# African agriculture under genetic engineering onslaught

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#### **Introduction**

Genetic engineering has made a rapid entry into agriculture in the United States, Argentina, Canada, China, Brazil and South Africa, with these countries accounting for 99% of the genetically modified (GM) crops grown globally. These countries grow GM crops that are mainly resistant to certain herbicides or insects. Future transgenic plants may offer a much wider array of products, including applications in rangelands, forests, landscaping, nutrition, pharmacology, biological control, production of industrial chemicals, and bioremediation.

Proponents claim that by transferring genes from one organism to another, genetic engineering can overcome the productivity constraints of conventional breeding. They claim that transgenic crops will reduce pesticide use and increase food security in developing countries. According to the United States Department of Agriculture (USDA), agricultural biotechnology " is the response to the needs of millions of people who don't have enough food."

Amidst this enthusiasm for genetic engineering, there has been little space for critical reflection. Leaping into genetic engineering brings with it a wide range of biosafety issues including health and environmental risks, and broader socio-economic impacts. It requires the acceptance of intellectual property rights on living organisms, the privatisation of public research, and expensive research and development at the expense of farmer-based innovation.

Instead, what we are witnessing are aggressive attempts especially by the United States through its agency for international development, USAID, and the genetic engineering industry to impose GM crops on Africa under the guise of addressing food insecurity, reducing environmental stress and fighting poverty. The potential for agri-businesses to profit from hunger in Africa through, ostensibly the provision of food aid, technical assistance, capital investment in agricultural research, capacity building and the funding of biosafety initiatives, is enormous.

### **GM Food Aid Controversy?**

The most frequent criticism of food aid is that it impacts on local food security. Food aid acts as a disincentive to local production by driving down domestic prices. Local farmers may withdraw from producing a surplus, forcing governments to import the growing deficit. Alternatively it may lead a government to neglect its own agricultural sector, relying on aid or imports rather than facilitating local agricultural development. It may also introduce a taste for a particular food, which is not produced locally, therefore undermining the long-term potential for self-sufficiency. Crucially, the provision of food aid especially by the US is intimately tied to the disposal of highly subsidised surplus food, on the planet's poorest and vulnerable people.

The use of GM food aid by the US has added a new dimension to the debate. GM food aid is seen as providing an important back-door entry point for the introduction of genetically modified organisms (GMOs) in developing countries, especially in Africa. The risks posed by GM food is extremely contentious in current scientific

discourse primarily because the GM industry has failed, to date, to provide conclusive evidence that GM foods are safe. Moreover, the US Food and Drug Administration does not oversee an independent, mandatory safety assessment process to determine the impact of GMOs on human health. It merely oversees a voluntary system under which corporations submit their own safety procedures for their products.<sup>ii</sup>

Already, controversy over the shipment of GM food aid has erupted twice in Africa. During the Southern African food crisis in 2001/2002, Zambia imposed a ban on the acceptance of GM food aid, and several other Southern African countries imposed various restrictions. Earlier this year, Angola and Sudan introduced restrictions on GM food aid. Both decisions were strongly criticised by the World Food Programme (WFP) and USAID. These countries are almost always presented with a false choice between accepting GM food or facing dire consequences, whereas non-GM alternatives almost always exist at the national, regional and international level.

### Takeover of African agriculture?

Several companies with significant interest in the development of biotechnology financially support USAID and its activities in Africa.<sup>iii</sup>

- At the World Summit on Sustainable Development, the US announced the launch of a 10 year \$100 million programme for the developing world<sup>iv</sup>, the Collaborative Agriculture Biotechnology Initiative (CABIO). The US said that CABIO "will help developing countries access and manage the tools of modern biotechnology." Part of its remit is to lobby for stricter intellectual property rights legislation and plant variety protection in developing countries.<sup>v</sup> One such company is Monsanto, who has additionally, established a Monsanto Fund to run a number of agricultural schemes in Africa. The Fund is ostensibly "dedicated to providing more farmers around the world access to the improved techniques, knowledge and partnerships that allow them to be more productive and profitable."<sup>vi</sup>.
- USAID funds the International Service for the Acquisition of Agri-biotech Applications (ISAAA), an organisation that promotes the growth of GM in the developing world.<sup>vii</sup>The ISAAA actively supports various GM projects in Africa to develop GM bananas, sweet potatoes and maize. ISAAA is also funded by Bayer, CropScience, Monsanto, Pioneer Hi-Bred, Syngenta, Cargill, Dow AgroSciences, KWS SAAT AG and USDA.
- USAID funds the African Agricultural Technology Foundation (AATF), which is also supported by the Rockefeller Foundation, Organisation for Economic Co-operation and Development (OECD), Monsanto, Dow Chemicals, Dupont and Syngenta. The primary role of the AATF is to use poverty and the urgent need for food security strategies in Africa, to push for the opening of markets in Africa, by sharing patents and seeds. This initiative is aimed at ensuring the firm control of African research institutions by enabling corporate monopoly of agricultural research in Africa. During June 21-23, 2004, at the "Ministerial Conference on Harnessing Science and Technology to Increase Agricultural Productivity in Africa: West African Perspectives" Burkina-Faso, co-sponsored by USDA and USAID, a memorandum of understanding was signed between USAID and AATF.

- Nigeria-based International Institute for Tropical Agriculture (IITA) and its parent body the Consultative Group for International Agricultural Research (CGIAR) have established the "Harvest Plus Plan" to embark on research on GM crops (maize, cassava, and sweet potatoes). The Plan has received a cash injection of \$ 100 million, \$ 25 million of which is coming from the Bill and Melinda Gates Foundation.
- On 1 February 2004, the NGO *GRAIN*, revealed that Monsanto, Syngenta and Dow AgroSciences, supported by USAID, were in the process of finalising plans with the Malian government to convert Mali's cotton crop to transgenic varieties over the next five years. Cotton is Mali's number one export crop, yet, *GRAIN* revealed that local farmers and the general public are in the dark about this.<sup>viii</sup>
- In May 2004, USAID signed a memorandum of agreement with the government of Nigeria and the International Institute for Tropical Agriculture (IITA) under which USAID would invest N400 million for agricultural biotechnology research and development<sup>ix</sup>;

## **Conclusion**

The provision of GM food aid and the explosion of initiatives that promote GM crops in Africa will have serious consequences for the future of food and agriculture, and millions of farmers, on the continent. GM crops pose risks to health, environment and livelihoods, while enabling corporate control of agriculture. Yet, GM crops are not even needed, as the wealth and knowledge of African farmers are immense.

As the Southern African Bishops Conference said, "The assumption that we need to create new crop varieties through the use of genetic engineering technologies overlooks the fact that there is untapped potential within the wealth of existing [seed] varieties. In Africa, for instance, more than two thousand native grains, roots, fruits and other food plants are found. These have been feeding people for thousands of years, but most are receiving no scientific attention today." <sup>x</sup>

<sup>&</sup>lt;sup>1</sup> Push to Spread GM Crops in Africa, the BBC <u>http://www.news.bbc.co.uk/2/hi/europe/3826261.stm</u> <sup>ii</sup> FDA currently has no affirmative post-market inspection or compliance program for GM crops or

FDA currently has no affirmative post-market inspection or compliance program for GM crops or foods. In addition to this, the FDA does not conduct any product sampling or inspected related to biotech foods. *Post-Market Oversight of Biotech Foods-is the system prepared*? Pew Initiative on Food and Biotechnology, April 2003, p.39.

see further http://www.usaid.gov/regions/afr/pub/docs/grantmakers.pdf

World Food Summit Endorses Biotechnology. Avery D T. Centre for Global Food Issues. August 2002 <u>http://www.cgfi.org/new\_detail.cfm?art\_ID=321</u>

Guidelines FY 2002 Program for Biosafety Systems. Office of Agriculture and Food Security, Bureau for Economic Growth, Agriculture and Trade. USAID, March 2002. http://www.usaid.gov/ftp\_data/pub/OP/RFA/rfaegatafs02002/rfaegarafs02001.doc

vi http://www.monsantofund.org/giving/agricultural.html

vii http://www.isaaa.org/inbrief.htm

viii www.grain.org

<sup>&</sup>lt;sup>ix</sup> USAID to Spend N400m On Nigeria Biotechnology Development, This Day (Lagos), May 4, 2004.

<sup>&</sup>lt;sup>x</sup> Genetically Modified Food: The Impending Disaster by the Southern African Catholics Bishops Conference, November 2000.