

Regional Initiatives

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▼ Biotech's challenge in Africa

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A new panel has been formed in Africa to determine how and where the continent should be building its biotech base.

Can biotech make it in Africa? A new panel of scientists and policy makers in Africa would like to think so. Ismail Serageldin, a former executive with the World Bank, and Calestous Juma, a former executive secretary of the United Nations Convention on Biodiversity, will cochair a new panel to explore the question and make recommendations on what needs to be put in place to create a home-grown biotech industry.

Juma, who is also the director of the Science, Technology and Globalization Project at Harvard University told *SciDevNet* that the panel was created in large part to stimulate local biotech growth on the continent rather than relying largely upon outsiders to take all the risks associated with startup projects. He told *SciDevNet*, in fact, that Africa needs to stop "playing victim" and do what is necessary on its own: "Africa must take charge of its future and assess the usefulness of all existing technological options for meeting its needs"¹.

Juma added that "relevant research is being carried out in East Africa on agriculture and in Egypt and South Africa on biomedical research. Nigeria is an important player in a variety of fields. The challenge is how to make biotech relevant to local needs and how to ensure that existing institutions meet this challenge. More specifically, there is an urgent need to look at African universities as vehicles of community development, and one of the key technological opportunities for this is biotechnology."

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To put it mildly, Juma and Serageldin have got their work cut out for them. In recent years bad news about biotech in Africa has crowded out what little good news there was to offer. Here is the conundrum: the need for biotech products in Africa is great, but the ability to test, distribute and administer them is problematic. Making matters worse is the perception among some that biotechs are a source of trouble not expertise.

The latest cautionary tale involves Foster City, California-based Gilead Sciences, which was forced to cancel clinical trials of its AIDS medicine Viread (tenofovir) in Kenya, South Africa and Cameroon several months ago amid charges from activists that its trials amounted to exploitation. The newly released film, *The Constant Gardener*, based on John le Carré's 2001 novel about an evil drug company's attempt to test and market its wonder cure for tuberculosis in a less-than-humane fashion, will do nothing to help the image of drug making in Africa.

And yet Juma is at least theoretically on target when he argues that there is no reason that biotech can't take root at least in countries like South Africa, Kenya, Egypt and Nigeria. Indeed, Kenyan biotech crop science specialist, Florence Wambugu agrees that these countries have the continent's best near-term prospects because of their R&D base, patent protections, and testing and marketing regulations. In fact, she believes that contrary to popular perception, African nations are not just ready to embrace biotech, but are eager to develop it.

Wambugu is the founder and CEO of Africa Harvest Biotech Foundation



Donald Danforth Plant Science Center

Lawrence Kent of the Danforth Center captures wild white flies in Kenya to be used in the cassava greenhouse trial.

International, a not-for-profit organization that seeks to use biotech and other technologies to fight hunger and poverty. Africa Harvest has been receiving grants from the Bill & Melinda Gates Foundation, the Ford Foundation, the Rockefeller Foundation and corporations like DuPont.

Wambugu has been a proponent over the years of the selective use of genetically modified (GM) crops in African nations whose crops have not fared well using conventional crop seeds. Wambugu, who has close ties to the US biotech industry, not least Monsanto, where she did her postdoctoral research in the early 1990s, understands the business, science and politics of biotech in Africa. She knows well that if Africans want to create a biotech industry for themselves, they will need more than good intentions and candid talk about self-sufficiency.

"Africans are willing to take calculated risks [on ventures like biotech]," she says. "The challenge is empowering them, through science-based, factual information."

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This won't be difficult for scientists and entrepreneurs. The difficulty is persuading government officials throughout Africa that they need biotech and the regulations and funding incentives required to nurture and sustain startups. For example, to date only South Africa allows its farmers access to GM crops. Only six nations in Africa even allow GM field trials.

"It's going to be a slow process building biotech in Africa," says Lawrence Kent, director of international programs at the not-for-profit Donald Danforth Plant Science Center in St. Louis, Missouri. In July the Danforth Center, which has been working with the Kenyan Agricultural Research Institute, received a \$3.3 million grant from the Bill and Melinda Gates Foundation to improve cassava by enhancing its disease resistance. In a current screenhouse trial there have been no cases whatsoever of cassava mosaic disease.

Kent says it's been difficult to even convince African governments to accept Western biotech volunteers and Western money for biotech programs. "[Government officials] are still sort of trying to figure out what they should do and should not be doing with biotech. At the same time, they are putting together a regulatory system" so that they're at least prepared should the day arrive when biotech really does take root in Africa.

References

- Chege, K. "African Union sets up biotechnology advisory panel." *SciDevNet*, July 21, 2005. <http://www.scidev.net/News/index.cfm?fuseaction=printarticle&itemid=2238&language=1>

Web links

Websites referenced:

- [Joint United Nations Programme on HIV/AIDS](#)
- [Bill & Melinda Gates Foundation](#)
- [Donald Danforth Plant Science Center](#)
- [Africa Harvest Biotech Foundation International](#)

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