IFPRI's STRATEGY

TOWARD FOOD AND NUTRITION SECURITY

Food Policy Research, Capacity Strengthening, and Policy Communication

April 2003

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
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Foreword

The IFPRI Board of Trustees called upon the Institute's management to revisit its long-term strategic direction and develop an updated strategy document in 2002–03. The current document has been prepared in a consultative process engaging IFPRI research and outreach divisions and partners. It has greatly benefited from reviews and comments on earlier drafts and outlines by peers in food policy research, capacity building, and policy communication activities, including the previous director general, Per Pinstrup-Andersen. The document evolved from a senior research staff retreat in September 2002, various other internal workshops, several rounds of discussion by IFPRI's Senior Management Team, comments on the outline and several drafts by other IFPRI staff, a meeting of the IFPRI Board of Trustees Executive Committee in December 2002, and formal hearings, especially one in which Sartaj Aziz, Norman Borlaug, Raymond Hopkins, Robert Paarlberg, and M.S. Swaminathan played key roles in December 2002. We consulted widely with partners and colleagues in research, civil society, and the private sector, including members of the IFPRI 2020 Vision Initiative International Advisory Council.

I wish to acknowledge the helpful and challenging comments on early drafts by many partners and stakeholders, including those made in meetings with colleagues in the Consultative Group on International Agricultural Research and at the Food and Agriculture Organization of the United Nations, the International Fund for Agricultural Development, the World Food Programme, the World Bank, universities, donor organizations, and nongovernmental organizations. Many valuable comments were also made in formally requested reviews by individual experts, including Assefa Admassie, Techane Adugna, and Bekele Hundie, Addis Ababa University; G.K. Chadha, Jawaharlal Nehru University; Richard Crowder, American Seed Trade Association; Csaba Csaki, World Bank; Bruce Gardner, University of Maryland;

Raymond Hopkins, Swarthmore College; Mahbub Hossain, International Rice Research Institute; David King, International Federation of Agricultural Producers; Ruth K. Oniang'o, Jomo Kenyatta University; Gunnar Rundgren, International Federation of Organic Agriculture Movements; Flavio Luiz Schieck Valente, Brazilian Association for Nutrition and Human Rights; G. Venkataramani, *The Hindu* newspaper; Adrian Wood, U.K. Department for International Development; and Usha Barwale Zehr, Maharashtra Hybrid Seeds Company. The reviewers are, of course, not accountable for the outcome of the strategy document, and not all of the wisdom of these comments could be included in a coherent strategy, given IFPRI's resource constraints. We are very grateful for all the advice received, and the comments and suggestions will certainly be considered as we move ahead with strategy implementation. Marc Cohen, Bob Livernash, and Heidi Fritschel contributed greatly to the editing process throughout the development of this strategy document.

The IFPRI Board of Trustees debated a draft of this paper at its March 2003 meeting. We made further adjustments following those rich discussions, and the document was adopted by the Board as a "living document" to be revisited periodically over the coming years.

We owe a debt of gratitude to all who shared their thoughts and contributed to the process of shaping IFPRI's strategy. As an institute, which permanently interacts with partners and stakeholders on its evolving research agenda, we have developed our strategy in a rather brief and open process over half a year, but we do not close the book thereafter. We hope that others outside IFPRI will find the approach and the set of priorities convincing and stimulating and will help us build the global knowledge base so urgently needed for policies that lead to a world without hunger and malnutrition. IFPRI is committed to continue to play a key role in this effort, but we certainly cannot do it alone.

Joachim von Braun
Director General of IFPRI
March 21, 2003

Executive SUMMARY

This paper sets out the strategy for the International Food Policy Research Institute (IFPRI) for the next decade. A new look at IFPRI's strategy is timely, because progress on reducing hunger and malnutrition in the developing world slowed considerably over the past decade. Also, the policy environment has changed dramatically: central government authority is more diffuse, with many more actors involved in food policy. Third, new technologies offer great promise for advancing food security, but research is needed to identify policies to assure that food-insecure people have access. Finally, global health crises pose significant threats to food security and nutrition.

SETTING OUR PRIORITIES

IFPRI uses four sets of criteria to determine its priorities:

1. **IFPRI's work program must conform to its mission: *to provide policy solutions that reduce hunger and malnutrition.***

2. **IFPRI seeks to address the major emerging issues affecting food security.**

3. **IFPRI considers its comparative advantage to be giving priority to research that produces results applicable to many countries—i.e., international public goods.**

4. **IFPRI confers with and responds to stakeholders to select essential food policy research that helps the greatest number of people in deepest need.**

RESEARCH

Based on the criteria described, IFPRI groups 12 partly interlinked themes under three overarching objectives.[1]

1. Global Food System Efficiency:
Policies supporting more efficient functioning of the global food, nutrition, and agriculture system that enhance inclusion of low-income countries and improve food and nutrition security of poor people.

1. Global food situation and scenarios of policy risks and opportunities.
2. Globalization, retail food industries,* and trade negotiations related to food and agriculture.
3. Managing natural resources of particular importance to food, nutrition, and agriculture—land, water, trees, genetic resources, and biodiversity—and responding to climatic change.*
4. Food systems in disaster prevention and relief, and rebuilding after crises.*

[1] Themes and subthemes involving substantial new work at IFPRI are marked with an asterisk (*). The other themes represent essential core business for IFPRI that will continue for the long run; these, too, may change focus over time.

2. Food System Governance:
Policies improving global and national governance, political participation, and institutions for pro-poor food, agriculture, and natural resource management systems.

5. Appropriate roles of state, market, and civil society in food, agriculture, nutrition, and natural resource management policy.*
6. Food and water safety policies.*
7. Policies addressing hidden hunger, enhanced food and diet quality for poor people, and the nutrition transition* in developing countries.
8. Policies and interventions for sustainable poverty reduction and nutrition improvement.
9. Cross-cutting research on country and regional food, nutrition, and agricultural strategies.*

3. Food System Innovations:
Policies to foster scientific and institutional innovation and technology use for the benefit of poor people in developing countries, and development of related comprehensive food and agriculture strategies.

10. Food- and nutrition-related science and technology policy (molecular biology, biosafety, and information and communications) serving poor people.
11. The future of smallholder farming in efficient and equitable food systems.
12. Urban-rural linkages* and nonfarm rural development.

Most of the themes listed are linked with each other and will be pursued not in isolation, but as parts of an integrated research program at IFPRI.

CAPACITY STRENGTHENING

IFPRI will continue to strengthen the capacity of research collaborators in developing countries to design and carry out food policy research and communication. New approaches will include cooperation with university networks and open universities in developing countries and contributions to the advanced teaching materials on food and agriculture policy needed by these partners.

FOOD POLICY COMMUNICATION

IFPRI will make food policy research results available to all those who can apply or use them and will foster public awareness about food security. It will actively pursue opportunities for communication with policymakers, and it will organize stakeholder dialogues and debates, in cooperation with others, on policies for achieving food security.

KEY FEATURES OF IFPRI

IFPRI's desired features are to be a trusted global research center that provides the knowledge needed for food and nutrition policy serving poor people; to boldly and independently communicate findings based on sound analysis, even when they are controversial; to be a source of in-depth understanding of the linkages between research and policy change; to respond quickly to changing conditions and opportunities for designing improved food policy serving low-income countries; to be a valued strategic partner within the Consultative Group on International Agricultural Research (CGIAR) system and within an enlarged community of partners and stakeholders, with a strong presence in developing countries through partnerships, networks, and decentralized operation.

I.

Strategy As GUIDE

Periodically, IFPRI takes a longer view of its work. In 1991 IFPRI published its first long-term strategy. Key recent developments have caused IFPRI to conclude that it is time for a restatement of its long-term strategy, both to guide activities in the coming years and to stimulate dialogue with collaborators and stakeholders. These developments include a reduced rate of progress in hunger reduction, a changed political and economic context, opportunities for technological innovation at risk of bypassing poor people, and insufficient attention to nutrition-related health crises.

This strategy sets out general guidelines for IFPRI's work in the coming 5 to 10 years. Strategizing is a permanent, ongoing feature of IFPRI's activities. Accordingly, this strategy paper will be treated as a living document, to be revisited at intermediate stages of approximately three years. In practice, the bulk of IFPRI's strategy evolves through incremental changes in the definition of its agenda. IFPRI constantly considers its relevance and effectiveness—both through dialogue with policymakers, stakeholders, and research partners and more formally in its annual review process, impact assessment, and three-year Medium-Term Plans, which it updates annually. IFPRI seeks to anticipate opportunities and risks in developing-country food systems and address these with research, capacity strengthening, and policy communication.

A CHANGING FOOD POLICY ENVIRONMENT

Progress is too slow. Over the past three decades, the world has made remarkable progress in increasing food production and reducing food insecurity. But progress slowed considerably during the 1990s, and achieving sustainable food security for all remains an elusive goal. Over the course of the 1970s and 1980s, according to the Food and Agriculture Organization of the United Nations (FAO), the food-insecure proportion of the developing world's population fell steeply, from 37 to 20 percent, whereas it declined only slightly, from 20 percent to 17 percent during the 1990s. Likewise, the number of food-insecure people dropped by 15 percent, from 959 million to 819 million between 1970 and 1990, meaning an average annual decline of 7 million people. During the 1990s the number of food-insecure people decreased by just 2 percent, or barely 2.5 million per year. If China is excluded, the number actually *increased* by more than 50 million people.

Achieving the Millennium Development Goal of cutting the number of hungry people by half by 2015 will be especially challenging. One thing is clear: This goal will not be achieved through business as usual. Research is needed on the barriers to accelerating this sluggish progress on eliminating hunger in a food-rich world.

The political and economic context has changed. Rapid changes are taking place in the structure and authority of governments, the global economy, the structure of the farming sector, and global and local food industries and retail businesses. The fundamental roles of governments are changing. In past "layered societies," maintaining a good working relationship with key central government ministries was often considered sufficient to get food policy research translated into improved policies. In today's "network societies," government authority is more diffuse and other actors are involved, including local governments, business and industry, nongovernmental organizations (NGOs), and other parts of civil society. In many instances, especially in Sub-Saharan Africa, states have failed and protracted civil wars have proliferated. In many countries, NGOs have rapidly expanded their role in food security and natural resource management debate and action.

Market liberalization and globalization are powerful forces transforming the global economy. Yet the opening of economies in both developed and developing countries poses difficult challenges for developing-country food security, agriculture, and natural resource management. Many obstacles may prevent low-income countries from capturing the benefits of globalization. Risks include the short-term inability of many developing-country industries to compete, the potential destabilizing effects of short-term capital flows, increased exposure to price risks, and worsening inequality within and between countries. Public-sector leadership is needed to facilitate privatization and guide the transformation of agriculture in a pro-poor direction.

The nature of the farming sector is changing in many developing countries. Small-scale family farms are under pressure, threatened by biased investments that encourage larger-scale production. Often, poor people lack alternative income sources and migrate, so poverty—while still predominantly rural—is steadily urbanizing. These issues are further complicated by population growth, the aging of the farm population, rising demands on women's time at home and on the farm, the decreasing cost of capital relative to labor, and the depletion of asset bases resulting from man-made and natural disasters, which are affecting increasing numbers of people. At the same time, global and national food systems are increasingly driven by consumer interests, changing consumption patterns, and food quality and safety concerns. Food processing and retail industries are responding, profoundly affecting production,

markets, trade, diets, and public policy. At the global level, transnational corporations and broad NGO coalitions are becoming increasingly prominent and influential in policy debates.

Technological innovation may bypass poor people. New technological developments related to food, agriculture, nutrition, biotechnology, energy, and information and communications offer great opportunities to improve poor people's food security. Within the CGIAR system, the policy research challenge is to identify and target high-priority biological research and development to solve critical problems facing small farmers and poor consumers. More information is also needed to help integrate new technology with farmers' own knowledge and with organic and agroecological approaches to agriculture. Satellites and geographic information systems have great potential to help researchers and policymakers collect data and analyze spatial issues related to the production and distribution of agricultural commodities, natural resource management, and poverty eradication. Solar panels, cell phones, and other new communication and energy technologies could also provide significant benefits to poor people in developing countries. Research is needed to identify the policies that will make these technologies accessible to food-insecure people.

Much of the latest scientific research, especially in the area of food and agriculture, is market-driven and hence focused on meeting the demands of well-off people in rich countries. The research environment is changing, with strengthened national systems in some developing countries and weakened institutions in others. Private food and agriculture-related companies have rapidly expanded research and development (R&D) activities, and in principle there should be tremendous opportunities for public-private partnerships, especially in the developing countries. At a global level, few meaningful results have materialized from such partnerships so far, probably because research is taking place in a business climate driven by concentration through mergers and short-term shareholder expectations of gain with no consideration for markets in which poor consumers and small farmers operate. Moreover, products and processes of research are increasingly subject to intellectual property rights protection in an uncertain legal environment. To reach poor farmers and consumers, public agricultural research must continue to play a key role in developing countries.

Health and nutrition crises go unaddressed. Broader nutrition-related health problems remain insufficiently addressed. HIV/AIDS, tuberculosis, malaria, micronutrient deficiencies, and chronic diseases are all compromising food and nutrition security in many developing countries. HIV/AIDS affected 36 million people in 2000. AIDS has a

direct impact on people's ability to acquire enough nutritious food to lead active, healthy lives. It turns millions of children into orphans, disrupts social bonds and the transmission of agricultural knowledge from one generation to the next, weakens informal property rights, and undermines people's ability to engage in collective action. It reduces availability of farm labor and can force people to devote less time to farming and more time to patient care. Tuberculosis kills 30 percent of AIDS victims in Africa and Asia, while AIDS accelerates the progression of tuberculosis by up to one hundredfold. African preschoolers account for 90 percent of malaria deaths. Because malaria often strikes during harvest time, it threatens food security. Micronutrient malnutrition, often called "hidden hunger," afflicts more than 2 billion people, with a devastating impact on health and productivity.

IFPRI CAN BUILD ON PAST WORK

IFPRI is a small part of a larger global food policy research system. In order to be effective, IFPRI sets priorities and works in partnership with many other centers of excellence in related fields. As part of the CGIAR system, IFPRI is particularly well positioned to conduct international public goods research, cutting across production, technology, natural resource management, nutrition, and governance issues related to poor people. IFPRI's long-term strategy will build on its accumulated knowledge, experience, and collaborative relationships.

Since its inception in 1975, IFPRI has carried out *research* on a wide range of food policy issues important to developing countries (see Appendix 1) and has been an innovator in the field as well as an adapter and promoter of the insights of other leading thinkers in food and development policy. Partly as a result of the cumulative research experience of the past 25 years, there have been a number of significant paradigm shifts in food policy:

- Focus has shifted from farms and smallholders to poor consumers and food security.
- Attention has also shifted from agricultural production to a broader notion of food systems, including distribution and processing services.
- Researchers and policymakers have given increased attention to the need for sustainable management of the natural resource base upon which food and agriculture depend.

- Policymakers have moved from general statements about food policy to specific targets for reducing the number of undernourished people, notably at the 1996 World Food Summit and in the Millennium Development Goals.

IFPRI's key research themes have evolved in response to stakeholder demand, donor concerns, and the changing food policy environment. Appendix 2 lists the research agenda of the current Medium-Term Plan. IFPRI will gradually adjust this ongoing research agenda to the long-term strategy presented here.

IFPRI's future *capacity building* activities can build on longstanding partnerships, as IFPRI carries out virtually all of its research in cooperation and collaboration with partners in developing countries. Partners range from research or planning units in government ministries of food, agriculture, or finance to local universities, NGOs, and regional policy analysis networks, as well as other CGIAR-supported centers, international organizations, donor agencies, and advanced research institutions in developed countries. Over time these collaborations—which because of their two-way nature also influence IFPRI's thinking—have integrated IFPRI into a large formal and informal web of global relationships.

The future *policy communications* strategy of IFPRI can build on IFPRI's 2020 Vision for Food, Agriculture, and the Environment Initiative, which was started in 1993. It seeks to identify critical policy issues affecting the world's ability to feed a growing population and improve the livelihoods of today's poor and hungry people, without devastating natural resources. Created by Per Pinstrup-Andersen, then IFPRI's director general, and guided by a prestigious global advisory council of policymakers and scholars, the Initiative has contributed significantly to raising public awareness of food security issues, enhancing dialogue and debate, and influencing policies and programs of international development agencies and national governments. It has issued numerous publications and organized meetings that have influenced the global food security agenda.

II.

Vision, Mission, and Priority Setting

VISION AND MISSION

IFPRI's *vision* is a world free of hunger and malnutrition. The vision is based on the human right to adequate food and nutrition and recognition of the inherent dignity of all members of the human family. It is a world where every person has secure access to sufficient and safe food to sustain a healthy and productive life and where decisions related to food are made transparently and with the participation of consumers and producers.

IFPRI's *mission* is to provide policy solutions that cut hunger and malnutrition. This mission flows from the CGIAR mission: "To achieve sustainable food security and reduce poverty in developing countries through scientific research and research-related activities in the fields of agriculture, livestock, forestry, fisheries, policy, and natural resources management." Two key premises underlie IFPRI's mission. First, sound and appropriate local, national, and international public policies are essential to achieving sustainable food security and nutritional improvement. Second, research and the dissemination of its results are critical inputs into the process of raising the quality of the debate and formulating sound and appropriate food policies. IFPRI's mission entails a strong emphasis on research priorities and qualities that facilitate change:

- identifying and analyzing alternative international, national, and local policies for improved food security and nutrition, with an emphasis on low-income countries and poor people and on the sound management of the natural resources base that supports agriculture;
- contributing to capacity strengthening of people and institutions in developing countries conducting research on food policies; and
- actively engaging in policy communication, making research results available to all those in a position to apply or use them, and carrying out dialogues with those users to link research and policy action.

IFPRI places a high priority on activities that benefit the greatest number of poor people in greatest need in the developing world. In carrying out its activities, IFPRI

seeks to focus on vulnerable groups, as influenced by caste, class, religion, ethnicity, and gender.

IFPRI is also committed to providing international food policy knowledge as a global public good; that is, it provides knowledge relevant to decisionmakers both inside and outside the countries where research is undertaken. New knowledge on how to improve the food security of low-income people in developing countries is expected to result in large social benefits, but in most instances the private sector is unlikely to carry out research to generate such knowledge. IFPRI views public organizations and the private sector in food systems both as objects of study and as partners.

Given the large body of national and international food policy research, IFPRI's added value derives from its own cutting-edge research linked with academic excellence in other institutions, such as other CGIAR centers, universities, and other research institutes in the South and North, and from its application of this knowledge to national and international food policy problems.

CONCEPTUAL FRAMEWORK

A framework of policymaking has to recognize that politicians and civil servants engage in complicated political bargaining and act under the influence of their own perceptions, ideology, predilections, and professional biases, as well as in response to interest groups. Key points in the policymaking process include getting an issue on the table, identifying objectives, laying out options to achieve the objectives, evaluating the options, advancing recommendations, building consensus, legislating, implementing, evaluating policies, and assessing impact. This desirable process is often disrupted, however, by the realities of bad governance, failed consensus building, and flawed implementation, and therefore these are food policy research issues in themselves. IFPRI research is particularly useful for getting issues on the table, evaluating the options (*ex ante*), and assessing the policy impact (*ex post*) for learning.

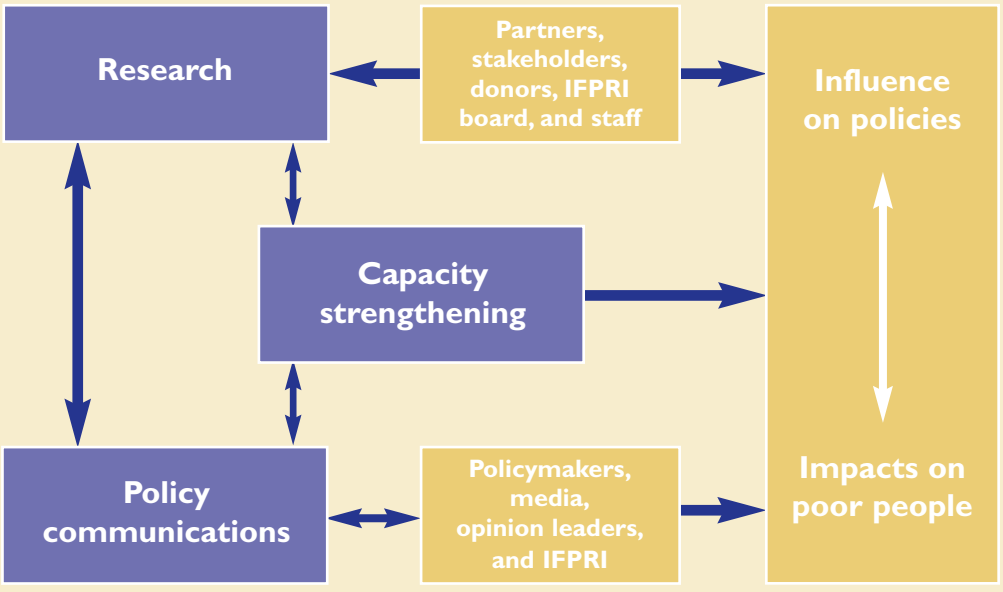
IFPRI and its collaborators can exert influence primarily by providing information to politicians and other actors who call for policy change and who design and implement policy. IFPRI is aware that policy is often formulated with a short-term perspective, but IFPRI is not driven by short-term policy impact that may not be sustainable.

Informing the general public is critical, as civil society frequently influences food policy by pressing for change. Anticipating key policy issues and knowledge gaps is essential for good food policy research. Achieving influence, let alone impact, takes a great deal of time and active engagement in policy communication and public awareness building. IFPRI regards this activity as an important investment.

IFPRI and similar research organizations can bolster their influence by making research results available in readily accessible, nontechnical formats to policymakers and their advisers and by strengthening collaborators' capacity (see Figure 1). Part of the capacity-strengthening effort involves helping partners to recognize knowledge gaps in policymaking. These are windows of opportunity to influence decisions, though the decisions may not be taken immediately, and the research results are usually among a host of factors that affect ultimate food policy and food security outcomes. Research is also important to help set priorities for international partners, including donor agencies, by improving understanding of food policy. To achieve this influence, IFPRI researchers and their collaborators recognize that research results will be used in the above-mentioned political process. They identify the key players inside and outside the government who have the ability to alter policy outcomes.

Figure 1

A food policy research framework



This figure provides a conceptual framework for understanding how food policy research can influence policy, and through policy change help achieve sustainable food security.

IFPRI researchers also devise effective communications strategies, which may involve working with the key players, the media, advocacy NGOs, and the private sector. Understanding who makes policy, and how, does not have to come at the expense of research quality or objectivity. Indeed, while influencing winning coalitions in policymaking debates may frequently be necessary for achieving impact, IFPRI's reputation as a source of objective information based on solid research has been a major source of its policy influence.

IFPRI communicates relevant results in a timely and understandable manner, collaborating closely with partners and engaging in capacity strengthening as an integral part of the process. Indirect communication via the media, civil society, or opinion leaders is often as important as direct communication to policymakers and their advisers. Selection of the most appropriate communication channels for research findings is itself an important aspect of food policy research. IFPRI and its partners can best achieve impact and advance food security through close integration of research, capacity strengthening, and policy communication.

A partnership and team approach with a variety of skills is required if research is to influence policy. In addition to researchers with an understanding of key issues related to food, nutrition, agriculture, and natural resource management, the team needs to include persons with expertise in communications, capacity strengthening, and the policymaking process, often including policymakers themselves.

In order to carry out influential policy research over the next decade in the changing multiactor policy environment, IFPRI will need to gain new insights on how knowledge is translated into policy action, how action needs are translated into a research agenda, and how a policy research institute should fit into the process. This topic will be integrated into relevant food policy research topics and country food and agricultural policy strategies.

PRIORITY-SETTING CRITERIA

In view of the diverse causes and consequences of food insecurity and malnutrition, IFPRI must have a broadly defined agenda in order to be relevant. At the same time, resource constraints require priority setting and focus. IFPRI uses four sets of criteria to set programmatic priorities based on strategic principles, emerging issues, comparative advantage, and processes driven by demand for new knowledge.

First, IFPRI's work program must **conform to its mission**. In setting priorities, IFPRI seeks to:

- Identify the most important policy issues (that is, the most severe or most widely experienced issues) likely to face the developing world with respect to food, nutrition, poverty, agriculture, and natural resource management, and organize the work program around major themes within these broad areas;
- Concentrate on research designed to accelerate sustained growth of food and agricultural systems in developing countries; increase access to food and improve nutrition among rural and urban poor people; and achieve these goals while reducing pressure on fragile natural resources;
- Choose countries where it will carry out its work based on the likelihood of generating results that will benefit the greatest number of poor people in the developing world;
- Create international public goods by producing results that can be generalized across many countries;
- Carry out research in areas where lack of new knowledge is the main constraint to better policymaking and institutional innovation and where both national and international audiences will seek such knowledge, focusing on research with a high likelihood of generating new knowledge that will inform and influence policy debates and decisions in several countries; and
- Maintain a suitable balance among research, capacity building, and policy communication. IFPRI allocates significant but lesser levels of resources to capacity strengthening, largely through research collaboration, and to two-way communication on policy issues where the IFPRI contributions are based on research results.

Second, IFPRI carefully considers the **emerging issues** that most directly affect food security, nutrition, and poverty. The environment in which IFPRI and other institutions conduct applied food policy research activities is changing at an accelerating pace. To assure that research continues to be timely and relevant for policymakers, research and policy communication priorities will have to be set, insofar as possible, based on foresight about future information needs. At the same time, IFPRI assesses the extent to which forces, such as governance, can be shaped by food policy research (and how), as well as which forces are outside the domain of food policy research, such as the weather. In fact, although food policy research cannot change the weather, it can affect the impact of droughts and floods on food security and improve disaster preparedness.

Similarly, food policy research can affect the direct impact of some elements of globalization on food security, such as the impact of subsidized developed-country agricultural exports and trade barriers on the livelihoods of rural poor people in developing countries. The following chapter (III) summarizes emerging issues as currently perceived at IFPRI and from which some of the new research priorities are derived (Chapter IV).

Third, IFPRI sets priorities for its research, capacity strengthening, and policy communications activities based on its **comparative advantage**. To some degree, IFPRI has institutional capabilities that build on its previous work. Many years of IFPRI experience in conducting household, farm-level, community, and trader surveys are one source of its comparative advantage, and these data sets are a basis of IFPRI's widely shared international public goods. On the other hand, comparative advantage changes and evolves over time, and IFPRI expands and reshapes its resource mix and research capacity to meet changing demands and needs for food policy research. IFPRI's comparative advantage also lies in its internationally recruited research staff; its extensive network of collaborative partnerships in the developing world and with advanced research institutions worldwide; its internationally recruited Board of Trustees; and long-term relationships with donors and policymakers in the South and North alike. IFPRI will build on these assets in the next 5 to 10 years, while engaging new partners and enlisting new skills alongside those already deployed. In so doing, IFPRI will give priority to activities that:

- Make use of and support IFPRI's role as an international agricultural research center supported by the CGIAR, including providing opportunities for enhancing the overall impact of the work of the CGIAR and related research institutions; and
- Support the development at IFPRI of new concepts, methodologies, and expertise in applied food policy research to meet future challenges.

Fourth, IFPRI **confers with stakeholders and partners** to select food policy research that they believe will help develop policies to reduce hunger and malnutrition. Stakeholders include developing- and developed-country policymakers, implementers, and advisers; donor organizations; researchers and analysts at academic institutions, international agricultural research centers, regional networks, and national agricultural research institutes; business and industry organizations; and civil society organizations. IFPRI consults stakeholders through its day-to-day collaborative research and outreach activities and through formal processes convened to garner stakeholder input. IFPRI fosters dialogue with policymakers, the relevant world food organizations (FAO, the International Fund for Agricultural Development, the World Food Programme, and other U.N.

agencies), donor agencies, civil society, and the private sector on how to integrate new knowledge generated by food policy research into the policymaking process.

IFPRI priorities cannot be set in a vacuum of self-governed resource allocation. As limited funding is available to carry out international food policy research, donor interests and the availability of resources to conduct research will bear on IFPRI's priorities, especially at a country level. A broad base of diverse donors facilitates complementary funding for a coherent global research program.

Within the terms of its rolling, three-year Medium-Term Plans, IFPRI works with partners to develop policy research that is relevant for their country. IFPRI uses the following criteria to determine the effects, relevance, and feasibility of conducting research, capacity strengthening, and policy communication in a given country:

- Potential benefits to poor and malnourished people in the country and the presence of large concentrations of poor people;
- Participation of relevant geographic regions to allow generalization across countries and, where appropriate, regions;
- Interest among researchers and policymakers in the country;
- Availability of national collaborators able to contribute to the completion of the research and opportunities to help strengthen national institutions through the research collaboration;
- Importance of the country or region to the CGIAR system and opportunities for collaboration with other international agricultural research centers; and
- Acceptable logistical and security conditions.

III.

Current and Emerging Food Policy ISSUES

Ridding the world of hunger is a complex task involving a wide range of factors. There is no single technological, economic, or political approach that offers an instant, dramatic solution. The growing complexity of the world food system and the diverse causes and features of hunger call for equivalent complexity in IFPRI's research program. IFPRI must consider the key dynamics and underlying forces affecting food systems, as well as past and expected trends. IFPRI cannot address all of the issues, discussed here, that make up the broader food policy research agenda. The next chapter (IV) will focus on the parts of the agenda that IFPRI will tackle, based on its priority-setting criteria.

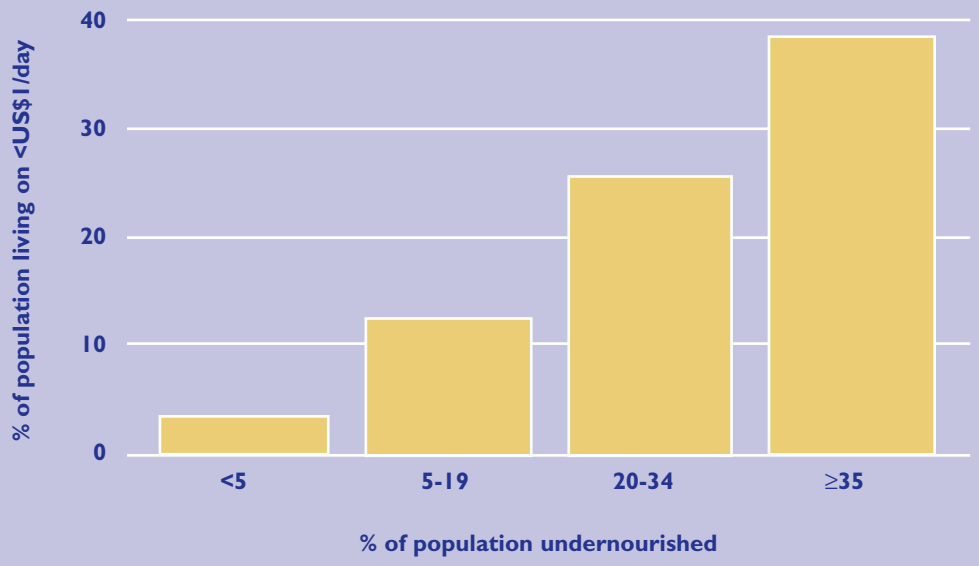
Future food systems risks and challenges. At the 1996 World Food Summit the leaders of the international community agreed to take concerted action to reduce the number of food-insecure people by half, to 400 million, by no later than 2015, a goal reaffirmed at the 2000 Millennium Summit. At the current rate of progress, however, the number of food-insecure people will fall by only 24 percent to 610 million.

Compared with a decade or two ago, information about the prevalence and nature of food insecurity—especially as provided by FAO and the World Health Organization—has improved. This information facilitates more focused policy action and research. Food insecurity and poverty are strongly correlated (Figure 2). Poverty is the main cause of food insecurity, and hunger is also a significant cause of poverty: food insecurity and malnutrition impair people's ability to develop skills and reduce their productivity. Food policy research should therefore focus on the long-run causes and dynamics of poverty and on policies that effectively reduce poverty, rather than more narrowly on undernourishment or food production.

The majority of the world's poor people live in rural areas and will remain rural through at least 2030 (IFAD 2001). They depend directly or indirectly on agriculture for their livelihoods. Hence, research is needed to examine policies to foster broad-based, environmentally sustainable agricultural and rural development, which remains essential for food security, despite the current aggregate adequacy of global food supplies.

Economic growth is necessary to reduce poverty, but it is not sufficient. In the absence of appropriate policies, institutions, and public investments, the highest income earners may capture the lion's share of the benefits. Inequality has increased within a number of countries over the past 40 years, but there are no clear trends

Figure 2
Undernourishment and poverty



Source: FAO (2002b).

across countries. Globally, the incomes of the world's richest 1 percent of earners are equivalent to those of the poorest 57 percent. The average per capita income in the industrialized nations was nine times the Sub-Saharan African average in 1960; the disparity has doubled to 18-fold (UNDP 2001). It is essential that food policy research examine the policies and institutions necessary to assure that growth is pro-poor.

IFPRI projects continuing growth in food demand through 2020, led by the populous and urbanized developing countries of Asia, particularly China. The world's appetite for meat may jump by more than 55 percent between 1997 and 2020. Farmers will increasingly need to grow cereal crops, particularly maize, for animal feed. Developing-country cereal production will probably not keep pace with demand. In most of the developing world, expansion of crop area will be severely limited, so yield increases will have to account for most of the increases in production. But the growth rates of yields are slowing for all cereals and in nearly all regions. Consequently, by 2020 developing countries are likely to more than double their net cereal imports. International cereal prices are projected to decline only slightly during the next two decades, in a significant break from past trends. As urbanization continues apace, it will have significant implications for food security. Research on policies to boost smallholder productivity in developing countries remains critical for food supplies, trade balances, and income among poor rural households (Rosegrant et al. 2001).

Overall, child malnutrition in developing countries is expected to decline modestly, from 166 million in 1997 to 132 million in 2020. Malnutrition among preschool children is of particular concern, as it leads to illness, death, and permanent mental and physical stunting. It impedes both economic growth and equity and serves to transmit poverty across the generations. The number of malnourished children in Sub-Saharan Africa is forecast to increase by 6 million, or 18 percent, by 2020. Research on policies to improve child nutrition more rapidly is essential for human development and overall economic health in developing countries.

Policy research should address emerging risks and opportunities early on. Smooth "development" of food, nutrition, and agriculture systems—even at slow rates—is unlikely. In large developing-country regions, man-made and natural causes historically have led to severe disruptions. While food systems' resilience and adaptation—both economic and technical—may improve, the costs of adaptation typically hit the poorest people the hardest, as is known in the context of famines.

Political system changes and governance problems related to food and agriculture. Political systems have a profound impact on peoples' participation and power, which in turn influence access to basic public goods and services related to food, agriculture, nutrition, and health. Also, political systems and changes in those systems greatly affect the functioning of food systems and their market and nonmarket components. As political systems have changed with increasing rapidity in the past decade, the scope of food policy and related research is changing in many countries, and even globally. These changes not only relate to the introduction of democratic systems and legal processes, but also to decentralization and privatization. In many countries today, national governments are devolving authority to subnational and local governments or ceding roles to the private sector, civil society, or—especially in the case of natural resource management—user groups. These changes are often influenced by external forces, including both aid donors and transnational business and industry. As national governments in developing countries have reduced their economic and social role, NGOs have helped to keep vital social safety net programs going and are playing an important role in local development activities. The changing situation may afford poor people greater opportunities for expression, yet the growing complexity may drown out their voices. In these circumstances, the empowerment of poor people requires that they have accountable and democratic organizations that they themselves control and that effectively articulate their needs and demands to power holders.

Policy research must address changes in political systems, as well as the greater diversity of actors, the more complex context in which food systems and food policy operate,

and the capacity of local organizations to take up new roles. Such research must engage stakeholders as active participants and not simply as objects of study.

Well-functioning and well-integrated markets for agricultural inputs, commodities, and processed goods are crucial for poverty alleviation and food security in developing countries. Markets alone, however, cannot assure food security. Governments retain an important role in guaranteeing contract enforcement, enacting and implementing grading and quality control standards, maintaining public safety and health, and implementing credible and sustainable macroeconomic policies that provide a favorable environment for savings and investment and transparent incentives for consumers and producers.

In order to reduce hunger and poverty, research has shown that national governments must provide public goods to their citizens, including internal peace, the rule of law, and public investment in education, nutrition, infrastructure, and agricultural research. Taking these steps requires governments to make difficult political choices. Yet providing these goods can help accelerate private investment, since private investors generally avoid countries with governments characterized by weak civil and criminal justice systems and arbitrary and corrupt public administration. A meaningful "human right to food," which received renewed support at the World Food Summit: *five years later* in 2002, may offer new opportunities for holding accountable all of those who have a role to play in reducing hunger—from trade negotiators to absent fathers. The human right to food warrants attention in policy research as an element of understanding obligations, responsibilities, and capabilities for the provision of public goods and institutions that advance food and nutrition security.

Early in this decade, there are some broad-ranging food security risks, including rising instability and the continued threats of transnational and domestic wars, new threats posed by terrorism and by groups uneasy with the pace of global economic and cultural change, and a significant slowdown in economic growth in many developed countries. Disruptions, wars, ethnic conflicts, and failures of governance are most prevalent where many hungry and poor people live. In addition to poverty, in any given year between 5 and 10 percent of global hunger stems from droughts, floods, armed conflict, and political, social, and economic disruptions. In December 2002 more than 50 million people in 39 countries faced severe food emergencies owing to these factors. Food policy research is needed to appraise food security-disaster linkages, and the rebuilding of food systems after crises.

Globalization and international food and agriculture trade and investment policy problems. Globalization is a complex set of developments that includes trade liberalization, the opening up of economies in both developed and developing coun-

tries, more integrated international capital markets, international migration, a freer flow of information and technology, and even the spread of cultural trends. It is likely to continue over the next decade and beyond, even though the global economic slowdown of recent years has caused some deceleration. To date, the benefits of globalization have been quite selective in developing countries. They have largely bypassed low-income and less-favored rural regions, especially in Sub-Saharan Africa. A low level of price transmission is but one indication that many poor countries are not integrated into the world economy and may fail to capture potential benefits.

Several trends make it difficult for many developing countries to capture benefits from agricultural trade liberalization: the failure of industrialized nations to open up their markets for agricultural goods from developing countries, the use of nontariff barriers such as requirements regarding social conditions, excessive food safety and quality requirements that poor countries cannot meet, and high tariffs for high-value-added and processed commodities. Research is needed to examine how to better manage globalization to support poverty reduction, enhance the food security of low-income people, and promote sustainable agricultural productivity increases in developing countries. Research must also identify domestic policy changes in both developed and developing countries that will reduce negative impacts and maximize positive benefits to developing countries in general and poor people in particular.

Research can help in the design of new global institutions to manage globalization in pro-poor directions. It may be that globalization can only be managed by and for poor people at the local and national levels, for example when national civil society organizations pressure their country's trade negotiators. At present, supranational institutions with varying degrees of authority exist to handle trade disputes, administer trade rules, and grapple with environmental problems, such as biodiversity. Institutions to address other emerging issues that increasingly transcend national boundaries—such as worker rights, human rights, antitrust policy, and equitable management of plant genetic resources—are often weak to nonexistent. Research is needed on the evolution of these institutions and their effects on food security.

Evolution of consumer- and industry-driven food systems in developing countries. According to U.N. projections, the world population will reach 7.5 billion in 2020, with virtually all of the growth occurring in developing countries, mainly in urban areas. This figure is a revision downward from previous estimates, but it poses a real challenge for the global food system. Furthermore, city dwellers must purchase most of their food, so their food security depends on income security. They also usually consume fewer coarse grains and more livestock products and fat than rural folk at the same income level, so farmers will need to produce more cereal for animal feed and devote greater amounts of

land to grazing. This dynamic—rapid urbanization, combined with rising prosperity in some regions and changing dietary preferences—will continue to shift the pattern of food demand much more toward processed food. Research must provide policy options that can address rapid demographic shifts and assure sustainable livelihoods for poor people in urban and rural areas alike, as urban-rural linkages change.

An essential emerging issue in this context is world food systems' rapid and fundamental movement toward industrialized food processing, long-distance marketing, and retail business dominance. Driven by new technologies, especially in transport and information, and by changing demand patterns, this situation has far-reaching implications for poor consumers and smallholder farmers. A handful of firms dominate many global markets related to food and agriculture. The 9 leading pesticide firms control 90 percent of the global market, while the top 10 veterinary medicine companies enjoy a two-thirds world market share. Though only a small share of seeds is traded nationally or internationally, the top 10 seed companies control a third of the global market. Global food retailing is becoming concentrated as well, especially in Latin America and the Caribbean. Without global antitrust standards, codes of conduct, and the means to enforce them, such concentration may engender oligopoly profits, economic harm to poor consumers, and undue influence over governments. Research is needed on policies to ensure that all links in the global food chain serve poor consumers' diet quality and quantity needs as well as poor farmers' market needs and that they facilitate efficient operation of the food industry.

At the same time, the nature of farming is changing in many developing countries because of the aging of the farm population, changing roles of men and women in agriculture, rural-to-urban migration, the urbanization of rural areas, and the decreasing cost of capital relative to labor. Explicit and implicit capital subsidies as well as infrastructure investments tend to be biased against small farmers and less-favored areas. Although most rural poor people depend on agriculture for their livelihoods, many do so indirectly by working in small-scale rural enterprises providing goods and services for farm families or in agroindustries that add value to agricultural produce. Rural labor markets are becoming more monetized than in the past, and women's participation in these labor markets is increasing. Labor mobility has been increasing with the development of rural infrastructure and the general global decline of transportation costs. Research is needed on the policies and institutions—including cooperatives and farmers' associations—that will assure poor farmers access to resources such as land, water, and extension services. Appropriate institutional developments, supported by research, are also needed to provide rural poor people—including small-scale traders, nonfarm rural entrepreneurs, and farmers—with access to credit, savings, and insurance institutions.

Marginalization of pro-poor food and agricultural technology policies. Extraordinary new technologies—in areas such as molecular biology (including genetic engineering, tissue culture, and marker-assisted breeding), information, communication, energy, and probably nano-technology—are revolutionizing global productivity. Many of these technologies have a bearing on food and nutrition systems. Food policies should address potential benefits and risks, including the risk of not facilitating access to new technologies that could improve the food security and nutrition of poor people. Acceptance and adoption of new crop technologies, including genetically modified crops, will depend upon transparent advantages for consumers and producers. New technology in food, nutrition, and agriculture is increasingly politicized because of perceived risks and non-transparent benefits. In many cases, including those involving genetic engineering, consumer organizations and the media rather than farmers, business, and industry are playing an increasingly important role in public acceptance or rejection.

The impact of the new technologies on low-income people will to a large extent depend on policies. To help provide benefits to poor people, research is needed to identify—through stakeholder consultations and other means—appropriate policies in areas such as intellectual property rights, biosafety and food safety regulations, competitive markets for improved seed, facilitation of access to new technologies, and the allocation of public and private research funds. Engagement with the private sector by researchers is necessary to assure access to proprietary products and processes that can address the problems and opportunities of poor farmers and consumers. Research should also include participatory assessments of new technologies and their effects on low-income farmers and consumers, as well as identify the policies and institutions that can assure that these technologies lead to improved nutrition and food security.

Health crises and diet change. The interaction of inadequate dietary intake and disease leads to malnutrition, disability, and death. Hungry children are likely to miss school because of illness, and diet-related chronic diseases—to some extent linked to undernutrition *in utero*—reduce the workforce and absorb resources from primary health services. Changing lifestyles in developing countries are also creating new health problems, including the appearance of hunger and obesity in the same communities and households, a phenomenon that greatly increases noncommunicable chronic diseases in segments of the population. Research needs to explain how food policy interacts with these health crises and the failed diet transition from hunger to health.

Gender inequality and other discrimination. Policies and cultural practices that marginalize people on the basis of gender, age, race, and ethnicity contribute to food insecurity. In many parts of the developing world, gender discrimination negatively

affects production, household income, asset accumulation, food security, and nutrition. Yet women play an enormous role in crop and livestock production throughout the developing world. IFPRI research has found that giving women the same access to physical and human resources as men increases agricultural productivity dramatically. Compared with men, women tend to devote a greater share of the resources they receive to household food security and child nutrition. Improvements in women's social status relative to that of men and in female education help reduce child malnutrition significantly. Translating these research findings into policy actions remains a challenge.

Pro-poor management and utilization of natural resources. Agriculture is the primary link between human beings and the environment. Agricultural activities, such as encroachment on wildlife habitat and forest clearing, can threaten long-term sustainability. Natural resource degradation is rampant in many less-favored areas of developing countries, which are home to millions of poor people. Degradation and lack of access to high-quality land frequently push poor people into clearing additional land, which in turn contributes to further degradation, productivity losses, reduced biodiversity, and, in areas with poor food markets, decreased diet diversity. To avoid achieving food security at the expense of the environment, farmers must intensify agricultural production sustainably—that is, they must achieve more yield per unit of land and water over time, with the assistance of concomitant improvements in institutional support, incentives, infrastructure, and inputs. Secure property rights and other policies offering poor farmers' incentives for conservation, as well as access to yield-increasing technologies, are critical. Policies should also serve to raise the value of forests and pastures and offer incentives for sound management. The productivity and sustainability of alternative farming practices, including organic agriculture, are related research issues.

Land management. Soil degradation reduces agricultural productivity and affects about 25 percent of the world's agricultural land. Between 5 and 12 million hectares of arable land are lost each year as a result of salinization, flood-induced erosion, or nutrient mining. These factors also reduce productivity on an estimated additional 20 million hectares annually. Water and wind account for 80 percent of all erosion. Slow-onset disasters caused by soil fertility destruction are possible in some regions. Research is needed on policies for landscapes and land use that protect the world's soil fertility, promote integrated nutrient management, assure that poor farmers have information about plant nutrient use in various production systems, and foster efficient and effective plant nutrient markets.

Water scarcity. Water is integrally linked to human health and nutrition, environmental quality, and agricultural productivity. Worldwide, about 250 million hectares of cropland are irrigated. Irrigation has helped boost yields and stabilize food production and prices. Over the next few decades, however, water withdrawals for domestic and industrial uses are projected to increase by 50 percent at the expense of agriculture, and water quality is declining. A scenario of worsening trends in water availability and investment could lead to a genuine crisis, with a 10 percent decline in cereal production from projected levels. This decline would be equivalent to the annual loss of the entire Indian cereal crop. The resulting price increases would hurt poor consumers.

IFPRI research, in collaboration with partners such as the International Water Management Institute, will help guide institutional and policy changes that will improve water use efficiency and allocation among competing uses. Required policy reforms may include establishing secure and tradable water rights; decentralizing water management functions and increasing user involvement; and setting incentives for conservation, such as pricing reform, reduction and targeting of subsidies, and pollution charges. Water availability and access to water are global public goods. However, optimal policy choices are often specific to certain locations and river basins and must draw on existing institutions.

Coping with climate change. Scientists now generally agree that increased atmospheric concentrations of carbon dioxide and other gases are causing significant warming. Climate change could have a variety of important implications for agriculture. Some research suggests that growing conditions will deteriorate in tropical areas and perhaps even in some temperate zones. Adaptation in agricultural systems can help mitigate global warming—examples include improved nitrogen use efficiency, reduced nitrous oxide emissions, improved water use efficiency, and sequestration of carbon through cropland, forest, and pasture management strategies. The challenge to food policy research is to provide the information needed to design effective insurance schemes and to offer policy options to assure that poor farmers have access to climate forecasting and other tools that can help manage risks. Research is needed to better understand how technology, trade, and formal and informal insurance can help facilitate global and local adaptation to climate change.

Conservation and sustainable management of plant genetic resources. Long-term food security depends on the availability of diverse plant genetic resources. Eleven CGIAR centers maintain gene-banks containing more than 600,000 accessions of more than 3,000 plant species, accounting for 35–40 percent of the world's unduplicated accessions. Most of this collection is held in public trust under an agreement between the centers and the FAO. The centers also work directly with developing-country farmers and communities on *in situ* conservation.

Adequate financing of this collection is essential to preserving biodiversity and hedging against unforeseen risks of crop diseases. The new International Treaty on Plant Genetic Resources for Food and Agriculture provides a framework for maintaining the collection in the public domain, and the CGIAR has created the Global Conservation Trust as a public-private mechanism to assure adequate financing. Though this is a global policy issue, policies on conserving and using plant genetic resources are partly national and partly local and involve interplay between public and private actors. Multidisciplinary research—with economic, legal, ecological, and technological expertise—is needed to devise sustainable and fair solutions. Intellectual property rights policies are currently in disarray. Policy research should examine appropriate and fair governance options for these globally important resources and identify sustainable, efficient, and equitable outcomes for low-income countries, farmers, and consumers.

IV.

Programmatic and Operational DIRECTIONS

STRATEGIC DIRECTIONS

Given the current and emerging food policy issues described in Chapter III and IFPRI's priority-setting criteria, discussed in Chapter II, what are the programmatic and organizational implications for the next 5 to 10 years? The discussion below is not intended to be a detailed operational plan. IFPRI will continue to prepare rolling three-year Medium-Term Plans to provide detailed operational guidance. Rather, this section will present broad strategic directions in key areas related to research, capacity strengthening, and policy communication and the organizational structures needed to carry these out.

RESEARCH THEMES

Most research at IFPRI is undertaken in partly interlinked programs with a life of 3 to 8 years. When IFPRI extends the life of existing programs, it gives these programs the same careful consideration, according to its priority-setting criteria, as it does when initiating new programs. Exploratory new research activities may be smaller in scale than established research programs. During the next 5 to 10 years, IFPRI will bring some research programs to a conclusion (see Appendix 2 for the 14 themes of the ongoing research programs), build on their findings, and initiate several new programs in line with this strategy paper.

Twelve partly interlinked strategic research themes for the next decade are outlined below and grouped into three overarching objectives. These themes do not constitute an exhaustive research agenda. Some may become new research programs or may be integrated into ongoing programs. The discussion below indicates which themes are new to IFPRI, which represent ongoing work, and which build on existing or past IFPRI activities. Research themes and subthemes that are new at IFPRI are marked with an asterisk (*). While the other themes are considered essential core business for IFPRI, to be continued for the long run, they, too, naturally change focus over time.

(I) Global Food System Functioning: Policies supporting more efficient functioning of the global food, nutrition, and agriculture system that enhance inclusion of low-income countries and improve the food and nutrition security of poor people.

1. *Global food situation and scenarios of policy risks and opportunities.* IFPRI will continue to issue periodic reports on the global food situation and outlook and to monitor progress on internationally agreed-upon food security targets, based on projections using IMPACT (the International Model for Policy Analysis of Agricultural Commodities and Trade). Researchers will further adapt the model to address new policy issues. They may newly integrate cash crops, including tree crops, and soil erosion and may link IMPACT to earth systems modeling conducted at other research institutions. The design of long-run scenarios for the future of the world food system—and its regional features and outcomes for poor people—requires an increasingly multidisciplinary approach.

2. *Globalization, retail food industries,* and trade negotiations related to food and agriculture.* IFPRI will continue to study the policies and institutions needed to manage globalization of the food system in a pro-poor fashion. This work will emphasize global agricultural trade negotiations, linkages between domestic policies and globalization, the impact of developed-country policies on developing-country food security, and pro-poor policies along the entire food chain, given the growing importance of consumers and retail industries as food system drivers. Economy-wide trade and investment analysis will be combined more with trade policy research focused on developing countries' strategic decision problems.

3. *Managing natural resources of particular importance to food, nutrition, and agriculture—land, water, trees, genetic resources, and biodiversity—and responding to climatic change.** IFPRI will continue current work on policies for sustainable management of natural resources for food security, with greater concentration on genetic resources and biodiversity and a continuing focus on land and water with strong attention to gender dimensions in this context. IFPRI will carry out water policy research in close cooperation with the International Water Management Institute under the CGIAR Water Challenge Program. New research will look at policy issues related to the climate change-food security nexus. IFPRI will continue to focus on the role of property rights and collective action in the management of natural resources for food and agriculture, in close collaboration with its CGIAR sister centers (especially under the systemwide Collective Action and Property Rights, or CAPRi, program).

4. *Food systems in disaster prevention, relief, and rebuilding after crises.** New and ongoing research, drawing on past IFPRI work on famine, will focus on prevention, mitigation, and response to disasters, including conflict, HIV/AIDS, and weather-related shocks. The work will emphasize rebuilding postcrisis food, agriculture, and nutrition systems at national levels as well as exploring the roles of local institutions in preventing crises through sustainable natural resource management related to food, with a strong focus on women and children. Research will also examine how to improve early warning systems and international crisis response, including food aid.

(II) Global and National Food System Governance: Policies improving governance, political participation, and institutions for pro-poor food, agriculture, and natural resource management systems.

5. *Policymaking and the roles of the state, the private sector, and civil society in food, agriculture, nutrition, and natural resource management policy.** New research will examine the following topics: (1) the complementary roles of different actors and sectors in food policy and their attendant responsibilities, including means for the effective political enfranchisement of food-insecure people and the need for coherent global food security policies; (2) how policy that enhances food and nutrition security is made—including how research influences policymaking—and how policy is implemented, including the linkages between health and food and nutrition; (3) the appropriate (decentralized) government level for making food security-related policies and providing nutrition-related public goods; and (4) the principles of good governance, such as accountability, human rights (including the human right to food), transparency, and corporate governance in the food system. Linking gender research more closely with political systems and governance research is likely to lead to new insights. IFPRI and its partners are expanding current research aimed at understanding the appropriate roles of market and nonmarket institutions in national and local food systems.

6. *Food and water safety policies.** The increasingly complex food system, involving extended food chains and processing systems, has heightened public interest in food safety. As safe drinking water is itself a food, food and water safety are inseparably connected. Food and water safety are increasingly issues in international trade. New IFPRI research is needed on how safety is addressed along the food chain and internationally, drawing on data from cross-national experiences, including those of industrialized countries.

7. *Policies addressing hidden hunger, enhanced food and diet quality for poor people, and the nutrition transition* in developing countries.* IFPRI will devote increasing attention to micronutrient deficiencies, especially in its ongoing role as co-leader (along with the International Center for Tropical Agriculture) of the CGIAR Biofortification Challenge Program. As retail food businesses increasingly reach out to poor people, new research will also examine food quality for poor people in different environments and at different stages in the life cycle. Additional new research will address the dietary changes that accompany urbanization. As more women work outside the home in urban areas, issues of childcare and women's employment become more important for urban child nutrition. The transition from hunger to health is not assured. New diets increasingly lead to obesity in urban low-income populations, with adverse chronic health outcomes, an issue that IFPRI will start to address in its research in the medium run.

8. *Policies and interventions for sustainable poverty reduction and nutrition improvement.* It is critical to identify policies and interventions that have led to sustainable reductions in poverty and hunger. New IFPRI research will build on past studies (such as earlier work on commercialization, famine prevention, vulnerability, and shocks) to understand what policies, interventions, and circumstances were conducive to reducing poverty and undernourishment, especially of preschool children, and the long-term impacts of such policies. The role of gender inequities in perpetuating undernutrition will remain high on IFPRI's agenda as an integral issue in this and other themes. IFPRI will continue to participate in designing and evaluating innovative poverty alleviation programs that simultaneously improve child nutrition and other dimensions of human development, such as health and education.

9. *Cross-cutting research on country and regional food, nutrition, and agricultural strategy.** Many of the above-mentioned themes are interlinked and will not be addressed in isolation at IFPRI. The themes have different relevance for different developing countries and regions. At the country level, food policy decisions, like any policy choices, are made under time, budget, and political constraints. Policy and strategy are about trade-offs; these cannot be dealt with in isolation. Therefore, in addition to the research themes already described, IFPRI will respond to requests from policymakers in partner countries and donor agencies to provide research that supports the formulation of comprehensive strategies for food, nutrition, agriculture, and rural development in a broader development

policy framework. IFPRI will treat this as a new research and capacity-building theme. Key research issues are complementarities and competition over public resources; putting agriculture and rural development high on the policy agenda; the scheduling of reforms; participatory and pro-poor design modalities of investments; best practices for advancing sustainable food security; pro-poor links with the private sector; and governance questions, such as optimal ways of decentralizing public goods related to food, nutrition, agriculture, and natural resources. Programs to enhance capacity to devise strategies on the basis of this research will be an integral part of the work. Work under this theme will build on past and ongoing research at IFPRI and elsewhere on a wide variety of food policy topics.

(III) Food System Innovations: Policies to foster scientific and institutional innovation and technology use for the benefit of poor people in developing countries and development of related comprehensive food and agriculture strategies.

10. *Food- and nutrition-related science and technology policy (molecular biology, biosafety).* In close collaboration with other CGIAR centers, IFPRI will increasingly provide *ex post* and *ex ante* technology policy research. This will focus on how to make technological developments relevant and accessible to poor people, with a particular emphasis on intellectual property rights issues and the potential of public-private partnership arrangements. The opportunities and risks that biotechnology, including genetic engineering, presents for smallholder farming systems, poor consumers, and trade will remain high on the research agenda, along with biosafety policy issues. The impact of information and communications technologies on the connectedness of rural areas and on food, nutrition, and targeted poverty reduction will be a new cross-cutting research theme, related to food markets and rural services.

11. *The future of smallholder farming.* Ongoing research will examine policies and institutions affecting smallholder farming, such as those related to market development, yield-increasing research and technology, and access to land, credit, extension services, crop insurance, and other resources. It will study opportunities to participate in high-value crop and livestock production, including the role of farmers' associations, cooperatives, and contract farming, as well as the implications of a reduced state role in the agricultural economy. IFPRI will continue to address the need for appropriate policies that foster productivity and production increases in smallholder agriculture in the developing countries, as these have a strong bearing on poverty reduction. Since women play a key role in the small-farm sector, the research will pay increasing attention to factors that contribute to the productivity and well-being of

men and women farmers. IFPRI trade policy research will increasingly focus on the diverse impacts of trade policies on different groups of farmers (and other groups) in simulations of policy effects.

12. *Urban-rural linkages* and nonfarm rural development*. With urbanization and rural change, new research will address urban-rural linkages, including consumption linkages, resource flows, communications, and labor migration and gender roles, as well as policy linkages. Research will look at public goods provision in urban and rural areas and will revisit infrastructure—broadly defined—owing to its potentially undervalued role for rural development, agricultural growth, and sustainable livelihoods in both urban and rural areas. Research is also needed on how to create enough jobs through human resource development, small-scale rural industries, and related organizational innovation, given that such jobs have stimulated increases in women's labor force participation in many countries. IFPRI will focus its research in this broad area on policies for food- and agriculture-related urban-rural linkages.

The above overarching objectives and research themes are interconnected and will be treated as such in IFPRI research programs. For instance, the functioning and governance of food systems, and the role of innovation within those systems, have effects each on the other. Similarly, many of the 12 research themes are closely related. For example, research aimed at improving the understanding of policymaking will contribute to research on most of the other themes. Likewise, research on natural resource management, science and technology policy, and the future of smallholder farming are closely tied together. Retail food industry research is needed to assess policy opportunities and problems to address the nutrition transition from hunger to health. The cross-cutting strategy theme explicitly includes synthesis activities drawing on all of the other themes.

While all of the above themes are relevant for the developing-country regions in Africa, Asia, and Latin America, the relative weight of the themes differs by region. The translation of the strategic themes into regional priority research programs will take this into account in cooperation with IFPRI's partners. The shape of IFPRI's regional food policy agenda will be largely driven by its regional partners.

CAPACITY STRENGTHENING

IFPRI will continue to strengthen the capacity of policymakers, researchers, analysts, advisers, program managers, teachers, and trainers in developing countries to design and carry out food policy research and engage in food policy communication, including how best to present research-based policy recommendations to politicians and government officials. IFPRI will carry out these activities primarily in collaboration with other institutions and networks, in both developed and developing countries, and as an integral part of larger research and outreach programs. IFPRI will explore expanding the existing opportunities for developing-country researchers to work at IFPRI as short-term visiting researchers.

IFPRI's approach to capacity strengthening increasingly involves information sharing and mutual learning within self-governed networks of researchers and policymakers. This approach is most effective when IFPRI provides training to research collaborators and shares tested methods and approaches for food policy analysis. IFPRI will also continue current collaborative efforts to develop and evaluate primary and secondary school curricula on food security issues. IFPRI will explore taking an active and possibly leading role in strengthening global food policy learning at the tertiary level (open universities with partners, assisting in the enhancement of tertiary education in food policy research in developing countries), employing new methods such as distance learning. IFPRI will also consider freestanding capacity-strengthening activities as requested, on a case-by-case basis, and will identify the opportunities for strengthening women's role in food policy capacity building and communication.

FOOD POLICY COMMUNICATION

Research-based information and new knowledge are essential to inform appropriate food policies and to achieve impact. Knowledge truly is power and must be made available to the full range of stakeholders in food policy, including food-insecure people. Otherwise, political will, the all-important ingredient in achieving food security, is not forthcoming. Therefore IFPRI engages in and facilitates food policy communication with decisionmakers and policy shapers at appropriate levels, building on the strength of its 2020 Vision Initiative. Effective food policy communication increasingly reaches beyond government agencies and includes parliaments, the media, civil society, farmers, and consumers in

developing countries, and the general public in the South and North alike, in order to expand public awareness of food security issues. IFPRI will continue current efforts to synthesize various elements of research by IFPRI and other institutions on broad issues of food security as a key part of its communications activities.

IFPRI's communications activities will focus on a variety of audiences: experts such as food policy research specialists at universities and research institutions in both developing and developed countries, insiders such as the international development research community in general and food policy advisers in developing countries, people interested in development policy such as policymakers, students, and other socially engaged individuals, and the general public. IFPRI will develop a variety of publications based on IFPRI research results with these various audiences in mind. In addition to hard copies, aimed primarily at developing-country audiences and academic and research libraries globally, IFPRI makes use of its worldwide website (http://www.ifpri.org) as a vehicle for disseminating publications, especially in developed countries. IFPRI will increasingly distribute materials in developing countries via CD-ROM. Research programs will include communications plans at the proposal and design stage, with appropriate budget lines. IFPRI will continuously assess the adequacy of the full portfolio of publications written by IFPRI staff from a strategic marketing perspective.

IFPRI will increasingly direct its efforts to reach news media in developing and developed countries to influence policymakers and donors. This coverage helps bring IFPRI research findings to the attention of decisionmakers.

Research and policy seminars, workshops, symposia, and conferences will also remain important ingredients in IFPRI's communications strategy. These events will be held at its Washington, D.C., headquarters, in countries where IFPRI works, and at donor institutions and partner organizations worldwide. The 2020 Vision Initiative will create forums for discussion of food policy issues in which a broad array of stakeholders with differing views participate. IFPRI staff will continue to present research findings at scholarly and policy conferences globally. IFPRI's Communications Division will continue to work with research staff on developing strategies and techniques for presenting research-based policy findings to policymakers. IFPRI will make increasing use of videoconferencing as a means of expanding outreach to, and participation from, developing countries. Through the U.N. system and other avenues, IFPRI will participate in efforts to monitor progress toward achieving agreed-upon targets for reducing hunger.

KEY FEATURES OF IFPRI'S OPERATIONS

Flexibility and focus. In the coming years, IFPRI will retain the ability to be nimble. The food security situation and the environment that shapes it continue to change rapidly. Conducting food policy research in such circumstances requires not only the foresight to anticipate emerging trends and issues, but also the ability to initiate or terminate programs in light of changing circumstances. This flexibility presupposes continued responsiveness to the articulated needs of poor and food-insecure people themselves, programmatic partners, and donors, as well as maintenance of cutting-edge expertise on food security issues, research methodologies, knowledge management, communications, and capacity building. It also requires efficient management to carry out programs effectively and the ability to continue mobilizing sufficient unrestricted funding so that IFPRI can undertake changes in programs as appropriate and necessary.

IFPRI will focus its research, capacity strengthening, and policy communication activities in two ways: in terms of **geographic emphasis** and **core competencies**.

Geographic emphasis. While much of IFPRI's research is global, IFPRI presently invests approximately 50 percent of its regionally focused programmatic budget in work on Sub-Saharan Africa, 30 percent on Asia, 18 percent on Latin America and the Caribbean, and 3 percent on West Asia and North Africa. The main focus in the coming years will remain on Sub-Saharan Africa and South Asia, where food insecurity and undernutrition are broadest and deepest. Outside of Sub-Saharan Africa and South Asia, IFPRI will emphasize work in the most food-insecure areas. In Asia, IFPRI will expand research cooperation in China and Central Asia. With other CGIAR centers, IFPRI will further develop networking capacities in these countries and regions, as well as in Southeast Asia and Latin America and the Caribbean.

Core competencies. IFPRI will continue to emphasize work in areas of its comparative advantage and on major issues related to food security. IFPRI will maintain and strengthen its core competence in economics and add selectively to existing capacity in nutrition, sociology, anthropology, political economy, geographic information systems, and information management. There is a recognized need for collaborators and consultants in these fields, as well as in epidemiology, public health, natural resource management, political science, law, and biology. IFPRI can obtain the expertise needed in all these areas by hiring staff and through collaborative relationships.

Organizational structure.[2] A new Development Strategy and Governance Division will draw on elements from the Environment and Production Technology (EPTD) and Trade and Macroeconomics Divisions (TMD) and will start some new lines of work discussed above. EPTD will continue work on natural resource management policy. A new Markets, Trade, and Institutions Division will combine the existing Markets and Structural Studies Division and the remaining elements of TMD. The Communications, Food Consumption and Nutrition, and Finance and Administration Divisions will continue in their current form.

Staff diversity. IFPRI will continue to fill positions with the best-qualified candidates but will aggressively seek to include more female and developing-country researchers in the applicant pool, so as to further enhance the diversity of its internationally recruited staff.

Partnerships. IFPRI will nurture and extend its existing network of stakeholders, composed primarily of developing-country government agencies and academic research institutions, advanced research institutions in industrialized countries, and other CGIAR centers. Regional networks of policy analysts, policy advisers, and policymakers, such as the Policy Analysis and Advisory Network in South Asia and the 2020 Network in East Africa, will play an increasingly important role in IFPRI partnerships.

At the same time, IFPRI will expand collaboration with new partners. These include parliaments (particularly committees and members responsible for food, nutrition, agriculture, and rural development), developing-country and international NGOs, operational development organizations, private sector institutions, and small-farmer and community-based organizations in developing countries.

Research excellence. IFPRI ensures the quality of its research inputs and outputs through appropriate self-managed *ex ante* and *ex post* reviews and evaluations, particularly proposal reviews and peer review of IFPRI-published research reports. IFPRI researchers will continue to publish findings in external peer-reviewed journals as well, thus exposing the Institute to mainstream academic quality checks in the various disciplines. As it has in the past, IFPRI will hold annual internal program reviews and commission periodic external reviews. The CGIAR Science Council is expected to

[2] In March 2003 IFPRI decided to make some changes in its organizational structure to facilitate the effective implementation of this strategy.

organize periodic External Program and Management Reviews. IFPRI will also conduct surveys of users of IFPRI research outputs and produce citation indexes showing the extent of the use of IFPRI research.

Impact assessment. Impact evaluation is a growing imperative in publicly funded institutions such as IFPRI, to improve both accountability and effectiveness. If it is internalized as part of dynamic and forward-looking self-evaluation processes and does not stifle creativity, impact evaluation can prove extremely useful to an organization. As IFPRI initiates new research, capacity-strengthening, and policy communication activities, these will increasingly include *ex ante* impact assessments and plans for *ex post* assessment as part of program design. This practice will help institutionalize impact assessment in IFPRI's organizational culture. Other indicators of influence include reprint requests, web downloads, invitations to deliver papers, citation indexes, and quotes in the media. IFPRI will further invest in methodology development for appropriate impact assessment and feedback to program design.

Knowledge management. The modern research library makes use of every means available to transmit information from a research institution to its stakeholders and partners and bring current knowledge to the fingertips of its research and outreach staff. Known as knowledge management, this approach supports high-quality research output and makes it possible for people all over the world to share IFPRI findings, including policymakers, researchers, donors, government agencies, and civil society organizations. In close collaboration with other CGIAR center libraries, the IFPRI Library will continue to identify, manage, and widely share the Institute's information and knowledge assets with those inside and outside IFPRI and to help build the capacity of food policy research libraries in developing countries.

IFPRI will keep the results of completed research readily available and adapted as needed for internal and external use as the global food situation and stakeholder demand warrant. Likewise, IFPRI will develop an operational institutional memory capacity—which will maintain information on valuable contacts in countries, how to manage relationships with the government, logistical issues, the political culture, and the like—so that staff undertaking new projects are able to draw on past experience. IFPRI will make materials available in a variety of languages besides English and will expand the number of languages into which it translates materials. IFPRI will work with collaborators to develop materials in local languages accessible to poor farmers and consumers.

IFPRI will continue to make data sets that it has collected available to the public after an appropriate time break following collection. These data sets constitute major interna-

tional public goods produced at IFPRI, similar to the large germplasm collections held in trust for the benefit of humanity at CGIAR-supported biological research centers. IFPRI will encourage the use of these data sets by developing-country researchers.

Regional decentralization. IFPRI views itself as a globally oriented research organization, and therefore its staff members should be located where they are most needed and most effective. IFPRI recognizes the benefits of regional decentralization for its work and plans to have a larger proportion of IFPRI staff in Africa and Asia in particular. In addition, IFPRI is increasingly engaged with regional policy and research networks in Sub-Saharan Africa and South Asia, the main focal regions of its work. African governments are seeking support for developing national poverty reduction strategies and agricultural sector investment plans. In Asia, food policy research capacity is growing. In Latin America, IFPRI can play an important catalytic and supportive role vis-à-vis national and regional researchers. Integration of IFPRI staff into regional networks would enhance IFPRI's ability to play these roles in relation to regional partners and would also enhance capacity strengthening and dissemination of IFPRI materials. The strategy calls for further regional decentralization of IFPRI in a network context. IFPRI will only establish field offices based on programmatic needs. The resources required to carry out decentralization would follow from program-driven decisions. IFPRI will carefully consider the relative merits of a strong set of research teams at headquarters versus increased distribution in developing-country regions.

Size and funding. Programmatic priorities will determine IFPRI's size and budget. Form will follow function: decisions about "what" will drive those about "how, where, and how much." Full realization of the strategy outlined in this paper will likely require real annual budgetary growth of 3–5 percent. Operating at low fixed costs, IFPRI would still be an effective institute at a smaller size, but some of the research, capacity-strengthening, and policy communication priorities described here would remain unaddressed. Official development assistance will remain the primary source of funds, but IFPRI will intensify its efforts to diversify revenue sources. IFPRI recognizes that restricted funds will continue to account for the bulk of resources and that nominally unrestricted funding will increasingly have "targets" attached. The Institute will continue to seek adequate unrestricted funds from a diverse set of donors to maintain its freedom to operate in a flexible manner and address food security issues that would otherwise not be addressed.

V.

Outlook

IFPRI will proceed in the strategic direction outlined here in order to enhance its role as:

- A trusted global research center that provides the knowledge needed for food and nutrition policy serving poor people. It will boldly present findings based on sound analysis even if they are controversial, and it will not shy away from correcting conventional wisdom.
- A source of in-depth understanding of the linkages between research and policy change. It will be able to respond quickly to changing conditions and opportunities for food policy change serving low-income countries and poor people.
- A valued strategic partner within the CGIAR system and within an enlarged community of partners and stakeholders.
- A strong presence in developing countries through partnerships, networks, and decentralized operation.
- Home to a high-quality staff that is diversified in terms of academic background and experience.
- An effective communicator of food policy research results.

It is possible to greatly accelerate progress toward achieving the Millennium Development Goal of cutting hunger in half over the next dozen years and to move rapidly from there toward assuring sustainable food security for all. Food policy research, capacity strengthening, and policy communication—carried out by IFPRI and its partner organizations—can play an essential role in helping to achieve a world free from hunger. The payoff to doing so will be enormous in terms of human welfare, economic growth, equity, and environmental sustainability.

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APPENDIX I

SOME HIGHLIGHTS OF IFPRI'S PAST WORK

Global food trends. Since its inception in 1975, IFPRI has carried out projections of the future world food situation. In the mid-1990s IFPRI developed the model known as IMPACT for use in this work.

Trade and globalization. In the mid-1970s IFPRI's trade and food aid research examined how to assure the food security of developing countries in the face of scarcity. As international stocks recovered and world prices resumed their decline, interest turned to how developed-country policies affect the South. Later, IFPRI addressed regional trade arrangements, exports of nontraditional agricultural products, and prospects for agricultural trade among developing countries. More recently, research has focused on agricultural trade negotiations under the World Trade Organization.

Food subsidies. IFPRI's research on food subsidies helped identify policies that would assure large benefits to poor people but minimize economic distortion and government expenditures.

Markets under structural adjustment. In both Africa and Asia IFPRI conducted research examining the assumption of many development experts and aid donors that market liberalization stimulates farm productivity. Findings revealed that the sequence of actions taken is critically important to the success of liberalization.

Agricultural growth linkages. Since the late 1970s IFPRI has conducted research on the role of the agricultural sector in promoting equitable growth throughout the economy.

The bias against agriculture. In the early 1990s IFPRI and the World Bank published studies showing that agriculture was at a disadvantage in developing countries owing to policies biased in favor of industrialization. IFPRI is currently revisiting this work.

Commercialization of smallholder agriculture. Research demonstrated opportunities for employment, food security, and nutrition improvement but highlighted that women are often excluded from the benefits.

Microfinance. Household and community research on microfinance showed significant opportunities for poor people.

Gender issues. IFPRI's research has addressed a wide range of questions about the role of women within the household and households' interaction with the outside world.

The environment. One important focus in natural resource management research has been on the role and potential of less-favored lands, which contain a large proportion of the world's poor people and often have serious environmental problems. IFPRI has also carried out research on water policies, often in collaboration with the International Water Management Institute.

Agricultural science and technology policy. Since the mid-1990s IFPRI has studied global agricultural research and development policy. Work has focused on genetic resource and biotechnology policies, the evolution of intellectual property rights policies, and the privatization of research.

Sources: Pinstrup-Andersen (2000); Farrar (2000).

APPENDIX 2

IFPRI'S RESEARCH AGENDA AS OF 2003

Project	2003	2004	2005
Macroeconomic Policies, Food Security, and Poverty Reduction	■	■	■
Global and Regional Trade	■	■	■
Participation in High-Value Agricultural Markets	■	■	■
Water Resource Allocation: Productivity and Environmental Impacts (Challenge Program)	■	■	■
Sustainable Development of Less-Favored Lands	■	■	■
Policies for Biotechnology and Genetic Resource Management	■	■	■
Spatial Patterns and Processes in the Agriculture, Environment, and Poverty Nexus	■	■	■
Property Rights and Collective Action in Natural Resource Management (CAPRi)	■	■	■
Priorities for Public Investment in Agricultural and Rural Areas	■	■	■
Rural Institutions, Markets, and Infrastructure Development	■	■	■
Urban Challenges to Food and Nutrition Security	■	■	
Large-Scale Interventions to Enhance Human Capital	■	■	■
Gender and Intrahousehold Aspects of Food Security	■		
Biofortified Crops for Human Nutrition (Challenge Program)	■	■	■

Source: IFPRI (2002c).