



PIM ACHIEVEMENTS IN 2019:

Highlights



RESEARCH
PROGRAM ON
Policies,
Institutions,
and Markets

Led by IFPRI

www.pim.cgiar.org

POLICY RESEARCH FOR A FOOD-SECURE FUTURE

Policies, Institutions, and Markets (PIM) is one of [CGIAR](#)'s Global Integrating Programs, focused on addressing the policy, institutional, and market constraints to sustainable and equitable economic development and rural transformation. Such roadblocks include regulations restricting adoption of technologies by smallholder farmers, inefficient allocation of public resources, market failures or missing markets, weak property rights, restrictive gender norms and practices, and exposure of smallholders to shocks and risks. PIM aims to address these constraints through four main channels: global agenda setting, national policy support, program and market innovations, and capacity development.

The work is organized around [six core research areas](#):

1 Technological innovation and sustainable intensification

4 Social protection for agriculture and resilience

2 Economywide factors affecting agricultural growth and rural transformation

5 Natural resource governance

3 Inclusive and efficient value chains

6 Cross-cutting gender research and coordination

PIM is a global program, with emphasis on Africa south of the Sahara, South Asia, and selected countries in the Middle East and North Africa, East Asia, Southeast Asia, and Latin America. Led by the International Food Policy Research Institute ([IFPRI](#)), PIM brings together all CGIAR Centers and many national, regional, and international partners. External managing partners include KIT Royal Tropical Institute, Michigan State University, University of Oxford, Wageningen University and Research, and World Vision International. The program is carried out with funding support from governments and development aid agencies, both through the [CGIAR Trust Fund](#) and bilateral grants.

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Frank Place

PIM Director



PIM has been active since 2012 and – like all CGIAR research programs – will come to an end in 2021. Over the years, we have seen PIM's research increasingly being used to inform strategies, policies, investments and programs of development partners, the private sector, and governments.

This brochure highlights some of the program's key achievements and findings in 2019, with a focus on "outcome stories" that show how PIM research has been used around the world.

These outcomes were made possible by the very high quality of the underlying research produced by colleagues from all CGIAR Centers and external organizations who come together under the PIM umbrella. Equally important to PIM's work is the early and active engagement of researchers with the development community to identify knowledge gaps, develop relevant research agendas, and put together effective communication strategies. I am deeply grateful to these people and to all individuals, communities, and businesses who participate in our research, as well as to the funders who extend financial support for this research to happen.

In the final two years of the program, we are focusing on synthesizing lessons learned and strengthening collaborative research closely aligned with the impact areas of the new One CGIAR strategy; these efforts should lead to several flagship products of interest to a wide audience.

Meanwhile, I hope that you will enjoy reading these Highlights of 2019.



Johan Swinnen

Director General, IFPRI



In my new role as Director General of IFPRI, I am immensely proud of what PIM has accomplished, conducting relevant, evidence-based policy research designed to reduce poverty, hunger, and undernutrition. As a former member of PIM's Independent Steering Committee, I have witnessed the increased uptake of the program's results brought about by years of collaborative, demand-driven work. PIM, an integrating CGIAR Research Program, partners with all CGIAR Centers and numerous other global and national partners. These close collaborations have led to results that are of direct relevance and use to policymakers and development partners. This report, highlighting some of the exciting outcomes that were achieved in 2019, exemplifies the effectiveness of this approach.

The PIM-supported communities of practice – e.g. on foresight, value chains, and natural resource governance – are well positioned to contribute to the future One CGIAR integrated programs and projects. PIM foresight researchers are modeling futures to help set priorities for the new CGIAR research strategy and to ensure that CGIAR invests in research that makes a difference. IFPRI looks forward to continuing to host PIM over the next 18 months and to making certain that PIM's results benefit policymakers and the poor and food-insecure people they serve.



2019 AT A GLANCE

In 2019, research conducted under the CGIAR Research Program on Policies, Institutions, and Markets (PIM) informed policies and investment plans of governments, development agencies, nongovernmental organizations, and private companies in Africa, Asia, and Latin America.

Among the key achievements PIM contributed to at country level are the scaling up of digital advisory services in Ethiopia and of payments for agrobiodiversity conservation in Peru; biotechnology advances in Nigeria; renewal of community forest concessions in Guatemala; and improved rangeland governance in Ethiopia and Tanzania. At the global level, PIM research was used to shape the European Union biofuel policy as well as strategic decisions of several multilateral organizations and funding agencies.

As part of the ongoing commitment to strengthening CGIAR's social science capacity, in 2019 PIM co-organized and supported participation of CGIAR scientists in three major international meetings: the [Seeds of Change](#) conference in Canberra, Australia, the [International Association for the Study of the Commons](#) conference in Lima, Peru, and the [Political Economy for Improved Policy Analysis and Implementation in CGIAR](#) workshop in Washington D.C., USA.



Our [Facebook](#) and [Twitter](#) audiences have **grown substantially** and provided great support in sharing PIM research.

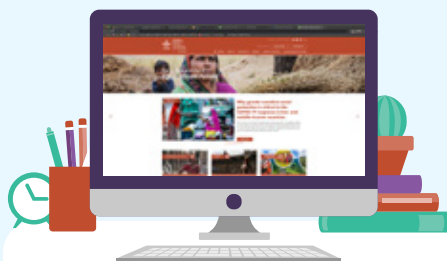


2019 was the final year of PIM's three-year mandate as the host of the [CGIAR Collaborative Platform for Gender Research](#), which paved the way to the full-fledged independent CGIAR GENDER Platform launched in 2020.



Researchers supported by PIM produced about **450 publications**, including 115 peer-reviewed journal articles and six books.

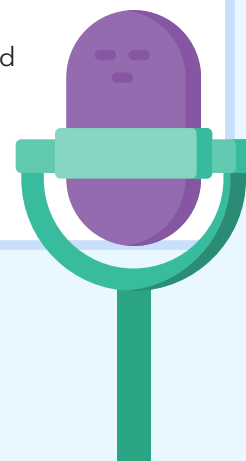
About **10,400 people** in over 40 countries were trained as part of PIM capacity-building activities.



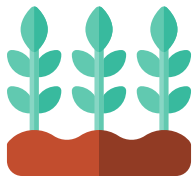
23,000 people – 45% more than in the previous year – visited the [PIM website](#), which was revamped in 2019.

PIM Webinars

and the associated recordings and podcasts reached hundreds of participants, viewers, and listeners.



KEY RESEARCH FINDINGS AND ACHIEVEMENTS



Technological Innovation and Sustainable Intensification

Supporting Rice Sector Reforms in the Philippines

In 2019, the Philippines shifted its rice import policy from quantitative restrictions to tariffs in response to PIM-supported [research](#) by IFPRI and the National Economic and Development Authority (NEDA) showing that this policy change would boost economic growth. After the law's passage, IFPRI and NEDA [assessed](#) policy options to complement the rice tariffication law. First, they recommended using a portion of the tariff revenue to provide cash transfers to small-scale farmers for up to two years to compensate them for the initial decline in the price of unmilled rice resulting from the removal of quantitative restrictions on rice imports. A second recommendation was to help rice farmers located in low-productivity zones to diversify from rice into more profitable crops through incentives and training. In December 2019, based on these recommendations, the Department of Agriculture [launched](#) the Rice Farmer Financial Assistance – an unconditional cash transfer to

600,000 rice farmers with farms ranging from one-half hectare to two hectares – and a [plan](#) to increase rice productivity and crop diversification.

Getting Better-Quality Seeds to Afghanistan's Farmers

Seed certification is key to providing farmers with high-quality seeds – a necessary condition for crop productivity. In 2015, when scientists from the International Center for Agricultural Research in the Dry Areas (ICARDA) initiated work on this issue with the Afghan government, the country's seed sector regulations had not been updated in over a decade. Furthermore, a survey of seed companies, seed-testing laboratories, and farm households showed that farmers did not have access to sufficient quantities of quality-certified seeds. Researchers identified third-party seed certification as a promising approach to improving seed quality. In partnership with national agricultural researchers and private sector stakeholders, ICARDA and the Ministry of Agriculture, Irrigation, and Livestock developed General Guidelines for Seed Certification and a mechanism for third-party seed certification. Seed regulations and standards for 57 crops were approved, and [these documents](#), along with guidance for seed producers, were posted on the Afghanistan Seed Certification Agency website. Workshops were conducted nationwide to train the ministry, seed-testing

laboratories, and private seed companies on how to apply the new policies and regulations. This work has [resulted](#) in a strengthened seed market system in Afghanistan.

Digitizing Agricultural Extension to Better Reach Ethiopian Farmers

Thanks in part to the results of an IFPRI-led study, the Government of Ethiopia has made a significant investment in digital agricultural extension services. [FarmStack](#) is a digital platform that aims to boost agricultural productivity by delivering location- and time-specific advice to farmers across multiple channels including video, SMS, and radio. FarmStack emerged as a result of the success of [Digital Green](#)'s video-mediated extension in the country. An [evaluation](#) of Digital Green's approach [showed](#) that video-mediated extension reached a larger audience than traditional extension-delivery approaches and enhanced farmers' knowledge and adoption of improved agricultural technologies and practices. In addition, video-mediated extension led to greater participation and greater knowledge among women. IFPRI's presentation of the intermediate results of the evaluation to the Government of Ethiopia strongly influenced the government's decision to invest in FarmStack. FarmStack will receive US\$17.5 million from the Bill & Melinda Gates Foundation and the United Kingdom's Department for International Development over the period 2019-2024, with commensurate funding from the Government of Ethiopia.

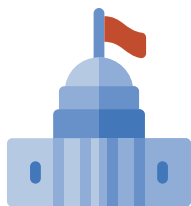
Providing Evidence for the General Release of Insect-Resistant Cowpea in Nigeria

In 2019, Nigeria approved for general release a genetically engineered cowpea variety resistant to the pod borer insect. Cowpea is the most important grain legume crop in Nigeria and in most of West Africa. The pod borer insect causes significant damage to cowpea fields. To address this problem, researchers have long worked to develop an insect-resistant variety. For more than a decade, IFPRI's Program for Biosafety Systems (PBS), working with several partners, assisted in developing biosafety protocols, guidelines, and administrative structures to harmonize decision-making processes across relevant agencies. The PBS team partnered with the Agricultural Research Council of

Nigeria to conduct an [ex ante economic assessment](#) of the new variety using [DREAMpy](#), a tool developed by IFPRI researchers. Results showed that the estimated benefits for producers and consumers under different scenarios would average US\$350 million in net present value terms, 70 percent of which would be accrued by producers, and that a five-year regulatory delay would result in a 35 percent decrease in the estimated benefits. Together with a safety assessment, this evidence contributed to the path-breaking [release](#) of the new variety—the first biotech staple crop to be approved in Nigeria.

Advancing the Assessment of Alternative Food System Futures

PIM's Food Systems Futures team, which includes colleagues from all CGIAR Centers and many external collaborators, continued to be a driving force for foresight research and capacity development in CGIAR. In 2019, the team explored alternative future pathways for food and agriculture in a [series of studies](#) focused on several commodities (fish, livestock, roots, tubers and bananas) and agricultural employment (including effects on women). In addition, the team devoted significant effort to the [CGIAR Foresight Report](#), expected in late 2020, which aims to fill a gap in the literature on foresight for agriculture and food systems, with particular attention to the issues faced by developing countries. The team also launched the [Global Foresight for Food and Agriculture Tool](#), which builds upon the International Model for Policy Analysis of Agricultural Commodities and Trade (IMPACT). This tool allows users to explore the impacts of alternative investment options on agricultural productivity and food security in the context of changes in population, income, technology, and climate. A [set of studies](#) on the implications of climate change for Latin America and the Caribbean, completed in 2019 in collaboration with the CGIAR Research Program on Climate Change and Food Security (CCAFS), covered 39 crops and 6 species of livestock in nine countries. The CCAFS/PIM team shared findings in a [PIM Webinar](#) and made recommendations to governments on policies that could help farmers adapt to predicted drops in production.



Economywide Factors Affecting Agricultural Growth and Rural Transformation

Providing Insights for Agricultural Strategies in Kenya and Rwanda

In 2019, the Government of Kenya released two key national policy documents—the [Agricultural Sector Transformation and Growth Strategy for 2019-2029](#) and the [National Agricultural Investment Plan](#) for 2019-2024—that draw on PIM economywide modeling analysis. Kenya’s new strategy aims to raise small-scale producer income, boost agricultural output and value added, and improve household resilience. The investment plan describes modalities for investing about US\$4.4 billion to address the needs of poor small-scale farmers, promote the development of medium-scale farming, and establish agro-processing zones and other economic activities. Both documents used analysis based on the [Rural Investment and Policy Analysis model](#), which was used to identify the value chains most likely to generate impacts on incomes, employment, and diet diversity.

PIM research also informed Rwanda’s new strategies. In 2019 the Government of Rwanda published a [National Strategy for Transformation](#), and in 2020 it plans to release Vision 2050, which lays out a path for the country to reach upper-middle-income status by 2035 and high-income status by 2050. To support Rwanda’s Ministry of Planning and Finance, the World Bank commissioned IFPRI to evaluate alternative growth paths and investment priorities for agriculture and urban development. This request drew on earlier PIM-supported models, data, and research on urban-rural linkages and the effects of urbanization on agricultural transformation.

Reforming Ghana’s Main Agricultural Mechanization Program

With relatively large farm sizes and a labor force that is rapidly exiting agriculture, Ghana is one of few African countries where agricultural mechanization has undergone rapid development. Through the country’s

Agricultural Mechanization Service Enterprise Center (AMSEC) program, the government provides subsidies for tractor-hire services for small-scale farmers. With support from PIM, IFPRI researchers worked with an engineer from the International Maize and Wheat Improvement Center (CIMMYT) and government officials to conduct an [assessment](#) of the AMSEC program and of the use of mechanization by farmers. The study found that the program was not serving the needs of small farmers. To make the AMSEC program more inclusive and efficient, the researchers recommended that AMSECs promote machinery of various sizes, including smaller tractors, and provide a broader range of tractor attachments (such as planters, boom sprayers, harvesters, shellers, and threshers). The researchers also suggested that AMSECs provide training and support for the operation, maintenance, and repair of machines, that subsidies be reformed and extended to cover a wider array of equipment, and that centers buying a small number of machines become eligible. In 2019, the government used the recommendations to improve the program.

Developing Indicators of Food Security Progress

In its 2017-2021 Global Food Security Strategy, the U.S. government targets countries where investments have the greatest potential to sustainably improve food security and nutrition. As a target country progresses toward greater food security and nutrition, it graduates out of that status. But how should USAID decide when a country is ready to graduate? To answer that question, in 2018 IFPRI/PIM assisted USAID in selecting indicators to assess three key dimensions of a country’s readiness to transition: (1) level of need (long-term trends in poverty, hunger, malnutrition, and humanitarian need); (2) country commitment (the government’s commitment to food security and nutrition investments); and (3) country capacity (the country’s capacity to sustain advancements in food security). This [graduation framework](#) was approved by USAID in late 2018 and made public in 2019. In addition, since 2019 USAID has been [using](#) PIM’s new [indicators](#) of the size of agrifood system gross domestic product (AgGDP+) and employment (AgEMP+) as high-level outcome indicators for measuring the success of its portfolio of investments as part of the Global Food Security Strategy.

Building Tools for Understanding Food and Agricultural Systems in the Arab World

The [Agricultural Investment for Development Analyzer](#), developed by IFPRI, is an agricultural and rural economic planning toolkit designed to help governments and analysts draw agricultural investment plans and ensure that levels of investment in the agricultural and rural sectors are sufficient for achieving the desired outcomes. The tool has been [used](#) for policy dialogues in the Arab region. Another tool, [MAP Yemen](#), is an online database that provides an overview of food and nutrition security in Yemen and a comprehensive database of relevant projects. Developed by the German Agency for International Cooperation (GIZ), IFPRI, and Yemen's Ministry of Planning and International Cooperation, MAP Yemen allows users to search development projects and relate them to the prevalence of hunger and stunting in order to effectively allocate funds, build synergies, and evaluate future proposals. Since its launch in November 2018, MAP Yemen has been used by the government of Yemen, academics, and private sector partners.

Tools for Analyzing Food Security Policy Change

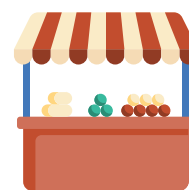
A team supported by PIM developed the [Kaleidoscope Model](#) as a practical framework to analyze the drivers of change of food security policy and identify barriers to reform and implementation. Development practitioners and researchers can use this tool to assess when and where investments in policy reforms are most feasible given a country's underlying political, economic, and institutional characteristics. Since 2019, USAID's Bureau for Resilience and Food Security has integrated the Kaleidoscope Model into training events for its staff, and IFPRI researchers are invited to present the tool and engage in interactive exercises with USAID's mission staff. In 2019, PIM also promoted the use of political economy tools within CGIAR by convening a [workshop](#) and awarding [grants](#) for collaborative research on the political economy of food system transformation.

Understanding Youth Employment and Migration in Africa

It is commonly believed that young Africans, because they are better educated and more familiar with information technology than older adults, are more likely to adopt advanced farm technologies and practices. A 2019 PIM-supported book, [Youth and Jobs in Rural Africa](#) (IFPRI/Oxford University Press), challenges this view. The

book also emphasizes that although governments have adopted youth employment as a priority, policies often do not address the specific needs of rural populations. The authors conclude that rather than focusing on youth, African policy makers should promote inclusive growth policies that benefit both young and older people.

Youth migration was also a key area of research in 2019, with publication of a [background paper](#) on the intersection of youth access to land, migration, and employment opportunities in Africa for the International Fund for Agricultural Development's 2019 Rural Development Report as well as [other outputs](#). Among the key [findings](#) on this topic: rural-to-urban migration facilitates the transition to higher-income activities but involves a small proportion of youth; the more common rural-to-rural migration facilitates the transition to nonagricultural work.



Inclusive and Efficient Value Chains

Influencing European Union Biofuel Policies

For the past 10 years, IFPRI research – with support from PIM since 2012 – has informed the European Union (EU) debate on biofuel policies. When agricultural land is used to plant biofuel crops, new land is often converted to agriculture to make up for the land lost for food production. This indirect land use change – which often involves clearing forests, peatlands, and wetlands rich in sequestered carbon – causes emissions of carbon dioxide. Estimating the effect of indirect land use change requires complex modeling. An IFPRI team [used](#) its MIRAGE global computable general equilibrium model to [show](#) that biofuel mandates have a much larger effect on greenhouse gas emissions than previously estimated. These results informed the EU's [Renewable Energy Directive](#), adopted in December 2018. The European Union is the world's top agricultural importer, and its use of biofuels significantly affects global markets and production systems. Therefore, the EU biofuel policy reform has tremendous environmental and economic implications at the global level, and especially for developing countries. The new EU directive, which

covers the period 2020–2029, will significantly impact the US\$45 billion biofuel market in Europe and is expected to reduce carbon dioxide emissions by 13 million tons annually.

Assessing the Environmental Effects of Agricultural Support Policies

[PIM/IFPRI research](#) has shown that governments' agricultural support programs have been both inefficient and detrimental for the environment. Of the over [US\\$700 billion](#) spent on agricultural support each year, about US\$530 billion is paid directly to farmers and only about 15 percent of this amount supports public goods. Moreover, until recent years agricultural support was biased against emission-intensive goods and is now slightly biased toward them. Emissions from agriculture and land use change have contributed up to a third of total greenhouse gas emissions, with beef, milk, and rice production accounting for more than 80 percent of agricultural emissions. To help agriculture and the environment, greater investments in research and development are needed to raise productivity and lower the emissions intensity of agricultural output.

Reforming Agricultural Marketing in Pakistan's Punjab Province

In 2019, with input from IFPRI, the Province of Punjab, Pakistan, [adopted](#) the Agriculture Marketing Regulation Authority Ordinance, a major step toward reforming the agricultural marketing sector. Before that, Punjab's agricultural markets were regulated by a 1939 law that had been re-enacted in 1978. Controlled by the public sector, the marketing system suffered from inefficiencies and inadequate practices, with value captured by politically appointed middlemen and commission agents. There was a lack of standards and quality control for health, hygiene, grading, packaging, and food safety. [IFPRI's Pakistan Program team](#) was instrumental in supporting the development of the new law by providing the Punjab Agriculture Department with policy briefs highlighting the weaknesses of the existing marketing system, offering insights from other countries' systems, and recommending improvements. The 2019 reform improves agricultural practices and farming methods, defines standards and grading, promotes alternative marketing channels and contract farming, implements a fair auction system, supports market information systems, and regulates registration and training of marketing

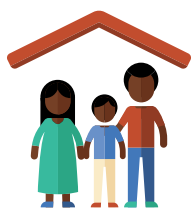
service providers. The new system benefits farmers, consumers, and private sector actors.

Measuring and Mitigating Food Loss and Waste

It is commonly estimated that one-third of all food produced for human consumption is lost or wasted – with enormous consequences for food and nutrition security, natural resources, and climate change. In 2019, the PIM team continued to support the Food and Agriculture Organization (FAO) of the United Nations' [technical platform](#) on measuring and reducing food loss and waste and contributed to FAO's [State of Food and Agriculture 2019 report: Moving Forward on Food Loss and Waste Reduction](#). Over the past few years, PIM developed a [methodology](#) to characterize the nature of postharvest losses along the value chain for a range of commodities and countries and designed a set of surveys to measure the extent of food losses. These studies found that postharvest losses in staple foods were consistently lower than the commonly cited figures and much lower than losses that occur during production. Results from applying the PIM methods to mitigate losses will be available in 2020.

Improving Farmers' Management of Weather and Credit Risks

[Research on innovative risk management products](#) continued to make progress. Weather risks and limited access to credit are serious impediments to agricultural productivity and growth in developing countries. A research team led by IFPRI developed a novel insurance-linked credit model in which drought-related risks are transferred from borrowers to lenders through an insurance mechanism that provides for loan repayment during drought for smallholder farmers. The tool was successfully piloted in several districts of Kenya in 2018–2019. In addition, in a [study](#) of the feasibility of picture-based insurance (PBI), PIM researchers described a successful pilot in India that allowed farmers to verify insurance claims using photos taken with smartphones. Researchers are working with the private sector to develop a suite of products that utilize smartphone technology. The PBI initiative also expanded into Kenya and Ethiopia with Agricultural Climate Risk Enterprise Africa ([ACRE Africa](#)), [African Risk Capacity](#), and [R4 Rural Resilience Initiative](#) on board as new partners.



Social Protection for Agriculture and Resilience

Measuring the Impacts of Social Safety Nets on Gender Equality

A [book chapter](#) and a related [think piece](#) by IFPRI and the United Nations International Children's Fund reviewed the evidence on the impact of social safety nets on gender equality and measures of women's empowerment in Africa. The review concluded that safety nets have substantial potential to improve gender equality but more evidence is needed on which program designs best improve outcomes for women.

Assessing the Health Effects of Food for Education

Food-for-education programs that include school meals are widely used to improve school attendance and performance, but evidence on their health and nutritional benefits is generally limited. A PIM-supported [study](#) led by IFPRI looked at the nutritional effect of micronutrient-fortified food provided as part of an incentivized transfer program to encourage school attendance for girls living in internally displaced persons camps in northern Uganda. The results showed that the program reduced anemia prevalence in adolescent girls, adult women, and preschool children.

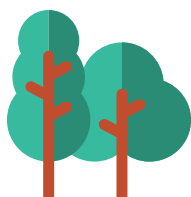
Evaluating the Impact of Cash for Nutrition in Yemen

In an IFPRI-led [impact evaluation](#) of the Yemen Social Fund for Development's Cash for Nutrition program, researchers studied the effects of cash transfers with soft conditionality based on attending nutritional training sessions. They found that this arrangement had a range of benefits for the poorest households: it increased child and maternal dietary diversity and maternal knowledge of recommended infant and young child feeding practices; it also reduced wasting and stunting in children as well as the proportion of children identified as malnourished.

Understanding Effects of Social Protection Programs on Employment

Among social protection programs, some have job creation as an objective (e.g., "food for work" programs), while others are designed so that they do not discourage beneficiaries from seeking employment. In 2019, several IFPRI-led PIM studies generated evidence about these relationships.

- A [study](#) on the impact of Pakistan's Benazir Income Support Programme on household labor supply found little evidence of change in female labor, strong evidence of increased male labor, and no evidence of change in child labor, which shows that policymakers should not be concerned that transfers negatively affect labor supply among recipients.
- An [analysis](#) of the impact of India's National Rural Employment Guarantee Scheme showed that the program increased non-financial asset holdings and improved diets, partly by inducing higher income from casual labor, particularly for the poor.
- A [study](#) in Malawi measured the differential effect of earned and unearned income from a cash transfer program on the allocation of expenditures and labor supply. The study found that while the type of income did not affect patterns of household expenditures, work requirements increased overall expenditure immediately following the payment and resulted in a short-term reallocation of labor supply away from household work.
- The Yemen Social Fund for Development operates a youth employment and training program called Rural and Urban Advocates Working for Development, which underwent an impact evaluation. Using both traditional surveys and an innovative experimental game methodology, this evaluation [showed](#) that the program, in addition to aiding youth individually, has important benefits for the country as a whole by strengthening interregional trust levels, which are important for future reconstruction and postconflict recovery.



Governance of Natural Resources

Improving Land Use Planning in Tanzania and Ethiopia

Challenges in land use planning can lead to conflict and unsustainable land use. In Tanzania, for example, overgrazing and insecure land rights often lead to conflicts between land users. When multiple villages share resources such as grazing areas and water, it is often more appropriate to plan land use jointly among villages rather than at the village level. Between 2010 and 2019, the International Livestock Research Institute (ILRI) and partners piloted [joint village land use planning](#) across 14 villages and 150,000 hectares of grazing land through the Sustainable Rangeland Management Project. As a result, the Government of Tanzania adopted this approach, and the Global Environment Facility issued a US\$7.15 million grant to expand joint village land use planning across 22 villages in five districts.

When the Government of Ethiopia started to develop an approach for participatory land use planning at the *kebele* (village) level in 2013, it soon became apparent that the *woreda* (district) level was a more appropriate planning scale for some pastoral areas. Over the next five years, with technical assistance from ILRI and support from PIM, the CGIAR Research Program on Livestock, and other partners, the government developed and piloted participatory land use planning at the *woreda* level and launched a [manual](#) on this approach in September 2019, with the aim of scaling it up.

Demonstrating the Benefits of Community Forest Concessions in a Guatemalan Biosphere Reserve

The Maya Biosphere Reserve is located in one of the largest tropical forests north of the Amazon, and its sustainable management is of critical interest to national and global stakeholders. In 1997, the Government of Guatemala granted 25-year concessions to community forest enterprises, which were responsible for sustainably managing the forest in the reserve and sharing the resulting benefits among members. Although the concessions had been shown to benefit

forest conservation, little was known about their socioeconomic impact. In 2014–2018, joint studies by PIM and the CGIAR Research Program on Forests, Trees, and Agroforestry, led by Bioversity International with the Center for International Forestry Research (CIFOR) and other partners, [examined](#) 12 concessions over 400,000 hectares. The [results](#) showed clear evidence that the enterprises generated socioeconomic benefits and had positive spillover effects on local communities and the regional economy. They were also found to increase women's involvement in decision making and income generation. In 2019, these results contributed to the government's decision to revise the norms for granting concessions and to [renew](#) Cooperative Carmelita's community concession contract. Reviews of the other cooperatives' contracts will follow. Going forward, CGIAR's continued research inputs and engagement will be critical, especially in view of ongoing pressures to create a national park that would deprive communities of the right to extract timber in areas now under concession.

Using Games to Strengthen Natural Resource Governance

Managing natural resources often presents challenges related to the interests and power dynamics of various groups. To help improve collective decision making on natural resource management, PIM teams have explored the use of games in which different decisions lead to different outcomes. Colleagues from the International Water Management Institute (IWMI), with support from PIM and the CGIAR Research Program on Water, Land and Ecosystems (WLE) developed a board game called [Rulal](#), in which each player is assigned a role (e.g., farmer or Department of Forestry staff) with an associated agenda and targets to reach through negotiations. This game has been used by government agencies and civil society organizations in Lao PDR as well as by universities in Thailand and the Netherlands to help increase understanding of diverse perspectives in resource management. With support from PIM, WLE, and partners, IFPRI and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) have piloted [games](#) to strengthen governance of groundwater and surface water that are now being scaled up to more than 3,700 communities covering 259,000 households in at least six Indian states. In addition, ICRISAT and partners, working with the Foundation for Ecological Security (an Indian NGO), have developed a mobile application

called [JAL SUTRA](#), which facilitates the use of games for improving water management in India. The app has been successfully tested and trainings on its use have been conducted for 45 NGO and government facilitators.

Paying Peruvian Farmers to Conserve Agricultural Biodiversity

Many developing countries face the challenge of how to safeguard crop biodiversity – a global public good – in the fields of the rural poor without impinging on these farmers' development needs and rights. To increase farmers' incentives to preserve agricultural biodiversity, Bioversity International has pioneered payments for agrobiodiversity conservation services ([PACS](#)) in Bolivia, Ecuador, India, Nepal, and Peru. This approach consists of setting conservation targets; facilitating farmers' access to threatened seed varieties; exploring value chain development for conserved varieties; and motivating and rewarding farmers for conservation services. In 2014, Peru's Ministry of the Environment decided to expand Bioversity International's small-scale applications of PACS for quinoa to several Andean locations for quinoa, amaranth, and potato. Since 2019, the Ministry has [scaled up](#) the use of PACS in four Andean regions. PACS will be implemented in 130 communities involved in cultivating three highly diverse native crops of importance for food security and climate change: maize, potato, and quinoa. Participating farmers are compensated through in-kind rewards identified by farmer groups, training, and social recognition.

Learning How to Engage Stakeholders in Natural Resource Governance

In 2019, PIM continued to invest in action research on multistakeholder platforms (MSPs) to address natural resource competition and conflict. With the Foundation for Ecological Security, IFPRI researchers supported the design of MSPs in India. CIFOR produced a [manual](#) for assessing MSP performance in forest landscapes and used it to conduct a comparative [study](#) of MSPs focused on landscape changes to support climate mitigation in Brazil, Ethiopia, Indonesia, and Peru. Working with indigenous peoples and the Peruvian National Service of Protected Areas, the CIFOR team created a joint evaluation tool for co-management areas that is now being field tested. Within the framework of the [Global Community of Practice](#) on multistakeholder platforms

for land governance, representatives from 18 institutions gathered to share progress and explore partnerships on the role of MSPs in improving land and natural resource governance.



Cross-cutting Gender Research and Coordination

Measuring Women's Empowerment in Agriculture

In 2012, IFPRI, the Oxford Poverty and Human Development Initiative, and USAID developed the [Women's Empowerment in Agriculture Index \(WEAI\)](#) to measure and track changes in women's empowerment in agriculture. By the end of 2019, 54 countries and 103 organizations had used a version of the WEAI to analyze the drivers and impacts of women's empowerment. For example, low baseline WEAI scores in Bangladesh, combined with evidence that women's empowerment is associated with household food security and nutritional outcomes, prompted USAID and the Government of Bangladesh to [modify](#) their programming to address women's empowerment. In Bolivia, the Inter-American Development Bank [used](#) the WEAI to measure the impact of the Program of Direct Support for the Creation of Rural Agrifood Initiatives. The analysis showed that the program improved women's overall empowerment but decreased women's participation in decisions about the use of income within the household – a shortcoming that was addressed during the second phase of the project. In Honduras, the NGO Swisscontact and the International Center for Tropical Agriculture (CIAT) [implemented](#) the WEAI for value chains (a variant of the index tailored for application to value chain-related projects) to develop gender and social inclusion strategies for projects in the cashew, dairy, and fruit value chains.

Informing Nigeria's Gender Policy in Agriculture

In 2019, Nigeria launched its [National Gender Policy in Agriculture](#) to promote the adoption of gender-sensitive and gender-responsive approaches in agriculture and ensure that men and women have equal access to and

control of productive resources. The policy was informed by IFPRI/PIM research findings (see [here](#), [here](#), and [here](#)) showing that productivity tends to rise when women have access to farm inputs and markets and make decisions about agricultural production (either independently or with their male counterparts). IFPRI was also a member of the advisory committee for the development of the policy and contributed to the development of several of the policy's components: training agricultural officers to identify and address gender issues in agriculture; mainstreaming attention to gender in agricultural extension and climate change adaptation and mitigation; building women's groups' financial management skills; and monitoring and evaluating the implementation of the policy and assessing differential impacts on women and men. The National Gender Policy in Agriculture is expected to enhance food security and accelerate development in Nigeria.

Providing Evidence on Links between Cash Transfers and Intimate Partner Violence

With one in three women physically or sexually abused by a partner in her lifetime, intimate partner violence is a pervasive public health problem. IFPRI-led studies in Bangladesh, Ecuador, and Mali have shown that cash

transfers can reduce intimate partner violence. Based on these findings, a [research collaborative](#) (interdisciplinary team of researchers from multiple institutions) was created in 2018 to further explore the linkages between cash transfers and intimate partner violence. In 2019, the collaborative's work fed into a number of high-level guidance documents from, among others, the UK Department for International Development ([What Works](#) program) and the World Health Organization ([RESPECT Women](#) framework for preventing violence against women).

Encouraging Women's Participation in Irrigation Management in Egypt

Participation in irrigation management is influenced by prevailing socioeconomic and political norms in rural communities. In Egypt, women's involvement in irrigation practices is undervalued and women's participation in water governance remains low. Studies led by ICARDA [showed](#) that institutional support and policy reforms – such as introducing gender-based quotas in water user associations and implementing awareness campaigns to promote gender equality – are key to ensuring that women share in the benefits of irrigation.



SPOTLIGHT

CGIAR COLLABORATIVE PLATFORM
FOR GENDER RESEARCH

During 2017-2019, PIM hosted the [CGIAR Collaborative Platform for Gender Research](#), designed to increase the visibility and impact of CGIAR's gender research. The Platform supported priority setting, strategic partnerships, capacity development, and collaboration between CGIAR programs, centers, and partners. The Platform coordinated research on various topics, including gender dynamics in seed systems, gender and value chains, and the "feminization" of agriculture, and initiated a forward-looking [review](#) of CGIAR's contributions on gender and aqua/agriculture and natural resource management (to be completed in 2020). In addition, the Platform produced a report on [gender-transformative approaches in agriculture](#) for the European Commission.

The [Seeds of Change](#) conference, convened by the Australian Centre for International Agricultural Research (ACIAR), the CGIAR Collaborative Platform for Gender Research, and the University of Canberra in April 2019 in Canberra, Australia, provided clear evidence of how gender research collaboration in CGIAR has grown over the past few years. Thanks to various donors' financial support, including a major contribution from PIM, the conference welcomed more than 150 researchers and practitioners from around the world.



The successor of the CGIAR Collaborative Platform for Gender Research, a new [GENDER](#) (Generating Evidence and New Directions for Equitable Results) Platform, hosted by the International Livestock Research Institute (ILRI), was launched in January 2020.

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	International Life Sciences Institute Research Foundation	United States Department of Agriculture USAID
		UTZ
		World Bank
		World Vision International

¹This is not an exhaustive list of PIM funders. Only funders who contributed in 2017-2019 are included. Intermediary funders such as universities or projects are not listed. We apologize if we inadvertently omitted any other funders.



“Agriculture has a unique role to play in achieving economic development and enhancing human welfare. Success in this undertaking requires governments, development agencies, non-governmental organizations, and private companies to engage in effective policies, programs, and investments. Well known, however, is how difficult it is to succeed in this endeavor. Critical for success is access to information, analytical capacity, participatory processes, innovative design, effective implementation, impact analysis, and political support. PIM has the unique role and responsibility of helping countries and organizations be more successful in this complex undertaking. This report details the multiplicity of initiatives and achievements led by PIM in 2019.”

- Alain de Janvry

*Professor, University of California, Berkeley;
PIM Independent Steering Committee Member*

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