exploiting the links

DECEMBER 2010

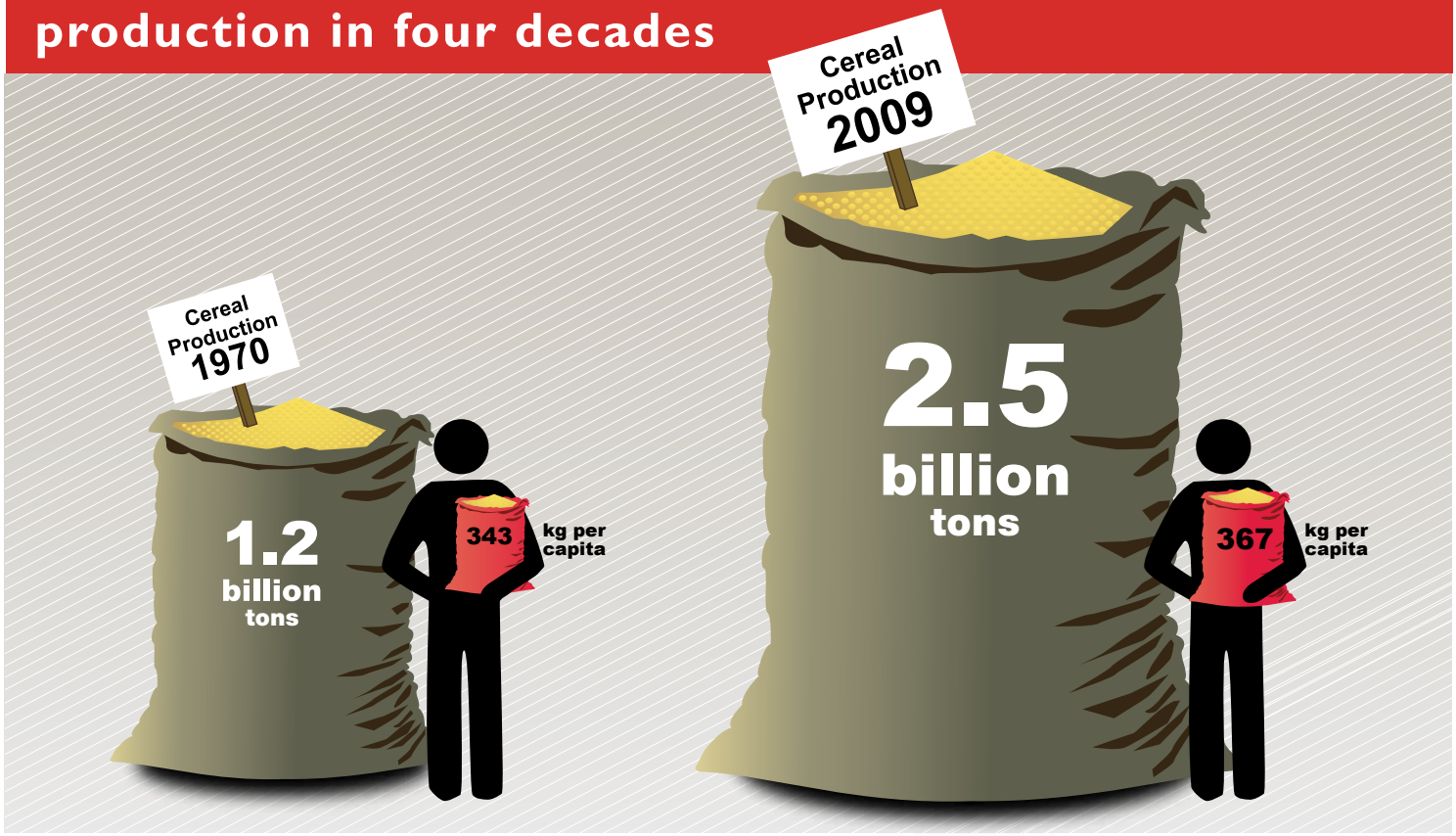
Most people would say that agriculture is for growing food, and on one level, they are right. Agricultural performance, after all, is measured in terms of production and productivity. The point of agriculture doesn't stop there, however. At a deeper level, the purpose of agriculture is not just to grow crops and livestock, but to grow healthy, well-nourished people. Farmers produce a wide range of goods, including cotton, coffee, and energy crops, but one of their ultimate tasks is to produce food of sufficient quantity (that is, enough calories) and quality (with the vitamins and minerals needed by the human body) to feed all of the planet's people so that they can lead healthy, productive lives. Agriculture thus effectively includes goals related to human health and nutrition.

But could agriculture do more to meet these goals? Recently the international development community has turned its attention to the potential for the agriculture, nutrition, and health sectors to work together to enhance human well-being. In some ways, of course, agriculture, health, and nutrition are already deeply entwined. Agriculture is the only realistic way for most people to get the nutrition they need. And in many poor countries agriculture is highly labor intensive, and productive agriculture requires the labor of healthy, well-nourished people. In other ways, agriculture, health, and nutrition are quite separate. Professionals in these three fields usually work in isolation from one another, with their efforts sometimes dovetailing in ways that are mutually beneficial and sometimes working at cross-purposes. Many people are now asking, How much more could agriculture do to improve human well-being if it explicitly included health and nutrition goals? What kinds of changes would be needed to maximize agriculture's contribution to human health and nutrition, and how could human health and nutrition contribute to an agricultural system that is productive and sustainable?

ROOM FOR IMPROVEMENT

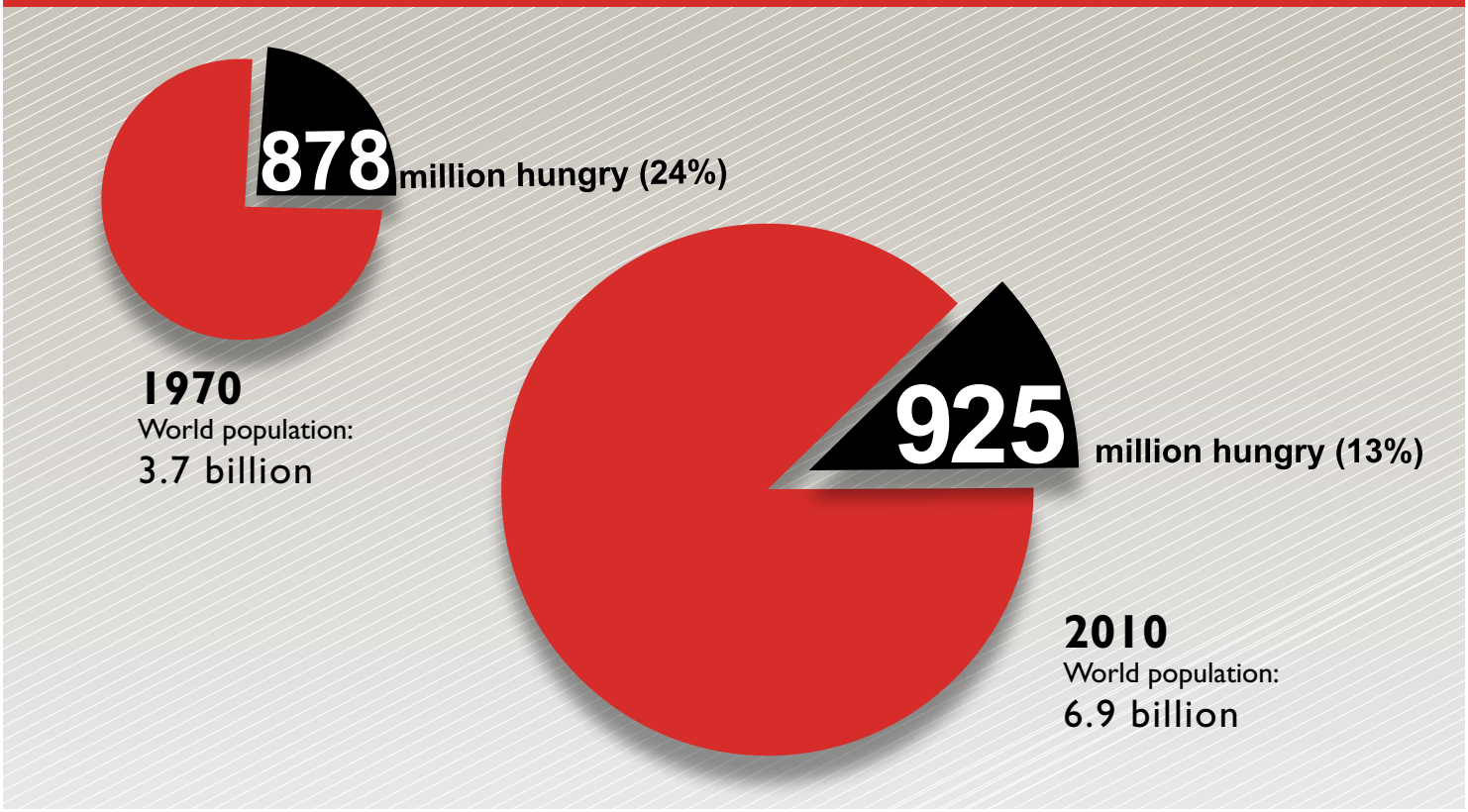
Over the past century or so, agricultural development has been based on a paradigm of increasing productivity

The world's farmers have more than doubled cereal production in four decades



Sources: FAO (2010a); United Nations (2008).

Billions more people are being fed, but nearly 1 billion still go hungry



Sources: FAO (2010b); United Nations (2008).

and maximizing the production of cereals, bringing both enormous benefits and substantial risks to humankind. This paradigm has produced an agricultural system that is the world's primary source of calories and employs 60–80 percent of people in low-income countries (IFC 2009). The ramping up of cereal production in the Green Revolution, for example, saved countless lives in Asia, and agricultural growth there has served as a springboard for a blistering pace of economic growth, improving the lives of millions. At the same time, agricultural intensification has increased the spread of agriculture-associated diseases and accelerated the development of new ones (like the evolving forms of influenza), as well as exacerbating environmental degradation that can have negative consequences for human health.

A look at the current global health and nutrition situation suggests that there is room for agriculture to make an even greater contribution to health and nutrition. Indeed, leveraging agriculture for health and nutrition has the potential to speed progress toward meeting all eight of the Millennium Development Goals. The world's farmers already provide billions of people with diverse, healthy diets—yet more needs to be done. Nearly one-sixth of the world's population is going hungry. In developing countries, one out of four children—about 146 million children in all—is underweight. Each year about 10.9 million children younger than age five in developing countries die, and 60 percent of these deaths result from malnutrition and hunger-related diseases (WFP 2010). Moreover, millions of people suffer from serious vitamin and mineral deficiencies. The Copenhagen Consensus has ranked vitamin

VITAMIN AND MINERAL DEFICIENCIES COMPROMISE THE NUTRITION AND HEALTH OF MILLIONS

Poor diets, disease, and other factors mean that many people do not get the nutrients they need for a healthy life.

- More than 30 percent of the world's population—2 billion people—are anemic, many due to iron deficiency. Iron deficiency impairs the mental development of 40–60 percent of the developing world's children aged 6 to 24 months and leads to the deaths of about 50,000 women a year during pregnancy and childbirth.
- Vitamin A deficiency compromises the immune systems of about 40 percent of children under age five in developing countries and results in the early deaths of about 1 million young children each year.
- Iodine deficiency during pregnancy causes as many as 20 million babies a year to be born mentally impaired.

Sources: WHO (2010b, c); Micronutrient Initiative and UNICEF (2004).

A and zinc supplements for children and fortification of food with iron and iodine as numbers one and three, respectively, in its solutions to the most important human challenges (Copenhagen Consensus Center 2008). Moreover, hunger and malnutrition have effects that last throughout the life cycle, with poorly nourished children growing up to be less healthy and productive than they could be. Girls who do not get the nutrition they need become undernourished women who then give birth to the next generation of undernourished children.

While some people are getting too little food, others are getting too much of the wrong food. Diets centered on cheap, calorie-dense, nutrient-poor foods (including both "fast foods" and nutrient-poor staples) are deepening the emerging epidemic of obesity and chronic diseases in countries undergoing economic and nutrition transitions. Overweight affects more than 1 billion people globally, and obesity affects at least 300 million. Since 1980, obesity rates have risen threefold or more in some areas of North America, the United Kingdom, Eastern Europe, the Middle East, the Pacific Islands, Australasia, and China (WHO 2010a).

But the links between agriculture on the one hand and health and nutrition on the other work both ways. People who suffer from malnutrition and poor health are less able to do the work required for agricultural production. Nutritional deficits and disease have been shown to impair people's physical and cognitive capacities. The result in many regions of the world has been a downward spiral of low agricultural productivity, low income, poverty, and even worse nutrition and health.

LEARNING TO LEVERAGE AGRICULTURE

Although the agricultural, health, and nutrition sectors all seek to improve human well-being, agriculture has rarely been explicitly deployed as a tool to address these challenges. Researchers are now increasingly working to identify the links among agriculture, nutrition, and health, but much more remains to be learned about how to make those links work effectively to improve nutrition and reduce health risks. How can agriculture be leveraged for health and nutrition?

To begin with, agriculture has the potential to greatly reduce poverty—a key contributor to poor health and undernutrition. Some 75 percent of the world's poor people live in rural areas. In Sub-Saharan Africa, for example, agriculture employs 65 percent of the labor force and generates 32 percent of growth in gross domestic product (World Bank 2007). Strong agricultural growth could raise the incomes of rural people and help pull millions out of poverty. Yet more needs to be learned about what kind of agricul-

tural growth does most to reduce poverty and improve nutrition and health, especially given the budget constraints that countries face. For example, should policymakers focus their efforts on stimulating agricultural growth among smallholders or large-scale commercial farmers? In regions that are geographically favorable or those that are marginal? In traditional staples or nontraditional high-value crops? How can decisionmakers strengthen the positive consequences of agricultural growth (such as improved incomes and better access to nutritious foods) while minimizing the potential negative consequences (such as environmental damage and occupational risks)?

Along the entire agricultural value chain, nutrition and health concerns could and should play larger roles. For instance, farmers can be encouraged to grow more nutritious crops. One example of this approach is already being tried with an effort to promote biofortified crops—that is, staple crops that have been bred to contain high levels of micronutrients, like vitamin A or iron. Many questions, however, remain to be answered: Under what conditions will farmers grow biofortified crops and will consumers accept the biofortified crops, which may look different from what they are used to? How will the availability of biofortified crops affect the nutrition of the people who are most often malnourished—women and children?

Other opportunities for improving nutrition and reducing health risks surely exist along the value chain. For example, what is the best way to reduce health risks—including food and water safety risks—stemming from agricultural production and processing? How can the nutritional quality of foods be enhanced during processing and retailing? How can consumers be encouraged to accept, and even seek, more nutritious foods, and how can such foods be made available and affordable?

Policymakers and practitioners have a number of tools at their disposal, and it is important to learn which levers would be most useful for maximizing agriculture's contribution to nutrition and health. Economic levers might include policies related to taxation, markets, trade, subsidies, and prices, as well as investment and financing decisions. Social levers could include education, behavioral change, and cultural change. Science and technology levers include innovations in plant and livestock breeding, biotechnology, and agricultural systems. Finally, other levers are related to governance and inclusion. Are there incentives or institutional arrangements that would make it easier for the agricultural, health, and nutrition sectors to work together? Socially excluded populations often bear the highest burden of low agricultural productivity, poor health, and undernutrition. How can the nutrition and health needs of these groups be integrated into agricultural policies?

One often-excluded group consistently lies at the nexus of the agriculture, health, and nutrition sectors: women. Not only are women preparers of food and caregivers during illness, but in many countries they are also the main agricultural producers. In Southeast Asia women supply up to 90 percent of the labor required for rice cultivation. In Sub-Saharan Africa women produce up to 70 percent of the food that their households consume and sell (FAO and ILO 2010). This situation suggests that women could play key roles in leveraging agriculture for nutrition and health. Are there ways to take advantage of women's unique role in order to enhance agriculture's

benefits for nutrition and health—without adding unduly to the already heavy demands on women's time and labor?

Not only governments, but also other actors have important roles to play in leveraging agriculture for nutrition and health. Farmers, healthcare workers, nutritionists, civil society groups, educators, researchers, private companies, and others can all make important contributions.

BUILDING ON WHAT WORKS

The global food system is undergoing enormous changes while facing new pressures and opportunities. Emerging countries like Brazil, China, and India are becoming agricultural and economic powerhouses and making impressive strides in reducing poverty. Yet even in these rapidly growing countries, severe economic inequality persists, with the poor still suffering from poor nutrition and health and the better-off beginning to experience overnutrition and obesity. A number of other countries, particularly in Sub-Saharan Africa, find themselves unable to overcome stubbornly high rates of malnutrition. Private companies and retailers are playing ever larger roles in the food systems of even poor countries. Pressures on the food supply include climate change, environmental degradation, and increasing demand for a wider variety of foods.

At the same time, attention to the agricultural sector is growing, along with an interest in leveraging agriculture for nutrition and health. Now is an ideal time to look for solutions that will not only help make the agricultural system highly productive and sustainable, but also maximize its contributions to human well-being. The links between the three sectors—and consequently, potential solutions—will undoubtedly look different in different countries and regions, given the variations in agricultural systems and practices, food systems, and health and nutrition status. Initial efforts in some countries can point the way to potentially effective approaches and show what works and what does not. It is important to examine how successes can be adapted and scaled up in different regions, and the lessons learned from experience to date will suggest areas for investment and policy change. The search for ways to leverage the agricultural system to improve health and nutrition has the potential to produce a better life for all.

LEVERAGING
AGRICULTURE FOR IMPROVING
NUTRITION & HEALTH

International Conference | 10–12 February 2011 | New Delhi, India

The issues raised in this brochure, and many others, will be explored at the international conference "Leveraging Agriculture for Improving Nutrition and Health," organized by IFPRI and its 2020 Vision Initiative. This global policy consultation is designed to bring the agriculture, nutrition, and health sectors together and unleash the potential of agriculture—as a supplier of food, a source of income, and an engine of growth—to sustainably reduce malnutrition and ill health for the world's most vulnerable people.

Leading experts from these sectors will be invited to take stock of current knowledge, share information and best practices, and build consensus on the actions most needed to move forward on this important issue. The ultimate objective is to inform, influence, and catalyze action by key actors—including policymakers, nongovernmental organizations, the private sector, educators, and researchers—to better use investments in agriculture to achieve nutrition security and good health for the world's poorest people.

For more information on the conference and the many associated activities and products, go to

http://2020conference.ifpri.info/

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