

# Africa's Green Revolution rolls out the Gene Revolution

**Mariam Mayet, April 2009**



**The drive by corporate players and certain philanthropic foundations for a ‘Green Revolution in Africa’ is an attempt to entrench an agricultural model based on chemical-intensive, large-scale monocultures designed for export under so-called free trade principles. The participation of biotechnology companies in this drive gives added cause for concern.**

THE ‘New Green Revolution in Africa’, touted since the 1990s, was given renewed impetus two and a half years ago, when the Rockefeller and Bill and Melinda Gates Foundations launched the Alliance for a Green Revolution in Africa (AGRA).<sup>1</sup> Although AGRA itself does not incorporate genetically modified (GM) crops in its projects, the ominous presence of GM companies and GM technologies hovers over the Green Revolution push like a bad dream.

Millions of dollars have been poured into the coffers of a host of carefully selected role players, to lay the groundwork for the industrialisation of African agriculture and creation of markets for agribusiness giants. These AGRA players include US groups such as Citizens Network for Foreign Affairs (CNFA) and the International Fertiliser Development Centre (IFDC). Both these groups are successfully enmeshing the corporate interests of Syngenta Crop Protection, Dow AgroSciences, Bayer CropScience, Du Pont Crop Protection and Monsanto within AGRA projects in select African countries.

It is also becoming extremely important to link the huge amounts of cash flowing into ‘Green Revolution’ coffers, to the enormous cash injections flowing from the Gates Foundation into biosafety projects in Africa. The beneficiaries of huge Gates Foundation biosafety grants are all linked directly with, or are funded by, the biotechnology industry. These projects strategically avoid the promotion of GM crops that are in commercial production and instead focus on ‘pie in the sky’ nutritionally enhanced GM ‘biofortified’ and ‘climate-friendly’ drought-tolerant crops. This is done to win over the hearts and minds of reluctant Africans, while paving the path for the gene giants to gain a firmer and more respectable foothold in Africa.

The philanthropic money pouring into Africa from the Gates Foundation is being used to usher in two revolutions in African agriculture in tandem, one based on the classical Asian and Latin American Green Revolution, and the other based on GM technology. After all, the profit makers in both scenarios are one and the same and have the same objective in mind, namely, the establishment of a dominant agricultural model based on agro-exports, free trade, and the use of chemical-intensive large-scale monocultures and GM organisms (GMOs).

## **The imperatives of the Green Revolution in Africa**

The African Green Revolution discourse defines rural poverty in terms of insufficient productivity, which a technological ‘fix’ comprised of high-yielding varieties (HYVs), genetically engineered seeds and large-scale application of chemicals will resuscitate.<sup>2</sup> Thus, the Green Revolution in Africa is motivated by the desire to transform agriculture into a dynamic sector with an emphasis on export crops and the integration of peasant and small producers into the global economy.<sup>3</sup>

This ideology has received the endorsement of the African Union, and is propagated through the New Partnership for Africa's Development (NEPAD) via the Comprehensive Africa Agriculture Development Programme (CAADP)<sup>4</sup>, and the Framework for African Agricultural Productivity (FAAP). Heads of state in Africa have, in various ways, also thrown their weight behind the call for a Green Revolution as a necessary prerequisite to accelerate agricultural productivity to deal with poverty and hunger in Africa.<sup>5</sup>

AGRA, with its millions, strongly promotes the Green Revolution ideology, and is ostensibly geared towards helping millions of small-scale farmers lift themselves out of poverty and hunger by significantly boosting farm productivity with Green Revolution-type technologies.<sup>6</sup>

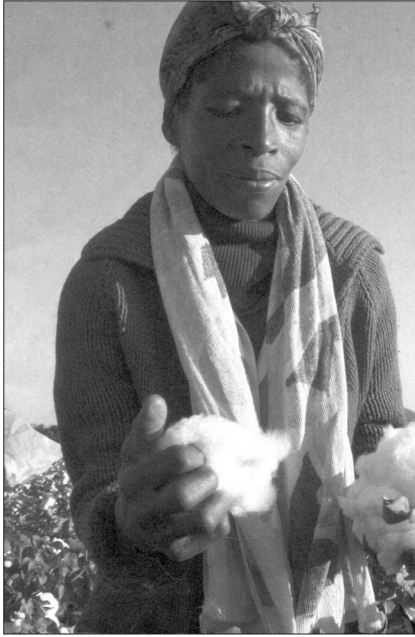
The Chairperson of AGRA is former United Nations Secretary General, Kofi Annan. AGRA board members are drawn heavily from the Rockefeller Foundation, Gates Foundation, International Food Policy Research Institute (IFPRI), people closely linked to the Consultative Group on International Agricultural Research (CGIAR) and the corporate sector in South Africa. AGRA board members include Monty Jones, Executive Secretary of the Forum for Agricultural Research in Africa (FARA). Dr Jones was the first African to win the World Food Prize in 2004 for his key role in the research and development of NERICA, the 'New Rice for Africa', a key crop in the Green Revolution push in Africa. Dr Jones conducted his research while based at the Upland Rice Breeding Programme<sup>7</sup> at the West Africa Rice Development Association (now Africa Rice Centre) (WARDA). In 2007, Jones was voted as one of Time magazine's most influential persons. Another influential board member is Mamphela Ramphele, currently Executive Chairperson of Circle Ventures, a venture capital black economic empowerment company, and former managing director of the World Bank during 2000-2006. One of AGRA's key staff persons is Joseph De Vries, who is Director for AGRA's Programme for Africa's Seed Systems (PASS). De Vries is a veteran of the Rockefeller Foundation.

The considerable financial and political clout housed within AGRA provides advocacy and lobbying support at a high global level, for reform of global policies dealing with high taxes and tariffs, and coaxing the international community to support AGRA's goals. This includes the provision of 'smart subsidies' to enable poor farmers to make use of the new Green Revolution and gene technologies, as well as external inputs such as agro-chemicals and inorganic fertilisers. Already there is strong support from the International Fund for Agricultural Development

(IFAD) for the role that 'smart subsidies' can play in giving poor farmers access to fertilisers.<sup>8</sup> AGRA has also entered into a strategic alliance with three of the Rome-based United Nations institutions – the Food and Agriculture Organisation (FAO), IFAD and the World Food Programme (WFP)<sup>9</sup> – in a bid to link the Green Revolution market with that of food aid for starving Africans.

## Facilitating the entry of gene giants, GMOs into Africa

During 2008, AGRA's website posed a response to 'Frequently Asked Questions' noting that 'the introduction of genetically engineered crops is not part of the Alliance strategy....at the same time, the Alliance will not shy away from considering the potential of biotechnology in reducing hunger and poverty. Currently, however, there is limited capacity among



Harvesting genetically modified (GM) cotton in South Africa. Hovering over the current push for a 'New Green Revolution' in Africa is the ominous presence of GM companies and GM technologies.

African plant breeders, and it is best used in pursuit of conventionally developed crop varieties.<sup>10</sup> Its current 'Statement on Plant Breeding and Genetic Engineering' states the following: 'AGRA is at this time not funding the development of new varieties through the use of genetic engineering.'<sup>11</sup>

Sifting carefully through AGRA's apparent ambivalence reveals a strategic decision by AGRA not to use GM technology, presumably because very few countries in Africa have fully functional biosafety systems in place to approve the cultivation and propagation of GM crops. Indeed, several countries including Mali and Kenya have delayed promulgation of controversial biosafety legislation, in the face of widespread opposition from civil society groups in their countries.<sup>12</sup> Similarly, many African countries lack the appropriate legal infrastructure to protect the intellectual property right regime essential for the dissemination of genetically engineered seeds.

Nevertheless, it is worth noting that on 16 January 2009, AGRA signed a five-year agreement with Jeffrey Sachs' Earth Institute at Columbia University aimed at delivering the best science, technologies and policies

to sustainably improve agriculture for Africa's small-scale farmers.<sup>13</sup> Sachs is an ardent supporter of the use of GM crops in developing countries, and believes that these hold great promise for subsistence farmers in developing countries because the technology is delivered in the seed.<sup>14</sup>

The main focus of AGRA is on crop breeding, in respect of which an ambitious five-year target has been set to develop 100 new varieties from core crops such as maize, cassava, sorghum and millet; however, it is really AGRA's Agro-Dealer Development Programme that is of huge significance and deserving of scrutiny. Briefly, the programme provides training, capital and credit for the establishment of small agro-dealers who comprise the primary conduit of seeds, fertilisers, chemicals and knowledge to smallholder farmers. This is done on the pretext of increasing farm productivity and farmer incomes. AGRA boasts that it is working hard to put in place a special grassroots-based delivery system, where a farmer could 'walk to a shop or kiosk in his rural back yard and readily access high-quality certified seeds'.<sup>15</sup> However, the reality is the establishment of an entire value chain – from 'inputs to markets' – that will pave the way for the emergence of a new rural private sector, agro-processors and exporters who contract small farmers to produce crops for them.

As a first step towards putting its agro-dealers scheme in place to sell 'improved' seeds, pesticides and fertilisers to poor farmers in Africa, AGRA awarded more than \$15 million to US NGO, CNFA, to lay the groundwork.<sup>16</sup> CNFA is led by John Costello, who has a long and successful track record of promoting US corporate interests around the world. For instance, during 2000, Costello led a 15-member mission to Cuba comprising officials from Archer Daniel Midland, Dow AgroSciences and Monsanto in a bid to pressurise Washington to end its long-running trade sanctions against Cuba.<sup>17</sup>

Commenting on the agro-dealers programme during November 2008, Costello said 'By building a commercial, enterprise-based network that can deliver inputs and technology to thousands of rural farmers, the CNFA/AGRA partnership will begin to build a rural economic infrastructure, resulting, over time, in expanding rural incomes through improved linkages to essential inputs, technologies and markets.'<sup>18</sup> True to his word, in October 2008, Costello's CNFA joined forces with the Croplife Foundation and announced that they would utilise the AGRA-funded agro-dealers network, comprising 1,500 agro-dealers in Kenya and Malawi, to demonstrate the potential of agrochemicals.<sup>19</sup> CNFA has brought in financial and technical support for the project from Syngenta Crop Protection, Dow AgroSciences, Bayer CropScience, Du Pont Crop Protection and Monsanto.

Another strategic player in AGRA's agro-dealer scheme is the IFDC, which received around \$6 million from AGRA's strongbox. Following CNFA's lead, the IFDC has also teamed up with Croplife International. Together, they are demonstrating to smallholder farmers in Mozambique 'how to use more fertiliser and other inputs....to expedite their transition from subsistence farming to commercial, quality and maize production marketing.'<sup>20</sup>

It is clear that AGRA's agro-dealer scheme is nothing more than a well-oiled machinery to enable large agro-chemical companies, which just so happen to also produce GM seeds, to gain a firm foothold in Africa's agriculture systems.

## The Gates Foundation and GMOs in Africa

The Gates Foundation employs a number of people from the GM industry. For instance, the Senior Programme Officer of its Global Development Programme, which supervises AGRA, is Dr Robert Horsch, previously from Monsanto. Horsch was employed by Monsanto for 25 years, and was part of the scientific team that developed Monsanto's YieldGard, BollGard and RoundUp Ready GM technologies.<sup>21</sup> His task at the Gates Foundation is mainly to apply biotechnology, including genetic engineering, towards improving crop yields in regions including Sub-Saharan Africa.<sup>22</sup>

The Gates Foundation is heavily involved in funding GM research and development involving African crop plants. Its most famous and strategic project is the African Biofortified Sorghum (ABS) Project for which it has paid a cool \$16.9 million. The ABS is spearheaded by Kenyan scientist Florence Wambugu, best remembered for the spectacular Monsanto-funded GM sweet potato flop. Wambugu has teamed up with DuPont Crop Genetics Research, Pioneer HiBred International and South Africa's Council for Scientific and Industrial Research (CSIR) in a bid to develop a new GM variety of biofortified sorghum, which contains increased levels of the amino acid lysine. This consortium has been given the go-ahead to conduct experiments in a level-three containment facility in South Africa, despite an earlier decision by the GMO authorities to disallow the experiment because of the risks to biodiversity.<sup>23</sup>

It has been reported that the Gates Foundation has hired Harvard academic and pro-GM supporter, Robert Paarlberg, to undertake a study of regional policy harmonisation toward biotechnology in eastern and southern Africa, for the Common Market of Eastern and Southern Africa (COMESA) on the politics of accepting biofortified food crops.<sup>24</sup> At the time of writing, this document was not available for scrutiny and comment.

The Foundation is also bankrolling the Monsanto-backed Danforth Centre to pave the way for the regulatory approval of GM crops on the pretext that Danforth will provide technical biosafety capacity.<sup>25</sup>

Another major coup for the GM lobby is the Buffett and Gates Foundations' hefty \$47 million donation to a project called Water Efficient Maize for Africa (WEMA). WEMA is being coordinated by the industry-financed African Agricultural Technology Foundation (AATF). The AATF intends to develop GM and non-GM drought-tolerant maize, and much fuss is also made of the fact that Monsanto will donate the technology free of charge to WEMA.

No doubt, this money will be used to massively roll out field trials throughout Africa involving Monsanto's GM drought-tolerant maize.<sup>26</sup> It is worth noting that in 2007 Monsanto already began field testing its GM drought-tolerant maize in South Africa.<sup>27</sup>

GM drought-tolerant and biofortified crops represent powerful PR tools in the arsenal of the biotech machinery in their campaign to promote the acceptance of GM crops, expand existing markets and develop new markets. WEMA, and the rollout of GM field trials in Africa involving Monsanto's 'free GMOs', are designed to win enormous amounts of credibility for Monsanto. Monsanto will likely try to claim that it is supporting GM crops that are adapted to the needs of poor African farmers. Already Monsanto is making controversial claims that drought-tolerant technology would lead to yield insurance, yield enhancement and cost savings on irrigated land.<sup>28</sup>

## Who else is benefiting?

One of the main corporate beneficiaries from the Green Revolution push in Africa will undoubtedly be the fertiliser industry. The African Union has already committed to supporting intraregional production of and trade in fertilisers, by optimising the availability of raw materials for fertilisers on the continent. Additionally, it has promised to undertake specific actions to improve farmer access to quality seeds, irrigation, facilities, extension services, market information, and soil nutrient testing to facilitate effective and efficient use of inorganic and organic fertilisers.<sup>29</sup> An Oslo Declaration and Agenda for Action was subsequently adopted, which recommends the establishment of a Global Fund for the African Green Revolution. This calls for the development of smart public-private partnerships, the harnessing of modern technologies and the securing of international support to underwrite the Green Revolution efforts. In fact, the Oslo Declaration is littered with action points featuring private-public partnerships.

The CGIAR, established in 1971, is a strategic partnership consisting of 64 members including '21 developing and 26 industrialised countries, four co-sponsors as well as 13 other international organisations'.<sup>30</sup> One of these members is the Syngenta Foundation for Sustainable Agriculture, funded by Syngenta, which joined the CGIAR in 2002.<sup>31</sup> The CGIAR's 25-year investment of between \$150 and \$200 million in Africa to promote Green Revolution-type projects – mainly crop and livestock research – has not delivered anything meaningful. Its work in Africa has been aptly summed up by a Kenyan journalist as follows: 'One can safely say that the biggest portion of its work in Africa has revolved around token projects...initiated at the whims of its scientists and bureaucrats and funded on the basis of goals that have little to do with a genuine desire to fight poverty or improve food security.'<sup>32</sup>

Nevertheless, the CGIAR – especially its African centres such as the International Institute for Tropical Agriculture (IITA) in Nigeria – is pivotal to AGRA's Green Revolution. AGRA is spending \$43 million to develop 100 non-GM African plant varieties. This funding is indicative of global trends in the funding of R&D in agriculture. The last two decades have witnessed a decline in public research expenditures and the increasing importance of funds from Northern donors. This has been accompanied by the growing commodification and commercialisation of research, away from public sector interests in favour of private and commercial interests.

These developments have also coincided with the emergence of genetically modified crops.

## Africa heading towards an ecological disaster

The imposition of technology and technological solutions to what are inherently social, political, historical and economic crises within African agriculture will drastically transform African rural economies, social relationships, agrarian policies and generally, the rural development trajectory in Africa. Agricultural production in Africa will increasingly be dominated by transnational seed, GMO, agro-chemical and other agribusiness corporations. This will accelerate the destruction of traditional agricultural systems and facilitate the shift towards an externally-oriented, input-based agricultural system. This system depends on GM and industry-owned hybrid seeds, inorganic fertilisers, herbicides, and insecticides. It is also becoming clear that the infrastructure that is being put in place by AGRA and the Gates-sponsored GM push is aimed at breaking the resistance to GMOs on the part of Africans. Eventually, biosafety spaces will acquiesce to the expanding needs of Monsanto, Syngenta and their ilk. It is thus anticipated that in the coming years, Africa's agricultural fields will be saturated with GMOs.

Africa thus appears to be heading for a massive ecological disaster. This includes genetic contamination by GM crops, loss of agricultural genetic diversity and the degradation and pollution of soils and water and so forth. It is also anticipated that the health of Africans will sharply deteriorate, as they begin to consume more chemically suffused and risky GM and Green Revolution food.

## What about the farmers?: Early warnings from the NERICA experience

As stated above, AGRA board member, Monty Jones, won the World Food Prize in 2004 for his key role in the research and development of the 'New Rice for Africa', NERICA.<sup>33</sup>

The African Development Bank has launched a \$35 million project to support the dissemination of NERICA in seven West African countries. The effort is being coordinated by the African Rice Initiative (ARI) hosted by the Africa Rice Centre (WARDA).<sup>34</sup> ARI is mandated to facilitate the dissemination of NERICA across Africa as a contribution towards achieving food security and improving the livelihoods of poor farmers through a community-based seed production system.<sup>35</sup> NERICA is also reported to be performing spectacularly in other parts of Africa.

However, research by international NGO, GRAIN, paints a different and bleak picture.<sup>36</sup> GRAIN found that NERICA is associated with the explosion of private investment in African rice production, which threatens to displace Africa's small-farm rice systems with plantation-style rice production managed by big agribusiness. NERICA project researchers completely ignored peasant and community-based seed systems, opting instead to remain in their laboratories and work with hybrids from the CGIAR's gene bank. Rather than the 'spectacular success' proclaimed, GRAIN found low adoption rates on the part of farmers, who preferred to plant their own rice varieties. GRAIN points out that beyond the hype of helping poor farmers hovers an ominous objective, namely, the establishment and entrenchment of a seed and agrochemical system that entraps African small farmers into networks managed and controlled by big companies.

## Conclusion

The massive investments made by the Gates Foundation discussed above, threaten and undermine the richness of African traditional agriculture. Its projects arrogantly dismiss – and indeed undermine – the many successful African alternatives in organic agriculture, sustainable agriculture, agro-forestry, pastoralism, integrated pest management, farmer-led plant breeding, sustainable watershed management and many other agroecological approaches.

It is tragic that the 2008 report of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), compiled by 400 scientists over a five-year period, remains largely ignored in the current discourse. The report suggests that food security, sovereignty and sound environmental practices for current and future generations are inextricably tied to ecological agricultural as well as traditional and local knowledge systems.

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## Endnotes

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