



INTERNATIONAL
FOOD POLICY
RESEARCH
INSTITUTE

IFPRI

ENHANCING
NUTRITION
& ENDING
POVERTY

IFPRI AND INDIA

“

As a result of IFPRI's work the attention has now changed from food security to nutrition security. IFPRI has done a great job in linking agriculture, nutrition, and health as an integrated system.

”

M. S. SWAMINATHAN

Founder, Chairman, and Chief Mentor, M. S. Swaminathan Research Foundation, India
"IFPRI at 40: Looking Back, Looking Forward" on November 18, 2015

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IFPRI'S PARTNERSHIP WITH INDIA BEGAN MORE THAN 40 YEARS AGO, IN THE WAKE OF THE GREEN REVOLUTION. Over the last four decades, IFPRI's research in India has addressed the most pressing issues of the times. In the late 1970s, as food production in India stagnated and the population grew, the IFPRI-India working relationship focused on technology and rural development. In the 1980s, IFPRI delved deeply into India's agriculture sector—on issues such as foodgrain production, subsidies, dairy development, and livestock demand—while in the 1990s IFPRI's work focused on such topics as public expenditure and poverty in rural India and incentives and constraints in the transformation of Indian agriculture. Research since the 2000s has expanded to include nutrition, public investment, climate change, value chains, capacity strengthening, and biofortification.

IFPRI receives critical financial and logistical support from the Government of India, especially through the Indian Council of Agricultural Research and the Department of Agricultural Research and Education, and works alongside numerous research partners in the country. This brochure highlights some of the key collaborations between IFPRI and our Indian partners.

To read more about IFPRI's work in India, please see <http://southasia.ifpri.info/countries/india/>

HEALTHY FOODS FOR ALL



ALL PEOPLE NEED NUTRITIOUS AND SAFE FOODS YEAR-ROUND TO BE HEALTHY AND TO LEAD PRODUCTIVE LIVES.

We work across the agriculture, nutrition, and health sectors to make entire food systems—from field to fork—healthier for everyone, especially women and girls.

Despite rapid economic growth in recent decades, India still faces persistent and widespread undernutrition. The country's lack of progress in reducing high national rates of child stunting, underweight, and wasting, along with elevated levels of undernutrition among the general population, has been dubbed by many as the "Indian enigma." IFPRI works to provide solutions to this puzzle by examining the multiple



pathways that can affect nutrition outcomes. Through a nutrition-themed set of research projects highlighted in the following pages, IFPRI researchers and Indian collaborators have been exploring the links between nutrition and complementary sectors such as agriculture, gender, health, social protection, and water and sanitation.

PARTNERSHIPS AND OPPORTUNITIES TO STRENGTHEN AND HARMONIZE ACTIONS FOR NUTRITION IN INDIA

(POSHAN) serves as IFPRI's primary platform for research and policy engagement on nutrition in India.

POSHAN is supporting the use of data and evidence by policy makers and field partners to improve nutrition decisions and actions. POSHAN is analyzing regions within India that have made progress in improving the reach of nutrition interventions and outcomes. POSHAN is also looking at how programs in poorer states, such as Uttar Pradesh, Bihar, Odisha, and Madhya Pradesh, can be improved. Find out more at www.poshan.ifpri.info.

KEY DONORS: Bill & Melinda Gates Foundation and the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH)

RESEARCH SUPPORTED THE DEVELOPMENT AND ROLLOUT OF THE NUTRITION ACTION PLAN by the government of Odisha.

CONTRIBUTIONS TO INDIA'S THREE-YEAR ACTION AGENDA (2018-2020) WERE RECOGNIZED by the National Institute for Transforming India (NITI Aayog).



ANALYSIS AND DISTRICT NUTRITION PROFILES SUPPORTED THE RECENTLY LAUNCHED NATIONAL NUTRITION MISSION.



LANSA RESEARCH ON THE IMPORTANCE OF NUTRITION TO WOMEN'S EMPOWERMENT HAS BEEN INCLUDED IN THE FORTHCOMING UN WOMEN ANNUAL REPORT 2018-2019.

RECOMMENDATIONS FROM A LANSA-NITI AAYOG DIALOGUE WERE CIRCULATED to government officials to advance the nutrition-sensitive agriculture agenda.

THE NUTRITION FOR GROWTH (N4G) COMMITMENT, COPENHAGEN CONSENSUS, AND US CONGRESS HAVE ALL CITED TRANSFORM NUTRITION'S WORK on cost-benefit ratios in nutrition interventions.

The **LEVERAGING AGRICULTURE FOR NUTRITION IN SOUTH ASIA (LANSA)** research program consortium conducted policy and program research on the agriculture-nutrition nexus in South Asia between 2012 and 2018. The consortium aimed to enhance the nutrition sensitivity of agri-food systems, policies, and programs in the region. Led by the MS Swaminathan Research Foundation, LANSA included five additional research partners: IFPRI, BRAC in Bangladesh, the Collective for Social Science Research in Pakistan, and the Institute of Development Studies and Leverhulme Centre for Integrative Research on Agriculture and Health, both in the United Kingdom. LANSA demonstrated conceptual, instrumental, capacity, and network-building impacts across its four focus countries: India, Bangladesh, Pakistan, and Afghanistan.

KEY DONOR: UK Department for International Development (DFID)

The **TRANSFORM NUTRITION CONSORTIUM**, a multipartner research program consortium led by IFPRI between 2011 and 2017, focused on strengthening the evidence base for nutrition-specific and nutrition-sensitive interventions and identifying options for cultivating and sustaining enabling policy and political environments. The Consortium's efforts focused on India, Bangladesh, Ethiopia and Kenya, but also had a significant global dimension to its work—partnering, for example, with the Scaling Up Nutrition (SUN) Movement on many initiatives.

KEY DONOR: UK Department for International Development (DFID)



HARVESTPLUS INDIA

Since 2003, HarvestPlus has improved nutrition and public health by developing and promoting new varieties of staple food crops richer in three essential vitamins and minerals—vitamin A, zinc, and iron. Through a pioneering process called biofortification, scientists cross high-yielding varieties of staple crops with more nutritious ones to improve the nutritional status of rural farming families with limited access to other interventions or nutritious diets.

To date, 290 varieties of 12 staple food crops have been released or are in testing in more than 60 countries, and 21 countries, including India, have integrated biofortification into national policies and plans.

Indian diets are largely vegetarian and lacking in sufficient absorbable iron. Nearly half of all women and children are anemic, which harms brain development and learning capacity and, when severe, increases the risk of maternal mortality. Additionally, almost half the world's population is at risk of inadequate zinc intake, which may limit children's growth and make them more susceptible to infection.

HarvestPlus is working with numerous partners in India to improve the iron and zinc status of farming families through biofortified iron pearl millet and zinc wheat, which, respectively, can provide up to 80 percent of daily iron needs and 50 percent of daily zinc needs. Key partners in this effort include the Indian Council on Agricultural Research, the Ministries of Health, Agriculture, and Education, the Indian Institute of Rice Research, the Indian Institute of Wheat and Barley Research, the Indian Agricultural Research Institute, the National Institute of Nutrition, and the International Crops Research Institute for the Semi-Arid Tropics, as well as state governments and numerous universities, seed companies, and civil society organizations.

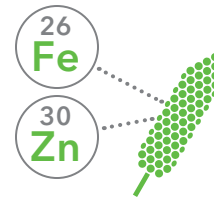
Learn more at www.HarvestPlus.org.

KEY DONORS: Bill & Melinda Gates Foundation, Canada, the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH), the European Commission, the John D. and Catherine T. MacArthur Foundation, UK Department for International Development (DFID), and the US government's Feed the Future Initiative.

BIOFORTIFIED IRON PEARL MILLET SEED HAS REACHED MORE THAN 90,000 FARMING HOUSEHOLDS IN MAHARASHTRA, KARNATAKA, AND UTTAR PRADESH, with the help of key partners, such as Nirmal Seeds, Karnataka State Seed Corporation, Maharashtra State Seed Corporation, and NGOs.

NEARLY 200,000 FARMING HOUSEHOLDS IN UTTAR PRADESH AND BIHAR HAVE RECEIVED AND PLANTED SEEDS OF TWO ZINC WHEAT VARIETIES, thanks to seed companies and NGOs.

MORE THAN A MILLION PEOPLE ARE CONSUMING BIOFORTIFIED IRON PEARL MILLET AND ZINC WHEAT IN INDIA.



THE INDIAN COUNCIL OF AGRICULTURAL RESEARCH RECENTLY ESTABLISHED MINIMUM LEVELS OF IRON AND ZINC TO BE BRED INTO NATIONAL VARIETIES OF PEARL MILLET and explored making biofortified millet part of the Public Distribution System's Mid Day Meal Scheme.



2020 VISION

INFLUENCED THE LANGUAGE IN INDIA'S TWELFTH FIVE-YEAR PLAN (2012-2017).

MADE NUTRITION A GREATER PART OF THE BROADER AGRICULTURE DISCUSSION IN INDIA.

INFLUENCED THE NATIONAL ADVISORY COUNCIL'S DRAFT OF INDIA'S NATIONAL FOOD SECURITY BILL and recommended reforms to India's Integrated Child and Development Services.

2020 VISION CONFERENCE: LEVERAGING AGRICULTURE FOR IMPROVING NUTRITION AND HEALTH

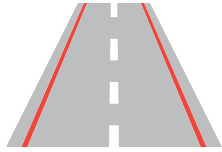
In 2011, IFPRI's 2020 Vision Initiative gathered together experts in agriculture, nutrition, and health at an international conference in New Delhi on "Leveraging Agriculture for Improving Nutrition and Health." More than 1,000 participants from 65 countries attended, and the inaugural session was opened by India's then prime minister, Dr. Manmohan Singh.

KEY DONORS: Asian Development Bank, Bill & Melinda Gates Foundation, Centre Technique de Coopération Agricole et Rurale/ Technical Centre for Agricultural and Rural Cooperation (CTA), German Society for International Cooperation (GIZ) GmbH, Global Affairs Canada, International Development Research Centre, IFAD, Indian Economic Association, Ireland, Pepsico, UK Department for International Development (DFID), USAID, and the World Bank

INVESTING FOR IMPACT

PUBLIC INVESTMENT IN AGRICULTURE AND IN RURAL AREAS PLAYS A PIVOTAL ROLE IN INCREASING PRODUCTIVITY AND REDUCING POVERTY.

IFPRI's pathbreaking research on prioritizing public spending for agricultural and rural development revealed that national- and state-level investments in agricultural research and development, education, and rural roads had the greatest productivity returns among an array of rural investments and the strongest impact on poverty alleviation.



INFLUENCED THE CREATION OF INDIA'S RURAL ROADS PROGRAM, which linked previously unconnected villages to economic centers.

INFLUENCED THE HIGH PRIORITIZATION OF SPENDING ON ROAD CONSTRUCTION in the Tenth (2002–2007) and Eleventh (2007–2012) Five-Year Plans.

HELPED RAISE REAL AGRICULTURAL GROSS DOMESTIC PRODUCT BY BILLIONS OF RUPEES.

IFPRI's **PRO-POOR PUBLIC INVESTMENT PROGRAM** (1998–2002) studied public spending in India. The program's research results included three key findings: First, in earlier decades, the cost of subsidies for credit, fertilizer, and irrigation had far outweighed the benefits. Second, promoting agricultural growth is done most effectively through spending on agricultural research, education, and rural roads. Finally, the trade-off between agricultural growth and poverty reduction is generally small among different types of investments.

KEY DONORS: Australia, FAO, Inter-American Development Bank, Japan, and the World Bank

GETTING AGRICULTURE MOVING

MOST OF INDIA'S POPULATION IS ENGAGED IN AGRICULTURE, AND SMALL AND MARGINAL LAND-HOLDINGS ACCOUNT FOR ROUGHLY 80 PERCENT OF THE COUNTRY'S FARMS. These smallholder farmers struggle to eke out a living. The Government of India therefore set a goal of doubling smallholders' incomes by 2022. To achieve this goal and help small farmers and their families thrive, the government is exploring innovations, policies, and approaches that will transform India's agriculture sector. IFPRI's research on agricultural production, pricing, and subsidies is informing the government as it strives to meet the food needs of its people.



THE GOVERNMENTS OF ODISHA AND ANDHRA PRADESH COMMITTED TO FUND RESEARCH on effective targeting of agricultural subsidies.

ADOPTION OF RECOMMENDATIONS ON LLL EQUIPMENT SUBSIDIES BY UTTAR PRADESH'S GOVERNMENT EXPANDED LLL OWNERSHIP AND IMPROVED THE SUBSIDIES' EFFECTIVENESS IN EASTERN UTTAR PRADESH.

THE STATE AGRICULTURAL UNIVERSITY OF BIHAR ADOPTED RECOMMENDATIONS FOR REVISING THE DESIGN OF SOIL HEALTH CARDS to help farmers better understand them.

IFPRI'S ASSESSMENT (WITH THE INDIAN INSTITUTE OF MANAGEMENT-AHMEDABAD) OF FARMER DEMAND FOR CROP INSURANCE WERE INCLUDED IN RECOMMENDATIONS TO THE MINISTRY OF AGRICULTURE ON THE NATIONAL CROP INSURANCE SCHEME (PMFBY).

INFORMED THE INDIAN GOVERNMENT'S DECISION TO LIBERALIZE FOREIGN DIRECT INVESTMENT in the retail food sector in 2012.

IDENTIFIED OPPORTUNITIES AND CONSTRAINTS IN UTTAR PRADESH'S DAIRY SECTOR.

PROMPTED PRIVATE-SECTOR INVESTMENT IN CONTRACT FARMING for the production of certified wheat seed and in the development of markets for herbicides and pesticides in Madhya Pradesh.

The **CEREAL SYSTEMS INITIATIVE FOR SOUTH ASIA (CSISA)**—a project jointly implemented by IFPRI, the International Maize and Wheat Improvement Center (CIMMYT), and the International Rice Research Institute (IRRI), has been fostering durable change at scale in the region's cereal-based cropping system.

CSISA is increasing the productivity—and profitability—of cereal-based farming in India as well as in Bangladesh and Nepal. IFPRI's role is to foster an enabling environment within which environmentally and economically sustainable technologies can be adopted at scale to benefit smallholder farmers. One of IFPRI's notable research projects for CSISA looked at the economic and environmental trade-offs associated with poorly targeted subsidies for laser land leveler (LLL) equipment in India. IFPRI, through CSISA, continues to engage with the departments of agriculture in Bihar, Odisha, and Andhra Pradesh to inform discussions on subsidy targeting and encourage machine use and the balanced application of fertilizers and micronutrients. Find out more at www.csisa.org.

KEY DONORS: Bill & Melinda Gates Foundation and USAID

RURAL BUSINESS HUBS IN INDIA

Engaging the private sector is an important part of efforts to improve the wellbeing of smallholder farmers. IFPRI conducted a study in three Indian states to examine how the private sector can catalyze rural competitiveness and foster inclusiveness through rural business hubs in India. The study's findings helped private-sector partners to cut the cost and improve the quality of inputs and services provided to farmers, such as weather information, crop management advice, and access to markets and finance.

KEY DONOR: USAID



IFPRI's **INDIA FOOD SECURITY PORTAL** provides comprehensive and detailed country-level information on commodity prices and other indicators that are valuable for policy makers. Find out more at <http://www.foodsecurityportal.org/india>.

KEY DONORS: European Commission and Switzerland



MAKING PULSES AFFORDABLE IN INDIA

Pulses are the biggest source of non-cereal protein in the predominantly vegetarian Indian diet. The six major pulses that Indians grow and consume are chickpeas, pigeon peas, lentils, mung beans, urad beans, and field peas. The average Indian household spends less than 10 percent of its food budget on pulses. Yet IFPRI research has shown that consumer preference for particular pulses is rigid in India and that consumers do not substitute one pulse for another even when prices differ greatly.

After successive weak monsoons with low rainfall in 2014 and 2015, soaring prices of pulses became the biggest driver of food price inflation in the country. Prices then crashed the following year, damaging the incomes and livelihoods of millions of pulse growers.

To protect against such price fluctuations, India's government established a committee to suggest policy measures to increase pulse production and stabilize prices at affordable levels. IFPRI worked closely with the committee, providing analytical support and evidence-based policy recommendations.

KEY DONORS: Indian Council of Agricultural Research, Ministry of Agriculture and Farmers Welfare, Government of India

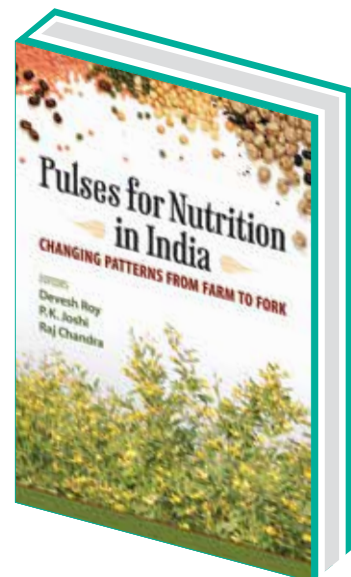
PULSES FOR NUTRITION IN INDIA: CHANGING PATTERNS FROM FARM TO FORK

Edited by Devesh Roy, Pramod Kumar Joshi, and Raj Chandra

A recent IFPRI book explores the benefits of a diet that incorporates pulses, and looks at India's pulse sector in the context of agricultural systems, climate change, irrigation design, and changing policies. To understand how pulses can help fulfill the objectives of India's food policies, experts explore the role of pulse production in global trade; the changing demand for pulses in India since the 1960s; the impact of technology on pulse yields; and the long-term health benefits of greater reliance on pulses. These analyses are aiding policy makers in finding ways to feed and nourish a growing population.

IFPRI's study of pulse value chains highlighted limited availability of quality seeds as a major barrier to increasing pulse production, which **INFLUENCED THE INDIAN GOVERNMENT'S NEW SERIES OF PROGRAMS, LAUNCHED IN PARTNERSHIP WITH FARMERS, TO INCREASE PRODUCTION OF QUALITY PULSE SEEDS.**

INDIA'S GOVERNMENT ACCEPTED IFPRI'S GUIDANCE ON RAISING PULSE MINIMUM SUPPORT PRICES AS WELL AS OTHER RECOMMENDATIONS—on raising pulse production and creating a small strategic reserve of pulses to discourage speculation by traders, for example—many of which have already been implemented.





OTHER ONGOING AND RECENTLY CONCLUDED RESEARCH

ASSESSING THE PERFORMANCE OF AN INNOVATIVE MICROFINANCE MODEL:

REPAYMENT AND IMPACTS OF WOMEN SELF-HELP GROUPS IN INDIA examined Kranthi Patham women self-help groups (SHGs) in Andhra Pradesh. These SHGs follow an innovative World Bank microfinance model that combines savings generation and microlending with social mobilization. The study found that after 3 years of program participation, SHG participants had better nutrition and women's empowerment outcomes. An additional 2.5 years had a positive impact on consumption and asset accumulation.

DONOR: CGIAR Research Program on Policies, Institutions, and Markets (PIM)

IMPACT EVALUATION OF INDIA'S MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE SCHEME (MGNREGS)

assessed the targeting, implementation, and impact of MGNREGS, one of the largest public works projects in the world. The evaluation, which comprised seven studies, concluded that the scheme has largely been successful as a social safety net program, but that areas for improvement remain. Papers presented at a 2014 conference on the evaluation continue to serve as valuable resources on MGNREGS for policy makers.

DONOR: 3ie

TECHNICAL ASSISTANCE AND RESEARCH FOR INDIAN NUTRITION AND AGRICULTURE

(TARINA) is a consortium that connects policy-focused academics from diverse disciplinary perspectives with impact-focused NGOs and development partners to tackle undernutrition in India. The consortium aims to promote a more nutrition-sensitive food system that enhances the availability and affordability of diverse, high-quality, and nutrient-rich foods for the rural poor. TARINA provides a mix of technical assistance, evidence generation, and capacity building for the design and implementation of agricultural projects, programs, and policies that ensure improved nutrition outcomes. <https://tarina.tci.cornell.edu/>

DONOR: Bill & Melinda Gates Foundation

WOMEN IMPROVING NUTRITION THROUGH GROUP-BASED STRATEGIES (WINGS)

is assessing how self-help groups can improve the nutrition of women and children in India and how best to engage with them on improving nutrition practices. Based on midline findings, PRADAN (one of India's largest NGOs) program implementers changed their approach to disseminating key messages to target audiences. PRADAN has integrated lessons learned from the data generated into programming and implementation on the ground for maximum impact.

DONOR: Bill & Melinda Gates Foundation

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

A world free of hunger and malnutrition

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