

Growing a food supply

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By Danielle Nierenberg & Stephanie Pappas

In 2008, Kibera, the largest slum in Nairobi was shut down, thanks to riots after the presidential elections. For almost a month, no food could enter the area. Though conditions were prime for a food shortage, most residents didn't go without food. Why? Because many of them were already growing crops — on roves, along river banks, and even in sacks. And innovations like these are happening in cities and rural areas all over sub-Saharan Africa to nourish both people and the planet.

In 2009, global chronic hunger affected an estimated 1.02 billion people. Chronic hunger, as defined by the United Nations Food and Agriculture Organization, is regularly eating food that provides less than 1,800 kilocalories (kcal) a day.

In comparison, Americans on average consume more than 3,400 kcal per day.

Not surprisingly, women and children account for the highest proportion of the chronically hungry. For mothers, inadequate nutrition can result in high instances of childbirth-related death. For infants and children, even short-term malnutrition can result in permanent damage to health, brain activity, and productivity.

Though there are many root causes to chronic hunger — including the low social status of women, conflicts, and low agricultural investment — poverty is almost always present. Poverty affects people's ability to buy, or grow, adequate amounts of food, which leads to chronic hunger. As a result of hunger and poor nutrition, people's productivity levels are lowered, pushing them further into poverty.

But the good news is that all over Africa, people are investing in different kinds of agricultural innovations, helping break the cycle by boosting productivity, providing farmers with some stability, and encouraging the next generation to make sustainable decisions.

Some innovations — like the International Development Enterprises' treadle pump — target technical problems encountered by farmers. These tools increase a farm's productivity, while simultaneously reducing the amount of labor and time involved in daily tasks.

Other innovations work to address cultural issues. Kristof and Stacia Nordin's permaculture garden at their home in Malawi provides an example of the benefits that accompany indigenous crops. Many efforts to combat hunger across Africa emphasize boosting yields of staple crops, such as maize and wheat, over planting indigenous vegetables. Local varieties, however, can be rich in vitamins and nutrients that many staple crops lack and are often naturally resistant to local pests and climatic fluctuations, making these plants important tools in the fight against hunger and poverty.

It's also increasingly important to provide the next generation with the tools to deal with the issues of hunger and poverty. Youth education projects — such as Uganda's Developing Innovations in School Cultivation (DISC) — give children nutritional guidance while also instilling a respect for agriculture. Teaching children about the connections between agriculture, the environment and food security helps create a generation of potentially self-sustainable farmers and consumers, who have the potential to make agricultural decisions that nourish themselves, their communities, and the planet.

—*Danielle Nierenberg, co-project director of the Worldwatch Institute's Nourishing the Planet www.nourishingtheplanet.org project*

—*Stephanie Pappas, a food and research intern from Winter Park.*

Their research will culminate in the release of the Institute's flagship publication "State of the World 2011", which will focus entirely on alleviating hunger and poverty.