# Who Will Be Fed in the 21st Century?

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**Challenges for Science and Policy** 

EDITED BY KEITH WIEBE, NICOLE BALLENGER, AND PER PINSTRUP-ANDERSEN

International Food Policy Research Institute Economic Research Service of the U.S. Department of Agriculture American Agricultural Economics Association

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Gold food production has more than doubled over the past 40 years, growing faster even than population, and will likely continue to keep pace into the 21st century. Yet one-eighth of the world's people today lack secure access to the food they need to live active and healthy lives. Given the persistence of food insecurity amidst increased per capita food production, the critical question for researchers and policymakers today is not so much *whether* the world can be fed, but rather *who* in the world *will* be fed?

In February 2000, a group of physical scientists, social scientists, and policymakers gathered in a symposium at the annual meetings of the American Association for the Advancement of Science in Washington, D.C., to discuss the roles of science and policy in addressing these challenges. This report distills the conclusions of that group. The authors argue that markets will continue to respond to the demands of those with incomes to spend, in terms of both quantity and quality of food produced and supplied. By contrast, meeting the needs of the poor will require public policies and investments to supplement the operation of markets in three critical areas where private incentives are insufficient: protecting the natural resources on which agriculture depends; focusing the benefits of agricultural research, including biotechnology, on the needs of small-scale farmers in developing countries; and ensuring that access to food, resources, and incomegenerating opportunities is equitable and secure.

In the absence of appropriate policy measures to address these challenges, food insecurity and child malnutrition will remain widespread in the coming decades. If these three broad policy challenges can be met, however, a foodsecure and environmentally sustainable world will be within our reach. We have already made great strides in reducing the burden of food insecurity around the world. Building on the progress made and taking the actions described here should enable us to finally realize a food-secure world in the 21st century.

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n attempt to cover a topic of this scope necessarily involves contributions from many areas of expertise. The authors wish to thank Michael Strauss and Bill Ryan of the American Association for the Advancement of Science for their help in organizing the symposium at which these contributions were first discussed in February 2000. The report that grew out of those discussions benefited from the helpful comments of a number of reviewers who read all or part of the manuscript at various points, including Paul Heisey and Shahla Shapouri of the Economic Research Service, Sara Scherr of the University of Maryland, Martina McGloughlin of the University of California-Davis, Pierre Crosson of Resources for the Future, and Agnes Quisumbing and Marc Cohen of the International Food Policy Research Institute (IFPRI). Finally, we thank Heidi Fritschel at IFPRI for her expertise in coordinating the production of this volume.