

END HUNGER



Food Justice Update is an occasional publication of the Canadian Foodgrains Bank. It focuses on public policies that support smallholder farmers in developing countries, the human right to food and fairer agricultural trade rules.

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Whose Green Revolution?

Hunger is on the rise, and there is talk of a revolution...

The 2005 Millennium Report highlights the lack of progress in achieving the Millennium Development Goals (MDGs) in sub-Saharan Africa (SSA). The first of the MDGs, to halve poverty and hunger by 2015 warrants particular attention - as the number of hungry people in SSA is in fact on the rise. With so many of Africa's poor dependent on the land and the soil for their livelihoods, the importance of agriculture in addressing hunger would seem a foregone conclusion. However, while growing food is one of the key livelihood strategies at the local level, small-scale agriculture has been conspicuously absent from the international policy agenda for nearly two decades.

Until recently, the only push for more and better international support for small-scale agriculture came from civil society and farmers' organizations. But a growing chorus of supporters for African agriculture is now emerging in cities like Abuja, Rome and New York, and from institutions like the Rockefeller Foundation, the World Bank, the New Partnership for Africa's Development (NEPAD) and the Food and Agriculture Organization (FAO). Individuals like Bill Gates and Jeffrey Sachs are talking about the critical role small-scale agriculture must play in addressing food security in sub-Saharan Africa. They, and others, are talking about a new Green Revolution for Africa, highlighting the role of "improved" seeds and fertilizers as keys to unlocking the productive capacity of African agriculture. After almost two decades of structural adjustment programs cannibalizing national level support for agriculture and farmers, agriculture is back on the agenda. One can be sure that small-scale farmers, civil society and farmer's organizations will be encouraged by the attention to agriculture. But as the momentum builds, it seems an appropriate time to ask: For whom, and by whom, is the revolution being planned? What

type of agriculture is being advocated? What have we learned from the past?

History reminds us that the first Green Revolution was far from the panacea to global poverty and hunger. Initiated in the late 1960s utilizing a top-down, transfer of technology approach to agricultural development, the Green Revolution managed to keep food production in step with population growth in south Asia through the introduction of high external input farming. Through a variety of mechanisms, farmers were provided with a "package of inputs" - inorganic fertilizers, improved seeds, and agricultural chemicals - intended to facilitate the structural transformation of agriculture and fuel economic growth. While food production did increase dramatically, many argue that the poorest of the poor fell between the cracks and that this model continues to have significant negative consequences for class, gender and local agro-ecosystems. Some of the consequences are illustrated in a recent New York Times article about the dramatic rise in farmer suicides in India - one of the hotbeds of the green revolution. In this story, the "package of inputs" model of agriculture left one farmer in a situation of unbearable debt, dependent on costly inputs to secure a livelihood from the land.

As crop yields from the first Green Revolution now begin to slow, and as the social and ecological costs become more apparent, it is appropriate to ask if we are heading down the same road of a technical fix for the complex agricultural realities of Africa.

The "package of inputs" approach is emerging as *the* way to kick-start agricultural production in Africa. Advocates of an African Green Revolution argue that declining soil fertility is one of the roots of stagnating agricultural production on the continent. In 2005, the Millennium Project Report identified the need for a massive replenishment of soil nutrients for smallholder farmers on lands with nutrient depleted soils. It argued that this should be accomplished through free or subsi-

dized distribution of chemical fertilizers by the end of 2006 as one of the “Quick Wins” in the efforts to eradicate extreme poverty and hunger. The Africa Fertilizer Summit was subsequently held in Abuja, Nigeria in June 2006 to determine the practical steps needed to overcome the barriers to greater fertilizer use in Africa. Sponsored by national and international donors, and attended by many African leaders, the summit was hosted by the International Fertilizer Development Center (IFDC), a group that receives considerable funding from both the energy and agricultural inputs sector and which has produced much of the research around soil fertility in Africa. Researchers at the Oakland Institute for Food and Development Policy (OFDP) highlight that the push for fertilizer also comes at a time when global fertilizer sales have started to stagnate after a 30 year boom.

While agriculture is of course dependent upon the land, and upon the health of the soil, there is considerable debate on the actual soil fertility “crisis” in Africa and the potential approaches to resolving it. Researchers from the International Institute for Environment and Development (IIED) suggest that current discussions about declining soil fertility in Africa have been heavily influenced by a series of nutrient balance studies conducted in the early 1990s. Calculated throughout Africa at the country and continental levels, these studies have been widely quoted in policy circles to support claims that soils are deteriorating at alarming rates and threatening the livelihoods of African farmers. These studies are in turn being used to provide a strong rationale to increase the use of external inputs – inorganic fertilizer being at the top of the list.

However, field level analysis demonstrates that, while there are indeed issues of soil degradation across Africa, the issue of soil fertility is far more complex, diverse and site specific than the nutrient balance studies and proposed fertilizer solution recognize. The analysis illustrates that soil fertility is indeed about nutrient balances, but must not ignore other important aspects of the soil complex, such as maintaining organic matter content, soil structure and soil life. The ongoing work around Integrated Soil Fertility Management (ISFM) in many parts of Africa illustrates how farmers and researchers are working together to identify and implement a wide range of agro-ecological approaches to deal with low levels of soil fertility at the household and farm site with considerable success. They are using legumes, green manures and cover crops, incorporating plants with the capacity to release phosphate from soil into rotations, using composts and animal manures, adopting new tillage practices, and even using micro-doses of inorganic fertilizers when needed. The bulk of these practices are agro-ecosystem specific and characterized by a diversity of local knowledge.

In a world of increasing uncertainty and complexity, the importance of diverse agricultural practices and agro-ecosystems is difficult to overstate. As the foundation for community-based responses during times of vulnerability due to declining commodity prices, natural disasters, climate change or seasonal disruptions to livelihoods, this diversity enables households to cope with shocks and stresses – it builds both social and ecological resilience. What are the best ways to encourage resilience and cultivate linkages between our ecological and social systems? How best to foster the kind of diversity that will allow for households and communities to have enough food and to adapt to change? These questions point to a shift of focus, from increasing productive capacity of systems to increasing adaptive capacity of people. Linking small farmers into input dependent agriculture – particularly inorganic fertilizers – has the potential of exposing livelihoods to the uncertainty of

international commodity markets, creating dependency on a product that is inextricably linked to fossil fuels for its manufacture and transport. Evidence from intensive agricultural systems demonstrates that locking into particular technologies may promote stability and reduce risk in the short term, but such strategies may sow the seeds for chronic stresses to livelihoods and agro-ecosystems over longer time horizons.

Is the issue of lagging food production in Africa to be solved with a simple “package of inputs” approach with fertilizers and transgenic seeds leading the way, or does this once again mask a more complex reality. Critiques of the technical fixes so often prescribed by agricultural economists, agricultural scientists and institutions like the World Bank and the Consultative Group for International Agriculture (CGIAR), suggest that local knowledge used by African farmers to address issues of soil fertility has largely been ignored in the push towards input intensive agriculture. The importance of diversity, in terms of the knowledge and practice that emerge from careful field level analysis is sorely lacking in the current policy discussions and prescriptions. Approaches to agricultural development that encourage participation across disciplines and among *all* stakeholders are essential to foster resilience and must form the foundation of a Green Revolution for Africa if we are to avoid the mistakes of the past.

Platforms for learning and innovation that respect local knowledge are critical as they do not assume homogeneity and simple solutions to very complex, and local realities. Gordon Conway, past president of the Rockefeller Foundation (a champion of the first green revolution) has argued that a “doubly Green Revolution” for Africa must reverse the approach that starts with market-based inputs and technology, and then looks at how the benefits can be transferred to those in need. He argues that the real revolution – the radical shift - must be the point of embarkation. It must *start* with the small farmers of Africa and put them center-stage. In this kind of revolution the package of inputs required is not distributed through the market, but through agricultural development that encourages adaptive capacity and which creates real opportunities for dialogue - space where farmers, agricultural extensionists and researchers can learn together.

Will the Green Revolution for Africa be led from the outside by fertilizer companies, multilateral agencies and agribusiness, or will it be led by farmers themselves? How many models of agriculture will it support? With aid for agriculture back on the agenda, creating space at the local, national and global level for meaningful participation and learning will be increasingly important if we are serious about ending hunger in Africa.

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An in-depth analysis paper on soil fertility in sub-Saharan Africa will be released by Canadian Foodgrains Bank in mid-November. It will be available at www.foodgrainsbank.ca