



## STATE OF THE WORLD 2011 Innovations that Nourish the Planet



### *State of the World Brief Series*

## Chapter 3. The Nutritional and Economic Potential of Vegetables

### Key Messages

- Improving vegetable production in sub-Saharan Africa is a sustainable solution for a diverse and balanced diet.
- Local preferences for particular varieties, as well as the promotion of indigenous vegetables, are vital to ensuring the cultural and environmental appropriateness—and therefore success—of crops.
- Researchers and organizations are reigniting interest in traditional vegetable dishes and teaching consumers how to cook the different varieties.

### The Problem

Replicating the Green Revolution, which dramatically increased staple crop production in Asia and Latin America, has proven challenging in sub-Saharan Africa. Staple crops such as rice, maize, wheat, and cassava have been the focus of much research and investment, whereas research on vegetables has been severely underfunded. As a result, many Africans continue to lack sufficient access to the vegetables that contain the necessary micro-nutrients for a balanced diet. The International Food Policy Research Institute predicts an 18 percent rise in the number of malnourished children in sub-Saharan Africa from 2001 to 2020.

Micronutrient deficiencies, including lack of Vitamin A, iron, and iodine, affect some 1 billion people worldwide and are extremely common in sub-Saharan Africa. They lead to poor mental and physical development—especially among children—and cause poor performance in work and school, further crippling communities that already face poverty and other health problems.



Peppers and onions at a market outside Niamey, Niger.  
(Bernard Pollack)

### Innovations/Solutions

In contrast to staple crops, vegetable crop species have shorter cycles, are faster growing, require little space, and thus are very dependable. They often constitute the necessary ingredients to make staple foods more palatable. Vegetables are the sustainable solution for a diverse and balanced diet. Today, a “revolution of greens” is within reach. Examples of successful innovations in sub-Saharan Africa are:

**Listening to farmers.** Researchers are taking note of local preferences for particular ingredients and dishes by using farmer input and participation in the research process. Organizations like the World Vegetable Center and the International Development Research Centre hold periodic workshops, conferences, and field days to bring farmers, consumers, businesses, and communities together to find varieties of onion, tomato, eggplant, and okra that people like best. Researchers can then develop more nutritious and locally adapted varieties that enhance and complement the particular food preparation.



Researchers are taking note of local preferences for particular ingredients and dishes by using farmer input and participation in the research process. Here, two farmers discuss techniques and crop varieties in Niger. (Bernard Pollack)

**Getting seeds to farmers.** The seeds of preferred varieties of vegetables are being made available more widely, with improvements in quality. Better seeds mean more vitamins in the food, better-tasting food, and ultimately less hunger and malnutrition. In Tanzania, scientists at the World Vegetable Center developed two new tomato varieties that produce higher yields and have thicker skins that make them less vulnerable to pests and damage during transport. Net income for growers of these varieties rose 40 percent compared with previous varieties. Major companies have commercialized the varieties and are working to produce other hybrids with good horticultural traits.

**Taking advantage of indigenous vegetables.** As the impacts of climate change become more evident,

indigenous vegetables that had been neglected as weeds are regaining attention. They are often more hardy, drought tolerant, and resistant to pests and disease. For example, researchers have developed improved lines of amaranth, African eggplant, African nightshade, and cowpea that are now available more widely in parts of Africa.

Organizations such as Slow Food International are working to reignite an interest in indigenous vegetables, and research institutes, including the World Vegetable Center, are teaching consumers how to cook the different varieties.

## Looking Ahead

Sustaining an agricultural revolution in Africa that works for farmers, businesses, and the environment will require more than just producing enough calories of rice, cassava, or wheat. It will also need to include indigenous vegetables such as amaranth, cowpea leaves, African nightshade, spiderwiki, and African eggplant. These vegetables make staple crops taste good and significantly enhance the nutritious value of a meal.

Researchers, nongovernmental organizations, and farmers are rediscovering traditional diets and improving the availability and cultural acceptance of nutritious vegetables. As people realize how much better food tastes—and how much less fuel and time it takes to cook—they do not need much convincing about alternative methods.