

Bringing a Green Revolution to Africa

By

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This week President Bush will visit several countries of Africa, to gain more first-hand knowledge of four of 49 countries, south of the Sahara. This is commendable. For the past 17 years, I have been working with ex-President Jimmy Carter and Yohei Sasakawa of the Nippon Foundation to try to bring a Green Revolution to sub-Saharan Africa. Working with Ministries of Agriculture in 14 countries and several million smallholder farmers, this is what we have learned.

With technology already available in Africa, smallholder farmers can quite easily double and triple yields in most of their food, feed and fiber crops. However, Africa has the highest marketing costs in the world. Until transport and information systems improve, sub-Saharan Africa will continue to perform far below its potential.

Depleted soil fertility is the greatest biological obstacle to increasing food production and land productivity. It makes no difference to the plant whether the plant nutrient it requires comes from a bag of fertilizer or decomposing organic matter. Rather, the debate should be shifted to the economic. At present, fertilizer consumption in sub-Saharan Africa is less than 10% of the levels found in Asia, in large part because fertilizer costs two to three times more in sub-Saharan Africa. This market failure needs to be addressed—private and public sector action is required.

Water availability is the second most-limiting biological constraint in Africa. Only about 4% of all farmland is irrigated, compared to 17% worldwide. Nearly half of Africa's farmlands suffer from period droughts, which sometimes can be catastrophic, as happened in 2001-02. Major investments are required in water resource development. Small-scale irrigation and water harvesting/conservation technologies have much to offer.

For farmers to invest capital and labor to increase productivity, profits must be attractive and predictable. Today, most smallholder women and men farmers in sub-Saharan Africa are caught in a technology trap, where the high cost of inputs (especially fertilizers) and low price they receive for their produce, make it uneconomic to modernize production. Agricultural markets must be reformed—in physical infrastructure, financial systems, standards (weights, measurements, and quality), and enforcement of legal contracts.

Most agricultural production in Africa is generated along a vast network of footpaths, tracks and community roads, where the most common mode of transport is the legs, heads, and backs of women. Efficient transport is needed to facilitate production and enable farmers to bring their products to markets. Improved transport also underpins other development efforts in education, health, and governance. Rural roads reduce isolation, break down tribal animosities, and help to attract teachers and health care practitioners.

Even with improvements in production and market institutions, millions of Africans will remain at risk of hunger and starvation, especially with the HIV/AIDS and malaria pandemics, and many other infectious diseases. There are at least 100 million people—living primarily in rural areas that are marginal for agriculture—who are too poor and too weak to feed themselves adequately without some sort of assistance from safety net programs.

School lunch programs can help improve the health and nutrition of malnourished students, and also provide a significant stimulus in expanding commercial food markets, if produce is sourced locally. Food-for-world programs can employ hungry people to build rural roads, schools, and clinics, as well as to replant trees and protect watersheds.

Agriculture can be made an engine of economic growth in Africa. Biotechnology, in this regard, has much to offer. It can contribute plants with greater tolerance of drought, insects, and diseases; improve the nutritional quality of key food staples; and help farmers to expand the area that they can cultivate. African leaders will make a grievous error if they turn their back on genetically modified organisms (GMOs). Rather, they should be working to put into place an appropriate legal and regulatory structure to manage this technology for the benefit of their farmers and consumers.

Warm temperatures, abundant sunlight, and vast land areas can permit African agriculture to thrive. The potential is there for Africa to feed herself and become a more dynamic agricultural exporter. But you can't eat potential.

Sub-Saharan African countries that make significant progress in poverty reduction and increased food security should be rewarded with additional financial support from the industrialized countries. Countries that lag behind should be encouraged to do better by the international community, but with both "carrots and sticks.

Finally, lest we forget, smallholder African farmers are stewards of one of the Earth's major land masses. As the Kenyan paleontologist, Richard Leakey once said, "you have to be well-fed to be an environmentalist. Thus helping African agriculture to prosper is not merely a humanitarian issue, but also a matter of global enlightened self-interest.