



INTERNATIONAL
FOOD POLICY
RESEARCH
INSTITUTE

HIGHLIGHTS OF IFPRI's partnerships and impacts in **CHINA**



2013

Reducing Poverty and Hunger
through Food Policy Research

Foreword

In the wake of the food crises of the early 1970s and the resulting World Food Conference of 1974, a group of innovators realized that food security depends not only on agricultural production, but also on the policies that affect food systems from farm to table. In response, the International Food Policy Research Institute (IFPRI) was founded in 1975 to provide evidence-based policy options to sustainably end poverty, hunger, and malnutrition.

For more than 30 years, China has undergone economic reforms and development that have led to successful economic growth and poverty reduction. The country has also made considerable efforts to reduce the income gap between urban and rural populations, balance regional development, and conserve natural resources. In 2003, IFPRI developed a strategy specifically tailored to its work in China and expanded its national program. In collaboration with the Chinese Academy of Agricultural Sciences, IFPRI established the International Center for Agricultural and Rural Development that same year to coordinate the Institute's pro-poor research and activities in China and East Asia.

As food policy problems have developed over time, so too has the focus of IFPRI's research—from agricultural research and development, public investment, food subsidies, and commercialization of agriculture to social safety-net programs, rural-urban linkages, water policy, climate change, and a green economy. What has remained constant, however, is the importance of shared knowledge and strong partnerships to develop strategies and successfully implement them. IFPRI's key partners in China include the Chinese Academy of Agricultural Sciences (housing IFPRI's China program since 1996), the Center for Chinese Agricultural Policy, China Agricultural University, the Chinese Academy of Sciences, Guizhou University, the International Poverty Reduction Center in China, Nanjing Agricultural University, the National Natural Science Foundation of China, the University of International Business and Economics, and Zhejiang University. This brochure highlights some of IFPRI's major projects, partnerships, and knowledge-sharing activities in China in recent years.

Promoting Food Policy Research

China Strategy Support Program and the International Center for Agricultural and Rural Development

MOTIVATION

Despite remarkable economic growth during the past 30 years, more than 135 million people in China live on less than US\$1 a day. The majority of those people live in rural areas. In addition, China is facing increased regional inequalities, land and water scarcity, environmental degradation, gender imbalances, and an aging population. To address these issues, Chinese policymakers are increasingly learning from other international development actors and sharing their own experiences in return as they design agriculture strategies and poverty-reducing programs. To enhance these collaborations and meet government demand for policy-relevant knowledge, IFPRI launched its China Strategy Support Program in 1996 and subsequently established the International Center for Agricultural and Rural Development (ICARD) in 2003 together with the Chinese Academy of Agricultural Sciences. The center is the primary research and outreach base for IFPRI's work in China.

Staff at the China Strategy Support Program provide evidence-based research and support for the design and implementation of new development strategies and explore how these strategies might be relevant in other countries. Alongside Chinese institutions, IFPRI evaluates challenges and opportunities in Chinese agricultural and rural development and effectively communicates potential options to better support the country's policymaking in food, agriculture, and rural sectors. The focus is on the western provinces, which account for more than 60 percent of poor people in China. Based on consultations with national and provincial policymakers, IFPRI's China program

collaboratively developed research themes such as agricultural research and development policy, public investment, western China development strategy, rural industrialization, linking smallholders to markets, and international comparative studies of agricultural and rural development.

OUTCOMES

In addition to the international conferences, training programs, and seminars sponsored by the Strategy Support Program alongside local collaborators, IFPRI has brought food and nutrition security to the forefront of China's development agenda at policy roundtables with key policymakers. Among other outcomes, research on agricultural science and technology policy and public investment has contributed to the debate about setting new priorities in agricultural research investment, rural infrastructure, and education. The joint research on regional development strategies provided inputs for the development of the country's twelfth Five-Year Plan, which emphasizes narrowing the regional development gaps. In addition, an in-depth study of the Chinese Agricultural Extension System Reform concluded that the new extension model has significantly increased small village farmers' access to the critical knowledge provided by extension workers. The resulting lessons, experiences, and reform approaches developed under this project were well received by the Ministry of Agriculture and influenced the extension models in 25 provinces.

Improving Agriculture and Rural Development in China

Public Investment in Chinese Agriculture

MOTIVATION

To improve the lives and livelihoods of its large poor rural population, the Chinese government has invested

since the 1990s in increasing both agricultural productivity and nonfarm employment. IFPRI's Priorities for Pro-Poor Public Investment in Agriculture program provided policymakers with the research-based evidence they needed to determine where specifically to invest resources and how to use them more efficiently to reduce poverty and food insecurity.

OUTCOMES

Findings suggested that allocating public funds for rural roads, education, and agricultural research is a sure-fire way to reduce poverty and prompt rural economic growth; investing in irrigation projects and certain welfare programs proved less effective. In terms of infrastructure, low-cost roads, such as basic rural feeder roads, yielded economic returns that were four times higher than high-quality roads. Investing in these less expensive roads—in both rural and urban areas—was a more direct route to poverty reduction. Also, overall, less developed parts of the country saw more poverty reduction per unit of spending, as well as higher economic returns.

During the course of the research study, IFPRI staff members held nine training sessions at Zhejiang University to educate professionals—both from China and other countries—on China's experiences in promoting rural development and poverty alleviation.

After these results were published, used in the *2008 World Development Report*, and discussed by IFPRI's director general and China's then-President Jiang Zemin, the Chinese government implemented a number of policies consistent with IFPRI's recommendations. It increased spending on rural infrastructure and agricultural research and development, instituted free compulsory education, abolished agricultural taxes, and shifted regional resource allocations toward China's poorer western regions. An external impact assessment found that IFPRI played "an important indirect role" in the development of China's eleventh Five-Year Plan (2006–2010).



Understanding Rural-Urban Linkages for Development

MOTIVATION

For China to continue its successful economic growth, its rural labor markets must play a crucial role in both continuing to provide goods and services in rural areas and supplying labor to urban markets in the form of migrants. IFPRI's Rural-Urban Linkages for Development Research Program uses state-of-the-art economic, statistical, and geographical techniques to examine how the mechanisms in labor, capital, and product markets affect both the rural and urban poor. Using both an economywide framework and micro-level data analysis, IFPRI and its partners at the Center for Chinese Agricultural Policy evaluate policies that strengthen linkages to promote more equitable growth.

OUTCOMES

The expansion of China's rural economy is an ongoing process. IFPRI research on rural labor markets has contributed to the related policy debate, providing evidence cited in the *2008 World Development Report* and publications by the Center for Chinese Agricultural

Policy, the UN Environment Programme, the World Food Programme, and the World Bank.

Additionally, while women are finding more labor opportunities in off-farm job markets, they are also working more in farm management. As a background paper for the *2012 World Development Report*, IFPRI researchers published *The Feminization of Agriculture with Chinese Characteristics*, which discusses how balanced gender roles in agriculture contribute to productivity.

Agriculture Extension Systems

MOTIVATION

Despite more than 1 million extension workers in the 1990s and early 2000s, millions of Chinese farmers were left without access to services. In 2005, a reform initiative began to change the top-down agricultural extension system into one that could better identify small-scale farmers' diverse needs and be held accountable to meeting them. IFPRI research showed that this type of inclusive reform significantly improved farmers' access to and acceptance of agricultural extension services, as well as their adoption of new technologies.

OUTCOMES

After analyzing results, IFPRI and the Center for Chinese Agricultural Policy jointly presented the findings to the Chinese government. They recommended scaling up nationwide extension reforms that take the same four distinctive steps taken in the pilot program: (1) include all farmers as targets for public extension services, (2) systematically identify local farmers' needs for extension services, (3) hold extension agents accountable for providing services, and (4) provide incentives to the extension agents for their services. These findings and recommendations are contributing to the design of agriculture extension policies in China.

Innovations in Agriculture and Food Value Chains

MOTIVATION

Nearly two-thirds of the world's poorest people live in the Asia-Pacific region. In order to improve food security in the region, food value chains need to be upgraded to ensure adequate and affordable food supplies. While margins of error within each segment of a food value chain may be low, collectively they can contribute to higher retail food prices. Reducing these margins can benefit both producers and consumers greatly. A suite of policy and program measures at different levels of the supply chain can stimulate the efficiency and competitiveness of expanding staple markets.

ONGOING WORK

IFPRI researchers, with support from the Asian Development Bank (ADB), undertook a study to find ways to increase value-chain finance for the poor in the Asia-Pacific region. The exchange of evidence, data, and results among institutions and individuals is critical to the expansion of sound financing. In December 2012, IFPRI and ADB published *The Quiet Revolution in Staple Food Value Chains*, which explains the study's research, results, and policy implications. Among other findings, the popular new book (downloaded nearly 10,000 times in three months) explains the need for different policies to cover the Asia-Pacific region's wide variety of agricultural zones and farming styles and capacities. Areas that produce rice and potatoes, the region's major staple crops, are highly heterogeneous, so government strategies must be tailored to different situations—especially to incorporate marginal farmers.

Energy and Value Chains

MOTIVATION

Energy, structural transformation, and poverty reduction in developing countries are inextricably linked. The cost of energy, due to its scarcity in the developing

world, has a negative effect on value chains at the farm level. What can be done to reverse this trend?

ONGOING WORK

An IFPRI study supported by the UK Department for International Development looked at the effects of energy costs on different products, different segments of the supply chain, and the net incomes of actors. Using horticulture and dairy supply chains in Brazil, China, and India, the study developed and applied a modeling framework to understand the connections among (1) transformed (rather than traditional) food supply chains, (2) energy costs from electricity and fuel, and (3) net incomes of supply-chain participants and food prices.

Improving Nutrition

HarvestPlus China

MOTIVATION

Staple foods, such as rice or maize, have few micronutrients, which leaves billions of poor people with micronutrient malnutrition—or “hidden hunger.” The results are devastating and include blindness, stunted growth, and even death. Biofortification breeds higher levels of micronutrients directly into crops and thereby contributes to reduced malnutrition. To address these malnutrition concerns, the HarvestPlus-China program was launched in 2004 based on communications between the director of HarvestPlus and professors at the Chinese Academy of Agricultural Sciences. IFPRI and its partners aim to increase the micronutrient content of food crops through biofortification and ensure that low-income populations consume those crops to reduce micronutrient deficiencies. Using innovative ways to fight this “hidden hunger,” HarvestPlus-China also contributes to knowledge and technology transfers across research institutions and implementing agencies in both developed and developing countries.

OUTCOMES

HarvestPlus-China has nine projects and works with 40 partner institutes, including the Chinese Academy of Agricultural Sciences, the Chinese Academy of Sciences, universities, and provincial centers for disease prevention and control. The program’s main goals are to increase iron, zinc, and vitamin A in rice, maize, wheat, and sweet potatoes. The first successful human trial completed with biofortified sweet potato in Asia, in the Sichuan Province, demonstrated that the crop can greatly improve the vitamin A status of children.

Major accomplishments for HarvestPlus-China include

- ▶ approved release of 4 crop varieties rich in micronutrients and development of 16 others;
- ▶ organization of a national multidisciplinary research team with relevant technical platforms;
- ▶ publication of 58 papers, applications for 8 patents, and organization of 7 international workshops; and
- ▶ promotion of biofortification to reduce hidden hunger, including the publication of *Biofortification in China* in 2009 to raise public awareness.

Supporting Agriculture and Natural Resources Management

Water Allocation in China

MOTIVATION

The Yellow River Basin is considered the “cradle of Chinese civilization,” but it has suffered severe water scarcity. The basin’s specific climatic conditions, rapid socioeconomic development, and absence of defined water rights have led to excessive water use; during the last 50 years, agricultural water use has increased by



more than 250 percent and water demand for industrial and domestic use has risen even more steeply. At the same time, irrigation in China remains crucial for global food security. A reduction in irrigation water availability by 30 percent in the Yellow River Basin alone by 2030 would lead to international wheat prices increasing 6 percent, maize prices increasing 4 percent, and rice prices increasing 3 percent.

OUTCOMES

Together with partners at the Yellow River Conservancy Commission, Beijing Normal University, Tsinghua University, and the Center for Chinese Agricultural Policy, as well as the University of Illinois in the United States, IFPRI researchers analyzed water-poverty linkages, climate change impacts, irrigation, and basin-wide water trading to identify ways of enhancing basin-water allocation. Results were disseminated in a series of policy briefs published in both English and Mandarin. The insights from the water-reform research will help inform Chinese irrigation policy in the future, as evidenced by their uptake in subsequent studies on water pricing and irrigation reform.

Effects of Environmental Policy on Household Income in North China

MOTIVATION

Environmental policies have wide-ranging and far-reaching effects. For example, by providing participating farmers an annual subsidy for retiring their farmland and planting saplings, the Sandstorm Source Control Program (implemented in Beijing and Tianjin from 1998 to 2003) contributed to higher household incomes. An IFPRI study also found that participating households were more likely to engage in off-farm

wage employment than self-employment activities after retiring farmland, and they diversified their income to include more nonagricultural activities. These findings suggest that farmland retirement payments may have helped farm households overcome the credit constraints that were preventing them from starting their own businesses. This, in turn, may contribute to reshaping the structure of rural household production such that the labor supply is slowly moving from farming to wage- or self-employment off the farm.

OUTCOMES

The findings of the study were presented in a paper at the American Agricultural Economics Association 2005 annual meeting and have continued to contribute to agenda-setting discussions about increasing rural non-farm employment opportunities.

Analyzing Trade and Industrialization

Rural Poor and Smallholders in Western China and Trade Liberalization

MOTIVATION

China is a leading example of the opportunities global trade liberalization can offer developing countries and emerging economies. China has been a World Trade Organization (WTO) member since 2001, and while freeing up global trade has benefited the overall economy, certain groups of Chinese citizens—specifically those in low-income rural areas—have not enjoyed many of those benefits. Open trade leads to increased competition inside and outside the country. Without policy changes, small producers in western China were not able to compete and were more vulnerable to food insecurity. IFPRI worked with Chinese policymakers to provide the information needed to craft the most



effective policies for helping smallholders access the benefits of becoming a WTO member. Given the size of the Chinese economy and population, such policies would make a real difference in many lives.

OUTCOMES

Research results from the Rural Poor and Smallholders in Western China under WTO program (2003–2006) showed that full trade liberalization—lifting trade barriers in both agriculture and nonagriculture sectors—would benefit farmers and agriculture at the national level, but policies were needed to extend those benefits to the western region, where 70 percent of China’s poor people live. Liberalizing the agriculture sector alone would increase cheap imports of agricultural products, particularly grains, decreasing domestic agricultural production and farmers’ agricultural income. Even with full trade liberalization, the increase in rural income would be smaller than the increase in urban income, which implies that the rural-urban income gap would widen. Using these results, the program developed a series of policy-option papers in Chinese to advise policymakers. According to an IFPRI-commissioned external impact assessment, the Chinese government shifted regional resource allocations to China’s poorer western regions, which is consistent with IFPRI recommendations.

Industrialization in China and Africa

MOTIVATION

The business model called “clustering” involves small businesses that are part of the same industry banding together to specialize in one narrowly defined stage of production. This type of industrialization eases the burden of financing and has been highly successful in China, Ethiopia, and other developing countries. An IFPRI research team completed a study involving four in-depth case studies in China on the subject. These case studies demonstrate that, with the help of local governments, clusters are viable production structures in certain developing countries, specifically those with high population densities and low capital endowment.

OUTCOMES

The cluster-based industrialization study conducted by IFPRI and partners has been widely recognized in major Chinese media outlets, the *Economist*, *Forbes*, the *Financial Times*, the *New York Times*, and the *Wall Street Journal*. In addition to contributing to the international discussion, IFPRI researchers were invited to prepare a background report on China’s regional development for the country’s next five-year plan.

Improving Governance

Governance for Agriculture and Rural Development

MOTIVATION

Efforts to improve governance focus on voice and accountability, effective delivery of public services, measures against corruption, regulatory quality, and security and political stability. In spite of the overwhelming general interest in good governance and development, researchers and policymakers have so far paid limited attention to the governance issues that are relevant for agriculture and rural areas. In line with the mandate of IFPRI and the CGIAR system, this research program focuses on governance structures and policy processes that help reduce hunger and poverty by improving agricultural productivity and promoting rural development. In spite of a considerable increase in research on general governance issues such as corruption, security, and the rule of law, and on governance in specific sectors such as health and education, governance issues that are essential for using agriculture as an engine of growth are hardly covered by major research organizations.

OUTCOMES

In 2009, IFPRI conducted country case studies on India and China for the global evaluation of World Bank support to agriculture over the previous decade, which was commissioned by the World Bank's Independent Evaluation Group. The two case studies constituted a significant contribution to this global review, and it is expected that they will have a far-reaching influence on the future design of governance as a component of agricultural development projects by the World Bank and other donor organizations. The findings were also presented at the Annual Conference of the American Evaluation Association, thus reaching a wide audience.

Reviewing the Reform Experience

MOTIVATION

While China's dramatic economic growth in recent years has made it the subject of many case studies, it was not until 2004 that an "insider" undertook an in-depth evaluation of the country's policy reform process. Working with leading experts on the reform era who are well informed about the internal processes and logic that drove the reform movement, IFPRI explored China's economic growth. Researchers hoped that this information could be helpful to other developing countries (for example, Ethiopia and Tanzania) that had yet to undertake a broad set of reforms to launch more rapid economic growth.

OUTCOMES

In an article first published in the *Review of Development Economics*, IFPRI researchers and partners analyzed regional inequality in China from the Communist revolution to the present. During the three peak periods identified—coinciding with the famine of the late 1950s, the cultural revolution of the late 1960s and 1970s, and the period of openness and global integration in the late 1990s—regional inequality can be explained by three key policy variables: (1) the ratio of heavy industry to gross output value, (2) the degree of decentralization, and (3) the degree of openness. The article has been cited more than 500 times since its original publication in 2004.

Building Capacity

Over the past two decades, IFPRI's China program has strengthened the capacity of individuals and institutions through joint research, postdoctoral training, and mentoring of students in both master's and doctorate programs. In addition, many prominent scholars have visited IFPRI for months or years at a time. Among

others, they include Jikun Huang, Linxiu Zhang, Haisheng Zheng, Tang Zhong, and Jing Zhu, who have each become leaders in their own research fields. Additionally, IFPRI has welcomed two researchers from the Chinese Academy of Agricultural Sciences each year, along with a diverse group of visiting Chinese researchers and scholars, to share their expertise and exchange ideas with IFPRI staff.

Sharing Knowledge

The Dragon and the Elephant

MOTIVATION

China and India have had incredible economic transformations in recent years, moving from two of the world's poorest countries to burgeoning superpowers. Along with partners from the Chinese Academy of Agricultural Sciences and Jawaharlal Nehru University in New Delhi, IFPRI researchers compared the reform experiences of China and India in *The Dragon and the Elephant: Agricultural and Rural Reforms in China and India*. The book investigates what was behind this success, paying particular attention to agriculture and rural development, and whether it could be tailored to work in other developing nations.

OUTCOMES

The project culminated in major international conferences, with high-level participants, held in New Delhi and Beijing in 2003. Each generated insightful discussion and policy debate on rural and agricultural reforms in regions of India and China that still struggle with high chronic poverty, as well as in other developing countries. These forums helped develop a network of policy researchers, advisors, and decisionmakers in China and India who can continue to engage in a dialogue on these issues in the future.

Engaging in Policy Dialogue

2020 Vision Conference: Taking Action for the World's Poor and Hungry People

MOTIVATION

With the 2015 deadline for the United Nations' Millennium Development Goals looming, IFPRI facilitated an international policy consultation to identify actions needed to ensure the world's poorest and hungry people would not be left behind. The cornerstone of this consultation was an international conference in October 2007 in Beijing, co-organized with the State Council Leading Group Office of Poverty Alleviation and Development of China and cohosted with the International Poverty Reduction Center in China (IPRCC) and the Chinese Academy of Agricultural Sciences (CAAS). China's vice premier of the State Council opened the conference, which was attended by more than 400 registered participants (and many more informal attendees), including high-level policymakers, researchers, and practitioners from 40 countries.

OUTCOMES

- ▶ This conference benefitted from not only coinciding with the 17th National Congress of the Communist Party of China, but also of closely aligning with the congress' focus on society's most vulnerable and marginalized groups. Hui Liangyu, vice premier of China's State Council, used the conference as a forum to announce China's plans to strengthen inclusive anti-poverty partnerships and China's collaboration with partner countries and international organizations on poverty reduction strategies. The event was attended by many congress members; drew enormous media attention within China and globally; and fed into the State Council's own meetings, which promptly followed the congress and the conference.
- ▶ The conference honed in on a major issue that was relevant at the time and remains so today:

South–South learning. China, which has already made significant reductions in poverty and hunger—despite also facing the issue of those left behind—had and continues to have a lot to offer other countries by way of relevant experience. Similarly, China itself had the opportunity of, and was interested in, benefitting from the experiences of countries like Brazil, in the area of social protection, and India, in the area of agricultural growth. The conference facilitated these learning experiences and laid the seeds for further networking.

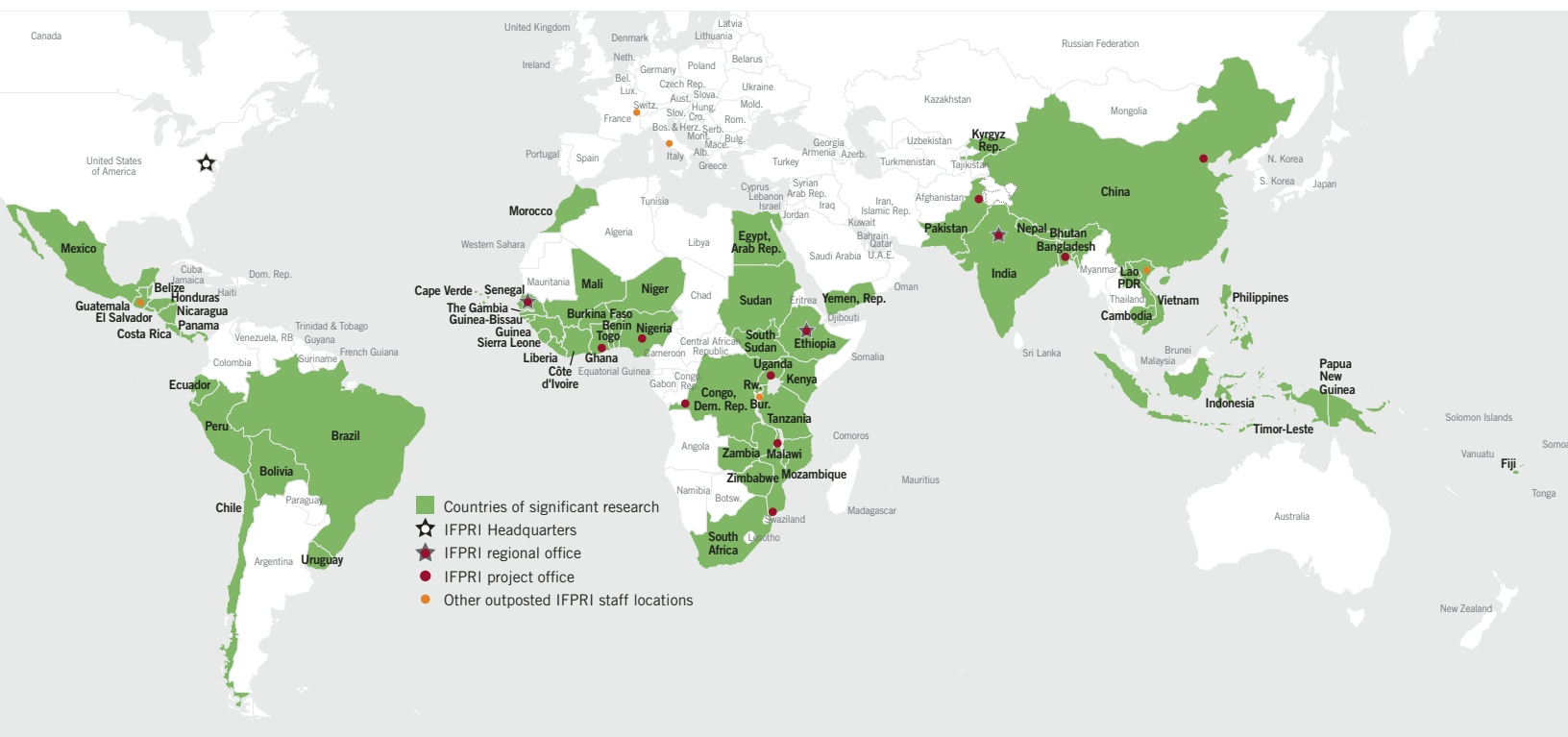
- ▶ More than 90 percent of respondents in a post-conference survey of participants agreed that the conference provided them with a good opportunity to implement strategies and actions to successfully reduce hunger and poverty, as well as to learn from the experiences of others.

Other Conferences and Workshops

IFPRI has hosted several symposiums and forums that focused on issues relevant to Chinese food and agriculture. The participation by Chinese policymakers indicates that there is demand for IFPRI research results.

- ▶ In 2009 in Beijing, IFPRI co-facilitated the International Symposium on Impacts of Financial Crisis on Agricultural and Rural Development in Asia, with the Institute of Agricultural Economics and Development, the Chinese Academy of Agricultural Sciences, and the International Center for Agricultural and Rural Development. More than 60 researchers and policymakers from China, South Asia, the United States, and elsewhere exchanged ideas about the impact of the global financial crisis on agricultural and rural development in Asian countries and the countermeasures necessary to reverse the damage. The information generated has been used by the Chinese Ministry of Agriculture in preparing its national policy document on dealing with the effects of the financial crisis on agriculture.
- ▶ The International Forum on South-South Cooperation and Development, co-facilitated by IFPRI's Beijing Office and the China Academy for Rural Development, Zhejiang University, and sponsored by the UK Department for International Development, was held in 2010. The forum was the first symposium to discuss the relevance of the Comprehensive Africa Agriculture Development Programme (CAADP) for a Chinese audience. It focused on (1) agricultural and rural development and the anti-poverty experience in China, (2) anti-poverty efforts in Africa and international agricultural cooperation, and (3) cooperation between China and Africa in fighting the challenges of poverty. The Chinese Ministry of Agriculture used the information generated by the forum to develop its strategy to strengthen cooperation with Africa, while the Department for International Development used the information to begin its cooperation with China in Africa.
- ▶ In 2008, IFPRI, Cornell University, Nanjing Agricultural University, and the National Natural Science Foundation of China hosted an international conference in Nanjing on rural reform and development. More than 200 researchers and policymakers discussed 21st century challenges affecting institutional innovation, food security, how to best process and use farmers' survey data, trade of and financial markets for agricultural products, natural resources and sustainable development, and, finally, China's economic growth.
- ▶ The Chinese Ministry of Commerce launched a large training program for promising young professionals in developing countries, and the Center for Agricultural and Rural Development, Zhejiang University, led a workshop for nearly 70 students from 38 developing countries. Students and staff discussed reform, development, and anti-poverty efforts in China and Africa, and IFPRI expanded its network in other developing countries.

IFPRI OFFICES AND COUNTRIES OF SIGNIFICANT RESEARCH



Looking Forward

For over a decade, IFPRI's research and policy analyses have been resources to support food security policy in China. IFPRI has supported China in its quest to achieve

food security for all citizens by working closely with local institutions and agencies. Through its Strategy Support Program, and by building capacity while providing evidence-based research results, IFPRI looks forward to continued collaboration with these and other partners in the years to come.

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