



Policies, Institutions and Markets: The First Eighteen Months

Policy Research for a Food Secure Future



RESEARCH
PROGRAM ON
Policies,
Institutions
and Markets

Led by IFPRI



Policies, Institutions and Markets: The First Eighteen Months

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Foreword from IFPRI's Director General

Dear Friends, Colleagues, and Supporters of PIM,

The CGIAR Research Program on Policies, Institutions, and Markets (PIM) was launched in January 2012. I warmly thank Mark Rosegrant, PIM's first director, for the program's strong start, and Karen Brooks, PIM's current director, for enhancing its strategic focus and developing innovative plans for the future.

PIM has done much in its first 18 months of operation. At its inception the program welcomed a number of ongoing research projects already under way within its 11 participating centers. Research results achieved during these first 18 months reflect the momentum already present at the launch, plus new directions made possible through PIM. This report highlights some of the most notable achievements and new directions. For example, the foresight modeling team is breaking new ground in quantitative thinking about our agricultural future. The value chains teams are identifying new approaches to linking smallholders to markets. PIM's gender researchers are developing sex-disaggregated data that will open new terrain in gender research.

As the lead center, the International Food Policy Research Institute (IFPRI) is pleased to support PIM. We offer intellectual and technical inputs that provide strategic direction and methodological support for achievement of the intermediate development outcomes. We mobilize bilateral funding to complement the contributions from the CGIAR Fund. We provide financial tracking to ensure transparent, accurate accounting of donor support and to verify that the funding is spent according to plans approved by CGIAR. We provide management support to facilitate efficient and effective administration. We at IFPRI benefit from our interaction with the PIM team, and are pleased to serve as the lead center.

We look forward to continuing to support PIM, as its researchers and partners implement an exciting research agenda.

Sincerely,

Shenggen Fan

Research results achieved during this first 18 months reflect the momentum already present at the launch, plus new directions made possible through PIM.

Foreword from PIM's Director

Dear Friends, Colleagues, and Supporters of PIM,

Today, with more than 7 billion people on earth, and despite prosperity unprecedented in world history, too many children go to bed hungry with little hope that tomorrow will be different. By the middle of this century, more than 9 billion people will need healthy and nutritious food. The water and land needed to produce food will be under increasing pressure. CGIAR's contribution to science for a food secure future will continue to be needed. Agricultural systems will require new knowledge, new investment, and flexibility to adapt quickly to change. The ability to attract investment into agriculture, to deploy it well, and to redeploy it rapidly depends critically on the policies, institutions, and markets that underpin the food system. This is the domain of PIM. The work of PIM is essential for the success of CGIAR's broader effort to reduce poverty, improve food security, improve nutrition and health, and steward essential natural resources.

PIM is a program of applied research designed to pursue core objectives. It will achieve impact through partnering with organizations and agencies that specialize in translating research findings into implementation at the practical level. The creation of PIM has clearly strengthened CGIAR's emphasis on the impact of policy-oriented research. PIM's contribution, however, is in the field of research, and research is by definition a venture into the unknown. Not all results and impacts can be charted in advance, and not all sound and evidence-based recommendations will be accepted. We who guide PIM, both in the lead center and in the management unit, recognize an obligation to manage risk within the program to assure a flow of benefits while embracing innovation, celebrating success, welcoming the occasional failure, and remaining always open to serendipity. Our goal is to link highly motivated researchers with skilled development practitioners; together, we will be able to address critical policy, institutional, and market issues to contribute to a food-secure future.

We invite you to learn more about the program in the pages ahead, and we thank you for your interest and your generous support.

Sincerely,



Karen Brooks



Introduction: A Brief Look Back and Ahead

CGIAR has existed for more than four decades. Over this period, our understanding of the importance of *policy* and *institutions* for the performance of food systems has grown, as has the attention devoted to these issues in the work programs of the 15 centers. The International Food Policy Research Institute (IFPRI) has taken the lead in much of this work since its establishment in 1975, but each of the other 14 centers has also invested in policy-oriented research relevant to their core mandates. The launch of the CGIAR Research Program on Policies, Institutions and Markets (PIM) in 2012 provides an opportunity to draw these efforts together, to create communities of practice of researchers, and to join forces to achieve greater impact.

The initial design of PIM was quite consciously a quilt, with pieces drawn from the ongoing work of the participating centers. A pattern was created by grouping these elements into three broad thematic areas:

- ◆ The theme on *effective policies and strategic investments* covered four research areas: modeling of trends in supply of and demand for food, under varying assumptions about the future; analysis of sectoral and macroeconomic policies and decisions on public spending; policies and institutions that affect adoption of technology and sustainable intensification; and social protection for the vulnerable.
- ◆ The theme on *inclusive governance and institutions* addressed issues of tenure rights; organizational factors affecting management of natural resources; and mechanisms through which rural people can join in collective action to increase voice and presence.
- ◆ The theme on *linking smallholders to markets* addressed how to make value chains more efficient (thus raising producer incomes and lowering consumer prices) as well as more inclusive.

Work on gender is mainstreamed throughout the portfolio.

This organizational approach served well to bring together the work of the participating centers and to form communities of practice. The three strongest such communities at present are those engaged in the foresight modeling, value chain analysis, and gender work. Researchers regularly meet both in person and virtually, and are advancing integration of research efforts.

This thematic approach, however, is not well suited to a focused emphasis on impact or to the identification of a limited number of development outcomes, simply because of its breadth. Recognizing this, midway into the first year of implementation the PIM management team brought further focus to the Program by grouping its work into streams addressing clearly articulated development problems. PIM now has *seven flagship projects*, each defined by a problem statement. Each project is continually monitored, with an intermediate development outcome, core activities, research outputs, partners in research and implementation, process benchmarks for tracking progress, and indicators for measuring progress. These flagship projects will be strengthened in the future by selectively adding new activities and by reorienting existing ones.

PIM's evolution over its first 18 months has resulted in greater strategic focus and has strengthened its orientation toward results and impact. With reliable and adequate funding in the future, PIM's seven flagship projects will contribute to the delivery of the practical and actionable agenda that supporters of CGIAR seek.

- ◆ PIM's *foresight work* will show those investing in agricultural research where their money will do most to reduce poverty and hunger.
- ◆ Work on *science policy and innovation* will help leaders in developing countries determine how much to invest in agricultural research and how to engage with partners and attract private funding.

PIM's evolution over its first 18 months has resulted in greater strategic focus and has strengthened its orientation toward results and impact.



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- ◆ Research on *sustainable intensification and adoption of technology* will help farmers and their representatives accelerate adoption and manage trade-offs associated with more intensive technologies.
- ◆ PIM is providing national policymakers and their development partners with clearer metrics to help them see how the constellation of *policies and public spending* they implement either supports or impedes agricultural growth, and where changes would bring the greatest benefit.
- ◆ Private firms and public researchers working on specific commodities to see how well the *value chains* work and where noise and inefficiency in the chains reduce earnings, block investment, and exclude participants.
- ◆ Knowledge generated by PIM will support design of better *safety nets* that complement rather than compete with programs for growth.

- ◆ By developing more user-friendly metrics to assess security of rights to *natural resources for the poor*, the program will give a sharper picture of problems and allow planners to prioritize solutions..

Throughout the program, rigorous *gender analysis* is winnowing fiction from fact and facilitating design of programs that create opportunities for women, with benefits to their families and to society as a whole.

At the present stage of implementation—midway through its first phase—PIM's teams are actively harvesting the first products of their efforts and strengthening their linkages with partners who can use these research results. At the same time, the management team continues to steer the evolution of the program to align well with the seven flagship projects and to put in place the monitoring tools we will use to track progress in achieving results. With the seven flagship projects, and with clarity on outcomes and monitoring, PIM will be well prepared to complete the first phase and enter into discussion with donors and partners about the second phase.

PIM's Gender Work

The *World Development Report 2012: Gender Equality and Development* argues that gender equality is a core development objective in its own right and also significantly contributes to economic development. This is especially the case in the agricultural sectors of many developing countries. Men and women alike contribute to agricultural growth, to decisions on management of investments on the farm and in the household, and to use of the natural resources that affect sustainability. Constraints based on gender that limit how rural men and women interact with each other and with their environment impede attainment of CGIAR's strategic goals. Accordingly, gender work is a core part of PIM's portfolio.

PIM's gender strategy was approved by the CGIAR Consortium Office on March 1, 2013. PIM conducts strategic gender research on selected topics, and also develops and applies new tools and methods to enhance work on gender in the seven flagship projects. PIM's work addresses questions related to gender imbalances in access to assets, technology, markets, and support services, as well as gender differentials in agricultural productivity and incomes and the distributional impacts of technological and institutional innovations.

This section showcases selected examples of PIM's ongoing gender-focused work.

HOW MUCH LAND DO WOMEN OWN AND CONTROL IN AFRICA?

Over the years, there have been many assertions about who owns and controls land, as, for example, "less than 2 percent of the world's land is owned by women," or women own "an average of 15 percent of agricultural landholdings in Africa." But according to

recent research supported by PIM (undertaken by Doss, Kovarik, Peterman, Quisumbing, and van den Bold), such statements are not substantiated by empirical evidence. Moreover, they do not reflect variations in land ownership across or within countries, or the distinction between ownership and other forms of control of land.

Focusing on Africa, the study finds virtually no recent, comparable, nationally representative data on women's ownership, control, or management of land. Of the 19 countries for which data are available, only 6 have two or more datasets and hence some indication of ranges of values (Figure 1). In these, the proportion of land owners who are women is surprisingly high, averaging 24 percent, but the range is also large, from only 3.1 percent in Mali to 50.5 percent in Cape Verde (Figure 2). Data from the Living Standards Measurement Study–Integrated Surveys on Agriculture project show that, across the countries in the study, men own a much higher proportion of land in their own right than do women. Joint ownership is common in Uganda (48 percent) but much less common in Malawi (18 percent) (Figure 3). A review of 18 large-scale microstudies finds that women are disadvantaged relative to men in nearly all measures of land ownership and bundles of associated rights. Women are more likely to have use or access rights than documented ownership.

The lack of clear understanding behind statistics on gender and land hampers the development of policies to address potential inequalities that women face. The study highlights the importance of gender-disaggregated data on land use and ownership and the need for a greater understanding of the meaning of ownership and control in different contexts.



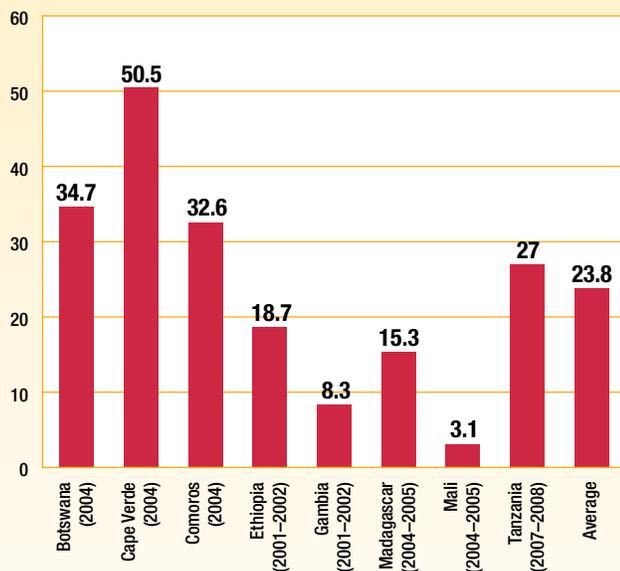
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Figure 1 Data are sparse on women's ownership, control, or management of land in Africa



Source: Doss, C., C. Kovarik, A. Peterman, A. Qisumbing, and M. van den Bold. 2013. "Gender Inequities in Ownership and Control of Land in Africa: Myth and Reality." Paper presented at the Sixth International Conference on Agricultural Statistics, Rio de Janeiro, Brazil, October, 23–25, 2013.

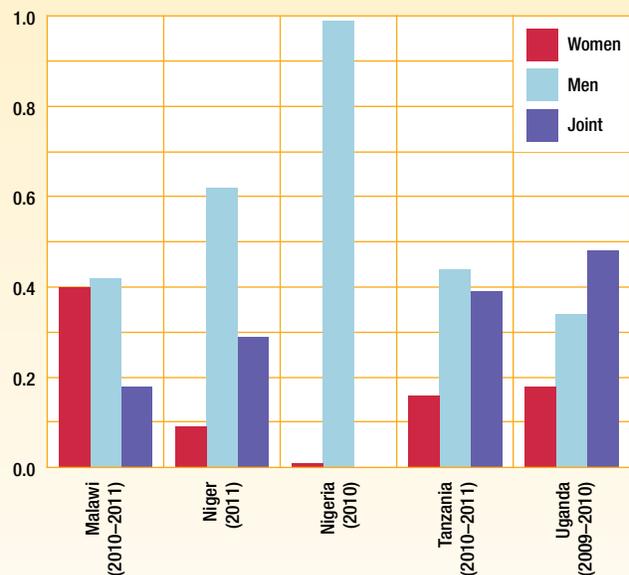
Figure 2 Percentage of landholders who are women



Source: Data taken from FAO Gender and Land Rights Database.

Notes: Percentages are authors' own calculations. Figures are unweighted, as sample weights are not provided in the database.

Figure 3 Proportion of land area owned by women, men, and jointly



Source: Data from the Living Standards Measurement Study-Integrated Surveys on Agriculture (LSMS-ISA) project. All statistics utilize weighting provided in the ISA.

IMPLICATIONS OF GENDERED CONTROL OF ASSETS: SWEET POTATOES AND DAIRY

The Gender, Agriculture, and Assets Project (GAAP), an initiative jointly led by the IFPRI and the International Livestock Research Institute (ILRI), is working with eight agricultural development projects in South Asia and in Africa south of the Sahara to understand the influence of gender and asset dynamics in agricultural development. The paragraphs below summarize some of the findings of GAAP to date.

Gender and Orange Fleshed Sweet Potato

The HarvestPlus Reaching End Users Orange Fleshed Sweet Potato (OFSP) project is promoting the production and marketing of beta carotene-rich OFSP, as a way to increase vitamin A intake and reduce vitamin A deficiency among vulnerable women and children in rural Uganda.

Studies by GAAP showed that the probability of adoption of OFSP is highest on parcels of land that are jointly controlled by men and women, but where women take the lead in deciding which crops are grown. Adoption is lowest on parcels exclusively controlled by men. This may, in part, result from the fact that messages about OFSP went only to women in the participating households. GAAP found that little of this knowledge reached the men of those households and consequently it had little influence on their uptake. This highlights the perils of using the unitary household model, with unexamined assumptions about communication within the household, in designing interventions. Extension messages must be addressed to both men and women to ensure that messages are received.



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© AKRAM ALI/CARE BANGLADESH STRENGTHENING THE DAIRY VALUE CHAIN (SDVC) PROJECT

Dairy Project in Bangladesh: Good for Women, but Ambiguous for Girls

CARE's Strengthening the Dairy Value Chain (SDVC) project aims to improve earnings from dairy operations for 35,000 smallholder farmers in northwest Bangladesh, by improving their inclusion in the relevant value chains.

Research by GAAP showed a number of benefits for women from participation in the project. For example, it found that women's mobility increased because the project required them to travel for training; this helped to change social norms regarding travel. However, it also had the unintended effect of increasing the domestic workload of young girls; women increased the time they spent on dairying, taking them away from other household activities such as cooking and cleaning. These burdens then passed to girls in the household, with implications for their time allocation.

The project had little direct effect on immediate incomes—its central objective—but considerable impact on wider measures of poverty reduction and well-being. If the assessment had not included indicators such as asset portfolios, household dynamics, and gender norms, it would have underestimated the potential for dairy value chain projects to act as a catalyst for positive social change in rural areas. This highlights the importance of considering a broad range of indicators related to poverty reduction and well-being when establishing targets for program performance.



The Women's Empowerment in Agriculture Index will increase understanding of the connections between women's empowerment, food security, and agricultural growth.

WOMEN'S EMPOWERMENT IN AGRICULTURE INDEX

The Women's Empowerment in Agriculture Index (WEAI) is produced through a partnership including the International Food Policy Research Institute (IFPRI), the Oxford Poverty and Human Development Initiative, the United States Agency for International Development (USAID), and the United States Government's Feed the Future initiative. The Index, measuring the empowerment, agency, and inclusion of women in the agricultural sector, is the first such comprehensive and standardized measure. The Index will increase understanding of the connections between women's empowerment, food security, and agricultural growth, helping policymakers identify ways to empower women and improve their lives.

Analysts have collected and are working with data for the WEAI in the 19 Feed the Future focus countries. The WEAI team is now developing tools and guidance to help partners use and replicate the WEAI, beyond Feed the Future's focus countries. The WEAI Resource Center provides assistance to users on fine-tuning questionnaires, analyzing data, and learning from these data to improve program design.

USING QUANTITATIVE TOOLS TO MEASURE GENDER DIFFERENCES WITHIN VALUE CHAINS

The growth of modern value chains in many developing countries will have a substantial effect on women's employment, but this impact has not been studied adequately. Discrimination often means that women are excluded from full participation in value chains.

The PIM research portfolio is developing quantitative tools to examine the role of gender in value chains to identify areas of gender segregation, as well as potential interventions for reducing such segregation or diminishing its negative impacts. Quantitative analysis can complement qualitative tools.

To support this effort, a team supported by PIM has developed a Gender in Value Chains Toolkit to encourage and help value-chain researchers to assess the role of women. The Toolkit includes tools designed to

- ◆ measure gender difference in remuneration at specific points in the value chain;
- ◆ measure time expenditures throughout the value chain (that is, how does women's time burden compare to that of men, and how does time use change?);
- ◆ measure gender segregation in various occupations; and
- ◆ measure differences in employment and working conditions.

PIM is also leading an initiative to create a Value Chain Clearinghouse—a comprehensive, easily accessible repository of methods and best practices in value-chain research, including the Gender in Value Chains Toolkit. The Clearinghouse (at tools4valuechains.org) will be launched in November 2013 and will be available in Arabic, Chinese, English, French, and Spanish.



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Program Highlights: Seven Flagship Projects

PIM is organized around seven flagship projects: Foresight Modeling; Science Policy and Incentives for Innovation; Adoption of Technology and Sustainable Intensification; Policy and Public Expenditure; Value Chains; Social Protection; and Natural Resource Property Regimes. Each of the flagships has its own problem statement and related intermediate development outcomes (IDOs) (see box on p.11). The IDOs express results that will contribute to the System Level Outcomes (SLOs) for CGIAR as a whole, as shown in Figure 4.

Occasionally, PIM's research results have immediate and recognizable impact. For example, the assessment undertaken in 2012 of the Government of Tanzania's ban on exports of grain showed damage concentrated in the country's grain belt, with clear implications for producers' incentives to plant the next year's crop. The prime minister's announcement of the lifting of the ban, in September of that year, cited the findings of several studies, including the work of IFPRI supported by PIM.

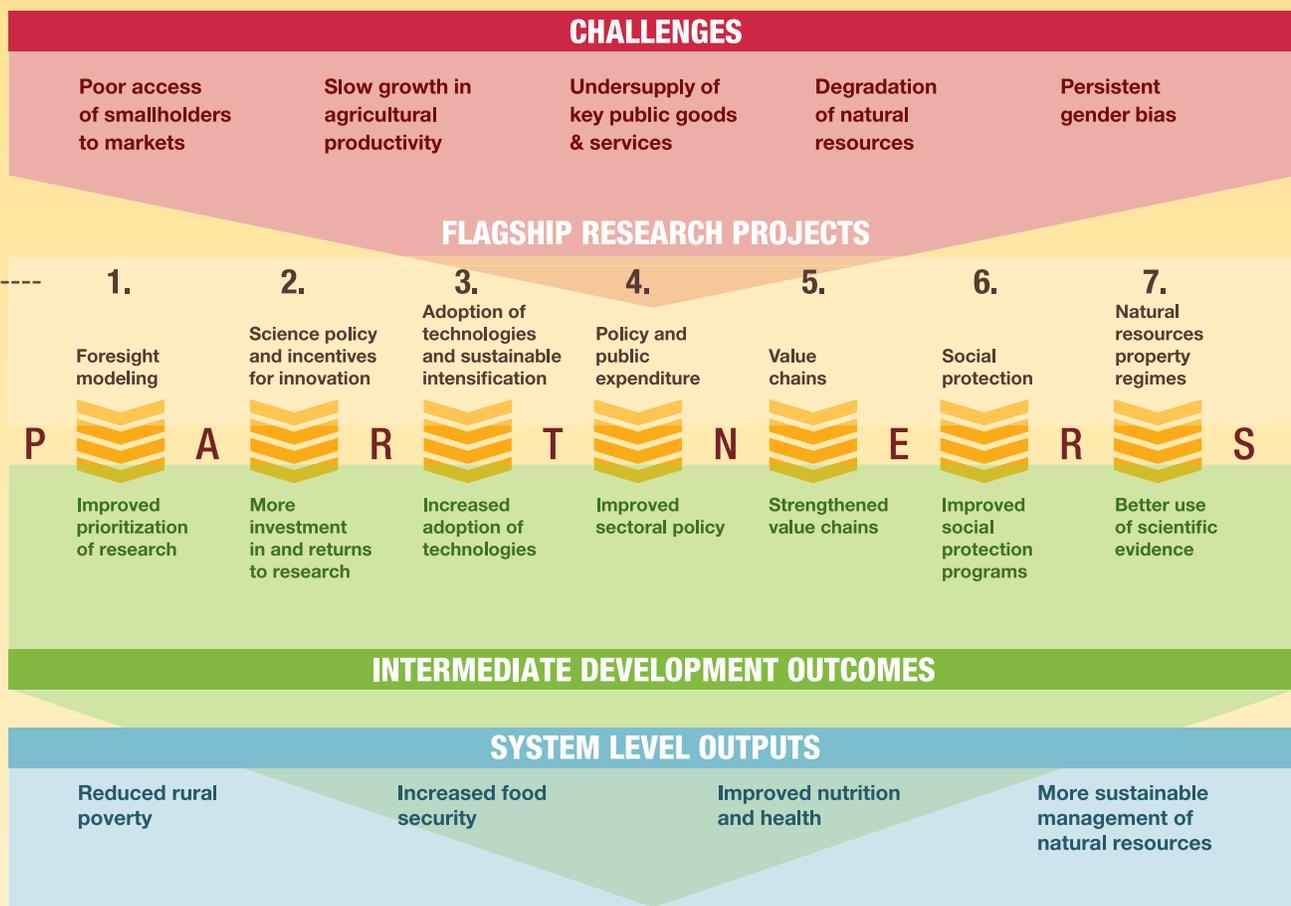
In most cases, impact of research is discernible only over a longer timeframe. PIM's action-oriented research delivers information and knowledge to influence processes that determine policy outcomes (Figure 4). PIM encourages researchers to focus on impact by addressing the following questions at the design stage:

- ◆ Why is the proposed topic important? What problem does it address? What is the demand for research outputs?
- ◆ What action might follow from results of the research?
- ◆ Would the action contribute to objectives of CGIAR?
- ◆ Is such action politically feasible in the near term?
- ◆ Who are the main agents and stakeholders who can undertake this action?
- ◆ What information do they need, and when do they need it?

PIM disseminates its research results among key stakeholders. Researchers participating in PIM do not directly control the instruments of action that deliver the final outcomes, such as the decisions on budget allocations, regulations, rules, and legislation. Although some PIM researchers may be stakeholders in the processes under review, most are not. Outcomes cannot, and indeed should not, be attributed solely to any contribution of PIM. The Paris Declaration on Aid Effectiveness is clear that it is the countries that own the development process; partners such as PIM assist but do not drive the process. PIM aims to achieve impact in the seven IDOs by assuring that its assistance is relevant to those who are primary agents in the decision processes.

PIM's action-oriented research delivers information and knowledge to influence processes that determine policy outcomes.

Figure 4 From challenges to impact



SUMMARY OF INTERMEDIATE DEVELOPMENT OUTCOMES (IDOS) FOR PIM'S FLAGSHIPS

1. Improved prioritization of global agricultural research effort for developing countries.
2. In selected countries of focus, more investment in agricultural research and higher rates of return to research.
3. Increased adoption of superior technologies and management practices in relevant domains of application.
4. Improved sectoral policy (i.e., reduced distortions and improved incentives) and better public spending for agriculture in agriculturally dependent developing countries.
5. Strengthened value chains that link producers and consumers with lower transactions costs, increased inclusion of smallholders, and provision of benefits to both women and men.
6. Improved coverage and efficiency of social protection programs.
7. Improved use of scientific evidence in decision processes related to property rights of natural resources important for rural livelihoods and more secure rights to natural resources for the poor.

FORESIGHT MODELING

Over the next half century, the world's population will increase by roughly one-third—mostly in poorer countries—and will become increasingly urbanized. Aggregate demand for food, feed, fiber, and biofuel products is projected to double. Just keeping pace with this scale of growth would represent a major challenge, but agriculture is also being subjected to increasing stresses from socioeconomic, environmental, and other drivers of change.

Symptoms of the stresses that major farming and food systems face manifest as growing competition for water and biomass resources, increasing variability in cereal yields in Africa south of the Sahara, and slowing productivity growth in the rice-wheat systems of South Asia's Green Revolution belt—one of the world's primary breadbaskets. The drivers of change include population growth, rising incomes, urbanization, technical change, persistent poverty and insecurity, natural resource degradation and climate change, volatility in finance and energy markets, and the ensuing policy responses. The interplay of underlying drivers has ushered in an era of variability, uncertainty, and risk, increasing the likelihood that investments critical for future food security may be misdirected or fail. Demand has increased for incorporating more strategic foresight into decisionmaking in many areas of agricultural research for the developing world.

The objective of PIM's foresight modeling is to generate scenarios that will indicate which new agricultural technologies and practices will do most to reduce poverty and hunger in the future.

Deciding how best to allocate resources for agricultural research is fraught with difficulties, not least of which are the long gestation periods of many research efforts and the consequent uncertainties about the benefits of new technologies under the conditions that will exist when they are ready for release. PIM's foresight work addresses these problems by modeling future scenarios and potential technologies and practices, and by providing insight into likely benefit streams.

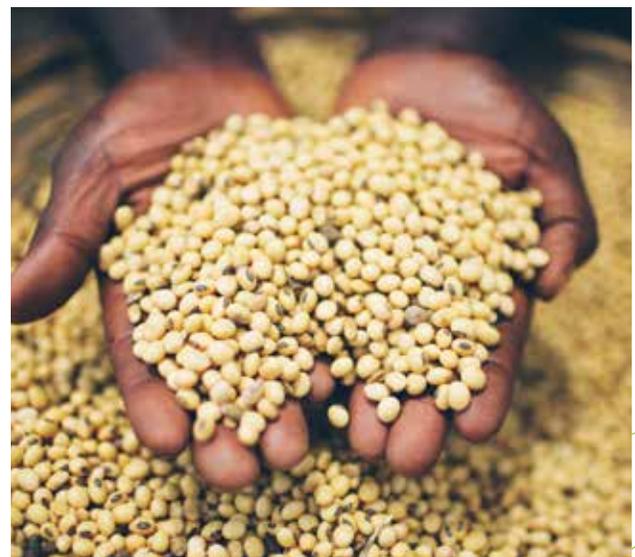
The foresight work addresses research of the entire CGIAR system and will be expanded in the future to include partners from outside CGIAR, such as national agricultural research systems (NARSs) and subregional organizations. The work, linking biophysical, climatologic, and economic modeling, entails improvements in the International Model for Policy Analysis of Agricultural Commodities and Trade (IMPACT), a tool for modeling economic and demographic trends (see box on p. 13).

The upgraded IMPACT model is linked with biophysical crop and livestock models that are able to characterize new and virtual technologies, including those for natural resource management. It is also linked with the latest information from climate models, in conjunction with the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). This flagship project assesses the performance of potential technologies in terms of their ability to reduce poverty, improve food security, and reduce hunger, under a range of assumptions about investments.

DISAGGREGATING IMPACTS OF POTENTIAL TECHNOLOGIES BY GENDER

Many technologies have different benefits for men and women. PIM is exploring how best to develop sex-disaggregated data in order to identify the gender implications of alternative investment scenarios for inclusion in the foresight analysis. The separate impacts on men and women of new technologies have not previously been quantified in ways that facilitate inclusion in a modeling exercise as comprehensive as that developed under this flagship project. PIM's work thus far represents a significant advancement in the tools for gender analysis and their application.

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The foresight work addresses research of the entire CGIAR system and will be expanded in the future to include partners from outside CGIAR.

IMPROVING AND LINKING THE MODELS

The IMPACT model is designed to examine alternative futures for global food supply, demand, trade, prices, and food security. It allows researchers to explore global baseline projections of agricultural commodity supply, demand, trade, prices, poverty, and malnutrition outcomes, and to access cutting-edge research results on quickly evolving topics such as bioenergy, climate change, changing diet/food preferences, and many other themes.

Key improvements undertaken in recent months:

- ▲ updating the base year to 2005;
- ▲ including all CGIAR mandated crops;
- ▲ increasing the spatial resolution to the level of individual country;
- ▲ including water basins within countries as units; and
- ▲ enhancing treatment of water and hydrological management of weather and climate shocks.

PIM researchers have reviewed a wide range of biophysical crop and livestock models and linked the best of them to the IMPACT model. Working with the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), PIM integrates findings of the major climate models as they become available.

The foresight modeling teams have completed or advanced characterizations of technologies for maize, wheat, rice, potatoes, pearl millet, sorghum, groundnut, chickpea, and pigeon pea. The teams also made progress on the assessment of promising new technologies for livestock systems. WorldFish has joined the foresight modeling project, allowing increased focus on aquatic production systems. The project has developed a list of 150 “promising virtual technologies,” of which 20 have been selected for early assessment and reporting before the end of 2013.

SCIENCE POLICY AND INCENTIVES FOR INNOVATION

PIM's foresight modeling work helps inform choices between and among alternative paths for agricultural research, but the policy environment more broadly plays a central role in determining investment in innovation by both the public and the private sectors. How can scientific research best be organized and funded so that it generates innovations and what regulatory environment is best suited for their successful release and subsequent uptake?

To achieve this, PIM is

- ◆ measuring investment in agricultural research and its payoffs;
- ◆ improving understanding of complementarity between the public and private sectors in delivery and conduct of research;
- ◆ generating new insights into the best partnership arrangements to address efficiency and spillovers in research, risk management for release of new technologies, and the role of gender in adoption; and
- ◆ comparing the impact on innovators of various incentive regimes, such as patent protection.

The outcomes of the science policy project will help developing countries to

- ◆ secure benefits from their investments in national and regional agricultural research systems;
- ◆ identify and engage in effective partnerships regionally and globally;
- ◆ improve their incentive environments for innovation in order to attract investment;
- ◆ remove barriers to the release of new technologies (see box at top of p.15); and
- ◆ ensure that both men and women benefit from the innovation process.

More specifically, the outcomes of this flagship project will help guide decisions

on budget allocations for research (see box at bottom of p. 15), regulations on release of new varieties (including genetically modified organisms, or GMOs), regulations on patent regimes, and rules governing public-private partnerships. The impact pathways are highly political; they require decisions by executive and legislative branches of government, and they involve strongly vested interests of politicians, private firms, and nongovernmental organizations. Successful pursuit of impact for this work requires skillful interaction with the media.

ILLUMINATING GENDER BIAS IN SCIENCE POLICY AND INCENTIVES FOR INNOVATION

By explicitly considering differences in how men and women benefit from new technologies, PIM will raise awareness of potential gender bias in science policy, for example, in the decision to fast-track development or approval of particular technologies. This will help policymakers make informed decisions about gender-equitable approaches to improving incentives for innovation and removing obstacles to the development and release of new technologies.



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SUPPORTING RESPONSIBLE DECISIONMAKING ON BIOTECHNOLOGY

Today, smallholder farmers in more than 15 countries successfully grow crop varieties developed through biotechnology. Others who might benefit have not integrated biotechnology into their agricultural systems, often due to a lack of a biosafety framework that would facilitate safe access to products and varieties. The Program for Biosafety Systems (PBS), now part of PIM, supports the development and implementation of science-based, functional biosafety systems that can ultimately expand producer choice, inspire consumer confidence, facilitate trade, and promote agricultural research and development.

Over the past 18 months, PBS has assisted several countries facing challenging issues regarding regulatory approval of GMOs. These countries include Indonesia, Kenya, Malawi, Nigeria, Philippines, Uganda, and Vietnam. For example, Uganda's cabinet approved and sent to parliament a biosafety bill that reflected advice from PBS. In Malawi, the PBS team provided technical assistance that allowed the country to conduct its first biotech field trial (for genetically modified cotton) in 2013. Close partnership with producers and local officials is part of the PBS strategy to facilitate informed decisionmaking on regulatory reform and choice of technology.

PBS has provided advice to a wide range of partners including national governments and other biosafety service providers, such as the African Network of Biosafety Expertise, the Center for Environmental Risk Assessment, Danforth Plant Science Center, and the Bill & Melinda Gates Foundation. The program is continually seeking ways to share resources and coordinate activities and goals with its partners.

DATA: THE FOUNDATION FOR EVIDENCE-BASED ACTION

Evidence-based policy and decisionmaking depend on having access to reliable, accurate, and internationally comparable data. Providing such data is the mission of the program on Agricultural Science and Technology Indicators (ASTI), with support of PIM. ASTI collects, synthesizes, analyzes, and disseminates internationally comparable statistics on investments, capacity, and institutional trends in agricultural research and development in developing countries. ASTI's outputs assist managers and policymakers to make informed decisions. The work also informs governments and other stakeholders on the state of agricultural science and technology at national, regional, and international levels.

In 2012, ASTI worked with clients in Africa south of the Sahara to systematize and standardize data collection at regular intervals. This is a timely complement to the work of the team led by the Forum for Agricultural Research in Africa (FARA) to design the Science Agenda for African Agriculture, which is now under development. Over the first 18 months of PIM's operation, ASTI also released a set of country notes as well as a regional synthesis report on investment and human resource capacity in public agricultural research and development in South Asia. These reports have been cited widely.

ADOPTION OF TECHNOLOGY AND SUSTAINABLE INTENSIFICATION

Deep rural poverty often leads to poor uptake of improved crop cultivars and better breeds of livestock, farming systems, and managerial techniques that could boost food production and increase food security. This reduces returns to the research that developed the technologies and diminishes the welfare of consumers and producers.

The Flagship Project on Adoption of Technology and Sustainable Intensification seeks to understand constraints to adoption and to develop practical recommendations to address them. The impact pathway for this work requires an understanding of institutional factors affecting the way producers make decisions about choice of technology, including their access to knowledge and constraints on acting on it. The impact pathway feeds both forward—to identify constraints and assess options to reduce or remove them—and backward, to the researchers—to improve their assessments of likely adoption rates and to shift resources toward more adoptable technologies. The work also contributes toward quantifying the environmental impacts associated with production methods across various agroecologies, highlighting their implications for longer-term sustainability, maintenance of agricultural biodiversity, and ecosystem function. The work re-examines agricultural extension in light of changes in communication technology and the

increased interplay of public and private actors within innovation systems. This work includes PIM's contribution to the development of the New Alliance for Food Security and Nutrition's Technology Platform for Africa, and the associated tools for tracking adoption and expressing the data in interactive and searchable maps (see box below).

UNDERSTANDING THE ROLE OF GENDER IN ADOPTION OF TECHNOLOGY AND SUSTAINABLE INTENSIFICATION

PIM's work in this area concentrates on understanding how men and women producers make decisions about new technology, what information is available to them, and what barriers might delay adoption. A number of teams focus on the gender dimensions of technology adoption. The following are some examples:

MAPPING OF TECHNOLOGY PROMOTES UPTAKE

PIM and the other CGIAR Research Programs are undertaking a comprehensive mapping of the activities of all the research programs. When completed, the exercise will promote uptake in several ways. It will allow researchers within the various programs to see where they (and other programs) are active; it will allow researchers and their partners in the national systems and subregional organizations to identify new opportunities to apply the technologies and management practices they have developed; and it will facilitate monitoring and evaluation. Geospatial characterization of technology use now facilitates focused efforts to understand the constraints to adoption and to target efforts to accelerate it. The information generated by mapping the activities of the programs will contribute to better coordination of knowledge and investment—for example, in support of the Comprehensive African Agricultural Development Programme (CAADP). Partnership on CAADP is a key element of a memorandum of understanding between the African Union and the CGIAR Consortium Office.

- ◆ Drawing on a randomized control experiment conducted jointly by IFPRI, the World Bank, and the Government of Mozambique, researchers are examining whether agricultural training and representation of women in extension services promotes investments by female farmers.
- ◆ A team working largely in East Africa is exploring the efficacy of various approaches to reaching women

with advice on agricultural production and examining the specific informational needs of women, taking into consideration the influence of marital status on these needs (see box below).

- ◆ A team analyzing data from intrahousehold surveys in Bangladesh, Kenya, Senegal, and Uganda is addressing questions related to gender, assets, extension, and technology adoption.

BOOSTING UPTAKE AND INNOVATION...

... BY ALL FARMERS

Research on the effectiveness of volunteer farmer trainers—undertaken in East Africa by the World Agroforestry Centre (ICRAF), with support of PIM—led to a set of recommendations to incorporate volunteer farmer trainers as part of a system of advisory services. These recommendations were subsequently adopted by Heifer International, the Kenya Dairy Farmers Federation, the Uganda Dairy Farmers Federation, and the Bill & Melinda Gates Foundation-funded East Africa Dairy Development Project. Programs supported by these donors and partners target 400,000 farmers in five countries: Ethiopia, Kenya, Rwanda, Tanzania, and Uganda.

... AND BY WOMEN FARMERS

Female volunteer trainers are as effective as their male counterparts in reaching mixed groups of farmers, according to findings of a team working largely in East Africa. Use of female trainers (who do not have the full status and educational backgrounds of extension workers) can increase representation of women in extension roles; only 10 percent of extension workers in the study area were female, but over one-third of the farmer trainers were women.



POLICY AND PUBLIC EXPENDITURE

Even in relatively remote parts of the developing world, food security and small producers' livelihoods are affected by events elsewhere, through price shocks, international financial crises, global macroeconomic imbalances, and differences in growth patterns between industrialized and developing countries. The need to make domestic agriculture in developing countries more productive and resilient to shocks requires significant public investments. Two critical constraints in promoting pro-poor agricultural growth, therefore, are inadequate policies and underinvestment by the public sector in things that really matter for agriculture.

This flagship project addresses the question of how governments can best direct public investment and manage sectoral and macroeconomic policies to provide appropriate incentives for producers as well as affordable food for consumers. The suite of policies (trade, price, tax, regulations, and investment) that determine the incentive environment for agents in the agricultural sector affects decisions about production, marketing, processing, and investment; accordingly, it influences not only returns to research but also the performance of the sector. PIM works at a number of levels to provide guidance in these areas.

Much of PIM's work on public expenditure and policies is specific to the needs of national or regional partners and clients. For example, the Arab Spatial Development and Food Security Atlas assists countries in the Middle East and North Africa to explore new policy options at a time of great political change (see box at bottom of p.19). At a more general level, several separate initiatives are under way to allow observers to measure weaknesses and distortions in a country's incentive environment relative to other countries. Members of the Organisation for Economic Co-operation and Development (OECD) have reported on these measures for a number of years, and a number of developing or middle-income non-OECD member countries have participated in episodic assessments. Uneven coverage of the non-OECD countries, gaps in the data, and questions about methodology have limited the ability of policymakers in the developing world to use these metrics to benchmark the performance of their countries relative to their neighbors and competitors. PIM has therefore joined with OECD, FAO, the Inter-American Development Bank, the World Bank, and others to form a

learning network to facilitate sharing of methodologies and to provide peer review of results. Closely linked to the work on incentives is work on improving the methodology for assessing public spending in agriculture. Public investments are critical to the evolution of the incentive environment, and many developing countries currently employ opaque and nonstandard methods for reporting on spending.

PIM also invests in research on the global trading system for agriculture, assisting both countries and regions in understanding the global implications of national policies. A good example of this is the work supported by PIM and others for the European Union (EU) on the implications of the EU's biofuels policy (see box at top of p.19).

PIM's work under this flagship project benefits from strong partnerships through (for example) IFPRI's Country Strategy Support Programs in selected countries, as well as similar long-standing engagements of other participating centers with national partners.

USAID AFRICA BUREAU



DEMONSTRATING IMPACT OF POLICY AND PUBLIC EXPENDITURE ON WOMEN

Measuring the effects of choices in spending is challenging, commonly requiring long-term panel data. PIM's strategic gender research draws on and enhances existing panel data for six villages in India, initially developed by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), spanning the periods from 1975 to 1984 and from 2001 onwards. New panel data added by the flagship teams will allow for the examination of changes over time, including:

- ◆ participation of women in farm and nonfarm enterprises and non-land agricultural employment;

- ◆ the role of institutions in fostering women's participation in economic, sociocultural, and sociopolitical activities and in improving food and nutritional security of households; and
- ◆ nutritional requirements and nutrient intakes of rural men and women, analyzed both temporally and spatially, to understand shifts in their nutritional status resulting from changes in levels of physical activity and changes in lifestyle, for example from mechanization of agriculture.

The need to make domestic agriculture in developing countries more productive and resilient to shocks requires significant public investments.

CONTRIBUTING TO EU POLICYMAKING ON BIOFUELS

A 2011 assessment of the impacts of the European Union's biofuel policy, conducted by IFPRI and the International Institute on Applied Systems Analysis, raised questions about the sustainability of the policy and highlighted the greater emissions of a biodiesel-oriented biofuel program compared with a bioethanol-oriented program. In 2012, PIM supported a study that used the MIRAGE-BioF* model to assess the potential impact of the change in the biofuel policies proposed by the European Commission on October 17, 2012. The study found that the new proposal would reduce the share of biofuels originating from food crops and would remedy some of the unintended environmental consequences of biofuel mandates, such as the change of land use to intensive agriculture. Discussion of this proposed policy change remains active in Europe, and the research results are highly visible.

* MIRAGE-BioF stands for Modeling International Relationships in Applied General Equilibrium for Biofuel analysis.

NEW ONLINE DATA PORTAL SUPPORTS DECISION- AND POLICYMAKING IN THE ARAB WORLD

In February 2012, PIM co-launched the Arab Spatial Development and Food Security Atlas, in partnership with IFPRI and the International Fund for Agricultural Development (IFAD). Arab Spatial is an online information portal that aggregates food security and development information from the region's governments and international institutions. Its objective is to improve access to quality data and to support decision- and policymaking for a food-secure Arab world, covering the 22 member countries of the Arab League of Nations (extending from Mauritania and Morocco in the west to Iraq and Oman in the east). The tool displays the data on maps, showing regional, national, and subnational data in the form of 100 indicators related to macroeconomics, governance, trade, and agriculture. The open-source and open-access database is regularly updated as new information is made available, and users can download datasets for further analysis or for use in other systems.

VALUE CHAINS

Agricultural growth offers prospects for reducing rural poverty, but only if the value chains important to the poor—whether as producers or processors, or at any point in the chain from production to consumption—work well and are open to their participation. Many rural markets are imperfect, remote, and characterized by a large number of small-scale producers or consumers and few intermediaries. Under these circumstances, competitive and efficient chains rarely emerge naturally, and targeted interventions may be required to remedy market imperfections.



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This flagship project addresses the problem that connections between producers and consumers are weak or costly, resulting in lower returns and incomes for producers and higher prices to consumers. It is designed to help systematize research on value chains within the CGIAR system and to generalize lessons about interventions that work well under various circumstances (for example, see the box on p. 21). Those working on this flagship project have created a community of practice as well as a website for sharing tools and methodologies, and are assembling a body of rigorous research results on the effectiveness of interventions. The Value Chains project has close links with Flagship Project 2 (Science Policy and Incentives for Innovation) and Flagship Project 4 (Sectoral Policy and Public Expenditure), because some of the weak points in value chains can be addressed either through better targeted public spending or through policy and regulatory reforms that reduce transactions costs.

GENDER IN VALUE CHAINS

A substantial body of work on value chains addresses the gender dimensions of inclusion and efficiency. Most value chains exhibit gender segregation along the chain, and PIM is providing tools for diagnosing such segregation and assessing its implications. The value chain work also documents circumstances under which commercialization can lead to transfer of control of assets from women to men, and the effects of such transfer. In addition, much of the work on preservation of biodiversity through commercialization of neglected and underutilized species similarly assesses gender dimensions.

Agricultural growth offers prospects for reducing rural poverty, but only if the value chains important to the poor work well and are open to their participation.

IMPROVING CONTRACTS, BUILDING TRUST

Work supported by PIM on contract structures in Peru, Tanzania, and Vietnam identified ways to write contracts that provide better incentives and higher prices to farmers to produce products of good quality. For example, in Vietnam the introduction of third-party testing for quality of milk contributed toward building trust between producers and processors and resulted in delivery of higher-quality milk as well as higher prices for farmers. Prior to the intervention, producers doubted that processors would pay more for higher quality, and they consequently delivered low-quality milk. When third-party testing confirmed that payments did accurately and consistently reflect quality, producers were willing to incur the higher costs involved in delivering higher quality.

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Most value chains exhibit gender segregation along the chain, and PIM is providing tools for diagnosing such segregation and assessing its implications.



SOCIAL PROTECTION

Some people may not be able to benefit directly from agricultural growth—for example, households with little or no land, individuals suffering from illnesses or disabilities, or those living in marginal areas that do not share in a technical advancement. In addition, many of the world's poorest households live with great risk, related (for example) to weather, price variability, or health. When health, climate, or price shocks hit, vulnerable households and individuals may be forced to cut back on consumption, reduce investments in education, or sell productive assets. The risk of such shocks also discourages resource-poor households from adopting potentially more productive technologies.

Safety nets can break this cycle of fear and destitution, allowing households and individuals to accumulate physical, financial, and human assets that help boost their productivity and livelihoods.

Work under PIM examines the various instruments suitable for different groups requiring the assistance of safety nets and explores ways that governments can employ them to complement traditional institutional arrangements to protect against adverse events (see box below). In particular, this research identifies and analyzes social protection policies that are gender-sensitive, and it uses this information to promote programs that benefit both women and men. Teams are also looking at the complementarity between social safety nets and programs promoting agricultural growth, and identifying opportunities within safety nets to remedy market imperfections or exclusion of the very poor from markets

that might support income growth. Other study teams are investigating the determinants of take-up of a variety of insurance products relevant to the rural poor, and examining the interaction between private insurance and social protection. Researchers are also investigating the role of safety nets in asset creation, their linkage with investment in agriculture, the scope for improving the cost-effectiveness of social transfers in rural areas, and the effectiveness of social safety nets implemented in the context of emergencies.

The outputs of this work include advice on the design of programs to meet specific needs of target groups and specific contexts, as well as advice on public spending on safety net programs. PIM assists operational staff in meeting goals that they have defined, and the program solicits feedback from the implementation partners to assess success.

This research identifies and analyzes social protection policies that are gender-sensitive, and it uses this information to promote programs that benefit both women and men.

DELIVERING RESULTS IN BANGLADESH

The Government of Bangladesh is currently working to streamline its social safety net system. As part of the process of providing evidence to guide the redesign of the national social protection strategy, PIM is supporting the evaluation of a two-year experimental pilot program implemented by the World Food Programme. Since May 2012, selected communities have been randomly assigned to one of six study categories: receiving a food ration (grains, pulses, and oils); receiving a cash transfer of equivalent value, delivered through mobile phones; receiving a combination of food and cash; receiving food plus intensive nutrition education; receiving cash plus intensive nutrition education; or acting as a control group. Baseline, midline, and qualitative fieldwork have been carried out, and an endline survey of the participants—4,000 ultra-poor women and their 18,000 family members—will be completed in May 2014. Researchers will evaluate which benefit type is most effective. The results will be used to revise the design of the nationwide program.



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GENDER SENSITIVITY IN SOCIAL PROTECTION

Social protection approaches have many benefits, but care must be taken to ensure that all members of the target groups benefit. PIM is looking at how interventions benefit different groups, and especially their differing impacts on males and females, across and within households and over the life cycle of the intervention (see box below). After identifying the conditions under which social protection programs stimulate agricultural income growth, asset preservation, and accumulation, PIM examines whether these benefits differ between males and females. In light of current interest in insurance for social protection, PIM has undertaken a body of work assessing how innovations in insurance markets can provide better protection for poor men and women. Finally, in response to requests from clients, PIM has investigated whether women prefer (and benefit more) from insurance instruments that are especially designed to meet gender-specific needs; preliminary findings indicate that they do not.



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DEMONSTRATING IMPACT OF WOMEN'S CONTROL OVER DECISIONMAKING IN BRAZIL

Researchers supported by PIM have recently completed a major evaluation of Brazil's Bolsa Familia program, which focuses on reducing both short-term and long-term poverty. PIM's work showed that, for women residing in urban areas and those with less schooling than their male partners, Bolsa Familia delivers large and statistically significant increases in women's control over decisionmaking across a range of domains. These include children's clothing expenditures; women's own clothing expenditures; children's school attendance; children's health expenses; purchases of household durable goods; contraception; and women's own labor supply. These results provide the first direct, quantitative evidence of the impact of conditional cash transfers on specific spheres of women's decisionmaking.

NATURAL RESOURCE PROPERTY REGIMES

Property rights play a central role in the management and use of natural resources such as land, water, biodiversity, and in the delivery of public goods such as ecosystem services. Property regimes determine who has access to land (and associated natural resources), and who has the responsibility for managing these lands. They also structure incentives or disincentives for sustainable management and governance of these natural resources.

PIM has ongoing work on property regimes concerning land, water, and biodiversity. Resources held in common, or under unclear or insecure tenure regimes, are frequently poorly managed and suffer from degradation. PIM research teams are addressing this problem by clarifying and quantifying trends relating to stress on natural resources, under various assumptions about managerial and regulatory regimes. They are also working to identify the distribution of benefits associated with alternative approaches to managing resources, and their implications for agricultural growth. An example of PIM's contribution in this area is the ongoing multi-agency effort to understand and prepare for the future of Africa's drylands, including institutional arrangements for managing fragile and contested rangelands. This research is jointly implemented by the African Union, CGIAR, Centre de coopération internationale en recherche agronomique pour le développement (CIRAD), FAO, IFAD, national agricultural research systems (NARS), USAID, and the World Bank. Another example is the work on resolving conflicts over property rights in Cambodia, which resulted in improved access for fishing communities (see box at top of p. 25).

This flagship project links with Flagship Project 5 on value chains, and particularly its work on the

commercialization of neglected and underutilized species as an approach to in situ preservation of biodiversity (see box at bottom of p. 25).

BRINGING A GENDER LENS TO NATURAL RESOURCE PROPERTY REGIMES

Women often fare badly under both customary and legal management systems relating to property and natural resources. This flagship project is investigating gender bias in property regimes, including the relationship between women's asset ownership and broader development outcomes. Researchers are investigating ways to strengthen the access and tenure security of poor men and women in relation to land, water, trees, and other critical natural resources, in the face of increased and globalized resource competition (particularly in multiuse landscapes). One area receiving particular attention is the significant role of collective action in resource management. PIM's research on this topic seeks to identify interventions that increase the effectiveness of collective action, promote the inclusion of women and marginal groups in the process, and reduce gender and other inequalities in accessing, participating in, and leading collective action institutions.



RESOLVING PROPERTY RIGHTS CONFLICTS IN CAMBODIA

Participants in the CGIAR Systemwide Program on Collective Action and Property Rights (CAPRI), supported by PIM, have contributed to resolving natural resource conflicts in Cambodia's Tonle Sap Lake. CAPRI researchers worked with local partners to understand the sources of vulnerability in fishery livelihoods and to strengthen resilience. Following discussion and mobilization, the Cambodian Ministry of Agriculture, Forests, and Fisheries (MAFF) transferred a large commercial fishing concession to the community, totaling 2,684 hectares. The project also helped resolve a boundary dispute between community fishery organizations in neighboring provinces. Additionally, as a result of its involvement in the CAPRI initiative, and bolstered in particular by these positive outcomes, the Coalition of Cambodian Fishers, a grassroots network representing fishing communities, modified its internal governance and strategy of engagement to emphasize constructive links with both government and the formal nongovernmental organization sector.



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Resources held in common, or under unclear or insecure tenure regimes, are frequently poorly managed and suffer from degradation. PIM's research seeks solutions.

CROP COMMERCIALIZATION PROMOTES IN SITU CONSERVATION

Research on capsicum (chili peppers) value chains in Bolivia and Peru has provided specific information that will help improve the lives of small-scale producers in those countries, while offering generalized insights into commercialization as a strategy for in situ preservation of agricultural biodiversity.

Chili peppers, originating in Central America and northern South America, are widely grown by resource-poor farmers in Bolivia and Peru. A project supported by PIM is working to map and improve the capsicum value chain through the combined efforts of a broad range of stakeholders: researchers, farmers, farmer associations, nongovernmental organizations and foundations, private companies, universities, development agencies, national and international research institutions, regional government officials, restaurants, and processors. Already, they have identified specific bottlenecks as well as effective strategies to overcome them and reduce transaction costs. Additionally, new commercial products (bottled, canned, and dried chilies; chili jam; specialty cheeses; and other products incorporating chilies) have been developed through formal and informal collaboration—based on enhanced mutual trust—involving people and groups along the value chain. Participating companies are specialty buyers, who are able to offer better and more stable prices to farmers. Increased commercialization of chili peppers has created new employment opportunities for women.

Partnerships

PIM researchers collaborate with many partners to achieve their objectives. Most partners fall into one or more of four categories: research, outreach, implementation, and finance. Research partners join a shared effort, often on a contractual basis, and bring complementary skills such as field presence, knowledge of the local environment and players, or experience with innovative research techniques. Outreach partners take the research results and disseminate them widely to relevant audiences and constituencies. Implementation partners apply results to improve the programs they are funding or executing. Financial partners provide resources to support the program and its activities. Some of PIM's partnerships operate on the global level, others on the national or local level.

In the most effective partnerships, all four types of partners work together to pursue common goals. For example, in the work of the World Agroforestry Centre (ICRAF), with the support of PIM, the Centre is exploring innovative ways to help farmers acquire some of the specialized skills required for successful agroforestry, such as raising seedlings in a nursery or pruning trees. They have evaluated a number of outreach approaches: farmer-to-farmer activities, use of volunteer farmer trainers, support for model farmers and demonstration farms, and establishment of rural resource centers. To understand what approaches work well under what circumstances, a collaborative research group has planned and implemented a randomized controlled trial to examine the impact of volunteer farmer trainers on the uptake of improved dairy practices in Uganda. Colleagues from Makerere University (Uganda), Heifer International, ICRAF, and the Paris School of Economics each brought complementary skills to the task. The studies' findings were incorporated in a program design used widely in East Africa.

In another example of partnership for impact, PIM's researchers on social protection have worked closely with the Ethiopian counterparts and development partners through several rounds of evaluation of the large, nationwide Productive Safety Nets Program that was put in place following the serious drought of 2002. The research has led to both adjustments in implementation of the program and innovations in design, as a successful example of partnership between researchers, national operational staff, and donors.

PIM is a large program with many partners, and an exhaustive listing of partnerships would be long. In order to assist research teams in selecting partners and to maintain records on ongoing partnerships, the PIM management unit has developed a partnership template as part of the annual reporting cycle. The partnership database assists in ex post evaluation of the relevance of the work and provides feedback to key partners by polling on a selective basis.

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**PIM
researchers
work with
many
partners to
achieve their
objectives.**



Capacity Building

PIM builds capacity in several ways: by establishing research teams that include both senior and junior staff from a range of institutions; by developing tools and methods, and training people to use them; and through outreach activities including conferences, workshops, and symposia as well as publications and interviews. Many of the research projects involve graduate students from the developing world. For example, the research on value chains for high-value products in Asia includes a number of Indonesian graduate students on the team, and many have presented and shared results in workshops and seminars. Many publications developed under PIM are used in training programs in universities in the developing world. Notably, PIM sponsored a session of contributed papers on “Research for Impact” at the annual meeting of the African Association of Agricultural Economists held in Tunisia in September, 2013.

The African Growth and Development Policy Modeling Consortium (AGRODEP) project, facilitated by IFPRI with support of PIM, provides technical and financial support to a growing number of African researchers. As of September, 2013, AGRODEP had 118 members; the project’s collection of datasets and models continues to expand. Members receive training on topics covering data methods and estimation and simulation models, and have received research grants for innovative research. The Consortium launched a working paper series and a technical note series in 2012. Participants in AGRODEP are well integrated into the teaching and research establishments of their home countries, and

are thus able to use their modeling skills for analysis of policy issues under debate.

Much of PIM’s outreach work to media and policymakers serves to enhance the capacity of the public’s understanding of important agricultural issues. For example, the researchers working on the Program for Biosafety Systems (within the flagship project on science policy) work with their Asian and African national counterparts to interact with media and policymakers to explain the technical issues associated with regulatory management of biotechnology.



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Many of the research projects involve graduate students from the developing world.

Who We Are

PIM's work draws on contributions from the CGIAR Fund through its several windows, as well as support from bilateral donors. The total funding for the first two years of operation is US\$172 million, of which about one-quarter flows through windows 1 and 2, and the remainder through window 3 and bilateral channels. PIM's current donors through window 2 are Australia, Denmark, the Netherlands, Russia, Switzerland, and the United States.

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ABOUT THE CGIAR RESEARCH PROGRAM ON POLICIES, INSTITUTIONS AND MARKETS

The CGIAR Research Program on Policies, Institutions and Markets (PIM) is a ten-year initiative to identify ways in which the foundations for decisionmaking in food systems can be strengthened to serve the interests of poor producers and consumers. When policies, institutions, and markets fail, key public goods and services are undersupplied, incentives are biased against agriculture, consumers pay too much for food, and relationships that create wealth are ruptured. PIM's researchers seek solutions to these problems. The program combines the resources of 11 CGIAR centers and numerous international, regional, and national partners to provide an integrated approach to policy research for a food secure future. This program is led by the International Food Policy Research Institute (IFPRI).

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