INSIGHTS

IFPRI®

MAGAZINE OF THE INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

Fall 2011

OVERCOMING TRADERS' BLOCK

export bans & food prices

nanotechnologies

IT'S A SMALL WORLD

nutrition

MAIZE, RICE, BEANS... & SPRINKLES?

INSIGHTS

VOLUME 01 ISSUE 01 Fall 2011

In the course of my travels for IFPRI, I have found that many policymakers, collaborators, donors, students, and others are enthusiastic users of and participants in some of IFPRI's research activities, but often they are not aware of the full range of IFPRI's work. IFPRI has grown substantially in the past decade, and our researchers are investigating an ever-wider array of topics related to some of the most important concerns of our time: food production, climate change, food price policies, nutrition, governance, poverty alleviation, water scarcity, and many more.

This is the inaugural issue of a magazine designed to give a broader picture of the work of IFPRI's researchers and to show how this work matters for the world's poor and hungry people. This issue features a close look at the impact of food export bans during perceived food crises, and it touches on many other areas in which IFPRI researchers are breaking new ground. As we produce future issues of this magazine, we'd like to hear from you. What would you like to know more about? Let us know at the email address below.

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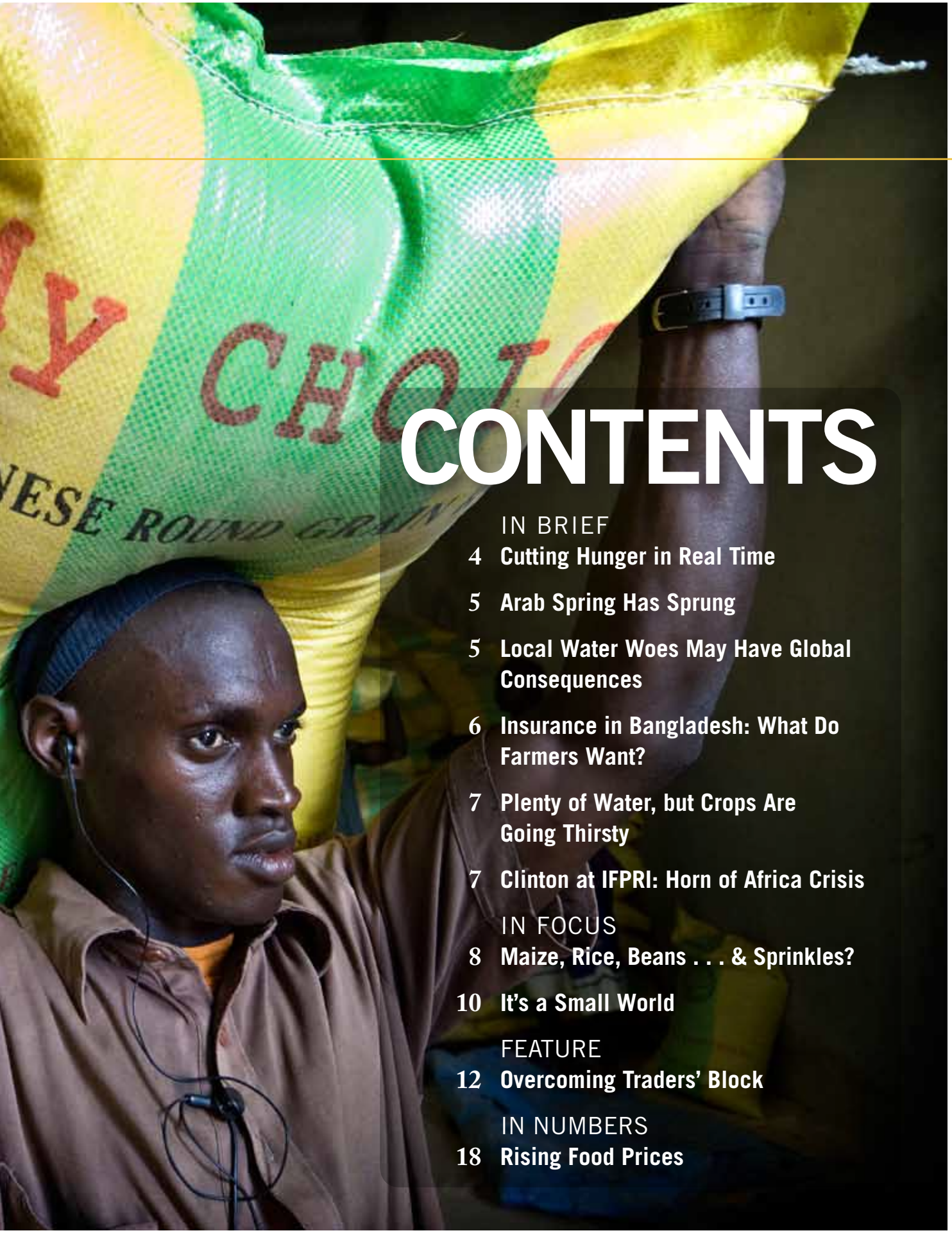
The International Food Policy Research Institute (IFPRI) was established in 1975 to identify and analyze national and international strategies and policies for meeting the food needs of the developing world on a sustainable basis, with particular emphasis on low-income countries and on the poorer groups in those countries. IFPRI is one of 15 CGIAR consortium agricultural research centers.

COVER PHOTO: Gaddani, Pakistan. © 2005 G.M.B. Akash/Panos

PHOTO: A food storage warehouse in Mali, stocked with rice imported from China. © 2008 S. Torfinn/Panos



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BANGLADESH

Mother and daughter harvest coriander in Bangladesh.

Cutting Hunger in Real Time

The people who generate information on how to combat hunger and poverty—by collecting data and conducting research—are typically far removed from the people who can put that evidence into action. In Bangladesh, however, where 36 million people are chronically hungry and 50 million live in extreme poverty, IFPRI is working alongside the government to narrow that gap.

The Policy Research and Strategy Support Program (PRSSP) based in Dhaka evolved from a highly successful May 2010 conference on investing in Bangladesh's food and nutrition security. To facilitate evidence-based policymaking, the PRSSP conducts research in collaboration with national institutions and feeds results straight to policymakers using direct advisory services. According to Akhter Ahmed, IFPRI senior research fellow and chief of party in Dhaka, the work is driven by demand, which means "the challenges IFPRI is facing here are the challenges the government and the country are facing. And that gives us the opportunity to work on emerging issues and create a real impact."

For example, based on a specific government request, IFPRI conducted a nationwide field-based study of the country's largest safety net—the Employment Generation Programme for the Poorest—and found it highly successful with an impressively low level (2.8 percent) of fund leakage. In response, the government plans to continue the program but more effectively target it to women, who currently constitute less than the intended 30 percent of participants, according to the IFPRI assessment. This study was discussed, among others, at an October policy workshop that evaluated the PRSSP's progress in its first year.

A similar government request for timely policy analysis has led PRSSP researchers to begin developing an on-site "situation room" in the Ministry of Agriculture. "Estimates on the likely size of the next rice crop," says Ahmed, "usually come in long after the crop is harvested. For policy, that information is too late." By speeding up the spread of information, IFPRI and the Government of Bangladesh aim to slow down the spread of hunger, poverty, and malnutrition.

–Ashley St. Thomas

MIDDLE EAST/NORTH AFRICA

Arab Spring Has Sprung

Just a few years ago, the serious challenges mounting in the Middle East and North Africa (MENA) region went mostly unnoticed. IFPRI recognized that little research was being done there, and in 2009, the Institute formed a team devoted to the region. Work soon began in Egypt, Syria, Tunisia, and Yemen.

Less than two years later, "Arab Spring" entered the public lexicon as those same countries appeared on the front pages of newspapers around the world. Uprisings were spreading across the region. And while IFPRI's MENA researchers were as surprised as anyone by the level and intensity of the conflicts, they understood the causes.

A country does not suddenly and unexpectedly explode into chaos. The catalysts lie just below the surface, sometimes invisible to outside observers. In a recent brief, researchers Clemens Breisinger, Olivier Ecker, and Perrihan Al-Riffai show that even before the food price crisis of 2007–08 and despite a regionwide increase in GDP, the MENA region suffered from huge gaps between rich and poor, chronic unemployment, and widespread food insecurity. Large majorities of people in MENA countries were dissatisfied with their standard of living.

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A protester in Tahrir Square, Cairo.

When protests erupted, the IFPRI MENA team had just finalized a project with the Yemeni government, civil-society groups, and other partners to develop the country's National Food Security Strategy. Suddenly, the Yemeni government and the status of the strategy were in limbo. But Breisinger and his colleagues are confident that the work on the strategy will not be lost. "I am optimistic that any new government will find this strategy valuable because the major issues identified remain the same and the participation in its creation was broad," he said. There is also some indication that the MENA team will return to analysis in Yemen soon, along with international partners, to develop postrevolution scenarios.

IFPRI's early recognition that the challenges in MENA were worth a closer look has given the Institute a foothold in the region that could be useful as countries in chaos attempt to move forward. National leaders will need to make evidence-based decisions about both short- and long-term goals, and, for Breisinger, IFPRI's role is clear: "What IFPRI can really do to support local collaborators is to bring that evidence to the table."

–Adrienne Chu

CHINA

Local Water Woes May Have Global Consequences

Should consumers in Africa or Latin America be worried about water scarcity in China? Maybe, according to a new IFPRI discussion paper by Nicola Cenacchi and colleagues. Water shortages in China's Yellow River Basin could not only threaten regional food security, but also raise food prices on global markets. The basin—known as China's breadbasket—already has one of the world's heaviest rates of water use, and climate change is likely to exacerbate water shortages in some areas.

Cenacchi and his coauthors examined the impacts of two possible scenarios in the basin: a 30 percent reduction and a 50 percent reduction in water availability for irrigation by 2030 (these scenarios are in line with Chinese estimates of future water shortages). By 2030, cereal production could fall by as much as 17 percent. A drop in production on this scale could affect economic growth and food security in the region and would significantly elevate global cereal prices—up to 10 percent for maize, 9 percent for wheat, and 6 percent for rice. These rising prices could, in turn, reduce calorie availability in developing countries by as much as 2.2 percent. "The world is linked as never before," says Cenacchi, "and climate change effects in key food-producing regions will be felt both locally and globally."

According to the authors, new technologies will not be enough to avert this outcome—China will also need to enact policies to control water demand and encourage farmers to use water more efficiently.

–Josh Heard

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China's Yellow River during drought.

BANGLADESH

Insurance in Bangladesh: What Do Farmers Want?

At a recent meeting in Bogra district, rice farmers sat in a circle and talked about the risks they face. Their harvests—the main source of their livelihoods—are at the mercy of pests, crop diseases, wind storms, hail storms, and floods. On top of that, farmers face risks to their own health and the health of their family members and must often pay high healthcare bills.

To cope with unexpected calamities, some farmers diversify their incomes by, for example, owning livestock or engaging in a small business. Others are forced to find cash at any price—they may accept gifts or loans from relatives or friends, take high-interest loans from moneylenders, or apply for loans from a bank or microfinance institution, if one is locally available. Solutions commonly available to developed-country farmers—insurance and savings—are often not available to them.

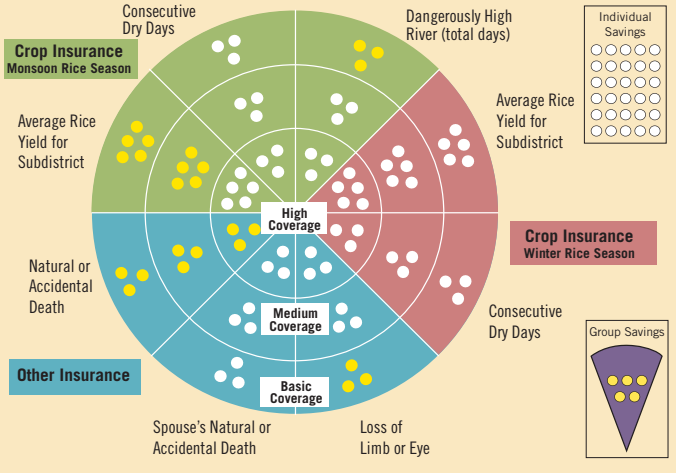
The risks confronting rural people, who make up most of Bangladesh's population, are increasingly clear, but finding a solution remains challenging. Traditional crop insurance that compensates farmers for their individual crop losses may not be the answer. Such schemes impose high costs in verifying crop losses, rely on the honesty of farmers, and cannot avoid the fact that riskier farmers may be more likely to buy insurance. Now Bangladesh's BRAC, the world's largest development nongovernmental organization, has started to experiment with a suite of innovative insurance and savings products for farmers, supported by researchers from IFPRI and the University of Oxford. Others in Bangladesh are following the research program with interest, in the hope that some of the new ideas will have the potential to be scaled up across Bangladesh.

The first step is to identify farmers' preferences. Do farmers even want insurance, or would they prefer to accumulate a savings fund that could be drawn down in times of need? Researchers introduced farmers to a game in which they were each given 30 stickers to place on an individual game board to show how they would customize their own insurance package. They could allocate the 30 stickers, representing 600 taka in total (about US$8), to choose various levels of coverage for agricultural, life, and disability insurance, or savings. Initial observations have shown that farmers are clearly interested in protecting themselves against risk through a combination of insurance and savings.

The next step is to use the results from this exercise to design attractive insurance and savings options that can be sold at reasonable prices. One new approach to insurance is to base payouts on a subdistrict-wide index of rainfall, river height, or crop losses to compensate farmers for catastrophic agricultural events—once-in-ten-year events that affect everyone in the village. But this kind of insurance will do little to help them with more frequent and idiosyncratic shocks, such as pests that destroy one farmer's crops and no one else's. To cope with emergencies not covered by insurance, group savings accounts may be the best solution, but much remains to be learned about how a group savings fund would be created, administered, and monitored. This project will explore how such a fund would work in practice and see if it can really protect Bangladeshi farmers.

The key will be to find the ideal balance between agricultural index insurance, which would cover widespread shocks, and local group savings accounts, which would protect against shocks affecting one or a few individual households. Initial results from the game board exercises conducted with tenant farmers in Bogra and Manikganj districts in July 2011 will provide some insight on the types of insurance and savings options farmers prefer. Then, some groups will be offered customized insurance packages—designed by them—for 2012 coverage. Later, district-specific insurance products will be designed and offered at a larger scale, and their viability will be evaluated. By pioneering methods to improve how farmers manage risk, this joint research project has the potential to drive the promising future of agricultural insurance in Bangladesh.

– Parendi Mehta



More than a game

On this board, a farmer has placed 30 stickers to show the combination of insurance and savings he is interested in. The white dots represent where he could place stickers; the yellow dots show where he has placed stickers. This farmer has chosen basic coverage for loss of limb or eye and for a dangerously high river, medium coverage for a low rice yield, and high coverage for natural or accidental death. He has also chosen to participate in group savings by placing stickers on the group savings board at the right.

AFRICA

Plenty of Water, but Crops Are Going Thirsty

Irrigation can help farmers double or triple their crop yields, but the vast majority of Sub-Saharan African farmers rely on rainfall alone. Just 3.5 percent of the region's farmland is equipped for irrigation, compared with 37 percent in Asia and 18 percent worldwide.

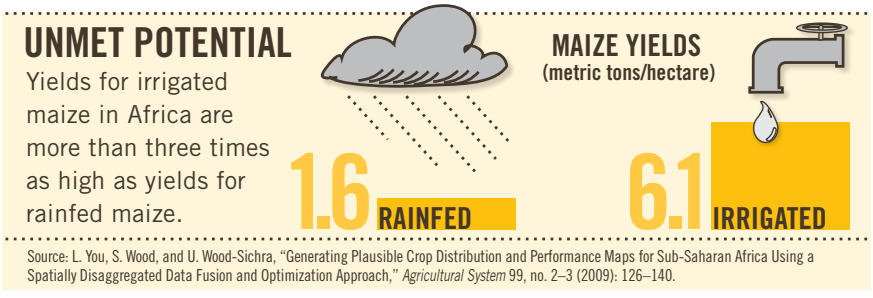
Is it because Africa just doesn't have the water available for irrigation? Hardly. An IFPRI discussion paper by Liangzhi You and colleagues presents results of a study on the potential for irrigation in Africa. It points out that Sub-Saharan Africa has more renewable water per person than the global average—7,455 cubic meters a year, compared with 6,859 cubic meters a year worldwide—but the region uses only 1 percent of that water for irrigation.

The problem is that Sub-Saharan Africa lacks the irrigation infrastructure to take advantage of its water resources. It would not make economic sense, however, to start blanketing the continent with massive dams. Irrigation is expensive, so the economic viability of an irrigation project depends on keeping costs down.

IFPRI's study is unique in looking at both the biophysical and the economic potential for irrigation. "It has to be economic for farmers," says You. He notes that in parts of Africa, farmers lack access to markets for selling their goods, and this situation affects what kind of irrigation systems will be economically viable.

The study finds that in most places, small-scale irrigation will give higher returns than large dams because smaller systems cost less to build. Nigeria has especially good potential for both large- and small-scale irrigation schemes that will pay off handsomely.

– Heidi Fritschel



Source: L. You, S. Wood, and U. Wood-Sichra, "Generating Plausible Crop Distribution and Performance Maps for Sub-Saharan Africa Using a Spatially Disaggregated Data Fusion and Optimization Approach," *Agricultural System* 99, no. 2–3 (2009): 126–140.

WASHINGTON, DC

Clinton at IFPRI: Horn of Africa Crisis

US Secretary of State Hillary Rodham Clinton visited IFPRI on August 11 to speak about the links between long-term food security and food emergencies like the one unfolding in the Horn of Africa.

"Though food shortages may be triggered by drought," Clinton said, "they are not caused by drought, but rather by weak or nonexistent agricultural systems that fail to produce enough food or market opportunities in good times and break down completely in bad times." A hunger crisis, she went on, "is a complex problem of infrastructure, governance, markets, education. These are things we can shape and strengthen. So that means this is a problem that we can solve if we have the will and we put to work the expertise that organizations like IFPRI possess."

She described how two US initiatives—Feed the Future and the 1,000 Days Initiative—are bringing resources to bear on the challenge of achieving food security in developing countries, especially for young children. She also talked about how the United States is working with Ethiopia and Kenya to strengthen their agricultural systems in ways that suit their distinct needs and strengths. These two countries are affected by the drought, but because they have built more resilient agricultural and safety net systems, the consequences are much less severe than in Somalia.

Clinton ended her remarks with a plea for a commitment to preventing future famines: "We must support the refugee camps and do everything we can to provide the immediate help that is needed. But let's not just do that, as important as that is. Let's use this opportunity to make very clear what more we need to do together to try to avoid this happening again. I could think of no better place to come to make that plea and to issue that challenge than to the International Food Policy Research Institute."

– Heidi Fritschel

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US Secretary of State Hillary Rodham Clinton.

MAIZE, RICE, BEANS…& SPRINKLES?

Bolstering Guatemala's traditional diet with micronutrient fortification

In many of the world's cuisines, there is a holy trinity of food—the three basic ingredients that most closely reflect that country's gastronomic soul, the flavor base of the cuisine. In Guatemala, those foods are maize (mostly in the form of tortillas), black beans, and rice.

However, a diet consisting mainly of these staple foods does not contain the full complement of nutrients required for optimal health and growth. Pregnant and lactating women and young children are especially susceptible to micronutrient deficiencies if they do not eat a diverse diet that includes foods such as meat, fruits, and vegetables in addition to staple foods. In Guatemala, infants and young children are at further risk for nutrient deficiencies because the primary complementary foods they eat are often thin porridges or soups and tortillas.

Sprinkles: micronutrients in powdered form.

As a result, Guatemala's malnutrition rate is the highest in Latin America and the fourth highest in the world, according to the World Food Programme. Nearly half of Guatemalan children younger than age five are chronically malnourished, a situation that is likely due to a combination of factors such as limited access to adequate food, illness, and suboptimal care and feeding practices. Says IFPRI Research Fellow Deanna Olney, "To grow well, you need good food, good health, and good care."

The challenge in Guatemala is to find how best to address this complex set of factors and improve the growth of children during the 1,000-day window of opportunity from conception through the first two years of life. To do that, Olney and her colleagues in IFPRI's Poverty, Health, and Nutrition Division—Jef Leroy and Susan Richter—and Division Director Marie Ruel are currently evaluating a food-assistance program by the United States Agency for International Develoment (USAID) that uses an innovative approach aimed at preventing malnutrition in children younger than two years of age (PM2A). Under the program, approximately 44,000 pairs of Guatemalan mothers and children receive a package of preventive interventions: food rations, quality preventive healthcare, and health and nutrition education. While all beneficiaries have access to similar preventive healthcare and health and nutrition education, they have been randomly assigned to receive one of three types of family rations (full ration, half ration, or no ration) and one of three types of individual rations, which are offered to the women from pregnancy through 6 months postpartum and to the children from 6 to 24 months of age. The types of individual rations include:

- Lipid-based nutrient supplement: This contains fat, protein, and micronutri-

The holy trinity of Guatamalan food: maize tortillas, beans, and rice.

ents. Similar in consistency to peanut butter, it can be mixed into or spread on other foods.

- Sprinkles: These are micronutrient powders that can be mixed with food.
- Corn–soy blend: This flour fortified with micronutrients can be used to make porridge, tortillas, or other foods.

As part of the evaluation of the USAID program, IFPRI researchers will measure child nutritional status, child development, maternal nutrition and health knowledge, infant and young child feeding practices, and household food security and consumption among 4,000 of the mother–child pairs. The study will help inform USAID and other policymakers and program implementers about (1) the impact and cost effectiveness of the program on child nutritional status, (2) the need for and optimal size of the family ration offered, and (3) what type of fortified individual ration confers greatest benefits for child growth.

– Gwendolyn Stansbury

IT'S A SMALL WORLD

Nanotechnologies for food production and water safety could help improve the lives and livelihoods of poor people, but will they actually reach the poor?

Nanotechnology is science that sounds like science fiction.

Particles that can be added to sandy or clay soils to absorb water and slowly release it—just when a plant needs it. A water filter made of tubes stronger than any other known substance and so small that only a few water molecules can pass through them. Tiny sensors that can detect and report when plants are under stress from pests, drought, or lack of soil nutrients. These and dozens of other emerging nanotechnologies, which exploit the special properties that materials exhibit at a very small scale, seem well suited to solving problems related to food and agriculture in developing countries. But a new discussion paper from IFPRI shows that actually getting these technologies to poor people will involve overcoming a host of challenges.

Nanotechnologies are materials and devices that are 1 to 100 nanometers—or billionths of a meter—in scale. How small is that? A human hair is 10,000 nanometers thick. Bacteria? 1,000 nanometers. Viruses? Now we're getting down to the nanoscale: viruses are about 100 nanometers in size. At such small scales, materials have, among other things, different chemical reactivity, different melting properties, and different interactions with light than their larger counterparts. With the help of these characteristics, revolutionary nanotechnologies could increase agricultural productivity, enhance food and water safety, boost farmers' competitiveness, and improve access to markets, according to Guillaume Gruère, Clare Narrod, and Linda Abbott, the authors of the IFPRI discussion paper *Agriculture, Food, and Water Nanotechnologies for the Poor.*

The bulk of investment in nanotechnology research is taking place in high-income countries, but some emerging and developing economies are also entering the field. Brazil, China, and India have made sizable investments. The Brazilian Agricultural Research Corporation (EMBRAPA) is pursuing biodegradable nanoparticles for releasing fertilizers in a controlled way. Sri Lanka has set up an institute that will use nanotechnologies to make the country's rubber and textile exports more competitive. Iran, Malaysia, and Thailand are all exploring nanotechnology applications for agriculture or food. South Africa already uses nanotechnology for treating water.

Despite this promising activity, the full potential of nanotechnologies may never be realized in some developing countries. One hurdle, according to Gruère, is that nobody really knows what the health and environmental risks of nanotechnology are, so more study is needed. Even if it is not hazardous, widespread perceptions that it is could prove just as detrimental to its adoption as actual risk. To calm people's fears—and to get the best results—developing countries will need to regulate the nanotechnology sector, but regulation requires well-functioning institutions and entails costs. Further, although some nanotechnologies could help farmers, certain applications, such as synthetic rubber, could replace agricultural commodities, robbing some developing-country farmers of their livelihoods.

Here, the authors argue, is where the Consultative Group on International Agricultural Research can play a role. The CGIAR can study ways of using nanotechnology to improve yields, ensure food safety, and enhance water quality in developing-country environments. It can apply nanotechnologies in support of food and agriculture policies by, for instance, creating hazard maps using data from nanosensors. And it can assess the risks and cost-effectiveness of nanotechnologies and help point the way to their sound governance. By answering some of the questions about nanotechnologies, the CGIAR could help turn science fiction into reality for poor people.

– John Whitehead

NANOTECHNOLOGY FOR CLEAN WATER

Arsenic, a toxic chemical found in groundwater in some parts of the world, is a hazard to human health. Nanotechnology can be used to remove arsenic from drinking water by capitalizing on the attraction between arsenic and iron oxide.

1 Nano-sized particles of iron oxide are added to water that contains arsenic.

2 Arsenic atoms are attracted to the iron oxide. Because the iron oxide particles are so tiny, they have a high proportion of surface area to mass. This means they have lots of surface area to which the arsenic can bind.

3 The water passes through magnetized stainless-steel wool. The iron oxide/arsenic particles stick to the magnetized steel wool.

4 This method can remove about 99% of the arsenic in contaminated water.

NOTE
The process shown in this simplified illustration takes place inside a tube. It is currently being studied and is not yet in widespread use in developing countries. For more information, see J. T. Mayo, C. Yavuz, S. Yean, L. Cong, H. Shipley, W. Yu, J. Falkner, A. Kan, M. Tomson, V. L. Colvin, "The Effect of Nanocrystalline Magnetite Size on Arsenic Removal," *Science and Technology of Advanced Materials* 8, no. 1–2 (2007): 71–75.

Overcoming Traders' Block

During the global food crisis of 2007–08, one country after another slammed the door on food exports to protect domestic consumers from rising food prices—and thereby made the crisis worse. With the world food system under increasing pressure, how can we keep the export doors open?

In fall 2007, Indian policymakers were getting nervous. Each year, they need to purchase tons of grain for the government's main antipoverty program, which provides low-cost food to millions of poor people. Government officials had to meet their target for rice purchases, but rising prices and heavy demand on the world market gave suppliers strong incentives to sell rice abroad instead of to the Indian government. On October 9, 2007, in an attempt to ensure rice supplies, the Indian government banned rice exports. Unsurprisingly, exporters protested. Several weeks later the government switched tactics: it lifted the ban and imposed a minimum export price of US$425 a ton for non-basmati rice. In other words, exporters could not sell rice overseas for any price under US$425—surely, Indian authorities believed, that price would be high enough to keep cheap varieties of rice in the country.

It wasn't. Indian policymakers soon found themselves playing leapfrog with world prices. Over the next several months, Indian officials jacked up the minimum export price repeatedly, but world rice prices surged past these benchmarks, and exports continued pouring out of the country. Finally, on April 1, 2008, the Indian government set a minimum export price of US$1,200 for basmati rice and banned exports of non-basmati rice altogether.

Meanwhile, nerves were also fraying in the Philippines, the world's largest rice importer. The country produces growing quantities of rice, but demand for the grain is rising even faster. The National Food Authority planned to purchase 1.2 million metric

PHOTO: © 2005 G.M.B. Akash/PANOS

tons of rice in 2008, but Philippine farmers had produced less rice than expected. In late 2007 and early 2008, prices were shooting up and supplies on the world market were getting tight. Philippine authorities panicked: they bought their entire annual quota of rice in the first four months of 2008, at prices that by April exceeded US$1,000 a ton.

The desperate attempts by India, the Philippines, and other countries to ensure their own food supplies initially seemed rational from a national perspective. By pushing the world toward a food price crisis, however, these attempts backfired. Food prices—not just for rice, but also for wheat, maize, and other commodites—had already been raised to new heights by drought in Australia and Ukraine, escalating use of food crops in biofuel production, rising oil prices, a falling dollar, and increased noncommercial activity in the derivative markets for food commodities. But trade restrictions and bans on grain exports were also major contributors. In 2007 and 2008, more than two dozen countries restricted food exports. A recent study by Will Martin of the World Bank and Kym Anderson of the University of Adelaide found that these restrictions on exports accounted for 45 percent of the price increase in rice and almost 30 percent of the increase in wheat. By the time they peaked in mid-2008, world prices of wheat and maize were three times higher than at the beginning of 2003, and the price of rice was five times higher.

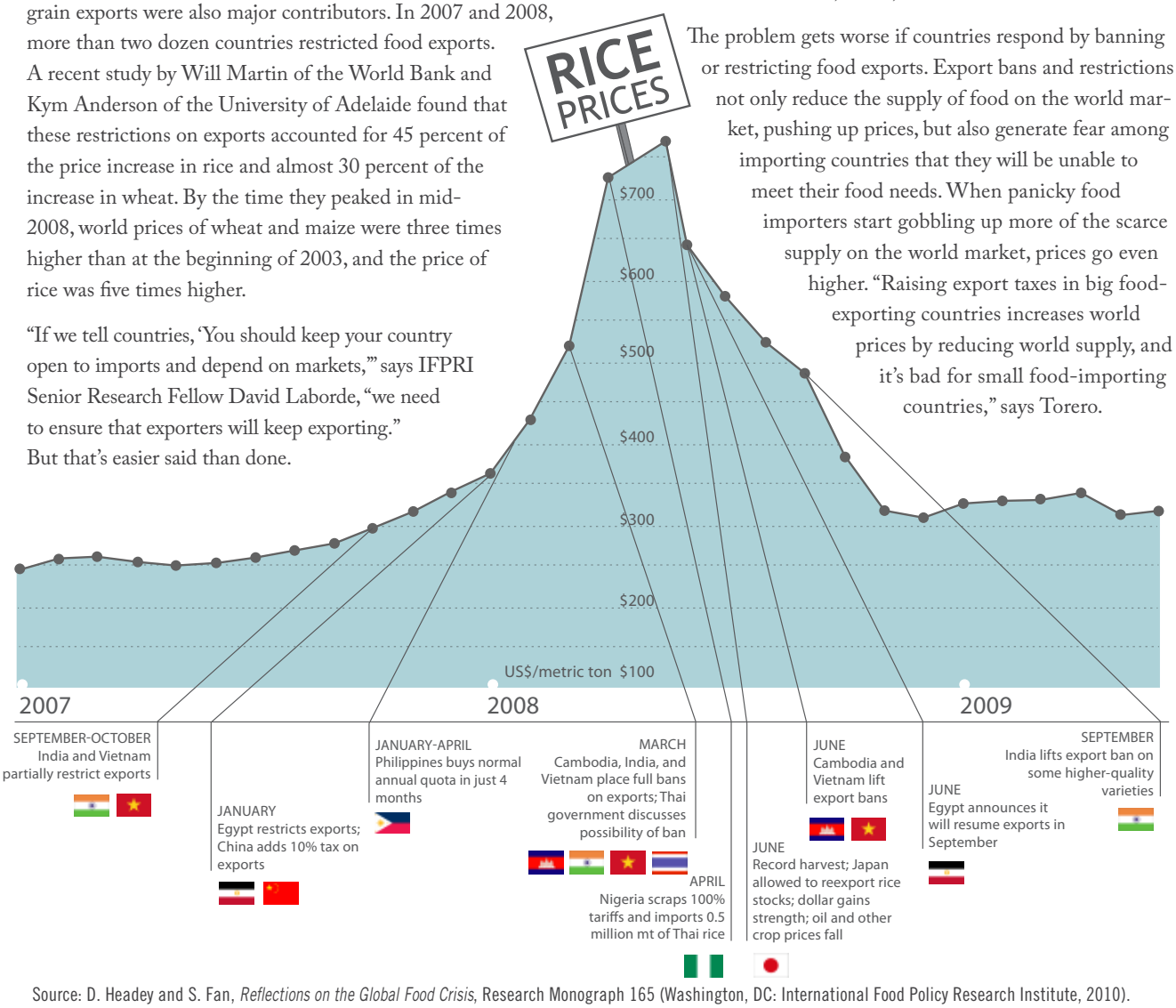
"If we tell countries, 'You should keep your country open to imports and depend on markets,'" says IFPRI Senior Research Fellow David Laborde, "we need to ensure that exporters will keep exporting." But that's easier said than done.

A POLICY OF LAST RESORT

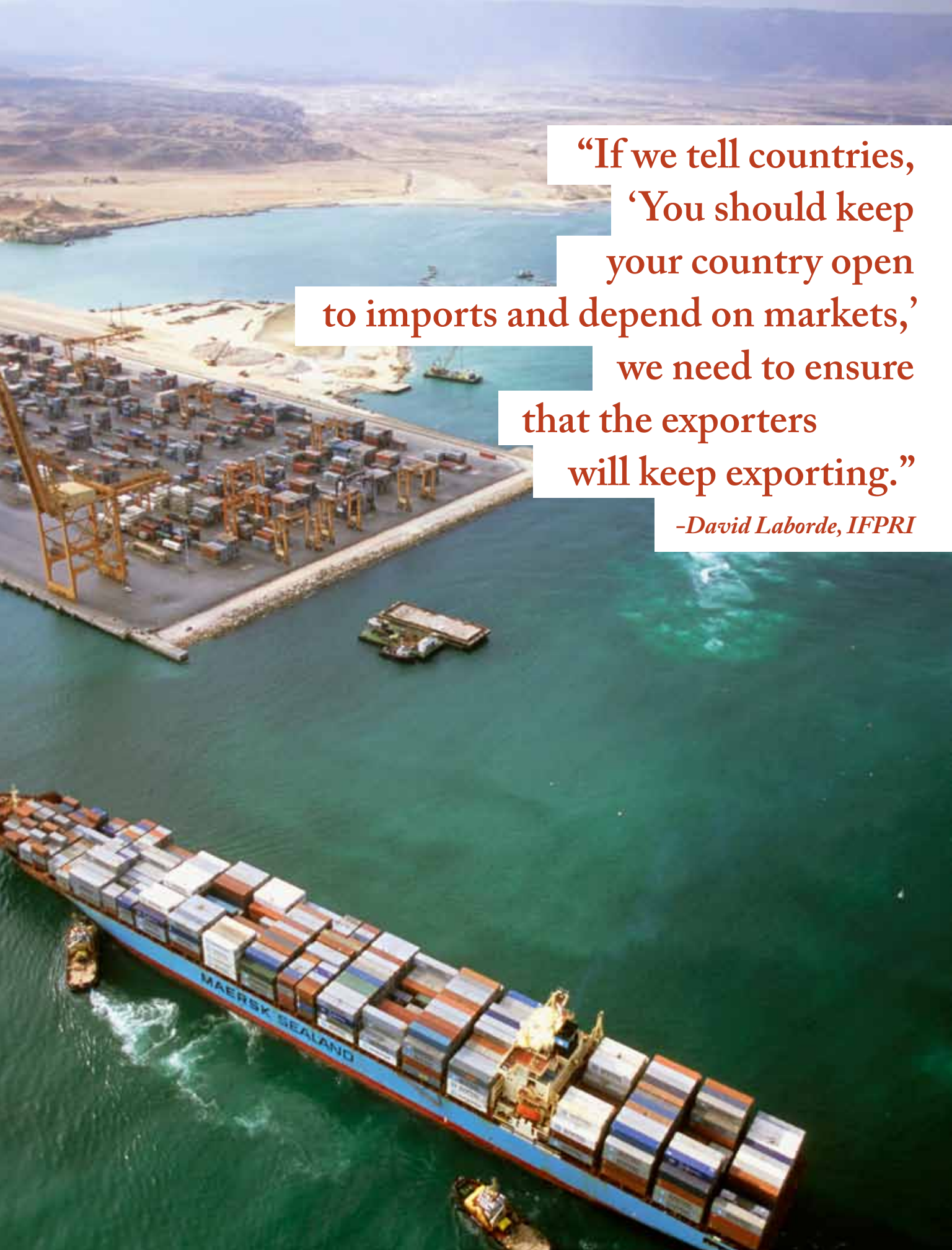
In theory, international trade is supposed to help diversify risk, not magnify it. Agricultural production varies quite a lot from year to year in a single location, but overall world production tends to vary much less. When some countries have poor harvests, others have good harvests, and trade helps transport food from areas of surplus to areas of deficit.

In reality, this risk-reducing aspect of trade does not work as well as it could because only a few countries export most of the world's wheat and rice. Nine countries account for 90 percent of the world's wheat exports, and just five countries account for 85 percent of the world's exports of milled rice. In fact, together Thailand, India, and Vietnam produce 66 percent of all milled rice exports. "When one of these countries has a problem, the world has a problem," says Maximo Torero, director of IFPRI's Markets, Trade, and Institutions Division.

The problem gets worse if countries respond by banning or restricting food exports. Export bans and restrictions not only reduce the supply of food on the world market, pushing up prices, but also generate fear among importing countries that they will be unable to meet their food needs. When panicky food importers start gobbling up more of the scarce supply on the world market, prices go even higher. "Raising export taxes in big food-exporting countries increases world prices by reducing world supply, and it's bad for small food-importing countries," says Torero.



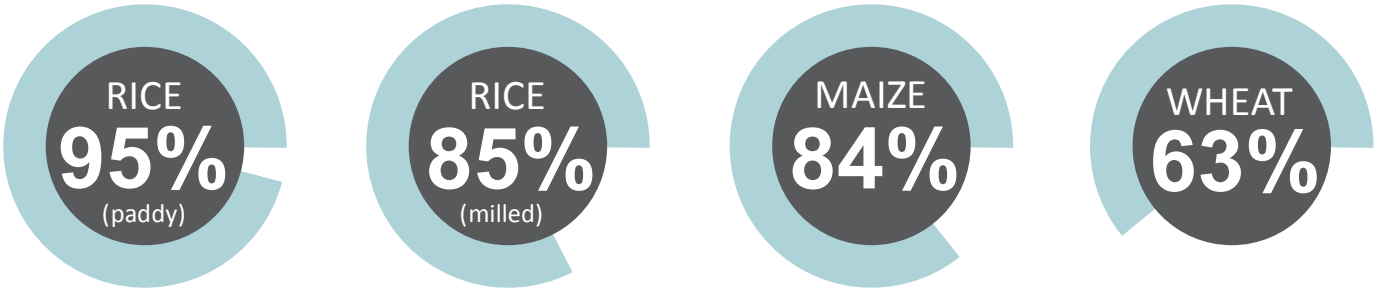
Source: D. Headey and S. Fan, *Reflections on the Global Food Crisis*, Research Monograph 165 (Washington, DC: International Food Policy Research Institute, 2010).



"If we tell countries, 'You should keep your country open to imports and depend on markets,' we need to ensure that the exporters will keep exporting."

-David Laborde, IFPRI

TOP 5 EXPORTERS, 2008: A Handful of Countries Export Most of the World's Staple Grains



SOURCE: K. von Grebmer, M. Torero, T. Olofinbiyi, H. Fritschel, D. Wiesmann, Y. Yohannes, L. Schofield, and C. von Oppeln, *2011 Global Hunger Index: The Challenge of Hunger: Taming Price Spikes and Excessive Food Price Volatility* (Bonn, Washington, DC, Dublin: Deutsche Welthungerhilfe, International Food Policy Research Institute, and Concern Worldwide, 2011).

"Reducing import duties in large importing countries has exactly the same effect—an increase in world prices because of expanded demand on world markets. Both of these policies can be a real disaster for small food-importing countries." Although large or rich countries can usually absorb a price shock that results from an export ban, or retaliate against it, small countries have no choice but to pay whatever price the world market sets.

Why do countries ban food exports when the effects can be devastating for their neighbors? When prices start to soar, governments face intense political pressure to act: people expect their governments to protect them from shocks that threaten their well-being. "It's a political economy issue," says IFPRI Senior Research Fellow Shahidur Rashid. "Rising food prices in India can cause a government to fail." An export ban is a clear response that is relatively easy for a country to adopt.

But Derek Headey, an IFPRI research fellow, points out that export bans are not the only policy tool available. "It is understandable that governments want to protect their poor," says Headey. "But export bans should be a policy of last resort." India had alternatives, he says: it could have released rice stocks, imposed only a low tax on exports, or let prices rise a bit more—which could have helped poor Indian rice farmers.

"Many countries try to insulate themselves against food price increases," says Will Martin, research manager for agriculture and rural development at the World Bank. "It's sensible for individual countries, but collectively it doesn't work. Countries that didn't or couldn't insulate themselves against price increases got hammered."

mid-2010 led Russia and Ukraine to restrict wheat exports. And in late 2010 and early 2011, Ethiopia, Tanzania, and Uganda halted exports of some grains, especially maize.

Moreover, the conditions that tend to produce food export bans could become more common in the future. Forecasts from IFPRI and elsewhere show that global food prices are likely to be high and volatile in the coming years owing to climate change, high oil prices, changing food demand, population growth, and other factors. It will be crucial to stabilize the world trading system, so that countries' attempts to protect their own consumers do not end up making the whole world worse off.

> **"Many countries try to insulate themselves against food price increases. It's sensible for individual countries, but collectively it doesn't work."**
>
> **—Will Martin, World Bank**

TIME TO REWRITE THE RULES?

Although the rash of food export bans of 2007–08 has passed, the practice of restricting food exports continues. India imposed a ban on wheat exports that lasted from 2007 to 2011. Drought in

Despite the outsized role that export restrictions played in the 2007–08 food price crisis, they were perfectly legal

A container port in Salalah, Oman.

More productive farming in more countries would not eliminate the need for other measures to ensure a healthy global system of food trade—but it could help export bans become a last resort instead of a panicked first reaction.

according to international trade rules. Current trade agreements—and even proposed future agreements—allow countries to restrict exports in the case of "critical shortages of foodstuffs." But because there is no consensus about what constitutes a "critical shortage," countries are essentially free to do as they wish.

Many economists believe that the best solution would be to create binding rules against agricultural export bans. Will Martin of the World Bank says that addressing the problem of restrictions on food exports will be "difficult but not impossible." He believes there is now hope for progress given that the large food-exporting countries have seen the effects of their policies on world prices and on poor food-importing countries. Although the severe weather and food price increases in 2010–11 have so far resulted in fewer export restrictions and less panic buying than three years ago, trade rules have not changed to prevent such outcomes. "In the World Trade Organization you need a consensus to change the rules, and under the right circumstances we could gradually achieve that," says Martin.

IFPRI's Maximo Torero agrees: "The only way forward is to reopen the Doha Round of WTO trade negotiations. Brazil, India, and China could get together to push Doha forward. There is a little window of opportunity, but it's getting smaller over time, and the Doha Round needs to be adjusted to the current situation of higher and more volatile prices."

Other observers are less hopeful about prospects for abolishing export bans. "To give up the export ban as a policy instrument is to say that foreign interests in food security are more important than domestic ones. I don't see any food minister being able to say that," says Peter Timmer, professor emeritus at Harvard University. He sees the way forward as a joint effort to raise agricultural productivity and to gradually increase the level of reserve stocks held within individual countries. "Both steps will increase confidence in keeping borders open to food trade because we lower the likelihood of price spikes," Timmer says. "The need for

A rice stall in central Saigon.

India, Haryana: Workers stack hessian sacks of basmati rice.

Workers stack sacks of basmati rice in India.

export bans goes away because of 'fundamentals,' rather than some legalistic requirement for which enforcement will be impossible."

Shenggen Fan, director general of IFPRI, argues that eliminating food export bans must be the long-term goal: "We should abolish bans unconditionally. It will be hard, just like free trade. But we have to continue to work on it." In the meantime, he says, the task is to build national, regional, and global resilience to shocks like extreme weather by raising farmers' productivity, providing them with insurance, setting up appropriate grain reserves, and protecting the poor and other vulnerable people. And more can be done to protect small importing countries, says IFPRI's David Laborde, by, for example, creating a quota system that gives them access to needed food imports or by compensating them through fees charged to large exporters when they restrict exports.

WANTED: MORE EXPORTERS

For now, there are two main approaches to reducing the likelihood of future restrictions on food exports: one is to try to smooth out the swings in food prices, and the other is to change how countries respond to those price swings. The G20 has made modest moves on both fronts. In late June, the G20 agriculture ministers adopted an action plan on food price volatility in which they committed to invest more in agricultural production, which should help stabilize food prices. They also agreed to create a system for providing information on global production and prices of wheat, rice, maize, and soybeans, which should help prevent panic in food markets by creating more transparency about actual food supplies. In addition, they agreed to eliminate export restrictions for food purchased by the World Food Programme for humanitarian purposes. Observers greeted these decisions with a mixture of relief that food supplies for humanitarian purposes would be protected and dismay that more was not done to address the causes of food price volatility, including biofuels and export bans. The G20 Summit in November 2011 may bring further progress.

In the contentious debate over countries' food policies, one conclusion garners support from all sides: the need to boost agricultural productivity to both smooth food prices and strengthen global trade by increasing the number of food-exporting countries. What if, when droughts hit Australia and Ukraine in 2006, substantial wheat exports had also been available from Mexico and Tunisia? What if major rice exporters included not only Thailand, India, and Vietnam, but also Ecuador and Egypt? More productive farming in more countries would not eliminate the need for other measures to ensure a healthy global system of food trade—but it could help export bans become a last resort instead of a panicked first reaction.

– Heidi Fritschel

RISING FOOD PRICES

PRICE INCREASES 2005 → 2011

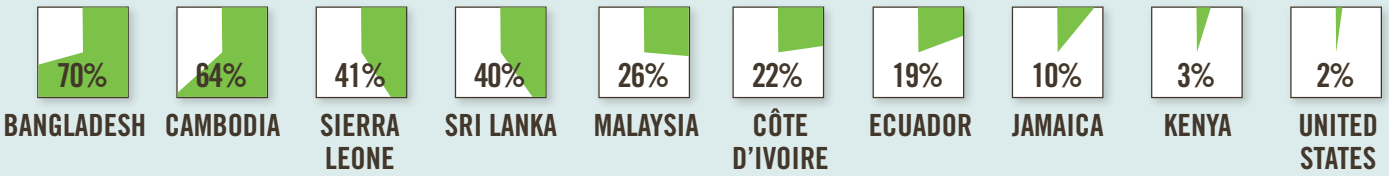
RICE +102%

WHEAT +115%

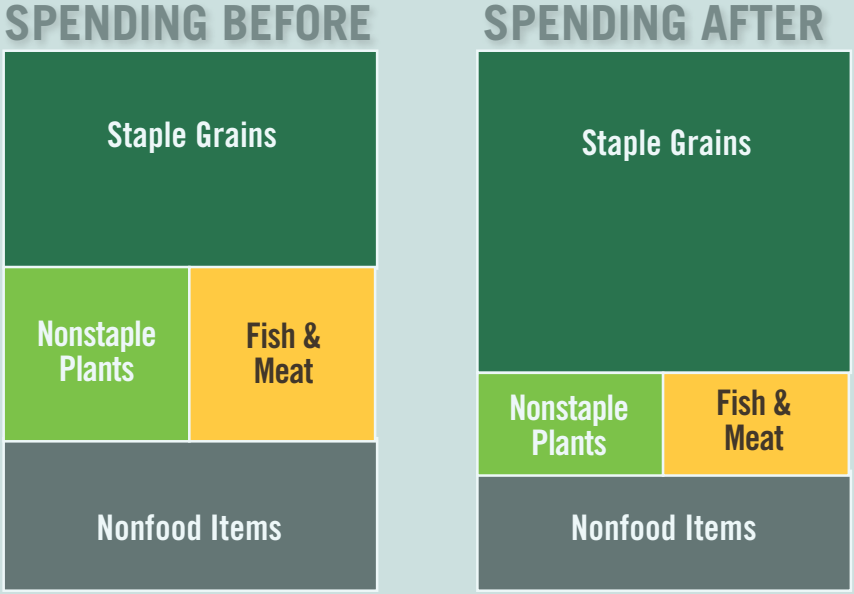
MAIZE +204%

RICE: MAIN COURSE OR SIDE DISH?

2007: SHARE OF CALORIES SUPPLIED BY RICE



WHAT WOULD HAPPEN TO HOUSEHOLD SPENDING IN BANGLADESH IF FOOD PRICES INCREASED BY 50%?



SOURCES

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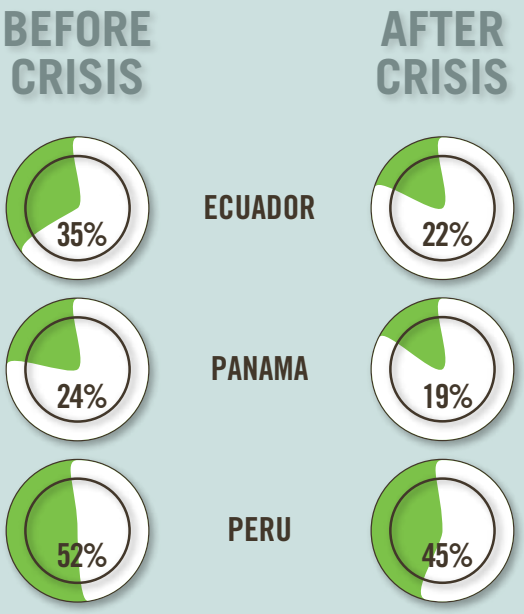
AND THEIR IMPACT ON HUNGRY PEOPLE AROUND THE WORLD

FOOD PRICE CRISIS TAKES A BITE OUT OF FOOD CONSUMPTION IN LATIN AMERICA

In seven Latin American countries, the 2007–08 food price crisis led to an average 8% drop in calories consumed.

CALORIES -8%



Proportion of households consuming adequate levels of calories

NUTRITIONAL NOSEDIVE

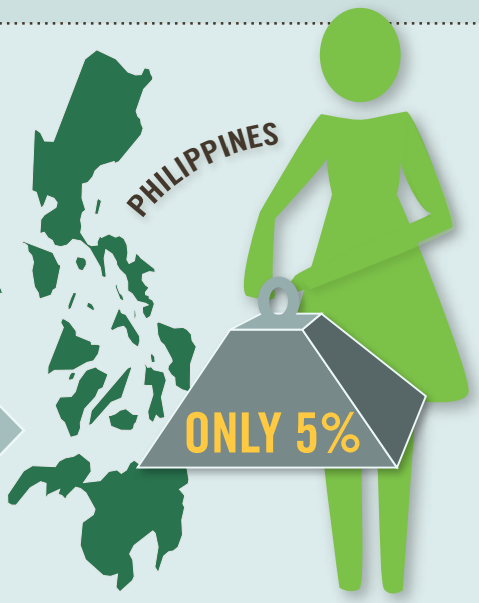
IRON

+50% GLOBAL FOOD PRICES

-30% IRON INTAKE

If poor people in developing countries face a 50% increase in all food prices across the board and no rise in income, iron intake will fall by 30%.

THEN...



If iron consumption declined by 30% in the Philippines, only 5% of Filipino women would consume adequate levels of iron.

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

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PHOTO: A farmer winnowing rice in Indonesia. © 1999 Philippe Lissac/Godong/Panos