

# Unmasking the Green Revolution in Africa: motives, players and dynamics

*The “Green Revolution in Africa” is hailed as the solution that will save Africa from the clutches of poverty and hunger. Not surprisingly, the push is being led by the same players that pioneered the original concept in Asia with new allies adding strength to the effort. Duplicating the pattern set in Asia, the push for a Green Revolution in Africa is akin to that of a “Trojan Horse” paving the way for the entry by transnational agrochemical, fertiliser and agricultural biotechnology companies to peddle their wares.*

The experience of Asia in the original Green Revolution, which started from the 1950s and reached its plateau in the 1980s, serves as the inspiration for the promoters of the Green Revolution in Africa. This, despite the long-running and highly contentious debate as to whether the Green Revolution indeed benefited Asia, beyond increasing cereal production, over its four decades of implementation.

The Green Revolution prescribed for Africa basically follows the same formula used in Asia – a technology package for agriculture involving the use of external inputs, massive agricultural infrastructure and modern seeds, but with a twist of genetically modified seeds added into the equation. Africa’s development, largely dependent on subsistence agriculture, will be shaped by the processes and outcomes of this

so-called revolution, as had happened in Asia five decades ago.

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## *Why the first Green Revolution did not succeed in Africa*

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The first Green Revolution did not miss Africa, but it did not succeed there. International agricultural research centres, which later became part of the Consultative Group of International Agricultural Research (CGIAR), established their presence in Africa as early as 1967. Unlike in Asia, the one-size-fits-all technology package failed to make any dent in Africa. African farmers did not consume as much improved seeds, chemical pesticides and inorganic fertilisers as their counterparts in Asia did. While the average fertiliser application rate in South Asia almost tripled from 37 kilograms per hectare in 1980/81 to 109 kilogrammes per hectare in 2000/01 and more than doubled in East and Southeast Asia over the same period, the rate in sub-Saharan Africa increased only slightly from eight to nine kilograms per hectare (FAOSTAT).

Africa’s agricultural system is a mosaic of diverse farming, forestry and livestock ecosystems where one-size-fits-all formula appears doomed to failure. The massive poverty would present a challenge to the market-oriented agriculture approach. While government subsidies provided incentives for Asian farmers to shift to monoculture and market-oriented production, the current international trade regime and pressures from creditors would make it impossible for Africa to follow the same pattern today. The international market now is much more restrictive to trade from poor countries that cannot compete with the heavily subsidised commodities of rich countries.

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## *Strategic philanthropy sets the stage*

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The *Rockefeller Foundation*, the second largest private philanthropic organisation in the US, leads the strategic philanthropic push behind the Green Revolution in Africa. The Foundation has spent nearly US dollars (USD) 150 million since 1999 to replicate its experience with the first Green Revolution in Latin America and Asia fifty years ago. Following the private-philanthropy-government-partnership-guided-by-a-philanthropic-plan formula, the Rockefeller Foundation’s current efforts in Africa are focused on scientific development of more productive crops and fertilisers; cultivation of local talent in plant science, farming, agricultural policy, and business; strong commitment from national governments; and public-private collaboration regarding infrastructure, water and irrigation, the environment, and building markets for the inputs and outputs of a revolutionised farm sector (Remarks of Dr. Judith Rodin, President, The Rockefeller Foundation, announcing the Alliance for a Green Revolution in Africa, 12 September 2006).

The Rockefeller Foundation has supported the development and release of more than 100 new crop varieties, dozens of which are already in use,

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including new strains of rice called the “New Rice for Africa” (NERICA), cultivated on 300,000 acres across the continent (ibid Dr. Judith Rodin). In line with its “Doubly Green Revolution” vision, the Foundation is into the widespread promotion of inorganic fertilisers. It relies on public-private partnerships to build market mechanisms to ensure that farmers buy these inputs. The Foundation has also funded the training of village merchants in the basics of retailing farm supplies, including how to help farmers understand and use the products, and helped them finance their businesses with loan guarantees and other credit support. As was the case in Asia, the Green Revolution in Africa would be built on the development of industries that support the input-dependent farming systems being promoted.

In 2006, the Rockefeller Foundation joined forces with the *Bill and Melinda Gates Foundation*, giving birth to the *Alliance for a Green Revolution in Africa (AGRA)*. The Gates Foundation committed an initial amount of USD 100 million while the Rockefeller Foundation gave USD 50 million to establish AGRA as a public charity aimed at reducing hunger and poverty in Africa through agricultural development. Its primary goal is to increase the productivity and profitability of small-scale farming using technological, pol-

icy and institutional innovations that are environmentally and economically sustainable ([www.africangreenrevolution.com/en/green\\_revolution](http://www.africangreenrevolution.com/en/green_revolution)).

The *Program for a Green Revolution in Africa (ProGRA)* was also created to implement initiatives under the auspices of AGRA. Former UN Secretary-General Kofi Annan heads the Board of AGRA. Shortly after AGRA was launched, the Gates Foundation beefed up its stable ranks of staff by hiring a number of high-level professional from the top ranks of giant agrochemical, seeds and biotechnology corporations.

The conceptual framework of the Gates-Rockefeller partnership for a Green Revolution in Africa is outlined in a “White Paper” published by the Rockefeller Foundation in 2006 entitled “*Africa’s Turn; the New Green Revolution for the 21<sup>st</sup> Century*”. The paper posits that Africa has to benefit from the promises of the Green Revolution in a sustainable and equitable manner through the combined use of applications of modern ecology and modern biotechnology, with the active participation of African farmers in analysis, design and research.

Another philanthropic player behind the African Green Revolution is *Yara Foundation*, established in 2005 to mark the centennial of the world’s leading supplier of mineral fertilisers,

*Yara International*. Since 2005, Yara Foundation has been awarding the *Yara Prize for a Green Revolution in Africa* to commend outstanding efforts to increase sustainable food production and availability, towards reducing hunger in Africa.

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## *A little push from the UN*

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Former UN Secretary-General, Kofi Annan, called for a “uniquely African Green Revolution” during his term. He stressed the importance of improved seeds, proven techniques in small-scale irrigation, and restoration of soil health. He also urged Africa “not to shy away from considering the potential of biotechnology”, and called for a “Rainbow Evolution” which involves complementing the revolution in agriculture with programs in infrastructures, health, etc.

The Food and Agriculture Organization (FAO) joined the Green Revolution in Africa bandwagon while it was already moving. It was only in 2004 that the Green Revolution in Africa began to feature prominently in FAO conferences concerning Africa, with distinguished proponents of the original Green Revolution promoting the concept and enjoining the international community to support it. In 2005, the FAO pointed out the dangers of replicating the Asian Green Revolution model in Africa and pushed instead for Kofi Annan’s concept of “Rainbow Evolution” in view of the more comprehensive nature of interventions that the situation in Africa requires.

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## *Financial backers*

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The World Bank paved the way for the Green Revolution in the Africa agenda by prescribing liberalisation and deregulation policies to debtor countries, laying the ground for the

*Important elements of a Green Revolution are improved seeds. They are being provided by national and international research institutions.*



Photo: J. Boehling

entry of private sector investments in Africa's agriculture. The Bank's liberalisation drive in Africa in the 1990s targeted the seeds industry, which was then largely controlled and dominated by government entities and para-statal enterprises. It called for the deregulation of the seed industry, creation of national seed trade associations, and strengthening of the role of the national and international research institutions to provide farmers with improved seeds – which are important elements of the Green Revolution formula ([www.worldbank.org/afr/findings/english/find27.htm](http://www.worldbank.org/afr/findings/english/find27.htm)).

The African Development Bank (AfDB) funds few ventures that promote the Green Revolution in Africa such as the USD 34 million loan extended to Namibia in 2005 for its "Green Scheme Project" which aims to give the agricultural sector a boost through development of irrigation facilities and infrastructure to increase agriculture's share in the country's GDP (Integrated Regional Information Networks, July 2005). The AfDB plays an important role in mobilising resources to fund the most capital-heavy components of the Green Revolution, such as irrigation and other support infrastructures.

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## CGIAR's old hands

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The CGIAR's silver bullet for the Green Revolution in Africa follows the same trajectory taken by Asia, this time in the form of the New Rice for Africa (NERICA). The improved NERICA varieties were developed in the 1990s by mostly African scientists at WARDA, a CGIAR centre which was renamed the *Africa Rice Center* in 2003. NERICA is a new plant type that looks like African rice during its early stages of growth with the capacity to shade out weeds, but becomes more like Asian rice as it reaches maturity, resulting to higher yields with few inputs ([www.warda.org/warda/aboutus.asp](http://www.warda.org/warda/aboutus.asp)).

The Rockefeller Foundation provided substantial funds for the biotechnology-aided breeding approaches

*Various foundations, established by business and non-business groups support the transfer of appropriate technologies to resource-poor farmers across the African continent.*

used by WARDA scientists in developing NERICA. Japanese donor agencies, the Canadian International Development Agency (CIDA) and the World Bank invested heavily in the project, which involved the collaboration of CGIAR scientists with various research institutions from China to France and the US.

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## Enter the corporations

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Syngenta, the world's third largest seed company and the second largest agrochemical firm is represented in sub-Saharan Africa by its "humanitarian" face, the *Syngenta Foundation for Sustainable Agriculture (SFSA)*, established in 2001 to contribute to sustainable food security for small-scale farmers. It aims to work on increasing productivity and reducing risks of crop failure through water conservation; increasing the ability of crops to cope with drought, pests and diseases; identifying and developing market-based solutions to poverty elimination among smallholder farmers; linking farmers with market information; and helping to develop small and medium rural enterprises ([www.syngentafoundation.org/short\\_profile.pdf](http://www.syngentafoundation.org/short_profile.pdf)).

Syngenta Foundation's most prominent project in Africa is the Insect-Resistant Maize for Africa (IRMA), which it implements with the *Kenya Agricultural Research Institute (KARI)*, the *International Maize and Wheat Improvement Centre (CIMMYT)* and the Rockefeller Foundation (ibid). The



Photo: iair

project aims to develop and deliver to farmers maize varieties that are resistant to stem borer species.

*Monsanto*, the world's biggest seed company and second biggest biotechnology corporation, also plays an active role in the African Green Revolution. Under its "Seeds of Hope" campaign, Monsanto has shifted its business strategy in sub-Saharan Africa towards marketing to the "bottom of the pyramid" (BOP) – targeting the poorest but diffused and potentially lucrative segment of the market ([www.biosafetyafrica.net](http://www.biosafetyafrica.net)). The company's main product is called the "Combi-Pack", labelled as Xoshindlala in Zulu ("chase away hunger") – a package of hybrid maize seeds, fertilisers and herbicides for use in small landholdings and comes with pictogram instructions for illiterate users ([www.mercatus.org/publications/pubID.2774/pub\\_detail.asp](http://www.mercatus.org/publications/pubID.2774/pub_detail.asp)). It comes with the "no-till" technology that Monsanto promotes as an environmentally sustainable practice, which is dependent on the use of her-

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bicides instead of plowing to reduce soil erosion.

As a result of the World Bank's policy prescription on deregulating Africa's seed industry, most African countries claim to have their own seed industry, some with well-established national seed industry associations, such as in South Africa, Zambia and Kenya where para-statal entities have given way to the entry of private domestic and transnational companies. In 2000, the African Seeds Trade Association (AFSTA) was formed, with support from the American Seeds Trade Association, to serve as a lobby group for transnational seed interests in the region (GRAIN, *Seedling*, July 2005).

Despite the slow adoption of improved seeds by African farmers, sub-Saharan Africa holds lucrative promise for seed companies. Monsanto, for example, controls 40 percent of South Africa's market in maize seeds ([www.monsanto.co.za/en/layout/about\\_us/default.asp](http://www.monsanto.co.za/en/layout/about_us/default.asp)). A key channel for advancement of private seed interests in Africa is in the area of genetically modified seeds, especially maize and cotton, which are key commodity exports of many African countries.

Equally active is the fertiliser industry which, along with philanthropic players, instigated the Africa Fertiliser Summit in Abuja, Nigeria in June 2006. The Summit came out with the *Abuja Declaration on Fertiliser for the African Green Revolution* which sums up the pivotal role played by fertilisers in the Green Revolution.

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## *Riding on the Green Revolution dream*

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A major player in the African Green Revolution which was not present in the Asian version is the non-business/industry groups, which often lump themselves as non-government organisations. Notably, some of these groups were actually established by players in private philanthropy and public agricultural research centres, and others are openly supported by agribusiness corporations.

A key non-government player is the *International Service for the Acquisition of Agricultural Biotechnology Applications (ISAAA)*, an international network formed in the early 1990s to facilitate the "transfer and delivery of appropriate biotechnology applications to developing countries" ([www.isaaa.org](http://www.isaaa.org)). ISAAA identifies the biotechnology needs of particular countries and the crop biotechnology applications to respond to these needs, facilitates the transfer of proprietary technologies from the private sector to developing countries, implements biotechnology projects with near-term impacts, and works towards the creation of an enabling policy environment for its projects. ISAAA's list of donors includes private philanthropic organisations, international aid agencies and agro-chemical companies that figure prominently in Africa's Green Revolution.

The *African Agricultural Technology Foundation (AATF)*, a brainchild of Rockefeller Foundation, is also involved in facilitating the establishment of public-private partnerships for the access and delivery of "appropriate" technologies to resource-poor smallholder farmers in sub-Saharan Africa ([www.aatf-africa.org/who.php](http://www.aatf-africa.org/who.php)). AATF acquires technologies from technology generators and providers through royalty-free licenses along with associated materials and know-how; establishment of partnerships among various institutions in linking food security, poverty reduction, market development and economic growth.

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## *A Green Revolution for whom?*

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A glimpse at the current initiatives of the various players in Africa gives an impression of renewed interest in the region and in the welfare of its hundreds of millions of poor, mostly farmers. Donor and philanthropic interests, coupled with renewed commitments from the international community and the national governments to lift Africa out of poverty and hunger, should be

welcomed. However, this investigation has revealed that the motives behind the ostensibly magnanimous call for a Green Revolution in Africa need to be examined seriously and critically. The current excitement over Africa did not come up spontaneously, but is guided by strategic thinking based on a particular development paradigm that has not been developed from within the African continent nor crafted by Africans. The lead players and the orchestrators are not from the continent, let alone from the ranks of the poor farmers in whose name the so-called revolution is being waged.

### **Zusammenfassung**

Die „Grüne Revolution in Afrika“ wird als das Patentrezept gepriesen, das Afrika aus den Fängen von Armut und Hunger retten soll. Es überrascht nicht, dass hinter dieser Entwicklung vor allem die Akteure stehen, die dieses Konzept bereits in Asien propagiert haben und ihre Bemühungen mit neuen Verbündeten verstärkt vorantreiben wollen. Aber durch die Übernahme des Konzepts aus Asien wird aus dem Ruf nach einer Grünen Revolution in Afrika ein „Trojanisches Pferd“, das für transnationale Unternehmen der Agrarchemie, der Düngemittelindustrie und der Agrar-Biotechnologie den Weg auf die afrikanischen Märkte ebnet.

### **Resumen**

La "Revolución Verde en el África" es consagrada como la solución que salvará al continente africano de las garras de la pobreza y el hambre. No es de sorprender que los principales defensores de la misma sean los mismos actores que propugnaron el concepto original en Asia, ayudados por nuevos aliados que añaden refuerzos a la iniciativa. Replicando el modelo aplicado en Asia, la cruzada de la Revolución Verde en el África se asemeja a un "caballo de Troya" que allana el camino para que las empresas transnacionales de agroquímicos, fertilizantes y biotecnología puedan impulsar sus ventas en el continente.