

CONSEQUENCES OF THE ANTI-GMO CAMPAIGNS

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Genetically modified crops have long been opposed by a wide range of not-for-profit nongovernmental organizations (NGOs). Because these NGOs are not seeking profits in the marketplace, in contrast to the private companies that sell GMO seeds, they frequently enjoy greater social trust. Some of these organizations present themselves as advocates for social justice, some as advocates for the rural poor, some as advocates for the environment, some as opponents of corporate-led globalization, and some primarily as advocates for alternative farming methods, for example organic or agroecological methods, which reject the use of GMOs.

Much of this NGO opposition to GMOs has been led by European-based organizations such as Greenpeace International, and Friends of the Earth International, both headquartered in Amsterdam. Yet significant numbers of United States and Canadian-based NGOs join in these campaigns; for example, the current campaign to mandate the labeling of foods with GMO content in the United States is led by a Washington, D.C. based legal action and advocacy organization called the Center for Food Safety. Anti-GMO organizations from rich countries often support local counterparts, sometimes with money and networking support and sometimes simply with information.

The campaigns these organizations have been conducting for almost two decades now have been remarkably successful, particularly in blocking the planting of GMO food crops. GMO wheat, GMO rice, GMO potato, and nearly all GMO fruits and vegetables have been blocked from commercial planting, even in the United States. GMO food animals and GMO fish have also been kept entirely off the market. Nearly all of the GMO crops being planted today are used primarily for industrial purposes or as animal feed. For example, the three biggest GMO crops in the United States are soybeans, corn, and cotton, and roughly 98 percent of our soybean meal goes for animal feed, while 88 percent of the corn is employed either for animal feed or as a feedstock for making ethanol. Cotton is almost purely an industrial crop.

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Thus, while NGO critics like to depict private companies as somehow forcing GMO foods down the throats of consumers, nothing could be farther from the truth. Judging from actual outcomes so far, it is the NGO critics who are strong and the private companies that are weak. The private biotechnology companies have so far lost nearly every battle when it comes to food crops.

Even in the United States, the nation that has gone the farthest in permitting the commercial use of GMOs, one transgenic food crop after another has been kept or driven off the market by anti-GMO campaigners. GMO wheat seeds were first field-tested in the United States in 1994, but in 2004 Monsanto decided it could not put them on the market because activists both at home and abroad had persuaded consumers they might not be safe. GMO rice has never been commercialized for similar reasons. GMO potato was actually grown on 25,000 acres in the United States and widely consumed between 1999-2001, but cultivation was then voluntarily suspended when food service chains told farmers they did not want to be accused by activists of selling GMO French fries. GMO tomatoes were also cultivated commercially in the United States between 1998 and 2002, but then cultivation stopped in response to intentionally inflamed consumer anxieties. GMO melons capable of resisting a virus have been successfully tested in the United States since 1989, but never planted commercially. The only GMO fruits and vegetables grown in the United States are Hawaiian papaya, plus a tiny share of summer squash and sweet corn.

In the rest of the world as well, government regulations now block the planting of nearly all GMO food crops. GMO food crops are not legal for planting anywhere in Central or Latin America. In all of Sub-Saharan Africa, only the Republic of South Africa allows the cultivation of a GMO variety of white maize for direct food consumption. No GMO food crops are legal to plant anywhere in South Asia or Southeast Asia. India and Pakistan permit cotton, and the Philippines permits yellow corn for animal feed, but nothing else. China permits cotton, but it does not allow commercial farmers to plant GMO wheat, rice, corn, or potato.

Food crops are not the only GMOs being blocked from use. In most of the world beyond the Western Hemisphere, national governments have also failed to approve the planting of GMO animal feed or industrial crops. In fact, only three of the 47 countries of Sub-Saharan Africa have made it legal for farmers to plant any GMO seeds at all: Burkina Faso (which allows cotton only), and Sudan (again, cotton only), and the Republic of South Africa (cotton, maize, and soybean).

Surprisingly, this considerable worldwide blockage of GMOs does not reflect any malfunction of the seeds or crops themselves. Critics talk end-

lessly of risks, but they should acknowledge that even in Europe the most prestigious national academies of science and medicine have found no new risks either to human health or the environment from any of the genetically engineered crops so far in existence. This remains the official position of the Royal Society in London, the British Medical Association, the French Academy of Sciences and Medicine, and the German Academies of Science and Humanities. In 2010, the Research Directorate of the European Union (EU) produced a report that went so far as to state, “biotechnology, and in particular GMOs, are not per se more risky than e.g. conventional plant breeding technologies” (EU 2010).

The single most powerful explanation for this continuing blockage of GMOs has been an energetic NGO campaign of disinformation, led and financed mostly by individuals from well-fed countries who do not need the technology themselves. These individuals take what they believe to be a virtuous position on the issue, but since they are not poor farmers, and may have never even met a poor farmer, they fail to appreciate the advantages GMOs can give to the poor who need better ways to protect their crops against disease, insects, weeds, and drought. Occasionally, individuals who have participated in this anti-GMO campaign have a change of heart. Patrick Moore, a Canadian ecologist who headed the Greenpeace Foundation in Canada, concluded in 2006 that poor farmers in developing countries “need genetically engineered crops”. Moore announced his support for Golden Rice in particular, as a means to prevent vitamin A deficiency in poor countries (Prakash 2001). Just this year, a UK environmentalist named Mark Lynas took the unusual step of apologizing for his earlier role in helping to launch the anti-GMO campaign in the 1990s. He characterized this campaign as the most successful he had ever been involved with, but admitted now that it had been misguided. Taking a longer look at the science, he now sees GMOs as a “desperately needed agricultural innovation” that is being “strangled by a suffocating avalanche of regulations which are not based on any scientific assessment of risk” (Lynas 2013a). Moore and Lynas are exceptions, however. Most anti-GMO campaigners remain certain of the wisdom and virtue of their cause.

Explaining NGO Influence

The success of the anti-GMO campaign is a puzzle, given the absence of any documented new risks from the technology, and an abundance of evidence that farmers have found it to be a good way to reduce chemical inputs and save labor costs. Superficially, the success of the campaign draws heavily from an anti-corporate narrative. There is considerable evidence to

support a critique of transnational corporate power abuse in other areas, such as international banking, financial services, labor-intensive manufacturing, or energy and raw material extraction. Yet in the specialized arena of agricultural crop seeds, international corporate control is actually quite weak in the developing world. Partly this is because corporate patents cannot be claimed in this area in most developing countries, since the governments in those countries have opted not to recognize patent claims on plant seeds. In addition, this area is distinctive because for crop seeds to perform well they must be developed close to the place they will be planted, by local plant scientists and seed companies testing them under local soil, water, and growing season conditions. Seed development programs of this kind will be vulnerable at many stages to blockage from host country government regulators, influenced by anti-GMO campaigners.

In part, international NGO campaigns against GMO foods have succeeded in the developing world because they first succeeded in Europe. This success, in turn, was driven in part by a completely legitimate food safety scare that had nothing to do with GMOs. In March 1996 the Government of the UK finally acknowledged the existence of a potentially fatal human food safety risk from eating the meat of animals contaminated from bovine spongiform encephalopathy (BSE), better known as “mad cow disease”. The Government had earlier assured consumers it was perfectly safe to eat this meat. By coincidence, March 1996 was precisely the month that European officials approved the first import of a GMO food, herbicide-tolerant soybeans from the United States. Activist NGOs in Europe such as Greenpeace, Friends of the Earth, and the European Consumers’ Organisation (BEUC), saw no consumer benefit from GM foods that might justify even a hypothetical safety risk, so they began warning citizens away from GM foods and crops, simply on “precautionary” grounds. Efforts by European officials to reassure consumers about the soybeans had no impact, since the BSE case had destroyed their credibility as guardians of food safety. NGO activists ignored the reassurances and instead staged street demonstrations and mobilized efforts to block the unloading of ships carrying GMO soybeans (Bernauer and Meins 2003). European supermarket chains then began removing known GM products from their shelves to avoid being targeted by activist demonstrations.

Anxieties nonetheless grew, so in June 1997 the EU decided under citizen and activist pressure to require that all GM food sold in Europe carry an identifying label. Instead of reassuring consumers, this step seemed to validate the growing impression that GM foods must indeed be dangerous. By 1998, political anxieties had grown so intense that EU regulators felt

obliged to place an informal moratorium on any new case-by-case approvals of GM crops.

Once this European victory was in hand, the NGO campaign shifted into the global arena, specifically targeting an effort then underway, under the 1992 Convention on Biological Diversity (CBD) of the UN, to negotiate an international protocol (the Cartagena Protocol) governing the transboundary movement of living GMOs (LMOs). Once they were given access to the protocol negotiation process, anti-GM organizations such as Greenpeace, Friends of the Earth International, and the Third World Network spread scare stories about the risks GMOs and advocated that the new Protocol be modeled around a 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes. GMOs that had been developed at considerable expense and approved by regulators for safe use were thus compared to hazardous wastes. This was a bizarre and inappropriate framing, but it was accepted by the environmental advocates from Europe who dominated the protocol negotiation, and it was sold to Africans and to delegates from other developing countries as something the UN had to do in order to protect their rich biodiversity.

Many African delegates originally came to the protocol negotiations fearing not that GMOs were dangerous, but that they might work so well in rich countries as to leave African agriculture farther behind. These Africans were quickly turned around by NGO scare stories. As explained by Bas Arts and Sandra Mack, “Generally, many developing countries had only a limited knowledge on biosafety issues because of lack of financial and scientific resources. It was the NGOs which made them aware of the (potential) negative consequences of the transboundary movement of GMOs for their countries, particularly for their rich biodiversity, traditional agriculture and indigenous people” (Arts and Mack 2007, p. 53). Since the negotiation had been framed as an international environmental agreement, most developing countries deputized officials from their environmental ministries to handle the job, and these individuals were easily influenced by Europe’s better-established environment ministries. The final Cartagena Protocol that emerged in 2000, modeled after the Basel Convention, thus required that anyone seeking to export GMO grain as living seeds must provide warning label, and if the seeds were intended to be planted rather than processed or consumed, the exporter would first have to secure the informed consent of an officially designated biosafety authority in the importing country.

Once these rules had been incorporated into an international treaty, NGO activists could begin attacking the United States for its longstanding food aid practice of delivering GMO corn and soy in bulk shipments to

poor countries. Under the new Protocol, the kernels of GM corn contained in these shipments were classified as LMOs, meaning the importing country was entitled to a warning label. The United States Government resisted providing such a warning, reasoning that the corn in these shipments was approved as safe in the United States and was identical to what Americans had been buying and consuming for several years without any warning labels, and without any ill effects.

The NGO community seized upon this American resistance to label, and in 2001 (led primarily by Friends of the Earth International), the NGO community began depicting unlabeled GM food aid from the United States as part of a stealthy scheme to dump surplus quantities of unhealthy American foods onto the vulnerable poor. Friends of the Earth first distributed test kits to its field offices to document the presence of the GM products in U.S. food aid shipments, finding GM corn and soybeans in some food aid shipments from the U.S. to Bolivia, Colombia, and Ecuador. This was then presented and publicized as evidence of “GMO contamination around the world”, setting the stage for an important rejection of GM food aid by African countries in the year that followed (FoE 2001).

Africa’s Rejection of GMOs

In Zimbabwe in May 2002, the government in Harare decided to turn away a 10,000-ton shipment of U.S. corn for fear that the shipment was “contaminated” with GMOs. Officials worried that if any of the GM maize kernels were planted by farmers, the nation’s biosafety regulations would be violated and future commercial export sales of hybrid maize could be put at risk. Zimbabwe eventually agreed to accept GM maize as food aid if the kernels were milled prior to delivery, so they could not be planted. The rejected shipment of whole kernel maize was then diverted to Zambia, which had routinely accepted GM food aid shipments in the past. Yet criticism from the NGO community was making this more difficult by 2002. European NGOs critical of the technology had cultivated influential allies within Zambia’s policy elite. By 2002, Dr. Mwananyanda Lewanika, the executive director of Zambia’s National Institute for Scientific and Industrial Research (NISIR), had developed a close relationship with a European NGO, Norway’s Institute for Gene Ecology, which gave him reason to advocate against accepting the food aid. At a public meeting in August 2002, Lewanika presented the technical case against accepting GM food aid in Zambia. He said, without presenting any evidence, that GM foods could increase cancer risks and were contributing to a growing public health danger in the form of antibiotic resistance to infections (Phiri 2002).

The most impassioned public speaker against GM food aid at this important open meeting in Zambia was Emily Sikazwe, executive director of a local NGO called Women for Change (WFC). She told her fellow Zambians how important it was to say no to GM food aid: “Yes, we are starving, but we are saying no to the food the Americans are forcing on our throats” (Phiri 2002). Sikazwe’s own local NGO had earlier been spun off from a Canadian NGO (Canadian University Services Overseas, or CUSO) that had engaged in “biotech teach-ins” against GMOs back in Canada, in partnership with Greenpeace (CUSO 2001). Sikazwe’s local NGO received its funding from a number of Canadian church and peace organizations, the Swedish embassy in Lusaka, the Norwegian embassy, and the Danish foreign Assistance agency DANIDA (WFC 2007).

Two religious NGOs in Zambia headed by expatriate Jesuit priests from the United States also joined in the attack against GM food aid. The Jesuit Centre for Theological Reflection (JCTR) and the Kasasi Agricultural Training Centre, both located in Lusaka, had begun proselytizing against GMOs in 2000, and earlier in 2002 that had jointly commissioned a research paper titled “What is the Impact of GMOs on Sustainable Agriculture in Zambia?”, recommending that Zambia’s policy regarding GMOs should follow the precautionary European approach (JCTR 2002). These two Jesuit organizations embraced a doctrine – never endorsed by higher church authorities – that all living things, including plants, should enjoy a God-given right not to have their “genetic integrity” altered (Lesseps 2003). Commercial interests were also at play. Trainees from the Kasasi Centre were employed by Agriflora, an expat-owned company that was growing organic baby corn for export to Europe. Training fees at the Kasasi Centre were financed by yet another European NGO, the Swedish Cooperative Centre (FAO 2001).

American officials tried to reassure the Zambians about GM maize by inviting a delegation of government experts on a fact-finding trip to visit America, but this approach backfired when the seven-person Zambian delegation also traveled to Europe to gather facts, and met with representatives of Greenpeace, Friends of the Earth, the UK Soil Association, an NGO named Genetic Food Alert, and Norway’s Institute for Gene Ecology. Greenpeace warned the visiting Zambians that their organic produce sales to Europe would collapse if the nation accepted the new technology, and Genetic Food Alert warned of the “unknown and un-assessed implications” of eating GM foods. A UK NGO called Farming and Livestock Concern warned the Zambians that GM maize could form a retrovirus similar to HIV (Daily Telegraph 2002). Upon returning home, the spokesperson for

this Zambian expert group asserted that his own anxieties about GMOs had only been confirmed by the trip (Government of Zambia 2002).

Having helped turn Zambia against GMOs in the summer of 2002, the NGO campaigners (including by now a number from North America) shifted their attention to the September 2002 World Summit on Sustainable Development (WSSD) nearby in Johannesburg. In anticipation of this UN event, a San Francisco environmental advocacy group, Earth Island Institute, had organized an unofficial “World Sustainability Hearing” running parallel to the summit. A number of internationally prominent GMO critics from wealthy countries spoke at this forum. Three NGOs, Friends of the Earth, the Institute for Agriculture and Trade Policy (IATP), and the World Development Movement, also managed to persuade 140 local African civil society representatives and organizations in Johannesburg to sign an open letter to the World Food Programme and the U.S. government protesting shipments of GM food aid. This letter circulated widely on the Internet as the authentic voice of Africa on the issue of GMOs. It was filled with a number of alarming yet completely undocumented charges:

The safety of GM food is unproven. On the contrary, there is sufficient scientific evidence to suggest it is unsafe. GM food can potentially give rise to a range of health problems, including: food allergies; chronic toxic effects; infections from bacteria that have developed resistance to antibiotics, rendering these infections untreatable; and possible ailments including cancers, some of which are yet difficult to impossible to predict because of the present state of risk assessment and food safety tests (Third World Network 2002).

The Johannesburg summit also gave international NGOs an opportunity to put anti-GMO words into the mouths of local African farm organizations. An organization called PELUM (Participatory Ecological Land Use Management), claiming to represent 160 civil society organizations in Africa, organized what it called a “Small Farmers’ Convergence” on Johannesburg that included a four-day caravan by 120 farmers that set out from Lusaka. Funding for this pilgrimage came from HIVOS and NOVIB in the Netherlands, FOS-Belgium, MISEREOR in Germany, and Find Your Feet in the UK. At a press conference in Johannesburg at the end of their walk these farmers announced, “We say NO to genetically modified foods” (GFAR 2002). PELUM’s chief African organizer for this march was not a farmer himself, nor was he well informed regarding the technology. He told interviewers he didn’t like GMOs because he had learned that, if eaten, they would change the genetic composition of the human body (IMM 2002).

These inflammatory and unsubstantiated charges against GMOs in Johannesburg eventually provoked a response from USAID administrator Andrew Natsios, who lost his patience after being asked by one African minister from a Muslim country “if it was true” that GM maize contained pig genes (Natsios 2006b). At this point Natsios spoke out, calling the NGO efforts against GMOs “revolting and despicable”. Having baited Natsios into the arena, the NGOs were more than happy to amplify the dispute. A Greenpeace spokesperson replied that the United States was being “arrogant to tell the Zambians what food they must accept”, and Peter Rosset from Food First (an American NGO) said he thought the Africans should “tell the U.S. to go to hell” (Martin 2002).

Building on their efforts in Zambia and Johannesburg, the NGO campaigners later took their message to a number of other African countries. In Kenya, a collection of NGOs had organized themselves into a Kenya GMO Concern Group (KEGCO), and in 2004 two of its foreign-funded members, PELUM and ActionAid, led this coalition in a media campaign against passage of a draft biosafety bill, depicting this legislation as something that might lead to the planting of GMOs (PELUM 2004). For this campaign PELUM produced an article titled “Twelve Reasons for Africa to Reject GM Crops”, a document that asserted without evidence that GM crops were a threat to human health. Also in 2004, Friends of the Earth launched an African regional campaign to “challenge the myth of GM crops as a solution to hunger and poverty”, hoping specifically to dissuade Angola and Sudan from accepting GM food aid (FoE Africa 2007). The Angolan government went along with this advice, rejecting GM maize in an unmilled form as food aid, just when WFP was being forced to cut its normal feeding rations in the country due to funding shortfalls (Scott 2004). In Sudan, Friends of the Earth then led a group of sixty NGOs accusing the United States and WFP of coercing the country into accepting GM food aid (ACB 2004).

Friends of the Earth also worked against GMOs in West Africa, holding a 2005 conference in Nigeria that brought together GM food critics from nine different African countries to demand “a complete moratorium on GMOs in Africa until their safety for our environment, health, and socio-economic conditions is established beyond doubt” (FoE 2005).

These NGO campaigns had a cumulative effect on Africa’s urban policy-making elites, many of whom – within a post-colonial mind-set – saw European practices as the best practices. The NGO campaigners were concealing the fact that all of the most important science academies in Europe had so far found no evidence of new risks from GMOs, so leaders in Africa

leaders were left to conclude that the best thinking (i.e., European thinking) must require a rejection of GMOs. As one local Kenyan leader said in 2006, “Europe has more knowledge, education. So why are they refusing [GM foods]? That is the question everyone is asking” (Hand 2006). Actual small-holder farmers in Africa had little voice in the matter. The only farmers well organized to express an opinion those producing specialty crops for export, and from their viewpoint GMOs were risky because they could lead to lost sales in the European market.

The NGOs were not acting alone, of course. They linked their anti-GMO campaign to a well funded program by the United Nations Environment Program (UNEP) intended to help developing countries set in place adequate regulatory systems for GMOs, consistent with the new Cartagena Protocol. This Program led one African government after another down a path to stifling the technology with regulatory requirements that provided critics with multiple new points of delay. Of the 23 African governments that completed this Program between 2000 and 2006, 21 of the 23 had to adopted the most restrictive (“Level One”) approach (UNEP 2006). Thanks to these restrictive regulatory approaches, it is still not legal, seven years later, to plant any GMO food or feed crops commercially in any of the developing countries of Sub-Saharan Africa. An industrial crop, cotton, was finally approved by Burkina Faso in 2008, and it proved to be a considerable success (the income of cotton farmers who switched to Bt increased by \$62 per hectare), but no other developing country in Sub-Saharan Africa has yet followed Burkina’s lead (Vitale, Bognan, Ouattarra, and Traore 2010).

NGO Campaigns Beyond Africa

The international NGO campaign against GM crops has of course had impacts well beyond Africa. In India, for example, NGOs in 2010 helped to block the commercial planting of a GMO variety of eggplant (brinjal), even though the benefits would have included higher income for farmers plus reduced use of environmentally harmful pesticide sprays that also bring both occupational health risks to farmers and food safety risks to consumers. India’s environment minister blocked commercial planting at the last minute after a firestorm of protests led by international NGOs. In 2012, India’s Prime Minister Manmohan Singh went so far as to complain in public about the role international NGOs had played in this case. He said, “Biotechnology has enormous potential, and in due course of time we must make use of genetic engineering technologies to increase the productivity of our agriculture. But there are controversies. There are NGOs, often

funded from the US and Scandinavian countries, which aren't fully appreciative of the developmental challenges our country faces" (Hindustan Times 2012).

More recently in East Asia, NGO actions have further postponed any commercial planting of high-beta carotene "golden rice". In 2012, Greenpeace in China in made the sensational charge that 24 Chinese children had been used as "guinea pigs" in a golden rice feeding trial. In fact, the researchers were operating with parental consent, and most important no child had been harmed. Yet Chinese officials were so frightened by the media hysteria surrounding the charge that they decided to fire three of those from the Chinese Center for Disease Control and Prevention and the Zhejiang Academy of Medical Sciences which had coordinated the project, and were named in the Greenpeace report. This controversy reinforced a decision top officials had made earlier in response to NGO alarms, to suspend for the moment any plans to commercialize China's own home-developed varieties of GMO rice.

NGO actions have also slowed the commercial development of golden rice in the Philippines. In August 2013, a band of 50 or so activists broke down a fence then trampled and uprooted field of young golden rice plants. While claiming to be "farmers", the perpetrators had been organized by several Philippine NGOs including Kilusang Magbubukid ng Pilipinas (KMP), a radical left organization that promotes a conspiracy theory that golden rice is part of a corporate takeover of the Philippine rice market (ignoring the fact that golden rice is being developed by public sector organizations), plus MASIPAG, which has long been in the forefront of anti-GMO activities in the Philippines, joining with Greenpeace in various legal actions and campaigns (Lynas 2013b). MASIPAG's authenticity as a Filipino institution is undermined by the fact that for many years it has been receiving support from the Swedish International Cooperation Agency (Sida), through funds to the Swedish Society for Nature Conservation (SNF).

Conclusion

Nobody should criticize civil society campaigns, so long as these campaigns emerge from the societies that must bear the consequences. Unfortunately in the case of NGO campaigns against GMO crops, they typically emerge from rich countries while imposing consequences on poor countries. Well-fed citizens from Europe and North America, where farming is already highly productive, are understandably not attracted to GMOs. Most in these countries do not need this technology to increase their well-being; most of the benefits are captured by farmers, and farmers now represent

perhaps only 1–2 percent of all citizens in these countries. Moral clarity is lost, however, when citizens from these rich countries project their dismissive opinion toward GMOs onto poor countries, where as many as 60 percent of all people are poor farmers and might stand to gain a benefit from this technology. Still more is lost when the anti-GMO campaigners from rich countries intentionally hide from developing country citizens the published conclusions of their own national science academies back home, that no convincing evidence has yet been found of new risks to human health or the environment from this technology.

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