

Green Revolution 2.0 for Africa? *This time the “silver bullet” has a gun*

Issue: Everybody’s trying to jump-start science – and, especially, agricultural science – in Africa. Starting with the G8 meeting in Canada five years ago – and pledges by four of its members to build new centers of scientific excellence in Africa – the Syngenta Foundation, CGIAR, Jeffrey Sachs’s Earth Institute, and now, Google, Gates, and Rockefeller are all pushing new initiatives for the continent. While there is no denying that Africans deserve support in their struggle to address hunger, disease and climate change, science and technology are no “silver bullet” to resolve Africa’s problems. Yet, when the G8 meets this June in Germany they are expected to announce a new research agenda that will again propose scientific solutions to the world’s – and, particularly Africa’s – social problems.

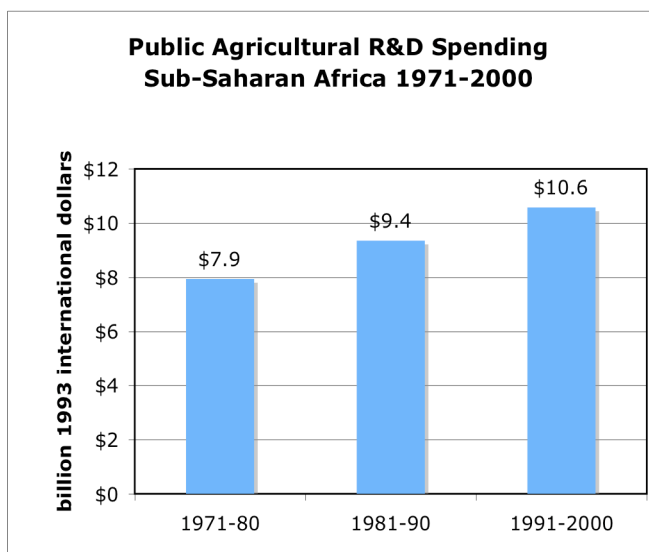
Impact: Not everything being proposed for African science relates to food and agriculture, but the emphasis on food security is not surprising given weakening yield/ population ratios and the reality that most marginalized Africans live in rural areas. New commitments to African agriculture are in the range of \$75–\$100 million per year and more money may be in the offing. Summit winds and Foundation whims are only now being focused (desperately) by erstwhile sherpas into what they hope will morph into Green Revolution 2.0. In the absence of a coordinated plan, the real beneficiaries will likely be the old Green Revolutionaries whose mistakes this second Revolution is meant to ameliorate. Despite assertions to the contrary, there is a real danger that Green Revolution 2.0 will turn into a corporate biotech boom and the destruction of rural resiliency – and diversity – in Africa.

Policies: The last Green Revolution imposed “big-box” science institutions and a simplistic “one size fits all” plant breeding strategy that had little relevance for Africa. However, the greatest failure was that the Green Revolutionaries didn’t talk with farmers’ organizations and dismissed farmers’ knowledge as irrelevant. African farmers have sophisticated crop and livestock breeding and ecosystem technologies and their own research networks. Only farmer-led agricultural and rural development initiatives that build upon existing, working systems can lead to real improvement. The issue is not so much what can be introduced *into* Africa as what can be strengthened *within* Africa’s resilient food production and ecosystem strategies. Money and resources – and appropriate technologies – are needed, but science is not an antidote to bad policies. Africa’s agricultural problems stem from huge economic distortions exacerbated by the WTO, multilateral financial institutions and multinational agribusiness. There are also severe internal problems. Africa’s governments have failed to invest in rural areas and to support farmers.

Fora: Agriculture and/or agricultural biodiversity are hot items at the World Bank, FAO and the UN Convention on Biological Diversity and major meetings on these topics will be held over the next 14 months. These intergovernmental bodies must recognize that small farmers, pastoralists and fisherfolk must be the principal architects and actors in strengthening Africa’s food sovereignty.

Old revolutionaries never die:

According to the world's leading intergovernmental agricultural institutions, the Green Revolution of the 1960s and 70s sadly overshot Africa. According to the Green Revolution's critics, Africans dodged the silver bullet. There is agreement that the Green Revolutionaries of those halcyon Cold War days loaded their guns, aimed and fired ... but missed their mark. Given the substantial investment in science and money devoted to Africa during the first Green Revolution (see graph at right¹), it's reasonable to wonder what the gun-toting gurus of this second Green Revolution propose to do differently. Here's an overview of the new international initiatives being concocted for Africa:



What's happening?

Five new Green Revolution initiatives:

1. Gates/Rockefeller – via AGRA? The build up to an African Green Revolution got its blood pumping (and considerable publicity) last September when the Bill and Melinda Gates Foundation joined with the Rockefeller Foundation to announce an initial \$150 million commitment to improve African seeds and seed distribution over the next five years. Gates will put up \$100 million and Rockefeller will upscale its existing African seeds work to \$50 million. This September, the two foundations will announce another \$150 million (or so) to improve African soils. Gates and Rockefeller talk about a 20-year program of four 5-year phases and suggest that the sums involved could expand dramatically over this period.² By dubbing their joint venture the Alliance for a Green Revolution for Africa (AGRA), the two foundations waved a red flag in the face of many of the world's civil society and small farmers' organizations, including Via Campesina, the world's largest peasant farmers' organization. In January 2007, an alliance of more than 70 African CSOs and networks came together at the Nairobi World Social Forum to condemn the new Green Revolution plan.³ Then in February, the Nyeleni Forum for Food Sovereignty in Mali formally rejected the AGRA initiative.⁴ When AGRA hired two key players formerly connected to Monsanto's biotech division,⁵ they further guaranteed ire from the entire anti-globalization movement.

Bill Gates's fondness for all things technological and AGRA's link to Monsanto has naturally led many to assume that the endeavor will pump genetically engineered seeds into an unsuspecting – and unwilling – Africa. Gates and Rockefeller deny this. The Gates-Rockefeller alliance will spend \$43 million to develop 200 non-GE African plant varieties and \$20 million to upgrade national agricultural research around the continent. In a departure from the original Green

Revolution, AGRA will give \$37 million to the sellers (to buttress village- or district-level agribusiness suppliers) and \$24 million to the buyers (to pay for farmers' access to the sellers' "improved" seeds and inputs.) That's a total of \$61 million to subsidize the flow of new technologies. Another \$26 million will go to provide a monitoring and evaluation facility in Nairobi – bringing the total to \$150 million for the "seed" round of the first phase.⁶

The "soils" portion of AGRA, to be announced later this year, will likely emphasize slow-drip irrigation and access to both home-grown and imported fertilizer for small farmers. Currently, African farmers use almost no imported fertilizer and, Gates and Rockefeller contend, the result is lower yields. Gates's staff is adamant that Green Revolution 2.0 will be accessible and user-friendly (leaving Gates's critics to quip that his doors must be better than his Windows). Somewhere in among these figures, about \$10 million has been allocated for work with farmers' organizations and the Alliance, we are assured, will acknowledge and give priority to the central role of women farmers.⁷ AGRA's funders are convinced that the first Green Revolution faltered because not enough attention was paid to the delivery system needed to get seeds and agrochemicals to farmers. This time they will not only have high-tech seeds but they will also build the market infrastructure. This time the "silver bullet" has a gun.

Concerned scientists such as Dr. Melaku Worede, the retired director of Ethiopia's national gene bank and, now, scientific adviser to USC Canada's "Seeds of Survival" programme, worry that the introduction of inappropriate exogenous technologies could create new dependencies and credit vulnerability – especially for small farmers, while wiping out the genetic diversity of Africa's most vital crops. "We need to build from the strengths of the farmers," he insists. "Our work shows that farmers are the best breeders and the best judges of new agricultural projects." Dr. Melaku participated in a public forum (*Green Revolution - Whose Revolution?*), critical of the Gates/Rockefeller initiative, which took place in Ottawa March 26.

Among others in the forum that evening was Assétou Founè Samaké, a biogeneticist at the University of Bamako in Mali and a member of the *Coalition pour la Protection du Patrimoine Génétique Africain* (COPAGEN) – a West African network working hard on Food Sovereignty, halting the spread of GE seeds and working with governments to fend off patents on plants and genes. Assétou told her audience that the starting point for change in Africa had to be with women farmers. Three quarters of the women in Africa depend for their livelihood on agriculture, she warned, and added that it is not just their numbers; it is also their intimate ecological knowledge that will be critical if Africa is to overcome hunger.

2. G8 – "echo-logical" agriculture: If AGRA focused international attention on an African Green Revolution it was, nevertheless, Canada that really got the ball rolling back in 2002 when the country hosted the G8 summit. The (then) Prime Minister cajoled his colleagues into establishing NEPAD (New Partnership for Africa's Development) including a major – but vague – commitment to strengthen agricultural science. En route to the next summit in France in June 2003, the G8 agreed to build four new Centers of Excellence to advance science in Africa. Canada committed \$30 million to BECA (Biosciences for Eastern and Central Africa facility) headquartered in Nairobi.⁸ The French have agreed to build a bioinformatics center in Senegal; the British are committed to building labs (largely – but not exclusively – related to human genomics) in South Africa; and the US has plans to build another research center in Egypt. Canada's BECA facility is the furthest along and involves about \$16 million for bricks-and-

mortar and lab equipment, with much of the rest devoted (somewhat amorphously) to regional “networking.” It is estimated that annual maintenance costs for the BECA edifice will be \$4 million.⁹ Canada initially made no commitment to provide this money.¹⁰ Indeed, Canada scavenged around other OECD governments and private foundations asking them to pony up the dough. (At the time of Canada’s initial NEPAD announcement, total bilateral agricultural assistance to Africa was less than \$13 million! Support has since been rising: the estimate for bilateral agricultural support to Africa in 2005/06 was around \$83 million.)¹¹ Some of those approached to help maintain the Canadian facility in Nairobi have bluntly called BECA “crazy.”¹²

Perhaps so, but the “craziness” is not confined to Canada. Altogether, the G8 countries are probably dropping around \$100-\$120 million on new research facilities for Africa without an articulated plan. When ETC Group visited research institutes in Africa recently; it was obvious that grant-makers and the various research institutes are all scrambling to make something workable – or at least presentable – out of the various initiatives.¹³ The Canadian International Development Agency (CIDA) is anything but happy that a Prime Minister twice removed has committed them to building a white elephant in Africa – and that the Prime Minister of the day – in the run up to the next G8 summit in Germany (and, possibly, a June election) – has other things on his mind. As best they could, in fact, CIDA officials have tried to put the breaks on the PM’s office’s enthusiasm for BECA.

Who wanted BECA in the first place? The Canadian Government claims that it is responding to an African request. However, BECA is being built on the campus of the International Livestock Research Institute (ILRI) in Nairobi. ILRI is one of the 15 International Agricultural Research Centres comprising the Consultative Group on International Agricultural Research (CGIAR) – the architects of Africa’s first, failed, Green Revolution. About eight months prior to Canada’s announced support for BECA, ILRI’s Director-General wrote to the minister responsible for CIDA requesting \$30 million to refurbish and upgrade his Centre’s Nairobi labs.¹⁴ Months later, ILRI’s proposal was supported by an African science committee. When ETC Group visited ILRI in January 2007, the new lab equipment was arriving and construction was about to begin for the BECA facility. Northern donors have a tradition of only listening to the South when they are assured of hearing an echo of their own voice.

And now, this June, the G8 meeting in Heiligendamm, Germany is expected to launch a new research agenda initiative intended to bring science and technology to bear on problems such as African development and climate change. At this writing, negotiations are still at the sherpa level, but insiders expect the initiative to win favor with Heads of State and be inaugurated at the Summit. Because of the G8’s enthusiastic focus on climate change and on Africa, many expect that the research agenda will have a strong interest in African agriculture.¹⁵

3. Syngenta synergies? Syngenta – one of the world’s largest seed companies – might have a use for BECA. In 2004, the Syngenta Foundation (the wholly owned private-sector foundation of Syngenta Corporation in Switzerland) partnered with the Kenyan government to build a \$12 million biosafety level 2 greenhouse facility at the Kenyan Agricultural Research Institute (KARI), also in Nairobi. This high-tech greenhouse is part of project IRMA (Insect Resistant Maize in Africa) intended to develop – with the help of Syngenta and another one of CGIAR’s

centres (recently funded by Gates and Rockefeller, see table on page 13) – new GE maize varieties for East Africa.¹⁶ KARI's new GE greenhouse is just next door to the new BECA labs.

4. Google – a geek revolution? So, the \$30 million BECA bio-lab in Nairobi has been augmented by the \$12 million Syngenta GE greenhouse in Nairobi, and augmented again by the \$26 million Gates/Rockefeller facility also in Nairobi. Not to be outdone, the Foundation established by Google (Google.org) together with the Acumen Fund is supporting initiatives in Kenya, Tanzania, South Africa and Egypt.¹⁷ At the World Economic Forum in Davos in January 2007 Google reportedly offered Tanzania \$300 million for “development.” It is not clear how much of this money (if any) will go toward Green Revolution 2.0 but significant sums (say those in discussion with Google) are unavoidable.¹⁸

5. Millennium villages – it takes a world to raise a village? Meanwhile, back in Canada where much of this began, Canadian Parliamentarian Belinda Stronach (a millionaire in her own right) has become an enthusiastic supporter of Green Revolution 2.0 and a keen backer of the Jeffrey Sachs Millennium Villages venture based at Columbia University's Earth Institute. Sachs has established a model program intended to ensure that 12 villages in 10 African countries will achieve the Millennium Development Goals by 2015. This is an integrated village/rural development strategy that includes health, education, community infrastructure and agriculture and agricultural marketing. As one of the architects of the Millennium Development Goals, a close confidant to former Secretary General Kofi Annan, and the all-around development guru of the 21st-century, Jeffrey Sachs is asserting his high-profile media and political leverage to arm-twist African presidents and OECD donors to make these villages a success story. Models like this almost always “work” – they are literally forbidden to fail – as long as the television cameras are rolling. Sachs is especially concerned about seeds and soils and clearly wants support from geeks like Gates and Google. Although the 12-village initiative is only expected to cost \$18 million over five years, Sachs hopes to expand to at least 70 villages and surrounding areas. So far, he has support from billionaire investor George Soros, Sumitomo Chemicals and UNDP.¹⁹ Sachs' sidekick in this venture is a Canadian who, until recently, was the Director-General of yet another CGIAR institute headquartered in Nairobi.²⁰ Sachs and those involved in his Millennium Villages initiative are placing big bets on the commitment of African Heads of State made at the Africa Fertilizer Summit held in Nigeria last year.²¹ Sachs and colleagues believe that a fertilizer boost could massively improve crop yields. Others argue that in any “model” project like this, it's not the pH level of the soil, but the number of PhDs on the soil that causes most of the problems. Or, maybe the Millennium Villages should just practice “safe Sachs.”

In Canada, well-intentioned politicians like Belinda Stronach are urging the Conservative government and Canadians to back another Green Revolution by supporting the Millennium Village expansion into a Millennium District venture. The cost would likely run in the range of \$100 million per year. Thus far, CIDA's reaction is lukewarm.²²

What's wrong?

Five outstanding issues:

1. Who sets the tune? The plethora of new initiatives – and the uncertainty surrounding them – is surprising. But it is also indicative of a growing trend toward privatization of foreign aid, and the fusing of the private sector with governments. These days, where Bill Gates goes so goes government. Every head of every aid agency in the OECD wants a photo-op announcing a joint venture with the mega-billionaire. Sound government planning – always elusive – gets all weak-kneed and fluttery when Bill and Melinda come to town. While the good news here is that governments may pay more attention to agriculture, they may become even more entangled in high-tech silver bullets and big-box science... just as they were weaning themselves off the CGIAR.

Private sector influence over the CGIAR is also growing. It is not so much that agribusiness is interested in the CGIAR as it is that the CGIAR is interested in agribusiness. Recently, CGIAR's courting of big business has become embarrassing. The head of the Syngenta Foundation (first when he was a British government representative and now in his current capacity), for example, attends the CGIAR governance meetings. So does Rockefeller. There is a difference, however. Over the decades, the Rockefeller Foundation's connection to Big Oil has become remote as the Foundation widely diversified its stock portfolio. Syngenta Foundation, however, is an explicit arm of Syngenta Corporation chartered to do its bidding and not to jeopardize its markets. Syngenta Corporation is the world's second largest agrochemical company and third largest seed company. With comparatively modest sums of their own, private foundations are able to divert and redirect much larger public sums.

2. Who gets the silver bullet? There is also a growing concern that the major beneficiary of all the new science money will be the CGIAR. The Consultative Group on International Agricultural Research is 35 years old this year and, as a network of 15 International Agricultural Research Centers, has been spending not less than 40% and, most recently, 48% of its global budget on Africa for two decades. By way of background, CGIAR is the brainchild of the Rockefeller and Ford Foundations – the original perpetrators of the Green Revolution – that joined forces, in 1972, with the World Bank to expand the initial Green Revolution of the 1960s. CGIAR has been spending approximately \$150-\$200 million per year (though projecting \$246 million in 2007) on crop and livestock research in Africa.²³ Of the CGIAR's 15 centers, five were originally located in Africa and two were exclusively mandated to work only in Africa. More recently, the five centers have morphed into (effectively) three, but most of the other CGIAR centers also have substantial operations on the continent.

After 35 years of lack-luster results in Africa – the CGIAR's major donors (World Bank, USA, Japan, EU and Canada) are clueing in that the CGIAR's big box campuses around the world have misinterpreted the goal of the Slow Food Movement and are part of the problem. As a result, financial support for the CG system has become problematic. The free-wheeling times that followed Norman Borlaug's Nobel Peace Prize (1970) are over and grants are being tightly tied to donor-directed outputs. Hence, over the last few years, the 15 institutes have been looking for support among private companies and foundations and sprucing up their image. As part of their makeover, CGIAR institutes have become the Future Harvest Centers and its International

Plant Genetic Resources Institute (IPGRI) has glamoured up with the new – and universally unpopular – name, “Bioversity.” Courting geeks like Gates and Google, rumours abound that the International Potato Center (in Peru) is soon to become “YouTuber” and the maize and wheat center (in Mexico) will morph into “maizespace”. Could CIAT, in Colombia, (heavy into high-yielding beans) become “HiPod?” Will CGIAR’s website (on its 15 institutes) turn into “Faceplant?”



3. Whose priorities? Is all this a grand design to pump GE seeds into Africa? Africans are right to be cautious. Both Gates and Rockefeller are definite high-tech keepers and both have supported GE crop research in the global South. Most recently, the Gates Foundation has put \$43 million into biotech’s next incarnation – synthetic biology (a.k.a. nanobiotechnology) – in a high-tech, high cost and high-risk venture to re-engineer the metabolic pathways of microbes to yield a powerful anti-malarial compound that is derived from the Chinese wormwood tree. Yet, a much smaller investment could strengthen the already-existing capacity of small farmers, in Africa and elsewhere, to cultivate wormwood. A 2006 report by the Royal Tropical Institute of the Netherlands points out that it is technically possible to cultivate sufficient amounts of wormwood to produce enough artemisinin to treat all the malaria patients in the world.²⁴ The Institute’s report warns, however, that the prospect of synthetic artemisinin production could destabilise a very young market for natural artemisia, undermining the security of farmers just

beginning to plant it for the first time. (See ETC's report, *Extreme Genetic Engineering*, January 2007.)

Nevertheless, in writing, AGRA has committed not to introduce genetically engineered seeds in Africa in the coming five years (the first round of their new Green Revolution) and the project leaders indicate that it is unlikely they will introduce GE seeds in the second five-year phase either. In addition, Rockefeller/Gates confirm that they remain opposed to the use of Terminator technology ("suicide seeds") in the global South.

What about the BECA centre of excellence? ILRI and others responsible actively downplay BECA's potential to develop GE crops, maintaining that – while BECA's focus will be high-tech – it will not likely involve genetic engineering, at least initially. However, ETC Group has obtained, through an Access to Information request, briefing notes prepared for Canada's CIDA minister preparing for her meeting with ILRI's Director-General. The meeting took place just four months after Canada decided to build BECA. "As research on genetically modified crops is only one of the components of the research to be conducted at the centre," the briefing note advises, "a greater emphasis, in our communications, should be given to other less controversial and potential positive outcomes..."²⁵

If BECA's upkeep depends on contracts from public and private researchers, the ultimate use of the facility is not necessarily in the hands of its creators.

Ultimately, nothing is written in stone. Neither the G8 in general, Canada in particular, nor Gates and Rockefeller have any principled opposition to GE. Remember, the staff hired to lead AGRA hail from Monsanto. And, while AGRA may have made a tactical decision to avoid GE for the time being, both Rockefeller and Gates continue to put money into GE crops for Africa outside the AGRA envelope. In 2005, after all, the Gates Foundation invested heavily in GE sorghum (\$16.9 million) and GE "bio-cassava" (\$7.5 million), and vitamin-fortified GE bananas (\$3.9 million) for Africa in advance of AGRA.²⁶ Gates is hoping to genetically engineer a whole whack of vitamins and nutritional traits that could turn sorghum, cassava or bananas into the single "super crop" meeting Africa's needs. While the Rockefeller Foundation may be in a funk about corporate control over biotechnology, it is still keen on the technology. It was Rockefeller, after all, that invested millions in the abortive development of GE Golden Rice – only to surrender the project, gratis, to Syngenta. (For background, see *Golden Rice and Trojan Trade Repts: A Case Study in the Public Sector's Mismanagement of Intellectual Property*, ETC Group, September/October 2000.)²⁷

There is also a major issue concerning intellectual property. High-tech agriculture usually comes with high-cost patents and licensing arrangements. Will AGRA help African governments and farmers fight WTO and US government patent rules or will it simply facilitate and encourage government acquiescence to those rules? In 2005-2006 Rockefeller made 3 grants totaling almost \$3.5 million to the African Agricultural Technology Foundation to facilitate the transfer of "proprietary technologies." Although Rockefeller officials have long been frustrated by odious patent claims on seeds and genes, rather than fight, they've looked for ways to ease the pain and live within US-promoted patent regulations. Sometimes this has meant surrendering to patents that have not even been applied for in Africa – and that Africans are under no obligation to accept. Few believe that Rockefeller/Gates will give farmers resources to resist agribusiness

patents. More likely, AGRA will encourage surrender; taking on the role of “honest broker;” temporarily making a bad system bearable; turning a gift horse into a Trojan horse.

4. Where are the brains? Who’s in charge of Green Revolution 2.0? The head of the Syngenta Foundation sits on CGIAR committees as does the agriculturalist at the Rockefeller Foundation. The senior program officer for AGRA used to work for the Rockefeller Foundation and also knows the CGIAR well. The same Canadian CIDA staff members who are charged with getting BECA off the ground also have responsibility for Canada’s contribution to CGIAR. The top agricultural dog in the Jeffrey Sachs dog-’n-pony show was, previously, the director general of one of the CGIAR centers (headquartered in Nairobi). Not only do these initiatives share a common geographic focal point – Nairobi and Kenya – but most of the action either centers around CGIAR institutes or current or former CG leaders. Although the various African agricultural initiatives have different origins, it is hardly surprising that people who know one another have sought each other out and are now trying to make sense out of the confusion.

Outsiders assume that the intellectual leadership is coming from Rockefeller. Over the past few decades Rockefeller has spent at least \$600 million on agricultural research and committed itself heavily in Africa. The Foundation’s former president in fact wrote a book calling for a “Double Green Revolution” in Africa and elsewhere.

But, according to colleagues in sister foundations, Rockefeller’s Fifth Avenue offices in Manhattan were almost emptied out when the new president came in. Agriculture – for six decades the flagship programme of the Foundation – became expendable until Gates called up and asked to tap into Rockefeller’s agricultural expertise. Now, having given itself a frontal lobotomy, Rockefeller will attempt to marshal more money for agriculture in the next 10 years than it has in the last 60!

5. Where are the farmers? So, if leadership is absent elsewhere, why not trust farmers? CGIAR and the international agricultural system tried everything during that first Green Revolution. They lined up presidents and prime ministers; they built labs and campuses; they brought in big-name scientists with international salaries; they studied and analyzed and researched. In fact, they did everything except listen to farmers and their organizations. The astonishing failure of the first Green Revolution was that it didn’t recognize that farmers, too, are scientists and farmers already regard their fields as test plots and research labs for new ideas. Their highly-innovative system of farmer-based research (as well as that of pastoralists and artisanal fisherfolk) was completely ignored.

At the end of February, at the urging of Via Campesina, about 600 farmers (and their organizations) and other CSO allies engaged in agriculture and rural development met in Mali to talk about Food Sovereignty – the notion that food comes first and trade is secondary; and that small farmers, pastoralists and fisherfolk and poor consumers need to work together. Fully aware of the climate change at hand as well as of the threats of the WTO, their Food Sovereignty Conference didn’t just condemn Green Revolution 2.0, but went on to call for a farmer-led revolution. And, that would be a revolution in deed!

Food sovereignty is the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems. It puts those who produce, distribute and consume food at the heart of food systems and policies rather than the demands of markets and corporations.²⁸

Diamantino Nhampossa of Mozambique's UNAC (National Peasants Union) and Via Campesina in Africa, was one of the prime movers behind the Food Sovereignty Conference in Mali. According to him, Green Revolution 2.0 is "a serious threat to the continent's peasants, seeds, and livelihoods. Instead of recognizing the rich knowledge that peasant women and men have managed for millennia, the introduction of hybrid seeds and technological packages will further damage the peasants own production systems."

One of the organizers of the African Social Forum last year and the Food Sovereignty summit this year, Mamadou Goïta, also sees the need for farmer leadership. "International scientists who come to Africa don't seem to realize that farmers are organized," Goïta says while on a trip to Burkina Faso. "They say that they'd love to work with farmers but that farmers are too busy and too decentralized." A socio-economist and executive director of the *Institut de Recherche et de Promotion des Alternatives en Développement* (IRPAD) in Bamako, Mamadou Goïta is perfectly at home talking to scientists or with farmers. "Farmers have always been organized at the community level and they are increasingly well-organized through their own structures at the national level. In countries like Mali, farmers are a genuine force to be reckoned with. Certainly, farmers are no longer prepared to accept someone else's idea of what is good for African agriculture."

Green Revolution, Inc.: Assétou Founè Samaké, Momadou Goïta, Melaku Worede and Diamantino Nhampossa have been actively engaging Gates, Rockefeller, and the Canadian government in their various agricultural initiatives. They fear that Green Revolution 2.0 could turn into a biotech revolution for agribusiness. Here's what's likely to happen if concerned people don't act quickly:

- First, the betting is that the Canadian government will have no choice but to let BECA turn from being, at least in part, a regionally-directed biosciences center into a research lab for CGIAR's biotech scientists around Africa. BECA is already open for business to work with biotech companies and anyone else who can contribute to the \$4 million maintenance cost. That's about the only way BECA is going to keep the lights on.
- Second, BECA and its counterparts in Senegal, South Africa, and Egypt will hook up with the Syngenta Foundation and other private-sector interests to push biotech. The new labs in Nairobi, don't forget, are right next door to Syngenta's new GE greenhouse.
- Third, the Gates/Rockefeller multi-year initiative is not just seeds and soils. Much of the money is focused on the "ordering" of Africa's cacophonous agricultural legislation and regulation in order to facilitate private-sector participation. In fact, at least \$37 million of the new initiative is intended to support or subsidize African seed companies and agricultural input traders so that they can get seeds, pesticides and fertilizers to farmers.

(Beyond everything else, Gates paid \$166,000 for a study on how to build a seed company.) In other words, over the next several years, Gates and Rockefeller will use their money and influence to clear away governmental and infrastructural barriers (including patent?) that have made it unprofitable for global agribusiness to work on the continent. Once all of that is done, agribusiness will have the GE research facilities and market network it needs – and the ongoing support of the ever willing and needy CGIAR system.

In the final analysis, the major beneficiaries of all this will be the very folks that disillusioned governments and frustrated foundations wanted to do an end-run around in the first place – the CGIAR. While the G8 struggles to make sense of its new big-box centers of excellence, the Rockefeller and Gates Foundations will be trying to keep an administrative handle on their money. It's likely that everyone will turn to the old Green Revolution centers that – if nothing else after 35 years – know how to spend money and write reports.

This is a tragedy. Without question, there is need for much more support for agriculture and rural development in Africa. It's not that there is too much money being thrown at the problem – even more money could be used – it's that those empowered with new money to tackle the problem are the gang that couldn't shoot straight when Africa was in the crosshairs of the first Green Revolution.

What next?

Five steps forward

Money and resources are needed to recover from the damage that centuries of colonization and decades of trade liberalization have caused in Africa. Africa's agricultural problems stem from huge distortions in international economics and trade being exacerbated by the WTO and multinational agribusinesses. There are also severe internal problems in the failure of Africa's governments to invest in rural areas and to support farmers. Science is not an antidote to bad policies. While appropriate science and technology have a role to play in achieving African food sovereignty, it is only one element in a much larger social strategy.

ETC Group offers the following recommendations as first steps:

1. Any road map for food sovereignty in Africa should come from African people, particularly small farmers, pastoralists, artisanal fisherfolk and their organizations. An important starting place is the work of the Nyeleni Forum for Food Sovereignty.
2. The G8 should drop their plan to build big-box centers of excellence and roll the money they would have spent on bricks and mortar into a coherent multilateral initiative to support farmer-led food sovereignty. The BECA white elephant in Nairobi should be cancelled and the remaining funds should be reallocated to farmer-led food sovereignty in the region.

3. On its 35th anniversary, CGIAR's work around the world – and especially in Africa – should be subjected to a new farmer-led external review willing to give serious consideration to alternative strategies that would ensure that funds that might be allocated to the CGIAR's \$513 million annual budget (2007 estimate) are still available for agriculture (and not necessarily for agricultural research conducted by its international centers.) A farmer-led food sovereignty initiative in Africa could find better ways to spend this money.
4. FAO and the Convention on Biological Diversity – who are already working together on agricultural biodiversity issues – should create an open forum to discuss these various initiatives with farmers' organizations in Africa. Note: While this is the kind of role that UN bodies should be expected to play on behalf of humankind, the UN has an unimpressive history with farmers' organizations. Both FAO and the CBD should take this opportunity to commit to a better relationship with the world's small food producers.
5. Additionally, FAO and the CBD should launch a special initiative looking at agricultural biodiversity in the context of climate change.

Rainbow Evolution? The idea of a farmer-led agricultural revolution shouldn't be such a leap for either the G8 or the private foundations. Back when all the kafuffle began in 2002, in the lead-up to the G8 summit in Canada, UN Secretary-General Kofi Annan asked the InterAcademic Council (the network of national science councils) to put together a blue-ribbon panel to advise on the nature and structure of a major agricultural initiative in Africa. The IAC panel came back with a detailed report that explicitly rejected another Green Revolution and called instead for "numerous 'rainbow' evolutions"²⁹ (presumably, dealing with the full spectrum of Africa's highly-diverse agricultural strategies) — and also, explicitly, identified a major role for farmers' organizations in Africa. ³⁰The report, which went both to the Secretary-General and the G8, was financed by the Bill and Melinda Gates Foundation.

Elements of Green Revolution 2.0			
Funder	Activity	Total	Project
Gates/Rockefeller AGRA		\$300,000,000 ³¹	
<i>Seeds</i>		\$150,000,000 ³²	
	Plant breeding		\$43,000,000
	Scientific training		\$20,000,000
	Farmer access		\$24,700,000
	Trader access		\$37,000,000
	Evaluation centre ³³		\$26,000,000
<i>Soils</i>	Irrigation, fertilizer, etc. ³⁴	\$150,000,000 ³⁵	
Gates (non-AGRA)		\$61,300,000 ³⁶	
	GCDT ³⁷ (FAO/CGIAR-related) National gene banks		\$30,000,000
	CIMMYT ³⁸ (CGIAR) cereals		\$5,800,000
	CIAT ³⁹ (CGIAR) cassava		\$7,500,000
	CIAT (CGIAR) banana		\$1,100,000
	ICRISAT ⁴⁰ (CGIAR) sorghum		\$16,900,000
	AVRDC ⁴¹ (semi-CGIAR) vegetables		\$12,000,000
	Vegetable marketing		\$13,400,000
	IFPRI ⁴² (CGIAR) policy		\$4,500,000
	US Nat'l Academy of Science		\$1,000,000
	"How to build a seed company" consultancy ⁴³		\$166,000
Gates (relevant to AGRA)		\$21,000,000 ⁴⁴	
	Micro-credit		\$20,000,000
	Informatics in Africa		\$1,000,000
Rockefeller (non-AGRA)		\$30,751,000 ⁴⁵	
	CGIAR (CIAT, CIMMYT, ICRISAT, CIFOR)		\$7,224,000
	Fertilizer and soil-related		\$2,000,000
	Ag infrastructure		\$21,527,000
Syngenta Foundation		\$12,000,000 ⁴⁶	
Google/Acumen Foundation⁴⁷		\$300,000,000 ⁴⁸	
CGIAR		\$246,000,000 ⁴⁹	
G8 Centers of Excellence		\$120,000,000 ⁵⁰	
	Canada BECA		\$30,000,000
	UK, USA, France		\$90,000,000?
		12 villages in	
		10 African	
Earth Institute -- Millennium Villages Program		States	\$18,000,000 ⁵¹

ENDNOTES:

- ¹ Nienke M. Beintema and Gert-Jan Stads, "Sub-Saharan African Agricultural Research: Recent Investment Trends" in *Outlook on Agriculture*, Vol 33, No 4, 2004 IP Publishing Ltd, London. p. 243; on the Internet: <http://www.asti.cgiar.org/pdf/Outlook.pdf>.
- ² Personal communications with representatives of the Rockefeller Foundation and the Bill and Melinda Gates Foundation, both by telephone and in-person, during February-March, 2007.
- ³ News Release issued at the close of the Nairobi World Social Forum: January 25, 2007 http://www.giaifoundation.org/resources/general.php?pub_id=409.
- ⁴ Nyleni 2007 – Forum for Food Sovereignty: Synthesis Report, <http://www.nyleni2007.org/spip.php?article334>.
- ⁵ Eric Holt-Gimenez, Miguel Altieri and Peter Rosset, *Ten Reasons Why the Rockefeller and the Bill and Melinda Gates Foundations' Alliance for Another Green Revolution Will Not Solve the Problems of Poverty and Hunger in Sub-Saharan Africa*, <http://www.foodfirst.org/pubs/policy/pb12.html>.
- ⁶ Tom Paulson, "Gates and Rockefeller attack hunger in Africa: 'Green Revolution' aims to lift millions out of poverty" in the *Seattle Post-Intelligencer*, Wednesday, September 13, 2006, http://seattlepi.nwsource.com/local/284913_greengates13.html.
- ⁷ Personal communication from Gates Foundation official March 23, 2007.
- ⁸ The Prime Minister of Canada's announcement, May 26, 2003, http://www.pco-bcp.gc.ca/default.asp?Language=E&Page=archivechretien&Sub=NewsReleases&Doc=africaactionplan.20030526_e.htm.
- ⁹ CIDA, *Biosciences Eastern and Central Africa: Business Plan 2005-2008*, April 2005 p. 55.
- ¹⁰ CIDA, *Biosciences Eastern and Central Africa: Business Plan*, November 24, 2004, obtained through an Access to Information request.
- ¹¹ Data provided by Brian Tomlinson of the Canadian Council for International Cooperation (CCIC) April 5, 2007 based upon his earlier research.
- ¹² Personal communication from a foundation official familiar with the situation February/March, 2007.
- ¹³ ETC Group visited BECA, the International Livestock Research Institute, and a number of Canadian and Kenyan officials in Nairobi, January 19-25, 2007.
- ¹⁴ On October 19, 2002, following a visit to ILRI by senior CIDA officials from Ottawa, Blake Bromley, the outgoing Director-General of ILRI wrote to Susan E. Whelan, Minister responsible for CIDA, requesting \$30 million to upgrade and refurbish laboratory facilities. On 19 December, Nicolas Drouin of CIDA acknowledged receipt of the request to Bruce Scott of ILRI, (documents obtained by an Access to Information request).
- ¹⁵ Personal communication at the World Biosciences Forum, BioVision 2007, in Lyon, France, March 14, 2007. Pat Mooney of ETC Group was a panelist at this forum and spoke with a number of African, European, and Canadian officials.
- ¹⁶ http://www.syngentafoundation.org/insect_resistant_maize.htm.
- ¹⁷ <http://www.acumenfund.org/>.
- ¹⁸ Personal communication with a foundation official February 15, 2007.
- ¹⁹ <http://www.earth.columbia.edu/millenniumvillages/>.
- ²⁰ Dr. Pedro Sanchez is the former Director-General of the World Forestry Center in Nairobi (formerly known as ICRAF).
- ²¹ For a helpful overview on the fertilizer summit and its ongoing implications, please see, Canadian Foodgrains Bank Working Paper, "Green Revolution for Africa: Hope for Hungry Farmers?" February 2007.
- ²² ETC Group attended a meeting with Belinda Stronach and her colleagues at the Château Laurier in Ottawa March 1, 2007. However, ongoing work in this area is in limbo. On April 11, 2007, Belinda Stronach announced that she will not seek reelection.
- ²³ CGIAR Secretariat, *Draft Investment Proposals and Financing of the 2007 CGIAR Research Agenda*, December 2006, p. 15 (Table 8. CGIAR Investments by Region).
- ²⁴ Willem Heemskerk *et al.*, *The World of Artemisia in 44 Questions*, The Royal Tropical Institute of the Netherlands, March 2006, p. 50; on the Internet: <http://www.kit.nl/smartsite.shtml?ch=FAB&id=7648>
- ²⁵ CIDA Briefing Note: *Minister Whelan's Meeting with Mr. Blake Bromley, Director ILRI*, September 17, 2003, obtained through an Access to Information request.
- ²⁶ <http://www.gatesfoundation.org/GlobalHealth/>.
- ²⁷ <http://www.etcgroup.org/en/materials/publications.html?id=305>
- ²⁸ <http://www.nyleni2007.org>.

²⁹ IAC Report 2004, *Realizing the Promise and Potential of African Agriculture*, in which the authors state in their forward: “The IAC Panel concludes that African agriculture will require numerous ‘rainbow evolutions’ that differ in both nature and extent among the many different types of farming systems and institutions throughout Africa – rather than a single Green Revolution.”

³⁰ IAC Report 2004, *Realizing the Promise and Potential of African Agriculture*, in which the authors state in their forward: “Interdisciplinary teams from African universities, research centers, extension services, and farmers’ organizations should be created to prepare plans for promoting priority farming systems. Local farmers’ advisory councils involving both men and women should be constituted to assume ownership and undertake monitoring and evaluation of the resulting initiatives.”

³¹ Combined Gates and Rockefeller estimate for first five-year phase (Sept. 2006-Sept. 2011).

³² \$100 million provided by Gates and \$50 million provided by Rockefeller.

³³ It is unclear how much of this money will be used for staff and facilities and how much is used for program evaluation.

³⁴ Gates emphasizes slow-drip and other low-impact irrigation methods. Gates also emphasizes organic or, at least, domestic fertilizer options.

³⁵ Approximate total for soils section of the first phase. Proportion to be taken up by Gates or Rockefeller is unknown. Announcement is expected in Sept. 2007.

³⁶ This figure represents the total of all agricultural projects in Africa since 2004 as referenced on the Gates Foundation’s website.

³⁷ Grant has been made to the Friends of the Global Crop Diversity Trust via the UN Foundation. The GCDT is formally linked to the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture of FAO at also works closely with the CGIAR. The funds will be used in support of the South’s national gene banks to rejuvenate collections and upgrade facilities and training. The funds will not be used to support CGIAR gene banks.

³⁸ International Maize and Wheat Improvement Centre headquartered in Mexico.

³⁹ International Center for Tropical Agriculture headquartered in Columbia. CIAT is active in crops such as beans and cassava important to Africa.

⁴⁰ International Center for Research in Semi-Arid Tropics headquartered in India. ICRISAT is active in Africa with work on sorghum, millets, pigeon peas, etc. ICRISAT has recently released, for the first time, hybrid pigeon peas.

⁴¹ Asian Vegetable Research and Development Center headquartered in Taiwan. Because of its contentious political location, AVRDC has not become a full member of CGIAR although it attends CG meetings and has many of the same donors.

⁴² International Food Policy Research Institute headquartered in Washington, DC.

⁴³ This was a contract given to a private company to advise on the implications of developing and supporting a private seed company in Africa.

⁴⁴ This figure includes African or partially African projects listed since 2005 by the Gates Foundation on its website where it appears that farmers, agribusiness, or agricultural scientists have access to project activities:

<http://www.gatesfoundation.org/GlobalDevelopment/Agriculture/Grants/default.htm>.

⁴⁵ This figure represents the total of agricultural-related projects listed on the Rockefeller Foundation website since 2005 that are not directly included in the AGRA, <http://www.rockfound.org/grants/grants.shtml>.

⁴⁶ Syngenta Foundation and the Kenyan Agricultural Research Institute (KARI) lead an initiative that had additional funders to build biosafety level 2 greenhouses at KARI in Nairobi in 2004. The greenhouses are in support of a GM maize program, http://www.syngentafoundation.org/insect_resistant_maize.htm.

⁴⁷ Google.org is the foundation established by the two founders of Google. Because of the unusual tax structure of the foundation, details on its disbursements are not clear. Google has also given financial support to the Acumen fund but it is not known whether this fund will be used to implement future Google activities.

⁴⁸ As of this writing, it is not clear to what extent any of this money will be directed to agriculture or food security issues in Tanzania.

⁴⁹ This is the projected budget for CGIAR centers in 2007 as estimated at the CGIAR annual meeting in December 2006 in Washington, DC. This figure would include contributions made by private foundations such as Rockefeller, Gates, Kellogg, or Syngenta as well as grants made by G8 countries.

⁵⁰ This is only an estimate of the cost of four Centers of Excellence based upon Canada’s commitment of \$30 billion for BECA. African scientific institutes have asked for a grant of \$157 million in the immediate years ahead. The Blair Commission on Africa proposed a grant of \$3 billion for African science in 2005 supported by an additional \$10 billion after that.

⁵¹ The program is committed to spending approximately \$300,000 per year per village over a five-year period but is hoping to expand to more than 70 villages in Africa through its “Millennium Promise” campaign.
http://www.millenniumpromise.org/site/PageServer?pagename=mv_main.

ETC Group is an international civil society organization based in Canada. We are dedicated to the conservation and sustainable advancement of cultural and ecological diversity and human rights. ETC Group supports socially responsible development of technologies useful to the poor and marginalized and we address international governance issues affecting the international community. We also monitor the ownership and control of technologies and the consolidation of corporate power.



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