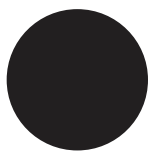


## CONTEST

The *World Policy Journal*, in partnership with Africa Rural Connect, a program of the National Peace Corps Association, supporting returned Peace Corps volunteers and the Peace Corps community, conducted the first contest in the 27-year history of our magazine. Readers and followers of WPJ and the Peace Corps were invited to submit their solutions to the critical problem of food security in Africa. The finalists were reviewed by a panel of five judges, and the winning entries are published here. Four runners-up are published on our website: [www.worldpolicy.org](http://www.worldpolicy.org)



### Ingenuity, Peanut Butter, and a Little Green Leaf

*J.T. Simms*

I first learned of *moringa* early in my service. It's a small, thin tree, with medallion-shaped leaves resembling cooked spinach. Each serving contains more vitamins and nutrients than any other food in West Africa, and maybe the world. Native to India but found throughout the tropics, it contains, gram for gram, more vitamin A than carrots, more vitamin C than oranges, more potassium than bananas, more iron than spinach, and, astonishingly, more protein and calcium than milk. And, as a tree, it's a permanent fixture that, once matured, is capable of being harvested every few weeks.

#### *Battling Malnutrition*

Food security is a central issue for all of Africa, particularly when accompanied by malnutrition. In West Africa, the extent of child malnutrition is among the highest in the world. All too often children suffer most in a food crisis, whether due to rising prices on the global market or drought and crop shortages—a looming threat again this year. As a Peace Corps Health volunteer in Aouloumat, a rural region of Niger, I learned that malnutrition is often caused by a lack of variety in one's diet—a vitamin deficiency—not by a lack of food. The

problem is largely cyclical. If basic grains like rice and millet are in short supply and high demand—thus more expensive—less money goes towards a balanced meal. When you are very hungry, filling the belly takes precedence over finding vegetables for sauce.

The crux of the food security and malnutrition crises in Niger, particularly in rural communities, lies not in an inadequate variety of foods able to be grown, though crop diversity certainly pales in comparison to many other places in the world. The issue is more immediate and basic. During the pre-harvest, lean season (over half the year) basic grain supplies diminish, and most of the already scarce vitamin and protein-rich foods (fruits, vegetables, beans) dwindle. Even when all are relatively cheap and readily available at once (a short period of no more than a few months), the combined power of grains, proteins and fruits or vegetables is rarely taken full advantage of, either for a lack of money or knowledge, or both.

All of this calls for a local solution. Importing food in a tenuous market cannot be the answer. Though non-governmental organizations can help, the people in affected nations also bear a responsibility to help themselves, and community leaders are needed. For a few years now, Médecins Sans Frontières [MSF] has implemented a groundbreaking malnutrition rehabilitation program that includes the fortified peanut-butter product “PlumpyNut” in Niger. In the community of Aouloumat specifically, it has done wonders to make moderate to severely malnourished children healthy during the lean season. Yet rural communities often misunderstand. Since one has to go to the clinic to get PlumpyNut, villagers sometimes view it as medicine.

### *Moringa and PlumpyNut*

A few months into my service, I attended a Peace Corps workshop for health volun-

teers centered around the Hearth Model—an innovative, two-week nutrition course for about 10 to 12 women, teaching them improved cooking recipes with local ingredients. Once the women graduated, some “Maman Lumières,” or exemplary women, were selected to continue the classes with a new group—with earlier Mamans passing on the knowledge. In addition, the recipes learned were to be given to the attendees’ children over the same period, their weight gain measured and recorded. With the help of an MSF counterpart, we decided to introduce this program into women’s literacy classes in Aouloumat.

We developed ways to improve existing foods, especially for children. In Niger, especially in the region around Aouloumat, weaning porridge is often a simple millet-based drink called *koko*, made from pounded or ground millet powder and water, which is then boiled and served. A ubiquitous and inexpensive ingredient at markets and in villages is *kuli-kuli*, a leftover peanut resin. It is rolled into balls, cooked and dried, which allows it to last for months and can later be pounded into a powder. We tested a recipe that included adding the powder to the *koko* as it cooked. Afterward we added a little milk and sugar. It tasted great, and the kids who tested it loved it too. We priced one serving for one child at 100 West African francs (20 cents). This cost could be further reduced if a family used their own millet, or had milk from their own goat or cow. The calories, protein and vitamin content in the new mixture were vastly greater than that in the original porridge.

Months later, a five-country conference was held in Burkina Faso. Four volunteers from Niger together with their Nigerien counterparts attended. The focus was *moringa*, and with a food crisis imminent at that time, the discussion assumed a particular urgency. One workshop involved creating recipes using *moringa* in new and varied ways. We reworked



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Maman Lumières and their improved *koko*.

the improved *koko* we had created earlier, adding *moringa* powder for an additional vitamin boost. It went over well, and a Ghanaian chief in attendance even came back for seconds! The new recipe spread to a number of possible service providers, and we carried it back with us to our own communities. In Aouloumat, we began to develop a *moringa* nursery, led in part by my friend and colleague Tsahirou Kadri, the village chief's son.

In this way, governments, non-government organizations and individuals can educate rural villagers about a traditional version of therapeutic foods that could stand up to any packaged product. By learning to add vitamin-rich *moringa* powder to their own peanut butter or *koko*, in addition to milk and sugar, Nigeriens and West Africans would be able to strengthen what little staple grains they are able to give their children—providing an option for parents without the time, means

or motivation to go to a clinic to produce something nutritional at home.

The issue of global food security calls for multi-faceted solutions—recipes from many ingredients. No one program or product can do it alone. *Moringa*, when combined with other locally available foods, or using a minimal amount of imported products, can lead to preparation of complete meals at low cost. If governments, organizations and rural community leaders were to set up programs to help villagers learn and pass on its benefits, the effect could be exponential. With the right mix of tact and effort, future food crises can be alleviated and food security increased—in a small corner of Niger and far beyond. Just don't forget to add the *kuli-kuli*.

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# Microinsurance, Brick by Brick

*Michael Norton*

I sit in a village in northern Ethiopia, surrounded by foothills covered with eucalyptus and cactuses. Camels wander in packs and hawks fly overhead. Bone-thin oxen and donkeys plod around wearily in the harsh sun. Stone is the single resource with no shortage—the houses and terraces are made from it and many of the fields look closer to a rock pits than arable land. Some thunderheads settle in the mountains above, drenching them with moisture, casting thin gray clouds over the valley and offering us some momentary protection from the sun.

It is so bright here that photographs at midday are pointless, the glare from any surface simply washes them out. I wear long sleeves and hide in the wispy shade of acacia trees and listen to the proceedings in Tigrinya. “Thirteen months of sunshine,” is a common phrase in Ethiopia. It seems like hyperbole until you realize there are, in fact, 13 months in the ancient Ethiopian calendar, which is almost as old as the branch of Christianity most Ethiopians still practice.

I work on a project to help poor farmers become more resilient to weather shocks, especially droughts. In Ethiopia, farmers rely on the uncertain arrival of rainfall to grow their crops and have little recourse if the season’s rains prove inadequate. Individual farmers (or even village collectives) do not have the capacity to cope with an unpredictable, often pernicious climate. One solution to the persistent problem of food security is to give these farmers access to the same tools regularly used in our western world. If you wreck your car,

you contact your insurance company. If you die prematurely, you have life insurance. If something bad happens, we have developed the means to deal with adversity. Farmers, no matter how poor, have some such means too, but there’s a point where these systems get overwhelmed.

## *The Good Pays for the Bad*

One cutting-edge solution involves microinsurance—a concept uniquely positioned to help the good years pay for the bad years. The farmers make a small payment every year, and if there is a drought severe enough to affect their crops, they get their money back at harvest time. It’s not a gift or a subsidy, but a payment augmenting what they’re already doing, a means of making their considerable efforts even more effective. It helps them when they can’t help themselves—a bridge to better times.

Microinsurance may be the next economic revolution in Africa—the first being microfinance, or small loans to encourage economic growth on an individual scale. Farmers can, for example, take a loan for better seeds and fertilizer that will enable them to grow more food. But farmers are often reluctant to borrow money if they fear they will be unable to repay due to circumstances beyond their control, like the weather. An uncertain climate can affect farmers even before they plant their seeds and reduce harvests, even when rainfall is plentiful. If we offer them some protection from an uncertain climate, they can confidently invest in making their farms more bountiful. In this sense, microinsurance is exciting for its built-in potential.

## *Educational Games*

Today, we’re playing educational games with villagers, using ping-pong balls of different colors—green, yellow, red—which represent good, moderate and bad years for their crops. The farmers buy sim-

ulated insurance contracts, and the group draws a ball to determine, for the purposes of the game, if it was a good, bad or moderate year. As an economist, I'm trained to think of incentives and how people might use situations to their advantage. I expect that the farmers will want to see a red ball because this means a bad year and, because of the insurance, the biggest payout in the game. To my surprise, the green ball is the most popular, even though it provides the least immediate benefit. I see the deep connection to farming in the participants. Although this is just a simulation, a game with a good year of rainfall is more enjoyable to many of the participants than one with insurance money for drought.

In the Tigray region, fields are measured by the *timad* (the area of land that can be ploughed in one day by a pair of oxen—generally 1/8 hectare). The harvest is weighed by the *qintal* (100 kilograms or 220 pounds). The women wear homemade cotton dresses, their hair in tight cornrows splayed out in back. One or two spin tiny hand looms as we talk. The men wear khakis and lightweight shawls to deflect some of the heat. The children wear western clothes, now starting to fray, and pay keen interest to the *ferengi* sitting among them.

Tigray is famous for the powerful Axumite empire, which peaked at the same time as Rome. The city of Axum, near the border with Eritrea, is on a small valley littered with towering obelisks of intricately carved granite, referred to as the Stelae. Weighing several tons each, the Stelae teeter hundreds of feet in the air, crowned with a curious half-circle shape. They stand impassive, monuments to the ingenuity of the Ethiopian people, erected long enough ago that their origins are still a mystery.

For many Americans, Ethiopia will forever be associated with images of starving children during the devastating famine of 1984. That famine was half a lifetime ago, but hunger persists in every

corner of the continent. The prevention of a similar catastrophe drives microinsurance projects all over Africa. Such a revolution is beginning in fits and starts, as multinational organizations recognize microinsurance as one area where benefi-

## An uncertain climate can affect farmers even before they plant their seeds.

cial development might also be good business. Swiss-based agribusiness conglomerate Syngenta uses cell phone technology to offer weather insurance to seed buyers in Kenya. LeapFrog Investments, a for-profit fund which bills itself as “the world’s first micro-insurance fund,” recently raised \$140 million in capital for investment in microinsurance in developing countries, and academic researchers have studied microinsurance networks with groups as diverse as Kenyan pastoralists and Malawian groundnut farmers. All over Africa, diverse groups are building microinsurance programs to protect farmers.

Although the continent is marked by proud traditions and great promise, it also faces an uncertain future. Protection from climate extremes through microinsurance might offer African farmers the opportunities they need to prosper. As the day comes to an end, I feel a mixture of emotion—respect for the farmers and concern for the challenges they face. The farmers are cheerful as they finish our insurance game. I cannot help but be left with the same optimism, mindful that although there is a long way to go, we are indeed taking the first steps. ●

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