN	TANZANIA	UGANDA	ZIMBABWE
Bananas											CFT	
Canola								CR, CFT				
Cassava				CFT			CFT	TR			CFT	TR
Cotton	CR, CFT	CFT	CFT	CFT	CFT	~CFT		CR, CFT	CR		CFT	CFT
Cowpeas	CFT		CFT				CFT					
Maize		CR, CFT		CFT		~CFT		CR, CFT		~CFT	CFT	~CFT
Pigeon peas				TR/GH								
Potatoes		CFT						TR				TR
Rice			CFT								CFT	
Sorghum	CFT			CFT			CFT	TR				
Soybeans								CR, CFT				
Sugarcane								TR, CFT				
Sweet potato			GH	CFT							GH	
Tobacco										CFT		
Tomatoes		GH										
Wheat		CFT										

Source: Chambers, A. et al (2014). GM agricultural technologies for Africa, a state of affairs.

Note: ~CFT indicates that a trial has been approved or a mock trial has been conducted. In this table, 'Sudan' refers to the former Sudan, which is now two independent nations, Sudan and South Sudan.

footnotes

- 42 Chambers, A. et al. (2014). GM agricultural technologies for Africa, a State of Affairs, IFPRI
- 43 African Union. (2011). Biosafety Policy of the African Union. Background, Instruments, Activities/
- 44 UNEP-GEF (2004). Note on UNEP-GEF Biosafety Activities as of 16th July 2004, <http://www.unep.org/biosafety/Documents/Generalinfopaper.pdf>
- 45 UNEP. Support to Preparation of the Second National Biosafety Reports to the Cartagena Protocol on Biosafety, [http://addis.unep.org/projectdatabases/00720/project\\_general\\_info](http://addis.unep.org/projectdatabases/00720/project_general_info)
- 46 Egypt approved Monsanto's Bt maize, MON810 in 2008, but cultivation has stalled due to lack of biosafety legislation and irregularities in administrative procedures.
- 47 See the Biosafety Clearing-house at <https://bch.cbd.int/>
- 48 For example, see the country profiles of Nigeria and Ghana where the decisions posted do not match with the risk assessment documents. <https://bch.cbd.int/>
- 49 Mendel (undated). Toby Mendel, Article 19, <http://www.article19.org/data/files/pdfs/publications/foi-as-an-international-right.pdf>
- 50 CBD Secretariat website. Introduction to the basic concepts and core elements of national regimes on public access to information, <http://bch.cbd.int/protocol/>
- 51 'Transformations' refers the work done in the laboratory on a molecular level.
- 52 ACB (2010). Relief as Monsanto withdraws GM canola application, <http://www.acbio.org.za/index.php/media/64-media-releases/326-relief-as-monsanto-abandons-gm-canola-in-south-africa>

# four country bans and restrictions on GMOs

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## country bans and restrictions on GMOs

USAID has had to navigate opposition from various African governments over the years with respect to its stance on GMOs. For example, after investing a fortune in capacity building and infrastructure in Egypt from as early as 1990, the Egyptian government chose to side with Europe when the USA filed against Europe at the World Trade Organization in 2002 for instituting

non-tariff trade barriers to GMOs using the Precautionary Principle.<sup>53</sup> In 2002 Zambia refused GM food aid from the USA, resulting in the Southern African Development Community (SADC) developing guidelines on GM food aid for the region. Over the years, there have also been many bans and restrictions placed on GM crops and commodities by African countries.

TABLE 4 LIMITS ON GENETICALLY MODIFIED (GM) PRODUCT USE IN SELECTED AFRICAN COUNTRIES, 2013

COUNTRY	LIMITS ON USE	YEAR INTRODUCED OR REPORTED	LIFTED OR EXPIRED
Algeria	Ban on distribution and commercialisation of GM products	2000	—
Angola	Ban on GM foods except for milled grain	2004	—
Benin	Two five-year moratoriums	2002	Expired
Botswana	Ban on GM imports, except for milled GM food aid Strict liability in place	2002	Lifted —
Egypt	Ban on GM imports and exports	2006	—
Ethiopia	Ban on GM foods except for milled grain Strict liability regulations	2009 2009	— —
Kenya	Ban on GM imports		
Lesotho	Ban on GM food except for milled grain, which comes with a government advisory that it is to be used only for food, not cultivation	2012	—
Madagascar	Ban on GM foods except for milled grain Ban on GM imports and cultivation	2002	—
Malawi	Ban on GM foods except for milled grain	2002	Lifted
Mozambique	Ban extended even to non-milled food aid products	2002	Lifted
Namibia	Ban on GM imports	2002	Lifted
Nigeria	Ban on non-milled food aid products	2003	Lifted
Sudan	Temporary waivers for GM food aid imports	2002	Lifted
Swaziland	Ban on GM foods except for milled grain	2002	Lifted
Tanzania	Ban on GM foods except for milled grain Strict liability regulations	2009	Lifted
Zambia	Ban on GM imports and GM food aid	2002	Lifted
Zimbabwe	Ban on GM imports (with 1% tolerance for maize and soybeans) Identity requirements for non-GM	2002	Lifted

Source: Dash = data not available. In this table, 'Sudan' refers to the former Sudan, which is now two independent nations, Sudan and South Sudan.

Note: Chambers, A. et al. (2014). *GM agricultural technologies for Africa, a State of Affairs*.

Most recently, there was great upheaval in Kenya—one of USAID’s GM strongholds—when a Parliamentary Committee on Health instituted a ban on GM imports due to lack of safety data on human health.<sup>54</sup> The ban is yet to be lifted.

In addition, USAID-sponsored biosafety projects have consistently railed against “The persistence of strict liability clauses in regulations that are disincentives to R&D, investment, and technology transfer.”<sup>55</sup> Examples of countries that have employed strict liability include Zambia and Tanzania.

Frustrated by African countries’ unwillingness to implement national biosafety regimes that will allow GMOs to be commercialised in Africa, the USA has now turned to the more trade friendly organs of Africa to implement its agenda; the Regional Economic Communities (RECs). There are a number of RECs across the continent, but eight are considered to be the building blocks of Africa’s economic communities, namely:

- the Arab Maghreb Union (AMU)
- the Community of Sahel-Saharan States (CEN-SAD)
- the Common Market for East and Southern Africa (COMESA)
- the East African Community (EAC)

- the Economic Community of Central African States (CEEAC-ECCAS)
- the Economic Community Of West African States (ECOWAS/CEDEAO)
- the Intergovernmental Authority on Development (IGAD) and
- the Southern African Development Community (SADC)

Member countries in these communities work on preferential agreements to reduce barriers to economic and non-economic transactions and in many of them policies are binding on all members. USAID’s current strategy is to completely bypass national regulations, and to work with the RECS instead, to create centralised regional mechanisms to assess applications for GM-related activities in their member countries and ensure seamless trade of GMOs in member countries. This process is referred to as ‘harmonisation of biosafety policy’.

*footnotes*

53 ACB (2013). Africa bullied into growing defective maize. <http://www.acbio.org.za/images/stories/dmdocuments/BT-Maize-Report-Oct2013.pdf>  
 54 USDA (2012). Kenya Bans Genetically Modified Food Imports, 27 November, USDA GAIN report, [http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Kenya%20Bans%20Genetically%20Modified%20Food%20Imports\\_Nairobi\\_Kenya\\_11-27-2012.pdf](http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Kenya%20Bans%20Genetically%20Modified%20Food%20Imports_Nairobi_Kenya_11-27-2012.pdf)  
 55 Chambers, A. et al 2014. GM Agricultural Technologies for Africa: A State of Affairs. International Food Policy Research Institute (IFPRI), [http://www.ifpri.org/sites/default/files/publications/pbs\\_afdb\\_report.pdf](http://www.ifpri.org/sites/default/files/publications/pbs_afdb_report.pdf)



Protests in Ghana.

## five the harmonisation of biosafety policy in Africa

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# the harmonisation of biosafety policy in Africa – from precaution to promotion

The African Union's predecessor, the Organisation of African Unity (OAU) took an active interest in biosafety as far back as 1999, when it seemed that the international negotiations on biosafety would not succeed. With a sense of urgency African governments crafted a model biosafety law that would allow them to adopt a precautionary approach consistent with the development of effective biosafety regimes.

The African Model Law on Safety in Biotechnology was developed to set standards and assist African countries “[to] come up with a more or less harmonised legal structure.”<sup>56</sup> It was adopted by the AU in 2003.<sup>57</sup> What they had in mind was a harmonised precautionary approach across Africa. The German government, through the GIZ, donated €2 million to the African Union Commission's Department of Human Resources Science and Technology in 2003, in order to “equip the AU with the necessary capacity and effective instruments to support its Member States in implementing the Cartagena Protocol and applying the African Model Law on Biosafety.”<sup>58</sup> In addition, funding was made available from the United Nations Global Environmental Fund (GEF) to assist African governments in implementing the Cartagena Protocol on Biosafety at the national level.

However, when the New Economic Partnership for African Development (NEPAD) was launched in 2001 with an objective to “enhance Africa's growth, development and participation in the global economy,”<sup>59</sup> it provided a new opportunity to counter the very precautionary approach that the AUC held with respect to biosafety, replacing it with an approach that sought to promote trade and court international investors. In 2004 NEPAD's Science and Technology Committee made a decision that the NEPAD Secretariat and the AU Commission should set up a high level panel to advise Africa on biotechnology policy in order “to provide the AU and NEPAD with independent and strategic advice on developments in modern biotechnology and its implications for agriculture, health and the environment,” with a “focus on intra-regional and international issues of regulating the development and application of genetic modification and its products.”<sup>60</sup>

The report of this high level African Panel on Biosafety was published in 2007 and its radical shift away from the Cartagena Protocol and African Model Law on Biosafety is quite brazen. Its main recommendations centre on accelerating the adoption of and trade in GMOs, and can be summarised as follows:<sup>61</sup>

- Enhance cooperation between individual countries in central, eastern, western, northern and southern Africa to work together at the regional level to scale up the development of biotechnology
- Define priority areas in biotechnology that are of relevance to Africa's development
- Identify critical capabilities needed for the development and safe use of biotechnology
- Establish appropriate regulatory measures that can advance research, commercialisation, trade and consumer protection, and
- Set strategic options for creating and building regional biotechnology innovation communities and local innovation areas in Africa

The report also recommended that the AU's RECs should be “staffed with appropriately trained experts who can advise states on regional and international agreements, guidelines and conventions on all aspects of biotechnology” and “provide assistance to states on multilateral mechanisms and agreements.”<sup>62</sup>

In 2008 the Gates Foundation awarded NEPAD and Michigan State University (MSU) a grant of US\$1.5 million to set up the African Biosafety Network of Expertise (ABNE),<sup>63</sup> which was launched under the auspices of NEPAD's Science and Technology Committee with a view to fulfilling the recommendations of the African Panel on Biosafety's report. This was followed by a further US\$10.4 million grant in October 2009.<sup>64</sup> NEPAD has also reported a further top-up donation from Gates of US\$1,489,098,<sup>65</sup> which became available from January 2012.

On top of this the Gates Foundation funded an international consulting agency called Dai to develop ABNE's institutional development plan, including its legal status, governing structures and staffing needs.<sup>66</sup> (The same agency teamed up with Monsanto in the Philippines to play the part of ‘honest broker’ in a bid to strengthen Monsanto's market there—the team developed the Philippines' GM regulatory system as well as marketing guidelines for the final product.)<sup>67</sup>

ABNE, based in Burkina Faso, has now become highly effective in promoting the biosafety approach favoured by the USA, through offering their services to national and regional regulators. These services include training and technical consultations related to regulations for reviewing permit applications, overseeing experimentation with GMOs and placing GMOs on the market or importing GM food products.<sup>68</sup>

In addition, ABNE's networking activities facilitate policy dialogue through the participation of African regulators and decision-makers at national, regional and international meetings.<sup>69</sup>

### **Regional Economic Communities and biosafety harmonisation – the industry coup**

USAID had already been working with regional bodies on biotechnology through the Programme for Biosafety Systems (PBS) from as early as 2001. Once the stage was set for the development of biosafety policies through the RECs, USAID wasted no time in assisting the RECs to develop policies aimed not at ensuring biosafety, but limiting regulation, which they consider to be a barrier to regional trade in GMOs and related technologies. This entails setting up a centralised approval system that acts as a 'one-stop-shop', enabling approved GMO crops and commodities to move through regions with a minimum of regulatory expense and oversight.

The rationale given by the RECs is that this centralised system will enable resource-strapped member countries the opportunity to share expertise and scientific facilities and ensure economic growth through the removal of trade barriers.

However, it is not yet clear which experts will be sitting on the technical committees advising on regional applications, or how the public will gain access to this information and engage in the decision-making and oversight that is being carried out at a regional level.

To date, only one regional harmonisation effort, undertaken by the Common Market for Eastern and Southern Africa (COMESA), has made sufficient progress toward becoming an operational reality.<sup>70</sup> The only other REC to have undertaken significant work on regional harmonisation is the Economic Community of West African States (ECOWAS). However, it would seem that lingering ties to the values underpinning the African Model Law on Biosafety are still creating obstacles and frustrations for donors such as USAID, and have effectively stymied the process in this region for now.



*An Ethiopian farmer shows his chickpea plant harvest.*

## five the harmonisation of biosafety policy in Africa

continued

### Common Market for Eastern and Southern Africa (COMESA)

With its 19 member states, population of over 389 million people and annual trade valued at around US\$32 billion for imports and US\$82 billion for exports, COMESA forms a major market place for both internal and external trading.<sup>71</sup> In 2003 USAID provided funds to set up the Regional Approach to Biotechnology and Biosafety Policy in Eastern and Southern Africa (RABESA) project, which was tasked with developing a mechanism for regulating biosafety in the COMESA region. The project commenced in 2004 and remains funded by USAID today. RABESA teamed up with another USAID creation, ASARECA,<sup>72</sup> as well as the USAID's Programme for Biosafety Systems (PBS), and the well-known mouthpiece for the biotech industry, ISAAA,<sup>73</sup> in order to develop COMESA policy guidelines on three areas:<sup>74</sup>

- A commercial planting guideline establishing a regional committee to carry out a regional risk assessment of GMOs that are to be planted in the region, which can then be used by individual national biosafety regulators to make approval decisions
- A policy on trade in GM products regarding the way in which different GM products should be treated by COMESA countries, depending on whether they originated from a country within or outside the COMESA group of nations
- An emergency food aid aspect of the guidelines which articulates procedures that are to be used by COMESA countries to review and approve emergency food aid that may contain GM content, coming from both COMESA and non-COMESA countries.

In September 2013, the COMESA Council of Ministers approved the COMESA 'Draft Policy Statements and Guidelines for commercial planting of GMOs, Trade in GMOs and Emergency Food aid with GMO content,'<sup>75</sup> which "allows for a clearer and more consistent path for regulatory approval of GMOs in member states through a regionalized risk-assessment auditing process. The regional policy also provides for sharing of capacities and for uniform treatment in regional trade involving both seed and grain GMOs, including emergency food aid."<sup>76</sup>

The COMESA Guidelines bear no resemblance to the African Model Law on Biosafety, and even contravene the compromised, low-level biosafety standards set out in the Cartagena Protocol, despite the fact that all COMESA members are party to the Protocol and bound by its provisions. Pan African civil society group, the Alliance for Food Sovereignty in Africa (AFSA), condemned the policy in no uncertain terms, stating that the "COMESA Policy aggressively promotes the wholesale proliferation of GMOs on the African continent by way of commercial plantings, commodity imports and food aid and flouts international biosafety law."<sup>77</sup>

AFSA pointed to the complete lack of participation from farmer and civil society groups throughout the development process and asserted that the policy had not grown out of the needs of the member countries, but was instead engineered by the USA through the bodies that it had funded for that purpose. Of great concern is the regional risk assessment process, which ostensibly does away with case-by-case risk assessment. This is to be given to a regional technical body (that is likely to have deep conflicts of interest and is working without transparent guidelines). Furthermore, the difficulty that civil society has with respect to accessing information and decision-making processes in this new regional system is of great concern.

AFSA argues that the COMESA biotechnology policy ultimately aims to "bypass international and national biosafety regulations requiring case by case biosafety assessments, because the biotechnology industry, agribusiness, free trade proponents and the food aid industry are extremely frustrated by their inability to penetrate the markets in Africa."<sup>78</sup>

COMESA may soon have an opportunity to review its first application. In May 2014, Monsanto Malawi applied to the Government of Malawi for a permit to release their GM cotton, Bollgard II, commercially. This is discussed in further detail later in this document.<sup>79</sup>

### Economic Community of West African States (ECOWAS)

In West Africa most of the major cotton-producing countries are relatively small in terms of population size. They are also amongst the poorest countries in the world. Donor organisations therefore expected these countries to exploit economies of scale through their participation in ECOWAS. In addition, major agro-ecological zones cut across West Africa, making harmonised risk assessment and risk management seem plausible.

However, processes for regional harmonisation in West Africa have been through numerous changes, beginning with the Institut du Sahel (INSAH) in 2004, which wanted to develop regional biosafety regulations for West African countries in the CILSS<sup>80</sup> group. Their draft framework envisioned a fairly decentralised, non-binding mechanism in which member countries would take authorisation decisions nationally and a regional committee would have oversight. The purpose of the INSAH/CILSS Regional Commission would be to review, advise and give technical support. The draft regulations envisioned that member countries would develop a national framework based on the Cartagena Protocol as a first step; and in cases where no framework existed the Regional Committee could take decisions on their behalf.

These regulations were not ultimately adopted however, because in 2005, USAID initiated a process with ECOWAS to develop a harmonised biosafety programme for the region, incorporating the CILSS countries. This process was based on the work already done by INSAH and was led by ECOWAS in collaboration with INSAH and the West and Central African Council for Agricultural Research and Development (WECARD or CORAF in French).

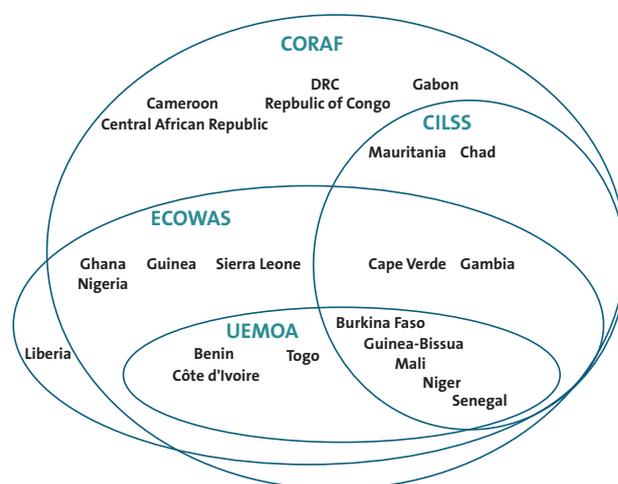
The total budget for the ECOWAS action plan for the development of biotechnology was estimated at US\$26,215,000 over a five-year period.<sup>81</sup> It is not clear which donors covered this budget and in what proportions, but between 2005–2013, USAID funded CORAF and its implementing partners to the tune of US\$9,195,667 in support of science-based agriculture, research, and development<sup>82</sup> including a component on biosafety. USAID has been funding CORAF since 2002 and awarded them US\$7 million for the period 2009–2014.<sup>83</sup> CORAF can be seen as the West African sister of ASARECA, serving a similar function of linking NAROs, the CGIAR institutes, academics and policy makers. It is also the implementing agency for USAID’s West Africa Seed Programme (WASP).

The African Agricultural Technology Foundation (AATF) and the ubiquitous ISTAAA are key organisations in the ECOWAS harmonisation project, both assisting in technology transfer and intellectual property rights, while ISAAA is also a key organisation dealing with communications and media.

At the same time the West African Economic Monetary Union (WAEMU) was in a process of developing its own regional biosafety framework. The US\$24 million World Bank-financed project was supported by the Global Environment Facility (GEF), the French government, the European Commission, the United Nations Environment Program, and the International Development Association (IDA).<sup>84</sup>

USAID believed it would be useful to incorporate WAEMU into the ECOWAS programme and supplied technical assistance in the development of a memorandum of understanding between WAEMU and ECOWAS for cooperation on a unified regional biosafety initiative for West Africa.<sup>85</sup> In 2012 ECOWAS and WAEMU publicised a draft regional biosafety framework, based on a centralised decision-making mechanism and mutual recognition of GM products throughout the region to facilitate easy trade. However the process has stalled because the policy also includes what GM proponents describe as “topics that are highly controversial internationally, including the incorporation of socioeconomic and ethical considerations into approvals and decision-making and the establishment of stringent liability and redress standards if a GMO causes harm.”<sup>86</sup> These so-called controversial topics are utterly unacceptable in USA-style biosafety regimes, but as previously mentioned, are crucial in the African context to safeguard socio-economic wellbeing. For now there seems to be a stalemate and it is unclear how the ECOWAS biosafety policy will proceed.

FIGURE 2 MEMBERSHIP OF WEST AND CENTRAL AFRICAN COUNTRIES IN DIFFERENT REGIONAL BODIES



Source: Resnick (2006).

## five the harmonisation of biosafety policy in Africa

continued



Farmers work in their Teff fields, Ethiopia.

### footnotes

- 56 African Union Commission. Department of Human Resources, Science and Technology. Biosafety Brochure. [www.africa-union.org](http://www.africa-union.org)
- 57 African Union (2011). Biosafety Policy of the African Union. Background, Instruments, Activities. 58 Ibid.
- 59 Ibid.
- 60 Ibid.
- 61 Ibid.
- 62 Ibid.
- 63 Bill and Melinda Gates Foundation (2008). NEPAD-Michigan State University Partnership to Bolster Africa's Biosafety Capacity. <http://www.gatesfoundation.org/Media-Center/Press-Releases/2008/02/Michigan-State-University-Partnership>
- 64 Michigan State University (2009). NEPAD-MSU land \$10.4 million to improve African agricultural practices, 15 October, <http://msutoday.msu.edu/news/2009/nepad-msu-land-104-million-to-improve-african-agricultural-practices/>
- 65 NEPAD (2011). NEPAD led Biosafety Network receives close to US\$1.5m additional funding from Gates Foundation, 26 September 2011, <http://www.nepad.org/nepad/news/2482/nepad-led-biosafety-network-receives-close-us15m-additional-funding-gates-foundation>
- 66 DAI (2008). Gates Foundation Funds DAI to Plan Biosafety Network in Africa, 29 February, <http://dai.com/news-publications/news/gates-foundation-funds-dai-plan-biosafety-network-africa>
- 67 DAI website. Strengthening Markets for Monsanto in the Philippines. <http://dai.com/stories/strengthening-markets-monsanto-philippines>
- 68 ABNE website, ABNE Services page, <http://www.nepadbiosafety.net/about/abne-services>
- 69 ABNE website, ABNE Services page, <http://www.nepadbiosafety.net/about/abne-services>
- 70 Chambers, A. et al 2014. GM Agricultural Technologies for Africa: A State of Affairs. International Food Policy Research Institute (IFPRI), [http://www.ifpri.org/sites/default/files/publications/pbs\\_afdb\\_report.pdf](http://www.ifpri.org/sites/default/files/publications/pbs_afdb_report.pdf)
- 71 COMESA website. <http://about.comesa.int/>
- 72 According to USAID, their "sustained support to the ASARECA Secretariat from its formation...has been critical in facilitating and guiding its evolution." USAID has provided ASARECA with a total of US\$20 million over the 10 years since 2002 and in the critical formation years from 1994 to 2001 was its largest donor, providing 61% of all funds. This support has covered both a share in core costs of the organisation's Secretariat and targeted research and technology dissemination activities. Evaluation of USAID/East Africa support to the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), [http://pdf.usaid.gov/pdf\\_docs/Pdacs540.pdf](http://pdf.usaid.gov/pdf_docs/Pdacs540.pdf) accessed 19 November 2014.
- 73 ASARECA website <http://www.asareca.org/sites/default/files/Status%20of%20RABESA%20updated.pdf>
- 74 Chambers, A. et al 2014. GM Agricultural Technologies for Africa: A State of Affairs. International Food Policy Research Institute (IFPRI), [http://www.ifpri.org/sites/default/files/publications/pbs\\_afdb\\_report.pdf](http://www.ifpri.org/sites/default/files/publications/pbs_afdb_report.pdf)
- 75 AFSA (2013). COMESA approval of harmonised GMO policy designed to flood region with GMOs and undermine sovereignty. <http://www.acbio.org.za/images/stories/dmdocuments/AFSA-STATEMENT-GMO-POLICY.pdf>
- 76 Chambers, A. et al 2014. GM Agricultural Technologies for Africa: A State of Affairs. International Food Policy Research Institute (IFPRI), [http://www.ifpri.org/sites/default/files/publications/pbs\\_afdb\\_report.pdf](http://www.ifpri.org/sites/default/files/publications/pbs_afdb_report.pdf)
- 77 AFSA (2013). Statement condemning approval of GM policy, <http://www.acbio.org.za/index.php/publications/rest-of-africa/443-afsa-statement-condemning-comesa-approval-of-gmo-policy>
- 78 Ibid.
- 79 IFPRI (2008). Regional Biotechnology Regulations: Design Options and Implications for Good Governance, <http://www.ifpri.org/publication/regional-biotechnology-regulations>
- 80 CILSS is the Countries of the Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel, thirteen Member States including eight coastal countries ( Benin, Côte d'Ivoire, Gambia, Guinea Bissau, Mauritania, Senegal and Togo); four landlocked countries (Burkina Faso, Mali, Niger, Chad); and one island state (Cape Verde).
- 81 USAID (2011). West Africa institutional assessment CORAF/WECARD, <http://www.coraf.org/documents/publication/2014-01/retraite/West%20Africa%20Institutional%20Assessment%20CORAFWECARD.pdf>
- 82 Ibid.
- 83 USAID website, Regional Partner: West and Central African Council for Agricultural Research and Development (CORAF/WECARD), <http://www.usaid.gov/west-africa-regional/fact-sheets/regional-partner-west-and-central-african-council-agricultural-research>
- 84 Wikileaks. Third ECOWAS ministerial conference on biotechnology: adoption of the 2006-2010 action plan for meeting the challenges of biotechnology and biosafety. [http://www.wikileaks.org/plusd/cables/07ACCRA838\\_a.html](http://www.wikileaks.org/plusd/cables/07ACCRA838_a.html)
- 85 This assistance was provided for through a US\$3 million grant covering three years, to a consortium of partners—DAI, Michigan State University, Agriculture and Biotechnology Strategies (AGBIOS), and the Donald Danforth Plant Science Center. Raise Plus Task Force, Short-term technical assistance in biotechnology, [http://pdf.usaid.gov/pdf\\_docs/pdax943.pdf](http://pdf.usaid.gov/pdf_docs/pdax943.pdf)
- 86 Chambers, A. et al 2014. GM Agricultural Technologies for Africa: A State of Affairs. International Food Policy Research Institute (IFPRI), [http://www.ifpri.org/sites/default/files/publications/pbs\\_afdb\\_report.pdf](http://www.ifpri.org/sites/default/files/publications/pbs_afdb_report.pdf)

## six philanthropic projects come with strings attached

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# philanthropic projects come with strings attached

Philanthropic projects are a perfect vehicle for strong-arming changes in the legal environment to suit the private sector, potentially opening the door for the acceptance of commercial GM varieties and having the added benefit of bolstering the public image of this controversial sector. There are many such programmes in Africa, and many of them are sponsored by the Gates Foundation. Two high profile projects are outlined in more detail below. These are the Water Efficient Maize for Africa (WEMA) project, and work that is being carried out to introduce GM bananas engineered to produce a high vitamin A content.

### Water Efficient Maize for Africa (WEMA)

In 2008, the Bill and Melinda Gates Foundation and Howard G Buffet Foundation pledged US\$47 million to develop the Water Efficient Maize for Africa (WEMA) project. Monsanto partnered in the initiative, offering their technology 'royalty free', along with technological support to implement the project. This public/private philanthropic partnership ostensibly aims to increase food security in Sub-Saharan Africa through the development of "drought-tolerant African maize using conventional breeding, marker-assisted breeding, and biotechnology" and to make it available to small-scale farmers on a 'royalty free' basis (noting that this terminology is deceptive, it does not mean that it is freely available, but that it is available at a reduced price to some but not all farmers)<sup>87</sup>. The project is being implemented in South Africa, Uganda, Kenya, Tanzania and Mozambique. WEMA has promised that their drought tolerant crops will increase yields by 30%, translating into an estimated two million additional tons of food during drought years in the participating countries.<sup>88</sup>

Since 2012 WEMA documents show that Monsanto has also donated one of their very first pest resistant (Bt) events, called MON810, to the WEMA project, also on a 'royalty free' basis.<sup>88</sup> Hence the project is also working on maize that is supposed to be both drought and insect resistant. However, MON810 maize has been discontinued in South Africa since 2012 due to the development of pest resistance to the Bt toxin, which leaves the crop at risk of pest damage.<sup>90</sup> It is important to note that the patent on this event expired in 2011, but intellectual protection will be retained if stacked with another gene in a crop, such as the drought resistant gene. The inclusion of one of their most lucrative commercial genes into the WEMA project would seem like a clever strategy to run field trials and gain approval for

MON810 in participating countries rather than going through the usual commercial application route.

The WEMA project thus provides Monsanto with a plum opportunity to influence biosafety regulation in participating countries, open new markets for new 'climate ready' crops and polish their ailing public image. The release of genetically engineered drought resistant maize in the USA in 2013 marked a new era in GM technology, which up until now has focused on herbicide tolerance and pest resistance. Monsanto was able to bring their new product, called Droughtgard, to market through a US\$1.5 billion joint business venture with BASF, devised to research, develop and bring to market lucrative GM 'climate ready' crops.<sup>91</sup>

In 2009 Monsanto's CEO, Hugh Grant, assured investors that the 'high impact technologies' being developed in collaboration with BASF had the "the potential to deliver an incremental [US]\$3 billion in gross revenues by 2020 in the first countries of launch."<sup>92</sup> It is against this backdrop that Monsanto offered four varieties from their joint BASF pipeline to small-scale African farmers through the WEMA project, again on a royalty free basis.<sup>93</sup>

Overall, Monsanto's participation in WEMA provides the opportunity to enter into a collaborative relationship with African legislators and set the terms of reference for the implementation of the project and the release of funds. Monsanto's contribution is a tiny investment for massive returns—an opportunity to influence the biosafety legislation in participating countries, gain regulatory approval for its product, and clear the path for other commercially viable GM products.

The implementing partner in this project is the African Agricultural Technology Foundation (AATF), which was formed with start-up funds from the Rockefeller Foundation<sup>94</sup> to broker licensing agreements between private institutions and clients wanting to access proprietary technology. Since 2008, the AATF has received US\$95 million from the Gates Foundation to support the development and distribution of hybrid maize and rice varieties as well as to "positively change public perceptions" about GMOs and to lobby for regulatory changes that will increase the adoption of GM products in Africa.<sup>95</sup> Other funding partners in the WEMA project are USAID and the Howard G Buffet Foundation while the implementing and technical partners are the National Agricultural Research Organisations (NAROs) of the participating countries, the International Maize and Wheat Improvement Center (CIMMYT) and Monsanto.<sup>96</sup>

## six philanthropic projects come with strings attached

continued

WEMA's Mon87460 maize (the variety marketed as Droughtgard in the USA) contains a single gene to protect against drought in water-stressed areas. There has been scepticism from scientists and Monsanto's competitors around the ability of a single gene to confer drought tolerance, given that this is a complex trait that involves many genes.<sup>97</sup> Additionally, it is noted that a plant's resilience depends on when drought strikes and on which nutrients are available. Furthermore, varieties that perform better when thirsty often underperform when water is plentiful.<sup>98</sup>

In the USA Droughtgard has been found to yield from 4-7% higher yields in moderate water conditions,<sup>99</sup> a far cry from the promise of 30% made by the WEMA project. The phrase 'moderate water conditions' is important because the crop does not perform well under drought conditions. According to Monsanto, "like conventional maize, MON 87460 is still subject to yield loss under water-limited conditions, particularly during flowering and grain fill periods when maize yield potential is most sensitive to stress, by disrupting kernel development. Under severe water deficit, maize grain yield for MON 87460, as well as conventional maize, can be reduced to zero."<sup>100</sup>

### WEMA in the donor countries

#### South Africa

South Africa has already completed six years of multi-location field trials and it would be reasonable to expect an application for commercial release as early as 2015. South Africa has approved eight GM maize events for cultivation since 1997, and most of them are stacked with Bt and herbicide resistant traits.<sup>101</sup>

A formal objection to the GM trials was submitted to the South African government under the auspices of the Right to Agrarian Reform for Food Sovereignty Campaign, assisted by the Surplus People Project. Small-scale farmers from Lutzville, Northern Cape, also held a protest to show their opposition to GMOs. In their written objection, the farmers complained that they had not been consulted about the trials taking place in their area, where they are practising agroecological farming methods. A particular concern they raised was that Monsanto's proprietary technology would undermine seed and food sovereignty:

"The introduction of bio-technologies like drought resistant maize for South Africa and Sub Saharan Africa undermines the seed and food sovereignty of the countries people and farmers. Seed saving is an important component of farmers in Sub Saharan Africa and South Africa in particular. This technology would further deskill and destroy the farming practices of poor black farmers."<sup>102</sup>

The Food Sovereignty Campaign also complained about the role of the government parastatal, the Agricultural Research Centre (ARC), in "advancing the agenda of multinational corporations like Monsanto that negatively impact on farmers." They called on the South African government to redirect their activities to support alternative and more appropriate production systems like agroecology.

Monsanto responded to the Food Sovereignty Campaign's five-page objection by taking refuge in South Africa's 'science-based' biosafety regulations. In their response, they stated: "In their letter, Surplus People Project make numerous unsubstantiated and ideological claims and allegations not specifically relevant to Monsanto's application for permit extension to conduct field trials with maize MON 87460. These issues will therefore not be addressed here."<sup>104</sup>

It is abundantly clear why the biotech industry has been so determined to promote the so-called 'science-based' approach to biosafety. It eliminates socioeconomic contextual issues from the approval process and only takes into account laboratory-based scientific expertise, which is the domain of corporate developers, overlooking farmer-led science and knowledge.

#### Kenya

Kenya's Biosafety Act was adopted in February 2009. A Wikileaks cable reports that the "USAID-funded Program for Biosafety Systems created linkages among key national institutions, thus building support for the bill among policymakers and biosafety regulatory agencies. The program also provided technical regulatory support to facilitate confined field trials of genetically modified cotton and corn."<sup>105</sup>

WEMA field trials began in Kenya in 2010. In the first year of trials no adaptation to water stress conditions was found and the second year of trials was washed out.<sup>106</sup> In October 2014 the third and final field trial of MON810 was harvested under the WEMA project, but these results are not available in the public domain. WEMA intends applying for commercial release before the end of 2014. National performance trials are expected to follow and recommendations on approval to be handed down by 2016.<sup>107</sup>

Despite years of funding pouring into Kenya to build the capacity of legislators and scientists, there remains a strong lobby against the entrance of GMOs from farmer's groups and civil society, as well as caution from government officials, particularly regarding potential health impacts. On 21 November 2012 the Kenyan Ministry of Public Health ordered public health officials to remove all genetically modified foods on the market and to enforce a ban on GM commodity imports following a Kenyan Cabinet and Presidential decree.<sup>108</sup>

While the decree sought to remove GM foods from the shelves and stop GM imports, it did not affect experimentation in laboratories and fields. However, as long as the ban is in place, the commercialisation of any GM crops for cultivation in Kenya will be difficult.

There is sustained pressure on the Kenyan government to lift the ban, particularly from sectors of the scientific community (who have been trained through USAID sponsored programmes for more than a decade)<sup>109</sup> and the cotton industry (who believe that they are being disadvantaged on the global market due to lack of access to GM technology). A US Department of Agriculture (USDA) report on the ban reports that there “are many active scientific and non-governmental organizations in the country who are working together to reverse the cabinet decision. These groups include: Africa Biotechnology Stakeholders Forum, African Agricultural Technology Foundation, International Service for the Acquisition of Agribiotech Applications, Program for Biosafety Systems, Africa Harvest Biotech Foundation International, Biotechnology Trust Africa, Seed Trade Association of Kenya, Cereal Millers Association, and the East African Grains Council. In addition, research institutes and universities are among the groups pushing for a reversal of the decision.”<sup>110</sup> The status of GM in the country remains uncertain as long as the ban is in place.

### Uganda

In Uganda the passage of the biosafety bill has been difficult and it is not yet finalised at the time of writing. In 2010 PBS instituted a new approach to accelerate the passing of the bill known as ‘net mapping’. This strategy was apparently successfully employed in Kenya as well, to push the Kenyan Biosafety Bill through.<sup>111</sup> The strategy identifies which actors are related to the biosafety bill and ranks them into ‘towers of influence’, reflecting their relative influence in getting the bill passed. Individual strategies are then tailored to lobby and capacitate strategic influential actors.<sup>112</sup> In Uganda the outcome of this net mapping exercise has been the establishment of the Uganda Biotechnology and Biosafety Consortium, initiated by PBS as an umbrella organisation of ‘biotech boosters’ able to coordinate engagement with key government actors involved in the policy process more effectively.<sup>113</sup>

Under the WEMA project, field trials of MON87460 began in Uganda in November 2010<sup>114</sup> with field trials of MON810 beginning in 2013. Scant information exists on the outcomes of these trials to date, besides a report that the first trials in 2010 failed to show any result or adaptation whatsoever.<sup>115</sup> Although Uganda is yet to pass its Biosafety Act, and this is necessary for the commercial release of any GM crop, WEMA reports still indicate their hopes of a commercial release in 2016.

### Tanzania and Mozambique

Both countries have enacted their biosafety laws, and in both instances these contain strict liability clauses through which the producers of GM technology will be liable for damages that may arise from their technology. Despite the existence of laws that enable WEMA to run GM field trials in these countries, the project has not done so due to these strict liability clauses, which WEMA has identified as a key impediment to the project.<sup>116</sup> WEMA has consistently applied pressure on the Tanzanian government to amend their strict liability clause and this is currently under review and will reportedly be resolved by January 2015.<sup>117</sup>

### Civil society concerns about Water Efficient Maize for Africa

Civil society concerns about WEMA include the following:<sup>118</sup>

- Africa risks following an erroneous and misguided development intervention to alleviate hunger and mitigate the effects of climate change, in the process handing over its food systems to the private sector
- A diversity of drought tolerant farmers’ varieties of maize already exist across the continent as well as a number of crops that are inherently more drought resistant, such as sorghum, pearl millet and cassava, but these so-called ‘orphan crops’ have been neglected in favour of more commercially lucrative crops such as maize<sup>119</sup>
- WEMA is a Trojan horse to pressurise participating governments to pass weak biosafety regulations and open the door to the proliferation of GMOs that will undermine food sovereignty
- Engineering drought tolerance in crop plants is highly complex and it is extremely doubtful that GM drought tolerant maize with a single modified gene will be effective in varying environments and weather conditions
- There are huge biosafety risks inherent in releasing GM drought tolerant crops, to the environment, human and animal health, and society at large
- WEMA displaces farmer owned and led agricultural systems that are appropriately diverse and resilient, and
- WEMA diverts funding and research capacity and support away from these farmer led, diverse and resilient systems.

## six philanthropic projects come with strings attached

continued

### Super Banana for Uganda

Another Gates-funded project seeks to bring genetically modified vitamin A-enriched sweet and roasting Matooke bananas to Uganda, in a similar vein to the well-known vitamin A rice project.

These safety trials are being carried out at the Iowa State University, on 12 young students, with the intention of introducing the GM banana first in Uganda and then in other countries in East Africa. Field trials are also taking place in Uganda, using varieties that were developed by scientists at Queensland University of Technology in Australia, also funded by the Gates Foundation.

The 'African-American Alliance on Food Sovereignty' has sent an open letter to the Gates Foundation and the Iowa State University to protest against the project, calling it a risky endeavour that raises "serious concerns about the risks to African communities." In particular the letter observes that, "High levels of beta-carotene or vitamin A can be dangerous, particularly in pregnant women as they run the risks of birth defects."

The Alliance also questions what firm conclusions can be drawn from feeding trials in the United States given the vast differences in diets and lifestyles between the two nations. They point out that Matooke bananas are typically steamed and mashed, a fact that should influence the experimental design for credible results.

In the Golden Rice feeding trials, participants were also given portions of fats and oils, known to aid the absorption of beta-carotene. The Alliance points out that rural Ugandans might not have access to these fats and asks if the same practice is being employed in the banana trials.

They also make reference to successful efforts in the Philippines to provide sufficient portions of vitamin A through non-GM means that are cost effective and safe.

The message that the Africa-US Sovereignty Alliance has sent to the Gates Foundation and Iowa State University concludes with the statement that, "We will not stand by idly as attempts are made to systematically genetically modify Africa's staple foods and in the process gain a massive public relations coup by claiming to conquer health problems-at the unnecessary risk to Africans."<sup>120</sup>

### footnotes

- 87 Royalty free means that technology fees are waived for a certain strata of farmers so that the seed cost is comparable to conventional seed. Monsanto maintains their intellectual property and there is an intricate licensing system for the sale of WEMA products. Larger scale farmers will still pay royalties, so Monsanto will still capture the market with respect to commercial farmers.
- 88 AATF (2010). AATF Marks second anniversary of water efficient maize for Africa, AATF Press Release 19 March 2010. <http://aatf-africa.org/userfiles/PressRelease-WEMAAnniversary.pdf>
- 89 CIMMYT. <http://blog.cimmyt.org/high-expectations-among-stakeholders-as-wema-phase-ii-kicks-off/>
- 90 Van den Berg, J., et al. (2013). Pest resistance to Cry1Ab Bt maize: Field resistance, contributing factors and lessons from South Africa, *Crop Protection*, Vol 54 (154-160), Elsevier. <http://www.isaaa.org/resources/publications/briefs/46/executivesummary/default.asp>
- 91 Seedquest (2009). Monsanto is on the verge of a technology explosion, executives tell investors at annual field event, August 13, <http://www.seedquest.com/News/releases/2009/august/27149.htm>
- 92 Ibid.
- 93 Ibid.
- 94 Kent, L. (2004). What's the holdup? Addressing constraints to the use of plant biotechnology in developing countries. *AgBioForum*, 7(1&2), 63-69. <http://www.agbioforum.org>
- 95 GRAIN (2005). USAID: making the world hungry for GM crops, <http://www.grain.org/article/entries/21-usaid-making-the-world-hungry-for-gm-crops>
- 96 WEMA website, Partners and Donors page, <http://wema.aatf-africa.org/partners-donors>
- 97 Nature (2011). Drought-tolerant maize gets US debut, Seed companies race to tap multibillion-dollar market, <http://www.nature.com/news/2011/110111/full/469144a.html>
- 98 Ibid.
- 99 Syngenta (2014). Agrisure Artesian: a competitive comparison, [http://www3.syngenta.com/country/us/en/agriculture/seeds/agrisure-traits/documents/Artesian\\_Compare\\_sheet\\_HR.pdf](http://www3.syngenta.com/country/us/en/agriculture/seeds/agrisure-traits/documents/Artesian_Compare_sheet_HR.pdf)
- 100 GMO-compass.org. Application for authorization to place on the market MON 87460 maize in the European Union, according to Regulation (EC) No 1829/2003 on genetically modified food and feed, Part II, Summary, [http://www.gmo-compass.org/pdf/regulation/maize/MON87460\\_maize\\_application.pdf](http://www.gmo-compass.org/pdf/regulation/maize/MON87460_maize_application.pdf)
- 101 DAFF, South Africa. GMO Activities approved under the GMO Act: Conditional general release, <http://www.nda.agric.za/doiDev/sideMenu/biosafety/doc/General%20Release%20Approvals.pdf>
- 102 Food Sovereignty Campaign (2010). The Right to Agrarian Reform for Food Sovereignty Campaign's objection to Monsanto's application for a time extension of an existing permit for activities with GMOs Drought Tolerant Maize in South Africa – Trial Release, 1 June 2010.
- 103 Ibid.
- 104 Monsanto (2010). Objections from Surplus People Project to Monsanto's permit extension application for field trials of drought tolerant GM maize MON87460. Addressed to The Registrar: GMO Act 23 June 2010.
- 105 Wikileaks. Cautious Kenya finally enacts long awaited biosafety Act of 2009. [https://www.wikileaks.org/plusd/cables/09NAIROBI496\\_a.html](https://www.wikileaks.org/plusd/cables/09NAIROBI496_a.html)
- 106 Water efficient maize for Africa (WEMA): project update, Kingstone Mashingaidze and Mary James Agricultural Research Council (ARC) Grain Crops Institute, Potchefstroom
- 107 Pan African Food Exchange (2014). Kenya Moves Closer to Adopting GM Maize. October 2014. <http://pafex.com/kenya-moves-closer-adopting-gm-maize/>
- 108 USDA (2012). Kenya Bans Genetically Modified Food Imports, USDA GAIN Report, [http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Kenya%20Bans%20Genetically%20Modified%20Food%20Imports\\_Nairobi\\_Kenya\\_11-27-2012.pdf](http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Kenya%20Bans%20Genetically%20Modified%20Food%20Imports_Nairobi_Kenya_11-27-2012.pdf)
- 109 However other Kenyan scientists oppose the lifting of the ban and are pushing for the precautionary approach, see GMO debate polarizes Kenyans, threatens investments in research, Coastweek, 22 December 2014, <http://www.coastweek.com/3750-agriculture-04.htm>
- 110 USDA (2012). Kenya Bans Genetically Modified Food Imports, USDA GAIN Report, [http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Kenya%20Bans%20Genetically%20Modified%20Food%20Imports\\_Nairobi\\_Kenya\\_11-27-2012.pdf](http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Kenya%20Bans%20Genetically%20Modified%20Food%20Imports_Nairobi_Kenya_11-27-2012.pdf)
- 111 Matthew A. Schnurr (2013). Biotechnology and bio-hegemony in Uganda: unraveling the social relations underpinning the promotion of genetically modified crops into new African markets, *The Journal of Peasant Studies*, 40:4, 639-658, DOI: 10.1080/03066150.2013.814106 <http://dx.doi.org/10.1080/03066150.2013.814106>
- 112 Ibid.
- 113 Ibid.
- 114 ACB (2011). Water Efficient Maize for Africa-Pushing drought tolerant crops onto Africa, [http://www.biosafety-info.net/file\\_dir/13096942934d521e230db9f.pdf](http://www.biosafety-info.net/file_dir/13096942934d521e230db9f.pdf)
- 115 Water efficient maize for Africa (WEMA): project update, Kingstone Mashingaidze and Mary James Agricultural Research Council (ARC) Grain Crops Institute, Potchefstroom.
- 116 WEMA Social Audit report (2011). <http://wema.aatf-africa.org/audit-reports/2011-social-audit-report>
- 117 The East African (2014). Tanzania to relax law on GMOs by Rosemary Mironde, The East African, 15-21 November, 2014, <http://www.theeastafrican.co.ke/news/Tanzania-to-relax-law-on-GMOs/-/2558/2523776/-/qgdjh6/-/index.html>
- 118 ACB (2011). Water Efficient Maize for Africa-Pushing drought tolerant crops onto Africa, [http://www.biosafety-info.net/file\\_dir/13096942934d521e230db9f.pdf](http://www.biosafety-info.net/file_dir/13096942934d521e230db9f.pdf)
- 119 Gurian-Sherman, D. (2012). High and Dry: Why genetic engineering is not solving agriculture's drought problem in a thirsty world, Union of Concerned Scientists, June 2012, [http://www.ucsusa.org/assets/documents/food\\_and\\_agriculture/high-and-dry-report.pdf](http://www.ucsusa.org/assets/documents/food_and_agriculture/high-and-dry-report.pdf)
- 120 See a copy of the letter here: <http://www.seattleglobaljustice.org/2014/12/afsa-open-letter-opposing-human-feeding-trials-involving-gm-banana/>

## seven case studies

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## case studies

### Malawi – will sovereignty be undermined by regional biosafety harmonisation?

On 22 May 2014 Monsanto Malawi placed a public notice in both the Daily Times and Nation newspapers announcing its intention to apply to the Malawi Biosafety Registrar for a general release permit for genetically modified pest resistant cotton (MON15985, commonly known as Bollgard II). This application came after just one year of local field trials and before the completion of multi-location trials. This notice is a significant event for Malawi and the region because the application is the first of its kind in Southern Africa, apart from South Africa where these crops have been cultivated since 1997. It was, however, not surprising given that the commercial release of Bollgard II is an explicit condition of funding as laid out in Malawi's cooperation framework with the G8 New Alliance for Food and Nutrition (2010).<sup>121</sup> Indeed, USAID has been working behind the scenes for almost two decades to prepare the legislative environment for such an application, both within Malawi and the region.

### National legislation

Over the past 14 years Malawi's legislative framework for regulating biosafety has been shaped through extensive intervention of USAID funded programmes specifically designed to capacitate regulators and academia in American methodology with respect to biosafety, while funding infrastructural development and training the media.

Malawi signed the Cartagena Protocol in May 2000 but only ratified it much later, in May 2009.<sup>126</sup> Malawi's Biosafety Act was enacted in December 2002 and the regulations to the Act were promulgated in 2007.<sup>127</sup> Cabinet approved the National Biotechnology and Biosafety Policy (NBBP) in June 2008.<sup>128</sup> While Malawi was not one of the 123 developing countries participating in the UNEP-GEF Biosafety Capacity Building project, it was one of 7 'core target' countries in Southern Africa that participated in the USAID-funded biosafety capacity-building project, the Southern Africa Regional Biotechnology Program (SARB).<sup>129</sup> SARB was a sub-project of the ABSP and private sector partners included Asgrow, Monsanto Co., Garst Seed Company (ICI Seeds Inc), Pioneer Hi-Bred and DNA Plant Technology (DNAP).<sup>130</sup>

### BOX 2: What is the G8 New Alliance for Food and Nutrition (NAFSN)?

The G8's New Alliance for Food Security and Nutrition (NAFSN) was launched in 2012 with the aim of focusing investments on African agriculture and coordinating and combining public, private and philanthropic resources towards the realisation of the 'Green Revolution' in Africa.<sup>122</sup>

NAFSN builds on the work of the Grow Africa Partnership between the African Union (AU), the New Economic Partnership for African Development (NEPAD) and the World Economic Forum (WEF), with support from governments, donor agencies and major corporations. Private investments of US\$4 billion have been committed.<sup>123</sup>

NAFSN is based on country-level cooperation frameworks and it has targeted ten countries in Africa: Benin, Burkina Faso, Côte d'Ivoire, Ethiopia, Ghana, Malawi, Mozambique, Nigeria, Senegal and Tanzania.<sup>124</sup> NAFSN can best be understood as a multinational Public-Private Partnership

between states, development institutions and corporations, intended to channel investments and development aid into priority areas. Indeed, a European Parliament Library Briefing says, "the novelty of the alliance resides in the unprecedented involvement of private, mostly multinational corporations, side by side with governments and international organisations."<sup>125</sup>

It is integrated with other similar initiatives, including the Global Agriculture and Food Security Program (GAFSP), the United States government's Feed the Future Initiative, the Grow Africa Partnership and the Alliance for a Green Revolution in Africa (AGRA).

It emphasises establishing 'enabling conditions' for private investment in agriculture, especially focusing on legal, policy and institutional reforms to achieve this objective. The G8 countries are: Canada, France, Germany, Italy, Japan, Russia (currently suspended), the United Kingdom and the USA, with EU representation.

## seven case studies

continued

Ultimately the Biosafety Act was enacted to “provide for the safe management of biotechnological activities.” However, several years later when the Biotechnology Policy Framework was developed, there was a subtle but important shift in focus. The objectives of Malawi’s NBBP can be summarised as follows:

- Build and strengthen national capacity in biotechnology research, development and application
- Promote the utilisation of biotechnology products and processes as tools for national development
- Provide a regulatory and institutional framework for safe utilisation and sustainable biotechnology development and application, and
- Promote ethical standards in biotechnology research and development

The National Commission for Science and Technology (NCST) promotes biotechnology activities and research.

### Monsanto application for commercial release of Bollgard II

The promotion of genetically modified cotton in Africa is a strategy to open the doors to GM technology generally. Cotton is an important cash crop in many African countries, and is a pesticide-heavy crop that puts farmers at risk. Other key factors are that it is traded on the international market, and is not consumed by humans. If the Government of Malawi approves Monsanto’s permit to release GM cotton, it will create a blueprint for the rest of the region.

Civil society has submitted a substantive objection to Monsanto’s application, outlining their socio-economic and administrative concerns. They have also submitted an independent scientific analysis of Monsanto’s safety data for Bollgard II insofar as it was possible with the data they were able to access.

The following concerns are contained within their objection:

- With respect to socio-economic concerns, no cost-benefit analysis has been carried out to support Monsanto’s claims that this technology will benefit cotton farmers in Malawi, but experiences from Burkina Faso and South Africa have shown that in practice the technology brings a high risk of indebtedness due to the exorbitant cost of the seed

- There is no clarity regarding liability and redress for farmers whose crops fail or who lose markets due to GM contamination
- With respect to technical and administrative concerns, the regulations relating to the Biosafety Act of 2007 are not yet in force, giving rise to confusion on administrative procedures
- There is a lack of capacity within the National Biosafety Regulatory Committee
- Public access to local field trial data on the use of MON15985 in Malawi, conducted at Bunda College of Agriculture, is not in the public domain and is therefore inaccessible
- Errors in the analysis regarding the assessment of the new gene construct and concerns regarding the submitted safety assessment, environmental risk assessments, secondary pests and insect resistance

In September 2014 civil society was informed that Monsanto’s application had been sent straight to COMESA. Civil society registered its strong objection to COMESA reviewing the application to the Government of Malawi, as the policy and regulations are not yet fully in force.<sup>131</sup> In December 2014, civil society was further informed by the Government of Malawi that they deemed Monsanto’s application incomplete and had sent it back to the company.<sup>132</sup>

Monsanto will resubmit a completed application. They are expected to publish a public notice in national newspapers in January 2015 to announce their intention to commercialise GM cotton, thereby inviting public comment within 30 days. Civil society groups have pointed out that the new safety dossier will need to be made available in the public domain if they are to comment, noting that this was not done previously (the previous dossier was accessed through informal channels).

In general, it remains very unclear how this application will be dealt with between the Government of Malawi and COMESA and how similar applications will be dealt with in the COMESA region in the future, as this is the first application of its kind. A key concern is what opportunities will be made for the engagement of national citizens in regional processes and how civil society will remain informed of the process as it proceeds.

## seven case studies

continued

### South Africa – 14 years of GMOs have made the rich richer

According to AGRA's report on the status of agriculture in Africa, South Africa represents the pinnacle of agricultural development, especially in terms of the seed industry.<sup>133</sup> It is the gold standard for other countries to reach, and a wide variety of development strategies for Africa support development in this direction, based on a value-chain approach.<sup>134</sup>

South Africa was an early adopter of GMOs and remains one of the only countries on the continent that has commercialised GM crops, as well as being the only country in the continent that has commercialised GM food crops. The South African government approved GM cotton for cultivation in 1997, followed very soon thereafter by maize and soya.<sup>135</sup> Today almost 90% of South Africa's maize production is GM.

Due to the fact that there is no segregation system in the country, GM maize and non-GM are mixed together during storage. Thus there is no GM-free maize available on the South African market. Critically, maize is the staple food of the nation – it is eaten several times daily in a relatively unprocessed form, for example, milled and boiled into porridge. It is commonly used as a first food for babies, to wean them off the breast. In 2000, the ultra-poor spent over 50% of their income on food, of which up to 20% was spent on maize meal alone.<sup>136</sup>

Despite South Africa's highly industrialised agricultural system and full adoption of GM maize, soya and cotton, hunger in South Africa persists. A report published by the South African Human Scientific Resources Council at the end of 2013 showed that food security in South Africa is declining, and that 46% of the population is classed as food insecure.<sup>137</sup> Clearly the argument that GMOs are key in the fight for food security is far too simplistic and has not been borne out in reality. In fact, in South Africa, the adoption of GM crops has increased the divide between rich and poor by having the effect of ensuring that the maize value chain rests in the hands of very few companies, largely precluding small farmers and small players throughout the value chain who cannot compete with the commercial economy of scale. The South African maize chain is characterised by radical concentration throughout the chain:<sup>138</sup>

- Two companies, Monsanto and Pioneer Hi-Bred, control the maize seed market
- Maize handling and storage is dominated by three companies Senwes, NWK and Afgri
- Milling is dominated by three powerful companies, Tiger Brands, Pioneer Foods, and Premier Foods, all of whom have received heavy fines and sanctions for anti-competitive behaviour when they were exposed for fixing prices on maize and bread
- Louis Dreyfus and Cargill, international grain traders, dominate the maize trade on the Johannesburg Stock Exchange
- A highly concentrated value chain feeds into an equally concentrated food retail sector, with four major retailers, Shoprite/Checkers, Pick n Pay, Spar and Woolworths, dominating the market

The mass production of maize has not created cheaper food. From April 2007 to April 2013, the average cost of a 5kg bag of maize meal increased by 43.7% in rural areas, and 51.8% in urban areas. This has had a devastating impact on the poor, who are spending up to half of their income on food.

What is more, the food that is being produced by this system is not as healthy as food produced and processed on a smaller scale. The introduction of GM maize has ensured that production is carried out at economies of scale. The milling process required for these volumes denatures the maize, significantly impoverishing its nutritional value. For this reason, South African law now requires any seller of maize to fortify their product, replacing lost vitamins and minerals.

In general, the value chain development model is having the effect of making the rich richer and the poor poorer, through promoting technologies and business models that can only be accessed by the elite of society. South African agribusiness is now expanding into other countries in Africa, replicating this model through the continent. Their entrance into Africa's relatively unsophisticated agribusiness market has the potential to entrench a culture of corporate consolidation across the continent, undermining existing business, blocking the emergence of smaller operators, depressing local innovation systems and negatively impacting food security.<sup>139</sup> These are precisely the development models promoted by initiatives such as the G8 Alliance for Nutrition and Food Security, based on public private partnerships and investment friendly policies.

## seven case studies

continued



Planting finger millet between cabbages, Kewanit Ethiopia

### footnotes

- 121 NASFN. Country Cooperation Framework to support the New Alliance for Food Security & Nutrition in Malawi  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/208059/new-alliance-progress-report-coop-framework-malawi.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/208059/new-alliance-progress-report-coop-framework-malawi.pdf)
- 122 AFSA (2014). The G8 New Alliance for Food Security and Nutrition (NAFSN) and Seed Policy Reform in Africa. Key issues discussion paper.
- 123 ONE (2013). A Growing Opportunity: Measuring investments in African agriculture, [www.one.org/us/policy/a-growing-opportunity](http://www.one.org/us/policy/a-growing-opportunity)
- 124 New Alliance for Food Security and Nutrition website, [www.new-alliance.org](http://www.new-alliance.org)
- 125 EP Library (2013). Opportunity for food security in Africa? The New Alliance for Food Security and Nutrition (NAFSN), 7 October 2013, [http://www.europarl.europa.eu/RegData/bibliotheque/briefing/2013/130602/LDM\\_BRI\(2013\)130602\\_REV1\\_EN.pdf](http://www.europarl.europa.eu/RegData/bibliotheque/briefing/2013/130602/LDM_BRI(2013)130602_REV1_EN.pdf)
- 126 Dept Enviro Affairs (2014), Biosafety legislation in Malawi, Biosafety workshop presentation, June 2014
- 127 Ibid.
- 128 Ibid.
- 129 USAID Fact Sheet SARB: Southern African Regional Biosafety Program, [http://www.usaid.gov/press/factsheets/2003/fs030623\\_html](http://www.usaid.gov/press/factsheets/2003/fs030623_html)
- 130 This Mayet, M. (2004). Analysis of Malawi's Biosafety Legislation, [http://www.acbio.org.za/images/stories/dmdocuments/Comments\\_Draft\\_Biosafety\\_Act\\_Malawi.pdf](http://www.acbio.org.za/images/stories/dmdocuments/Comments_Draft_Biosafety_Act_Malawi.pdf)
- 131 Personal correspondence, Commons for EcoJustice, Malawi
- 132 Ibid.
- 133 AGRA (2013). Status of African Agriculture, <http://agra-alliance.org/download/533977a50dbc7/>
- 134 This implies the production of food for commercial purposes, where actors are connected along a chain producing and delivering goods to consumers through a sequence of activities from seed to fork. The approach also considers 'horizontal' impacts on the chain, such as input and finance provision, extension support and the general enabling environment. The approach has been found useful, particularly by donors. In many African food systems consumers and producers of food are the same people and there are high instances of gifting and exchange and conflation of roles. Henriksen, L.; L Riisgaard, S. Ponte, F. Hartwich and P. Kormawa. Agro-Food Value Chain Interventions in Asia: A review and analysis of case studies. Working Paper.
- 135 Department of Agriculture, Fisheries and Forestries, South Africa. [www.daff.gov.za](http://www.daff.gov.za)
- 136 ACB. (2013). GM Maize: lessons for Africa - Cartels collusion and control of South Africa's staple food, <http://www.acbio.org.za/index.php/publications/rest-of-africa/449-gm-maize-lessons-for-africa>
- 137 News24 (2013). 6 August 2013. Food security in SA declining – study, 6 August 2013, <http://www.news24.com/SouthAfrica/News/Food-security-in-SA-declining-study-20130806>
- 138 ACB (2013). GM Maize: lessons for Africa - Cartels collusion and control of South Africa's staple food, <http://www.acbio.org.za/index.php/publications/rest-of-africa/449-gm-maize-lessons-for-africa>
- 139 ACB (2014). Africa an El Dorado for South Africa's Agribusiness Giants, <http://www.acbio.org.za/index.php/publications/seedfood-sovereignty/465-africa-an-el-dorado-for-south-africas-agribusiness-giants>

## is it the new green revolution for Africa – clearing a path for GMOs

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### the new green revolution for Africa – clearing a path for GMOs

Forcing acceptance of GM technology in Africa has proven difficult for the biotech industry. On the whole, African farmers are yet to adopt the hybrid seed and related inputs that are the hallmark of the Green Revolution. Less than 20% of seed planted in Africa (excluding South Africa) is currently being sourced from the formal sector,<sup>140</sup> with the vast majority of African farmers still exchanging and trading farm-saved seed. The use of external inputs such as chemical fertilisers and agrochemicals remains low.

A necessary precursor to the introduction of GMOs into Africa, therefore, is to shift African farmers from their customary practices to reliance on agribusiness products. These must be bought annually and are subject to a slew of intellectual property rights conditions.

The primary vehicle for promoting this Green Revolution model is the Comprehensive African Agricultural Development Programme (CAADP), which is a continental agenda for investment in agriculture under the New Economic Partnership for Africa (NEPAD).

CAADP was developed in collaboration with the UN Food and Agriculture Organization (FAO), with inputs from the World Bank/Forum for Agricultural Research in Africa (FARA), the World Food Programme (WFP) and the International Fund for Agricultural Development (IFAD). It was published as a final document in 2003.<sup>141</sup> Its stated aim is to “help African countries reach a higher path of economic growth through agriculture-led development, which eliminates hunger, reduces poverty and food insecurity and enables expansion of exports.”<sup>142</sup> CAADP aims to increase agricultural productivity by an average of 6% per year. This will be achieved by embedding the continental agricultural investment plan into policy at regional and national levels. CAADP goes hand in hand with the African Union’s 2003 Maputo Declaration on Agriculture and Food Security, in which African governments committed to allocating a minimum of 10% of their budgets to agriculture.<sup>143</sup>

The logic that underpins CAADP is that the modernisation of agriculture will be an engine of economic growth that will result in food security for Africa. Thus the strategy is to create corporate friendly environments to encourage private sector investment and public funds may be diverted from the provision of public services toward this end.

#### BOX 3: The four pillars of CAADP:

**Pillar 1:** Land and water management. Extend the area under sustainable land management and reliable water control systems (e.g. increasing access to irrigation)

**Pillar 2:** Market access. Increase market access through improved rural infrastructure and other trade-related interventions (within countries and between regions)

**Pillar 3:** Food supply and hunger. Increase food supply and reduce hunger by increasing small-holder productivity and improving responses to food emergencies

**Pillar 4:** Agricultural research. Improve agriculture research and systems to disseminate appropriate new technologies and increase support to help farmers to adopt them

This plan ultimately shifts the locus of control of food production from the hands of farmers into corporate hands, creating the risk of massive dependency on outside forces. In other words it will decrease food security.

The CAADP project was given further impetus after the global economic crash in 2008, which triggered massive food insecurity. In 2009 the G8 launched the L’Aquila Food Security Initiative (AFSI) to increase overseas development aid (ODA) and national spending on agriculture, with public private partnerships (PPPs) focusing on developing infrastructure.<sup>144</sup> AFSI identified CAADP as a good framework to co-ordinate support and investment<sup>145</sup> and the “progressive realisation of the right to food.”<sup>146</sup> CAADP was also explicitly recognised in AFSI as “an effective vehicle for ensuring resources are targeted to a country’s plans and priorities.”<sup>147</sup> The Alliance for a Green Revolution in Africa (AGRA) was also explicitly recognised as a key role-player in supporting this agenda.<sup>148</sup> The G8 Alliance pledged initial commitments of US\$22 billion over 3 years from 13 state donors.<sup>149, 150</sup> Of this, US\$9 billion was to go to agriculture, forestry and fishing, with the rest going to development assistance including nutrition, infrastructure and food aid.<sup>151</sup>

## eight the new green revolution for Africa – clearing a path for GMOs

continued

CAADP has internal contradictions however. At its core is the pursuit of a modernisation paradigm based on the logic of the Green Revolution, but there is also some recognition of problems with the approach, particularly ecological problems, which it tries to address. In addition it is a broad framework containing many different elements so that investors can pick and choose what they want to support. A number of large-scale investment initiatives are engaging with the CAADP framework, including the G8 New Alliance on Food Security and Nutrition (NAFSN), the US government's Feed the Future Initiative (FtF), Grow Africa, the Alliance for a Green Revolution in Africa (AGRA) and others.<sup>152</sup> The role of the state in the plans to realise this strategy is essentially to reduce the investment risk for privately owned capital by establishing the infrastructural and institutional basis for the profitable circulation of capital in the agricultural sector in Africa.<sup>153</sup>

A number of organisations representing African smallholder farmers have highlighted that ending hunger through economic growth and the commodification of food is a false solution as only a small fraction of African farmers will ever have the resources to participate in commercial agriculture and benefit from the programme. The vast majority who cannot afford to buy annual inputs and are not eligible for loans (especially women) are not catered for in CAADP. Critics of CAADP point out that a major source of hunger in Africa stems from centuries of colonialism and unfair trade regimes, pointing out that "CAADP focuses on financial and technical issues but neglects addressing socio-economic issues and meeting the needs of rural people, in particular the needs of women."<sup>154</sup>

### footnotes

- 140** FAO (2014). Draft Guide for National Seed Policy Formulation, Food and Agriculture Organization.
- 141** AFSA (2014). CAADP and the G8 New Alliance on Food Security and Nutrition (NAFSN): seed, soil fertility and ecological agriculture opportunities and threats. Discussion document.
- 142** People's Dialogue/TCOE (2013) Do African farmers need the CAADP? Comprehensive Africa Agriculture Development Programme, <http://tcoe.org.za/component/content/article/39-featured-articles/176-do-african-farmers-need-the-caadp.html>
- 143** AFSA (2014). CAADP and the G8 New Alliance on Food Security and Nutrition (NAFSN): seed, soil fertility and ecological agriculture opportunities and threats. Discussion document.
- 144** AFSI (2009) L'Aquila joint statement on global food security, L'Aquila Food Security Initiative, [www.g8italia2009.it/static/G8\\_Allegato/LAquila\\_Joint\\_Statement\\_on\\_Global\\_Food\\_Security%5B1%5D,0.pdf](http://www.g8italia2009.it/static/G8_Allegato/LAquila_Joint_Statement_on_Global_Food_Security%5B1%5D,0.pdf)
- 145** FAO (2009). Declaration of the World Summit on Food Security, Rome, 16-18 November, Food and Agriculture Organization.
- 146** Ibid.
- 147** AFSA (2014). CAADP and the G8 New Alliance on Food Security and Nutrition (NAFSN): seed, soil fertility and ecological agriculture opportunities and threats. Discussion document.
- 148** Ibid.
- 149** ONE (2013). A Growing Opportunity: Measuring investments in African agriculture, [www.one.org.us/policy/a-growing-opportunity](http://www.one.org.us/policy/a-growing-opportunity)
- 150** Australia, Canada, European institutions, France, Germany, Italy, Japan, the Netherlands, Russia, Spain, Sweden, UK and USA, with another 16 countries and 14 international organisations pledging technical support and co-operation.
- 151** ONE (2013). A Growing Opportunity: Measuring investments in African agriculture, [www.one.org.us/policy/a-growing-opportunity](http://www.one.org.us/policy/a-growing-opportunity)
- 152** AFSA (2014). CAADP and the G8 New Alliance on Food Security and Nutrition (NAFSN): seed, soil fertility and ecological agriculture opportunities and threats. Discussion document.
- 153** ACB (2013). Giving with one hand and taking with two: a critique of AGRA's African Agriculture Status Report, <http://www.acbio.org.za/index.php/publications/seed-sovereignty/451-giving-with-one-hand-and-taking-with-two-a-critique-of-agras-african-agriculture-status-report-2013>
- 154** People's Dialogue/TCOE (2013). Do African farmers need the CAADP? Comprehensive Africa Agriculture Development Programme, <http://tcoe.org.za/component/content/article/39-featured-articles/176-do-african-farmers-need-the-caadp.html>



A woman at a market in Ghana.

## conclusions

## conclusions

USAID has mounted a long-game strategy aimed at erasing any memory of African resistance to GMOs. In its place it seeks a policy and regulatory environment that promotes unfettered trade in GMOs across Africa, based on minimal regulation and public oversight.

African leaders were at the forefront of the development of the Cartagena Protocol, which recognised the potential long-term dangers of GMOs to health and the environment. Their commitment to African agriculture, culture, and environmental and socio-economic well-being was further demonstrated through the development of the African Model Law on Biosafety, which sets much higher standards for biosafety than the Cartagena Protocol.

Nevertheless, the implementation of National Biosafety Frameworks in Africa has been slow. Without these frameworks countries that have signed up to the Cartagena Protocol cannot commercialise GMOs. Thus USAID has been working at the national level with African governments, trying to persuade them to enact GM-friendly policies. But frustration at the minimal pace of change means it has now set its sights on the Regional Economic Communities of Africa as a means of breaking the deadlock. There is now a strong possibility that the harmonisation of biosafety policy in Africa will be forced through by the RECs, many of which set binding policy on their member states.

For example, COMESA has already adopted a biosafety protocol for Eastern and Southern Africa, which may have a profound impact on the sovereign rights of its member states with regard to decision-making on GMOs. It entails a highly centralised decision-making process in which an approval for a new GMO in one country can be used as a basis to approve that same GMO in all the other Member States. This contravenes the Cartagena Protocol, which requires GMOs to be assessed on a case-by-case basis, with special attention paid to the receiving environment of the GMO. Additionally, such a process adds to the potential risks posed by GMOs as they are introduced into highly diverse and complex environments.

It seems that COMESA may assess its first GMO application in the very near future, as Monsanto has submitted an application for the commercial release of Bollgard II cotton in Malawi. Civil society has lodged a substantive objection to the application with the Government of Malawi, but it remains unclear at the time of writing how Monsanto's application will actually

proceed. Who will sit on the COMESA technical advisory panel and will the names of these experts be publically released? How will the Government of Malawi and other COMESA member states use the opinion handed down by COMESA? How will the citizens of Malawi and other member states be able to engage in decision-making at the regional level and what means are there for appeals? This crucial application will set a blueprint for the region and for other RECs that are in the process of developing similar biosafety policies.

African countries tempted by the promises of the biotechnology industry should also heed developments in South Africa, where GM crops have already been commercialised for some time. South African farmers have more than 16 years' experience cultivating GM maize, soya and cotton, but the promise that GMOs would address food security has not been fulfilled. Indeed, South Africa's food security is reportedly declining with almost half the nation currently categorised as food insecure even though South Africa exports maize.

Furthermore, because there is no segregation system in the country, GM maize and non-GM are mixed together during storage. Thus GM maize is being forced upon the South African population for whom maize is the staple food, typically eaten several times daily.

The adoption of expensive technology that can only be accessed by elite farmers in South Africa further exacerbates the extreme divide that exists between rich and poor. Furthermore, this expensive technology means that farming with GMOs is only profitable when based on economies of scale, making it extremely difficult for smallholders to participate in the maize value chain. This means that large volumes of commodity crops are being fed into a highly concentrated value chain that is controlled by a small number of powerful companies. The adoption of this high-end technology is thus helping to create a staple food value chain that is highly inequitable, rather than nurturing small producers, creating opportunities for livelihoods and feeding the nation. The South African experience bears out long-held fears that GMOs only bring financial benefits for a small number of well-resourced farmers.

Similar criticisms have been levelled at philanthropic projects promoting the adoption of GMOs in Africa, such as the Water Efficient Maize for Africa (WEMA) project operating in South Africa, Kenya, Tanzania, Uganda and Mozambique. These projects do not take the reality of African farmers into account.

## conclusions

continued

The vast majority of African farmers cannot afford to adopt crops that must be paid for annually and which need external inputs such as synthetic fertilisers and chemicals to perform effectively. Furthermore most farmers are not in a position to access loans or to service loans by getting their crops to profitable markets.

Projects such as WEMA have been criticised as 'Trojan horses' that will open the African market for agribusiness to sell their lucrative commodity crops, such as Bt maize and cotton. A particularly interesting example is Monsanto's move to include its commercial MON810 insect resistant maize in the WEMA project. The patent for MON810 is just about to expire. But if it is stacked with a drought-resistant trait, Monsanto can continue to claim it as intellectual property.

The fact that Africa still remains largely untapped by international agribusiness is also giving rise to a multiplicity of programmes focused on shifting agricultural and other related policies in order to crack open markets and create policy environments that are attractive to investors. From an investor's perspective, these should have a minimum of regulation, promote trade to the broadest markets possible (ideally regionally rather than nationally), and ensure strenuous protection of intellectual property.

Two such programmes are the Agricultural Biotechnology Support Programme (ABSP) and the Programme for Biosafety Systems (PBS). These are both attempts to create these kinds of investor friendly environments across Africa and they are

proving extremely effective. We have already witnessed the undermining of democratic processes and the lack of small-scale food producers' participation in the development of agricultural policy and decision-making as a result of their efforts. Our public research institutions are also shifting away from demand and needs driven research, with public resources being channelled into private agendas and inappropriate solutions instead. This is culminating in a gradual shift from biosafety regulation designed to ensure safety, to the implementation of a permitting system designed to expedite trade and open markets to foreign agribusiness.

Fortunately, most countries are yet to finalise their biosafety regimes and COMESA is the only Regional Economic Community to have implemented a regional biosafety policy so far. This means that small-scale farmers' movements and African civil society still have an opportunity to steer governments back to policies that truly support food sovereignty and the uplifting and protection of the millions of small-scale food producers that currently feed the continent.

The African Model Law on Biosafety is key to this. It has recently been revised and endorsed by the African Union. Its guidelines were developed by Africans, and are based on a deep understanding of African culture and food production systems. They set a high benchmark for biosafety across the continent. All assistance from foreign donors in developing biosafety at national and regional levels would do well to follow the guidance of the African Model Law on Biosafety and craft policies for the wellbeing of Africans rather than the wellbeing of foreign corporations and their shareholders.

## recommendations

## recommendations

### **Stop the promotion of GMOs and corporate interests in Africa**

#### **Africa can feed itself without GMOs.**

Despite a groundswell of resistance to GMOs in several African countries, from both civil society and governments, a nexus of corporations and donor agencies with a pro-GM agenda is still attempting to facilitate the entry of GMOs into Africa. This includes interference with African democratic procedures and policies, and must be stopped. Corporations and donor agencies should not be allowed to dictate corporate-driven food and agricultural policies that undermine sustainable agriculture.

Governments and donors should focus on agroecology to build people's food sovereignty instead of funding failing and polluting GM crops-based agriculture. Seeds, land and agroecology in the hands of small-scale farmers are the solutions to the massive agricultural challenges that we are facing in Africa and elsewhere, as proven in the 2,500-page report from the International Assessment of Agricultural Science and Technology for Development [IAASTD] which took 400 scientists four years to complete (2004-2008).<sup>155</sup>

### **Ensure compliance with the Cartagena Protocol and support people's rights**

African governments should be aware of their obligations under the Cartagena Protocol. The majority of African countries are parties to the Cartagena Protocol and as such they may not implement biosafety regimes with lower standards of biosafety than those set out in the Protocol. However, due to the interference by those with vested interests in the GM trade, many African biosafety frameworks currently in development, both at national and regional levels, look set to contravene the Protocol.

Countries must ensure that their national regimes meet their legal obligations as Parties to the Cartagena Protocol, and that its emphasis on using the precautionary principle is respected. Biosafety frameworks in development should be examined and remedied, with revised drafts being guided by the African Model Law on Biosafety.

Biosafety policies need to serve human, environmental, cultural, and socio-economic well-being, rather than trade interests, and this is at the heart of the African Model Law.

In addition, and again because of their commitments under the Cartagena Protocol, countries should not accede to regional biosafety protocols that set lower provisions for biosafety than their national regimes, or those set out under the Protocol.

### **Facilitate access to information and inclusive decision-making procedures**

A biosafety law that is people-oriented must be based on freedom of choice, including the right of the people to say no, and a country's right to ban or restrict GMOs. A state or local government should also be able to choose to be GMO crop-free, and this should be explicitly included in any biosafety bill.

The public must be involved in decision-making on GMOs, as set out in Article 23 of the Cartagena Protocol and they must have access to relevant information in order to do so meaningfully. National and regional biosafety regimes must make provision for this. In addition, all members of the Protocol must post accurate and timely information to the Biosafety Clearing House to assist with the sharing of information and transparency in decision-making.

The African Union is currently in the process of developing a Model Law on Access to Information in Africa.<sup>156</sup> Engaging with this process could strengthen its final outcome and could possibly contribute to more rigorous provisions on access to information in national and regional biosafety regimes.

### **Stop the flow of public resources and goods to private interests**

Public research agendas must be demand and needs driven, instead of serving the interests of the private sector. The current shift from public research to reliance on private intellectual property is a disturbing trend that can result in essential products produced by national agricultural research organisations being too expensive for small scale food producers to access.

#### *footnotes*

<sup>155</sup> IAASTD (2009). See Synthesis Report: A synthesis of the global and sub-global IAASTD reports, IAASTD, 2009, [http://apps.unep.org/publications/pmtdocuments/-Agriculture%20at%20a%20crossroads%20-%20Synthesis%20report-2009Agriculture\\_at\\_Crossroads\\_Synthesis\\_Report.pdf](http://apps.unep.org/publications/pmtdocuments/-Agriculture%20at%20a%20crossroads%20-%20Synthesis%20report-2009Agriculture_at_Crossroads_Synthesis_Report.pdf)

<sup>156</sup> See <http://www1.chr.up.ac.za/index.php/centre-news-2013/1115-official-launch-of-the-model-law-on-access-to-information-in-africa.html>

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