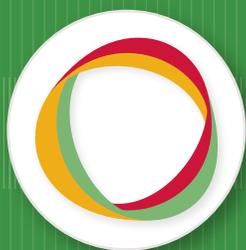


Reshaping Agriculture for Nutrition and Health



Edited by Shenggen Fan
and Rajul Pandya-Lorch

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The International Food Policy Research Institute (IFPRI) was established in 1975 as one of 15 centers supported by the Consultative Group on International Agricultural Research (CGIAR), an alliance of governments, private foundations, and international and regional organizations engaged in research for sustainable development. To contribute to a world free of poverty, hunger, and malnutrition, IFPRI conducts research on a wide range of topics, including agricultural productivity, global trade and local markets, maternal and early childhood nutrition, climate change, and individual country development strategies, among others. Based in Washington, DC, IFPRI has 12 offices worldwide including regional offices in Ethiopia, India, and Senegal.

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An IFPRI 2020 Book

Edited by Shenggen Fan and Rajul Pandya-Lorch

International Food Policy Research Institute
Washington, DC

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Preface

Persistent hunger, malnutrition, and ill health threaten the ability of many countries to achieve the Millennium Development Goals by 2015. What happens in the agriculture sector—a supplier of food and essential nutrients, a source of income and employment, and an engine of growth—has important implications for nutrition and health. With the recent food crises, agriculture, for the first time in two decades, is high on the global agenda. The International Food Policy Research Institute (IFPRI) and its 2020 Vision Initiative decided to leverage this momentum to inform, influence, and catalyze key actors to better use agricultural investments to sustainably reduce malnutrition and improve health for the world's most vulnerable people.

This book is intended to identify knowledge gaps, foster new thinking, and stimulate concrete actions on leveraging agriculture for improving nutrition and health. It is meant to serve a variety of audiences, from scholars, academics, students, and researchers, to practitioners working on the ground, to decisionmakers devising policies that successfully connect agriculture, nutrition, and health at the local, regional, and global levels. Readers interested in probing these topics more fully can follow the references to the discussion papers, journal articles, and books that underlie many of the chapters.

This book is a compilation of peer-reviewed background papers and briefs commissioned by IFPRI for the international conference “Leveraging Agriculture for Improving Nutrition and Health,” which took place in New Delhi in February 2011. We hope this book will inspire dialogue within and between sectors, as a first step toward shaping agricultural investments that improve human nutrition and health around the world.

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The chapters in this book were originally commissioned as background papers and briefs for “Leveraging Agriculture for Improving Nutrition and Health,” a global conference facilitated by the IFPRI 2020 Vision Initiative and hosted in New Delhi in February 2011. Authors include IFPRI senior staff and other leading researchers, practitioners, and policymakers from around the world. All of the conference papers and briefs were peer reviewed (or based on peer-reviewed materials) before they were made available to conference participants. Subsequently, in preparation for this book, all of the briefs were converted into book chapters and underwent further peer review by IFPRI’s independent Publications Review Committee. We thank the Committee and its chair, Gershon Feder, for these careful and timely reviews.

We are deeply grateful to the policy consultations and conference process cosponsors that made this book possible: Asian Development Bank, Bill & Melinda Gates Foundation, Canadian International Development Agency, Technical Centre for Agricultural and Rural Cooperation (CTA), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, International Fund for Agricultural Development (IFAD), Indian Economic Association, International Development Research Centre, Canada/Le Centre de recherches pour le développement international, Irish Aid, PepsiCo, UK Department for International Development (DFID), United States Agency for International Development (USAID) and its Feed the Future Initiative, and the World Bank. We also gratefully acknowledge IFPRI’s unrestricted funding from Australia, Canada, China, Denmark, Finland, France, Germany, India, Ireland, the Netherlands, Norway, South Africa, Sweden, Switzerland, the United Kingdom, the United States, and the World Bank, which enabled IFPRI to establish the 2020 Vision Initiative and the research base for the overarching work reported here.

We express our sincere appreciation to the authors of the chapters for their invaluable contributions that have enriched our knowledge base and enabled more informed discourse on how to make agriculture more nutrition and health friendly.

We warmly thank our colleagues for their tremendous support throughout the preparation of this book and its underlying background papers and briefs: Evelyn Banda, Adrienne Chu, Djoanna Cruz, Kenda Cunningham, Heidi Fritschel, Corinne Garber, Michael Go, Zhenya Karelina, Vickie Lee, David Popham, Gwendolyn Stansbury, Ashley St. Thomas, Julia Vivalo, Klaus von Grebmer, John Whitehead, and Sivan Yosef.

Shenggen Fan, Rajul Pandya-Lorch, and Heidi Fritschel

Most people would say agriculture is about growing food; they are right. Agricultural performance, after all, is measured in terms of production—for example, yield or grain production. The purpose of agriculture, however, does not stop there. At a deeper level, the purpose of agriculture is not just to grow crops and livestock for food and raw materials, but to grow healthy, well-nourished people. One of farmers' most important 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 sustainably so they can lead healthy, productive lives. This is effectively one of the goals of agriculture, although it is rarely made explicit.

Could agriculture do more to meet this goal? 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. Agricultural production is an important means for most people to get the food and essential nutrients they need. And in many poor countries, where agriculture is highly labor intensive, productive agriculture requires the labor of healthy, well-nourished people. Yet, 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 mutually beneficial ways and sometimes working at cross-purposes.

In an ideal world, consumers would be fully aware of the merits of nutritious foods, and producers, processors, and marketers, in turn, would know how to produce, process, and market these high-quality, nutrient-rich foods. Market forces would provide the incentives, through product prices, to all involved in producing or consuming nutrient-rich foods. Unfortunately, our world is less than ideal, and market prices do not provide an adequate incentive for producing nutritious food. And, even if prices did reflect the nutritional value of food, they could put nutritious foods out of reach of poor people. This means public interventions are needed to correct market failures (when prices do not reflect the nutritional value of foods) or to improve affordability (for poor people).

How much more could agriculture do to improve human well-being if it included specific actions and interventions to achieve health and nutrition goals? What kinds of changes would maximize agriculture's contribution to human health and nutrition, and how could human health and nutrition contribute to a productive and sustainable agricultural system?

Room for Improvement

Over the past century or so, agricultural development has been based on a paradigm of increasing productivity and maximizing the production of cereals. 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 (Hazell 2009), 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 led to a concentration on grain production; crowded out nutrient-dense crops like pulses, fruits, and vegetables; increased the risk of agriculture-associated diseases; led to the development of new diseases (such as the evolving forms of influenza); and exacerbated environmental degradation that can have negative consequences for human health. Moreover, millions of smallholders who produce food still suffer from poverty and hunger, and recent food price hikes have made those who are net buyers of food even more vulnerable.

A look at the current global health and nutrition situation suggests agriculture can 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. About one-seventh of the world's population is going hungry (FAO and WFP 2010). In developing countries, one out of four children—about 146 million in all—is underweight (UNICEF 2006). Millions of people suffer from serious vitamin and mineral deficiencies. For example, vitamin A deficiency compromises the immune systems of about 40 percent of children younger than age five in developing countries and results in the early deaths of about 1 million young children each year. 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 (Micronutrient Initiative and UNICEF 2004). The economic cost of micronutrient deficiencies is estimated to be 2.4–10.0 percent of gross domestic product (GDP) in many developing countries (Stein and Qaim 2007). Thus the Copenhagen Consensus has ranked vitamin

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