



Evaluation of the CGIAR Research Program

“Policies, Institutions and Markets” (PIM)

Volume 1 – Evaluation Report

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Acronyms

AGLINK-COSIMO	FAO Agricultural Modeling System
Bioversity	Bioversity International
CAPRI	Common Agricultural Policy Regionalized Impact Modeling System
CAPRI	Collective Action and Property Rights
CARB	California Air Resource Board
CATIE	Center for Tropical Agricultural Research and Higher Education
CCAFS	Climate Change, Agriculture and Food Security (a CRP)
CEPII	Centre d'Etudes Prospectives et d'Informations Internationales
CGE	Computable general equilibrium
CGIAR	Consultative Group on International Agricultural Research
CIAT	International Center for Tropical Agriculture
CIFOR	Center for International Forestry Research
CIMMYT	International Maize and Wheat Improvement Center
CIP	International Potato Center
CONPAPA	National Committee for the Potato Production System
CRP	CGIAR Research Program
CSSP	Country Strategy Support Program (IFPRI)
DFID	Department for International Development (UK)
DSSAT	Decision Support System for Agrotechnology Transfer
EPMR	External Program and Management Review (CGIAR)
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FAPRI	Food and Agricultural Policy Research Institute
FES	Foundation for Ecological Security
FTA	Forests, Trees and Agroforestry (a CRP)
GAAP	Gender, Agriculture and Assets Project
GAMS	Solution option for CGE models
GDP	Gross Domestic Product
GHG	Greenhouse gas
GIZ	German Society for International Cooperation Ltd.
GLOBIOM	IIASA global model analyzing competition for land use between agriculture, bioenergy, and forestry
GTAP	Global Trade Analysis Project at Purdue University
IADB	Inter-American Development Bank
ICARDA	International Center for Agricultural Research in the Dry Areas
ICRAF	International Center for Research in Agroforestry
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IDO	Intermediate Development Outcome
IEA	Independent Evaluation Arrangement (CGIAR)
IEG	Independent Evaluation Group (World Bank)
IFPRI	International Food Policy Research Institute
IIASA	International Institute for Applied Systems Analysis
IITA	International Institute of Tropical Agriculture

ILRI	International Livestock Research Institute
ILUC	Indirect land use change
IMPACT	International Model for Policy Analysis of Agricultural Commodities and Trade
INIA	National Institute of Agricultural Research (Peru)
IRRI	International Rice Research Institute
ISPC	Independent Science and Partnership Council (CGIAR)
IWMI	International Water Management Institute
LAUD	Land Administration and Use Directorate (Ethiopia)
MAFAP	Monitoring and Analyzing Food and Agricultural Policies
MENA	Middle-East and North Africa
MIRAGE	CGE Model Resident at IFPRI
MIRAGE-BioF	Biofuels version of the MIRAGE Trade Analysis Model
MIRAGRODEP	MIRAGE Household Model
MOPIC	Ministry of Planning and International Cooperation (Yemen)
NGO	Non-governmental organization
OECD/DAC	Organisation for Economic Co-operation and Development/Development Assistance Committee
PE	Partial equilibrium
PIM	CGIAR Research Program on Policies, Institutions, and Markets
PMCA	Participatory Market Chain Approach
POWB	Program of Work and Budget
R4D	Research for Development
RTB	Roots, Tubers and Bananas (a CRP)
SLO	System-Level Outcome (CGIAR)
SPAP	Science and Policy Advisory Panel (PIM)
SRF	Strategy and Results Framework (CGIAR)
USAID	United States Agency for International Development
W1-2	Window 1 and/or Window 2
W3	Window 3
WATSIM	World Agricultural Trade Simulation Model
WEAI	Women's Empowerment in Agriculture Index
WFP	World Food Programme
WLE	Water, Land and Ecosystems (a CRP)
WTO	World Trade Organization

Fiscal Year of the CGIAR, IFPRI, and PIM

January to December

Executive Summary

Background and Context

The CGIAR Research Program (CRP) on Policies, Institutions, and Markets (PIM) supports evidence-based research to help improve public policies and expenditures for pro-poor, sustainable agricultural growth in developing countries. It is the CRP with the greatest focus on social science research to achieve the four System-Level Outcomes (SLOs) established by the 2011 Strategy and Results Framework (SRF). Based in IFPRI, PIM now involves the second largest number of participating Centers (12) after the Climate Change, Agriculture and Food Security program (CCAFS).

During the period under review (2012–2014), the program was organized into seven flagships that conducted research from the global to the local level, and an eighth cross-cutting flagship on gender, partnerships, and capacity strengthening. Each flagship has established its own intermediate development outcomes (IDOs) which collectively constitute the specific objectives of the program (Table 1 in Chapter 2).

Purpose, Scope and Objectives of the Evaluation

The principal audiences for the evaluation are the CGIAR Fund Council and Consortium, the Lead Center (IFPRI) Board of Trustees and management, the PIM governance and management bodies, CGIAR researchers and staff working in the Lead and Participating Centers, and external partners involved in this research. The principal purposes are:

- to assist program management, its funders and partners in making decisions with respect to the continuation, expansion, and structuring of PIM during the extension phase of 2015–16;
- to inform decisions on the program in response to the call of the Fund Council for the second round of CRPs in 2016;
- to contribute to the next System-Wide Evaluation of the CGIAR, tentatively scheduled for 2017.

This has been primarily a formative evaluation with some summative aspects. The formative part has reviewed the organization of the program during its first three years, the relevance of its flagships, the plausibility of their impact pathways for achieving their respective IDOs, the relevance of individual activities in relation to these IDOs and impact pathways, and the progress in implementing the program's gender strategy and approach to partnerships. The summative part has reviewed the scientific quality of PIM-related outputs, and the outcomes and impacts of selected legacy research activities that began prior to the establishment of PIM.

The evaluation has addressed four overarching issues relating to the CGIAR reform principles and the value added of PIM in the new CGIAR structures:

- (a) the extent to which PIM is supporting research activities with clear and coherent objectives that are responding to global, regional, and country development challenges;

- (b) the extent to which PIM is creating opportunities for researchers to engage in relevant and effective collaborations among CGIAR Centers;
- (c) the extent to which PIM is fostering strong and innovative partnerships for positive development impacts;
- (d) the extent to which PIM is characterized by streamlined and efficient governance and management, with clear accountability.

Approach and Methodology

The evaluation has based its findings, conclusions and recommendations on the following data collection and analysis, and the triangulation of evidence collected from these different sources:

- desk review of key program documents;
- reviews of previous evaluations/assessments that are relevant;
- more than 300 interviews of CGIAR staff involved with the program, external partners, and professional peers;
- portfolio analysis of 74 PIM-supported research activities;
- in-depth review of 12 legacy research activities involving visits by core team members to 11 countries and 6 participating Centers;
- in-depth review of an additional 6 global agricultural modeling activities by an expert panel constituted for this purpose;
- electronic surveys of CGIAR staff and external partners;
- bibliometric analysis of PIM publications.

Analytical breadth of the relevance and the design of PIM activities comes primarily the portfolio analysis. Analytical depth of the outputs and outcomes achieved comes primarily from the in-depth review of 18 research activities by the core team and the expert panel.

Main Findings and Conclusions

Overall, the evaluation concludes that PIM has added sufficient value to the CGIAR's research on policies, institutions, and markets to warrant the continuation of a CRP like PIM in the second round of CRPs, starting in 2017. Engaging most of the social scientists across the CGIAR System has created an intellectual critical mass to pursue cutting-edge science. Inter-Center collaboration is (a) strengthening the impact pathways of PIM research by engaging Centers that are closer to the users of the research; (b) facilitating a more integrated approach to development challenges through a combination of discovery and delivery-type research; (c) deepening country-level partnerships that have greater potential for more immediate development outcomes; (d) enabling researchers in the commodity-based Centers to work on important socio-economic issues that are broader than the commodities covered by their Centers; and (e) helping to raise the scientific quality of social science and policy research in the participating Centers.

The evaluation also concludes that IFPRI should continue to host the PIM Management Unit. IFPRI is the only CGIAR Center that has a principal focus on social science research, the largest concentration of social scientists in the System, and the strongest research infrastructure and quality assurance

systems to support high quality social science research. Many of the benefits of PIM arise from connecting the social scientists in the participating Centers to IFPRI through PIM.

However, all is not well with respect to the governance and management of PIM. In what follows, the evaluation draws conclusions and makes recommendations in a number of areas to improve PIM's operations to become a more effective program.

Program Focus

There is a strong theoretical and practical logic to the organization of PIM into seven flagships during the first three years, and an internal coherence to each flagship. The respective flagships are conducting policy-oriented research on the provision of different kinds of goods and services, by different kinds of actors, and in different domains. They are also utilizing different impact pathways to contribute to different SLOs, which are largely realistic and plausible at the general level.

The relevance of the objectives and design of PIM-supported projects has been uniformly substantial or high with respect to the choice of topics and research designs, the alignment of projects' objectives and design with their flagship IDOs and impact pathways, and the comparative advantage of the CGIAR Centers to conduct this research. The upstream, discovery-type research activities understandably score lower with respect to demand-side relevance than the more downstream, delivery-type research activities.

PIM is facilitating a more integrated approach to addressing development challenges than in the past through a combination of discovery and delivery-type research — a clear value added. The program should continue to accommodate both types of research in a complementary fashion, without applying processes and criteria that unfairly disadvantage either type of research in the allocation of its W1-2 resources. The discovery researcher needs to inform the delivery researcher of important understandings while the delivery researcher needs to inform the discovery researcher of the types of understandings needed.

The CGIAR has a strong comparative advantage in conducting social science research at the intersection of food security, poverty, and sustainable agriculture. There are, for example, few organizations or institutions that have a similar combination, range, and quality of modeling systems at their disposal as IFPRI, and therefore PIM. However, IFPRI has not sufficiently explored the possible synergies among its three major modeling systems - IMPACT, MIRAGE, and country-level CGE modeling - such as harmonizing the long-term drivers of change and undertaking common work on scenarios. Each would also benefit from a wider community of practice that includes clients as well as other modelers. *The leaders of the three modeling teams should explore possible synergies in their work and broaden their communities of practice to engage their clients and other modelers in reviews of model analyses.*

PIM has allocated its W1-2 funds, for the large part, to support new or expanded components of larger projects already being supported by W3 or bilateral funding. Principal investigators have come to view W1-2 funds as largely short-term and flexible and bilateral funds as more long-term and

reliable, due to the uncertainties associated with the amount of W1-2 funding available and the annual allocation of these funds. They now tend to regard bilateral funds as forming the foundation of their research programs, and the W1-2 funds as supporting research which builds on this foundation.

However, the program has lacked systematic and reliable information on the strategic, operational, and financial linkages between the W1-2, W3, and bilateral funding of its activities. *As a first order of business, the PIM Management Unit should put in place a consolidated, programmatic perspective of PIM activities to improve program management, monitoring, reporting and oversight, as opposed to the current financial management perspective in which a research activity supported by more than one donor, or one donor over several years, shows up as several activities.*

PIM has not provided sufficient support for research on the science-policy interface. The limited support for such policy process research (which was part of the original PIM proposal) has been a serious deficiency. More robust findings in this area would help not only PIM, but also the other CRPs by providing more scientific evidence to inform the development of more detailed and effective impact pathways. *PIM should support a vibrant and innovative program on the conditions under which moving from scientific evidence to policy implementation becomes plausible.*

Center and CRP Collaboration

PIM's flagship teams have achieved different degrees of inter-Center collaboration. The entire Flagship 1 on foresight modeling is essentially one large collaborative initiative, now involving twelve Centers. PIM has clearly added value to this initiative which started in 2009 with the involvement of only five Centers. IFPRI is drawing on the specific technical expertise of the commodity Centers to improve the technological specifications of the IMPACT model on which the whole initiative is anchored, and the other Centers are gaining access to the model to generate technology scenarios relevant to their own work.

There is a growing dynamic for increased inter-Center collaboration in Flagship 5 on value chains. This began with an informal collaboration among some individual researchers from different Centers in the first phase and has now evolved into a set of multi-Center activities for the extension phase, 2015-2016. *The program should strongly support the new regional hubs on value chains that are being pilot-tested during the extension phase to facilitate more engagement with local partners and to provide a forum for bi-directional knowledge and information sharing.*

Flagship 3 on technology adoption and sustainable intensification has so far been less successful in fostering inter-Center collaboration. However, two inter-Center initiatives are now emerging as PIM enters the extension phase - a multi-Center extension network and multi-Center learning network on technology adoption and impact.

The System-wide program on Collective Action and Property Rights (CAPRI) in Flagship 7 has had a long history of successful collaborative work on community governance of common pool resources. However, both CAPRI and its inter-Center work have been negatively affected by being folded into

x

PIM - an unfortunate unanticipated consequence of the CGIAR Reform and the establishment of the CRPs. Three Centers chose note to continue being members of CAPRI when it became part of PIM, and the effective costs for entering or remaining in CAPRI have been raised considerably with the creation of PIM.

There has been very little collaboration between IFPRI and the other Centers in Flagship 4 on policy and public expenditures, notwithstanding the important national policy and international trade issues that should be of interest to the commodity Centers. *PIM should explore the extent to which other Centers or CRPs have unmet needs for trade analysis that PIM could provide through different types of collaboration. PIM should also seek opportunities for other Centers or CRPs to benefit from PIM's trade analysis work either by taking on tailored scenarios or by providing tailored reports of common analyses.*

Although there has been no centralized mechanism to facilitate inter-CRP collaboration, two-thirds of PIM-supported projects report some collaboration with other CRPs, including technical support to and from other CRPs, research collaboration, and co-funding by other CRPs. *PIM and its flagships should adopt a more strategic approach to collaborating with other CRPs, including co-funding joint activities, that draws upon the strengths of PIM and the other CRPs to contribute to their respective IDOs.*

Gender

Gender mainstreaming in PIM is clearly benefiting from the strong reputation that IFPRI has built up over the years in addressing gender issues. The evaluation estimates that about 30 percent of the PIM-supported portfolio is addressing gender issues, and more than half the PIM-supported activities are collecting and analyzing sex-disaggregated data. Flagship 7 on natural resource property regimes has had the greatest emphasis on gender and Flagships 1 and 4 have had the least, generally because they are conducting policy research at the more aggregate (national and global) levels. Nonetheless, some of the latter activities are finding ways to address gender issues. *Flagships 1 and 4 should increase their level of attention to gender issues by building upon these, by links with other modeling approaches, and by greater sharing of existing methodologies and data among Centers and flagships.*

Both the Gender, Agriculture and Assets Project (GAAP) and the Women's Empowerment in Agriculture Index (WEAI) have produced positive outcomes adopted by their public and private development partners. GAAP partners, such as Land O'Lakes, have taken lessons learned from GAAP to inform the development of their gender strategies. In terms of indicators for measuring women's empowerment, there is growing interest in developing a streamlined version of the WEAI at both the population-based survey level and the project level (to facilitate project-level monitoring). USAID has been working with IFPRI to develop a core-WEAI for use in population-based surveys, and there is interest from the Gates Foundation as well as civil society implementers to adapt the WEAI for project use. IFPRI's partnership with FAO researchers in relation to the GAAP, the WEAI and the Sex-Disaggregated Data initiative has much potential for influencing how sex-disaggregated data are

collected and reported in the design and implementation of agricultural policies, since FAO can directly influence its member countries' data collection efforts.

Notwithstanding these achievements, putting in place an effective system to monitor the progress of PIM's own activities with respect to gender is still a work in progress, and the Consortium has not yet provided sufficient guidance on methodologies to capture the level of attention given to gender issues. *PIM should complete its plans to put in place a monitoring system to track the level of attention to gender issues and to validate the claims that the activity proposals and annual progress reports make in relation to gender.*

Quality of Science

The quality of science in PIM is highly variable. The program is doing well on the relevance of scientific topics and quality assurance mechanisms. It is doing less well in relation to minimum standards of scientific productivity and impact.

The participating Centers' quality assurance mechanisms are generally working well, particularly at IFPRI, which is helping to raise the standards at the other Centers. While PIM has a number of extremely productive scientists producing five or more publications a year, almost half of PIM's principal investigators did not produce any peer-reviewed publications during the three-year period, 2012–2014. Researchers from non-IFPRI Centers are over-represented among these.

PIM is supporting researchers who are choosing relevant research topics. PIM has been less successful in supporting larger research programs that involve many disciplines and longer-term data collection efforts mostly due to the short-term focus of the CGIAR's planning cycle during the first three years of the Reform. *PIM should support more opportunities for intellectual exchange and a greater diversity of scholarly disciplines to expand the choice of topics, designs, and methods towards longer-term, multi-locational data collection and analysis that can help answer fundamental scientific questions in relation to poverty reduction, food security, and sustainable natural resource management.*

Researchers are placing their peer-reviewed publications in some of the best journals that deal with development. While there are some excellent examples of PIM-supported work making waves in the scientific community, these are mostly exceptional cases. When compared to papers published in the same outlets where the PIM research appeared, 58 percent of the PIM papers were cited less than the average frequency for that journal. This is not alarming, but PIM could elevate its minimum standards when it comes to both productivity and impact. Better use of social media could be one avenue to improve the visibility of PIM research, like the value chains knowledge clearinghouse is currently doing.

Partnerships and Impacts

PIM has adopted an approach to identifying and fostering partners that is based on the most effective partners for the impact pathways associated with the different kinds of research. However,

the evaluation did not find such a strong association yet between the types of research being conducted in each flagship, their stated impact pathways, and the partners identified in the projects' progress reports.

PIM-supported research activities are pursuing outcomes from the global to the local level. The foresight activities in Flagship 1 cannot yet demonstrate many outcomes because the foresight team has been undertaking, based on an earlier review, a thorough restructuring and enhancing of the IMPACT model, which forms the anchor for this work. The international trade and country-level CGE modeling teams have shown more outcomes. The MIRAGE-Biofuels work has taken the lead in understanding the trade-offs between renewable fuels, indirect land use changes, and greenhouse gas emissions and has produced a renewable fuels baseline for the European Union that is informing the debate on its biofuels policy. The country-level CGE modeling teams have made many contributions to improving national agricultural policy formation in a number of African countries in the context of the African Union's Comprehensive Africa Agricultural Development Program.

The technology adoption, value chain, and natural resource property activities have resulted in a variety of outcomes at the national and local levels in terms of improving the volunteer farmer trainers approach to agricultural extension, upgrading value chains for less well known commodities produced by low-income rural households, and improving the management of community-held natural resources. These outcomes tend to be more micro-institutional in nature with local but significant impacts on the welfare of the involved beneficiaries.

IFPRI's Country Strategy Support Programs in Bangladesh and Ethiopia have been instrumental in contributing to government policy uptake of research arising from PIM activities such as the GAAP and the WEAI activities in Bangladesh, and from the Productive Safety Net Programme and the CGE modeling activities in Ethiopia. The CSSPs can also help translate country-level research results into global public knowledge of benefit to other countries facing similar challenges. But what is really important are research projects motivated by a broad theoretical puzzle that is readily applicable across specific contexts, whether located in CSSP countries or not.

PIM researchers view capacity strengthening as very important both for their impact pathways and for sustaining the outcomes arising from their activities. CGIAR partners also appreciate these capacity strengthening activities. *However, PIM should formulate an explicit capacity strengthening strategy to be implemented in conjunction with its Lead Center, IFPRI, including expanding research on capacity strengthening and putting in place a better tracking system for its capacity strengthening work.* Things already seem to moving in this direction with the establishment of a capacity strengthening task force in IFPRI which includes representation from the PIM Management Unit.

Organizational Performance

PIM does not have a CRP governing body that exercises strategic direction and oversight of the program. It does have a Science and Policy Advisory Committee that has exercised some strategic direction in an advisory capacity, but little or no oversight. Consequently, the PIM Director has been

allowed to exercise a great deal of autonomy and discretion in consultation with the structures that advise and report to her, and to establish new processes and procedures without getting them approved by a higher authority.

The evaluation found much dissatisfaction with the processes and procedures that PIM has used to allocate the program's W1-2 resources. That so many are so dissatisfied has undermined the legitimacy of PIM and limited the sense of ownership among CGIAR scientists involved in the program.

PIM management relies on principal investigators and their research teams outside its direct line of authority to deliver the research that the program funds. For this organizational structure to work effectively, CGIAR scientists must have an individual sense of mutual accountability and shared commitment to the program. It is not possible for PIM management to effectively supervise the research that is taking place, particularly in the non-IFPRI Centers, in a purely contractual way through the Program Participant Agreements between IFPRI and the other Centers. Notwithstanding the efforts of PIM management, this evaluation concludes that a sufficient sense of mutual accountability and shared commitment is not likely to happen under the current governance and management arrangements.

PIM should put in place an Independent Steering Committee in accordance with the recent (January 2015) agreement between the Fund Council and the Consortium regarding CRP governance structures for the next generation of CRPs. Making this new structure work will, however, require due attention to the composition of the Steering Committee and a greater appreciation of the distinction between programmatic and fiduciary management and oversight.

Recognizing the bilateral resources that each Center brings to PIM, PIM should consider having representatives of the participating Centers on the Steering Committee as well as independent members that would have greater than their numerical say in the allocation of W1-2 resources. The IFPRI Board of Trustees should delegate programmatic responsibility to the Steering Committee while retaining the fiduciary responsibility for ensuring that the W1-2 funds are used for their intended purposes. And the IFPRI Board of Trustees should put in place a conflict of interest policy to identify and manage transparently the institutional conflicts of interest that arise from the multiple roles that IFPRI plays in PIM.

The CGIAR Reform process has moved the System in the opposite direction from that, for example, recommended by the 2009 Stripe Review of Social Sciences. Now that core-type funding is being channeled through the CRPs like PIM, the Centers are even more reliant on short-term project funding and subject to the associated pressure to generate on-the-ground development results. But the Centers cannot be run like for-profit research consultancies; they require reliable long-term funding to sustain their research infrastructures and other research support, including their top-level research personnel. *The Fund Council and the Consortium should jointly commission a study of the problems that the Centers are facing in sustaining their research infrastructures and other research support under the CGIAR Reform.*

Recommendations

The evaluation makes the following recommendations involving stakeholders at different levels of the program.

Constitutional-Level Recommendations

The implementation of the following four recommendations would require the involvement of the IFPRI Board of Trustees, the Consortium, and the Fund Council:

- 1) a CGIAR Research Program like PIM on policies, institutions and markets should continue in the second round of CRPs, starting in 2017;
- 2) IFPRI should continue to host the management unit of PIM, and the IFPRI Board of Trustees should put in place a conflict of interest policy to identify and manage transparently the institutional conflicts of interest that arise from the multiple roles that IFPRI plays in PIM;
- 3) PIM should put in place an Independent Steering Committee in accordance with the recent (January 2015) agreement between the Fund Council and the Consortium regarding CRP governance structures for the next generation of CRPs. PIM should consider having representatives of the participating Centers as well as independent members on the Steering Committee that would have greater than their numerical say in the allocation of W1-2 resources. The IFPRI Board of Trustees should delegate programmatic responsibility to the Steering Committee while retaining the fiduciary responsibility for ensuring that the W1-2 funds are used for their intended purposes;
- 4) the Fund Council and the Consortium should jointly commission a study on the problems that the Centers are facing in sustaining their research infrastructures and other research support under the CGIAR Reform.

Strategic-Level Recommendations

The implementation of the following six recommendations should involve the Independent Steering Committee:

- 5) the PIM Management Unit should put in place a consolidated, programmatic perspective of PIM activities to improve program management, monitoring, reporting, and oversight, as opposed to the current financial management perspective in which a single research activity supported by more than one donor, or one donor over several years, shows up as several different activities. This should also contain information on all the sources of funds that are supporting each activity;
- 6) PIM should continue to accommodate both upstream, discovery-type research and downstream, delivery-type research in a complementary fashion, without applying processes or criteria that unfairly disadvantage either type of research in the allocation of its W1-2 resources. This would also involve better information on the types of research being proposed at the project approval stage;

- 7) PIM should support a vibrant and innovative research program on the interface between science and policy that explores the conditions under which moving from scientific evidence to policy implementation becomes plausible. This would likely be a set of cross-cutting activities;
- 8) PIM should support more opportunities for intellectual exchange and a greater diversity of scholarly disciplines to expand the choice of research topics, designs, and methods towards longer-term, multi-locational data collection and analysis that can help answer fundamental scientific questions in relation to poverty reduction, food security, and sustainable natural resource management;
- 9) PIM and its flagships should adopt a more strategic approach to collaborating with other CRPs, including co-funding joint activities, that draws upon the strengths of PIM and the other CRPs to contribute to their respective IDOs;
- 10) PIM should formulate an explicit capacity strengthening strategy to be implemented in conjunction with its Lead Center, IFPRI, including expanding research on capacity strengthening and putting in place a better tracking system for its capacity strengthening work.

Operational-Level Recommendations

The implementation of the following five recommendations would involve the PIM Management Unit, Flagship Leaders, Focal Points, and principal investigators:

- 11) the leaders of the three major modeling teams in IFPRI should explore possible synergies in their work and broaden their communities of practice to engage their clients and other modelers in reviews of model analyses;
- 12) PIM should strongly support the new regional hubs on value chains that are being pilot-tested during the extension phase to facilitate more engagement with local partners and to provide a forum for bi-directional knowledge and information sharing;
- 13) PIM should explore the extent to which other Centers or CRPs have unmet needs for trade analysis that PIM could provide through different types of collaboration. PIM should also seek opportunities for other Centers or CRPs to benefit from PIM's trade analysis work either by taking on tailored scenarios or by providing tailored reports of common analyses.;
- 14) Flagships 1 and 4 should increase their attention to gender issues by building on the innovative ways in which some of their activities are already addressing gender issues, by links with other modeling approaches, and by greater sharing of existing methodologies and data among Centers and flagships;
- 15) PIM should complete its plans to put in place a monitoring system to track the level of attention to gender issues and to validate the claims that the activity proposals and annual progress reports make in relation to gender.

1. Introduction to the evaluation

Under the new CGIAR structure, approved at the Annual General Meeting in 2009, the 15 CGIAR Centers and their partners now conduct agricultural research for development through 16 multi-partner CGIAR Research Programs (CRPs) and through additional work undertaken by the Centers directly, which are funded both by a pooled funding mechanism in the CGIAR Fund and by bilateral funding to Centers (Box 1). The CRPs are a new research instrument in the CGIAR that are intended to be implemented in furtherance of the six reform principles of the CGIAR:

- pursuit of a clear vision with focused priorities that respond to global development challenges;
- Center collaboration;
- streamlined and effective system-level governance with clear accountability;
- strong and innovative partnerships with National Agricultural Research Systems, the private sector and civil society that enable impact;
- strengthened and coordinated funding mechanisms that are linked to the CGIAR System's agenda and priorities;
- stabilization and growth of resources.¹

Box 1. Major Sources of Funding in the CGIAR System

To maximize coordination and harmonization of funding, donors to CGIAR are strongly encouraged to channel their resources through the CGIAR Fund. Donors to the Fund may designate their contributions to one or more of three funding "windows":

- Contributions to Window 1 (W1) are the least restricted, leaving to the Fund Council how these funds are allocated to CGIAR Research Programs, used to pay system costs or otherwise applied to achieving the CGIAR mission.
- Contributions to Window 2 (W2) are designated by Fund donors to specific CGIAR Research Programs.
- Contributions to Window 3 (W3) are allocated by Fund donors to specific CGIAR Centers.

Participating Centers also mobilize financial resources for specific activities directly from donors and negotiate agreements with their respective donors for the use of these resources

Source: CGIAR website: <http://www.cgiar.org/who-we-are.cgiar-fund/>

PIM was approved by the Fund Council in December 2011 and launched in January 2012. (See Annex A for a timeline of key events in the life of PIM.) It is the CRP with the greatest focus on social science research to achieve the four high-level goals, termed System-Level Outcomes (SLOs),

¹. Performance Implementation Agreement. CRP 2 – Policies, Institutions and Markets to Strengthen Food Security and Incomes for the Rural Poor. February 14, 2012, p. 1.

established by the CGIAR's Strategy and Results Framework (SRF): the reduction of rural poverty, increase in food security, improving nutrition and health, and more sustainable management of natural resources. PIM now involves the second largest number of participating Centers (14) after the Climate Change, Agriculture and Food Security (CCAFS) CRP, which includes all 15 CGIAR Centers.

Purposes and Overarching Issues

The principal purposes of this evaluation are:

- (a) to assist program management, its funders and partners in making decisions with respect to the continuation, expansion, and structuring of PIM during the extension phase of 2015–16;
- (b) to inform decisions on the program in response to the call of the Fund Council for the second round of CRPs in 2016;
- (c) to contribute to the next System-Wide Evaluation of the CGIAR, tentatively scheduled for 2017.

The evaluation addresses four overarching issues relating to the CGIAR reform principles and the value added of PIM compared to the previous arrangement in which each CGIAR Center received and allocated an equivalent amount of core funding directly without PIM as an intermediary:

- (a) the extent to which PIM is supporting research activities with clear and coherent objectives that are responding to global, regional, and country development challenges;
- (b) the extent to which PIM is creating opportunities for researchers to engage in relevant and effective collaborations among CGIAR Centers;
- (c) the extent to which PIM is fostering strong and innovative partnerships for positive development impacts;
- (d) the extent to which PIM is characterized by streamlined and efficient governance and management, with clear accountability.

Scope

The evaluation covers two main time frames:

- the time period since PIM was approved in December 2011 and during which PIM has been set up as a multi-partner CRP with newly defined objectives, program structure, and impact pathways;
- the outputs, outcomes, and impacts of legacy research activities that began prior to the establishment of PIM and that now form part of the overall PIM program.

The evaluation of the first time frame is primarily formative in nature - reviewing program design and processes, progress made so far towards results, gender mainstreaming, governance and

partnership aspects as well as other innovative modalities of work introduced with the CGIAR Reform. The evaluation of the second time frame is summative in nature - drawing on existing studies, impact assessments, and other information to assess the achievements of research that started before and has continued since PIM was established.

Structure of the Report

The report has an introductory chapter providing an overview of PIM, six substantive chapters of evaluation findings, and a final chapter of conclusions and recommendations. The overview chapter describes, among other things, how PIM has been structured during its first three years into eight flagships (each with specific objectives, a Flagship Leader, and two or more Clusters of research activities) operating across the participating Centers (each with its own Focal Point). The six substantive chapters correspond to the four overarching issues above, plus two additional chapters on (a) the scientific quality of PIM research and (b) its gender-related research activities.

Evaluation Approach and Methodology

There have been no significant changes to the evaluation approach and methodology as laid out in the Inception Report, published in August 2014, and the evaluation matrix (Annex B). As indicated in that report, the evaluation has based its findings and conclusions on the following data collection and analysis, and the triangulation of evidence collected from these different sources:

- desk review of key program documents;
- reviews of previous evaluations/assessments that are relevant;
- more than 300 interviews of CGIAR staff involved with the program, external partners, and professional peers (listed in Annex J);
- portfolio analysis of 74 PIM-supported research activities (listed in Annex F);
- electronic surveys of CGIAR staff and external partners (Volume 3);
- In-depth review of 12 legacy research activities involving visits by core team members to 11 countries and 6 participating Centers (listed in Annex G);
- in-depth review of an additional 6 global agricultural modeling activities by an expert panel constituted for this purpose (also listed in Annex G);
- attendance at PIM Extended Team Meetings in March and November 2014, and two PIM-sponsored workshops in November 2014;
- quality of science analysis (Chapter 4);
- governance and management analysis (Chapter 8).

The complete list of the 74 projects reviewed and the basic information about them is contained in Annex F. The 74 projects correspond to all 67 activities that completed a progress report in October

2014, and seven others for which team members had completed the portfolio analysis before that time. These represent 85 percent of actual Window 1 and 2 program expenditures in 2013, and 95 percent of budgeted W1-2 program expenditures in 2014 - that is, not including the expenditures of the PIM Management Unit.

The staff survey was administered in November 2014 to 215 mostly to senior CGIAR staff in 11 participating Centers who had allocated some of their time to research activities that are mapped to PIM, whether financed by W1-2 funds or W3/bilateral funds. The overall response rate of 61 percent included 69 respondents from IFPRI (the Lead Center), and 63 respondents from the other participating Centers, 11 out of 13 Focal Points, 21 out of 24 Flagship and Cluster Leaders, and 49 out of 60 Principal Investigators of W1-2 activities. (The complete survey results are presented in Volume 3 of this evaluation.)

The partner survey was administered in January 2015 to 281 partners involved with PIM-supported research activities. The names, institutional affiliations, and e-mail addresses were obtained from the latest progress reports (October 2014), and from team members' own investigations of PIM-supported activities. The partner survey contained similar questions to the staff survey (but from the partner perspective), and to the CGIAR Stakeholder Perceptions Survey that was commissioned by the Consortium Office in 2012,² in order to facilitate comparisons with both the other surveys. The number of respondents (69) is similar to the number of respondents (70) to the 2012 CGIAR survey who identified themselves as partners of PIM. So is the distribution of the organizational affiliations of the respondents (Volume 3, Partner Survey question #1). The response rate of 25 percent is also similar to the overall response rate (30 percent) to the 2012 CGIAR survey.

Evaluation team members visited 11 countries and 6 participating Centers (Bioversity, CIAT, CIP, ICRF, ILRI, and WorldFish) as part of in-depth analyses of a purposive sample of 12 research activities in Flagships 3, 5, 7, and 8. These were selected in consultation with the respective Flagship Leaders generally from among the legacy activities (which started before PIM was established in 2012) that are receiving W1-2 funding because these have been accepted into PIM as a result of a request for proposals, review, and resource allocation process and because they have been operational long enough to have some measurable outcomes. The two activities that have been bilaterally funded - Collective Action and Property Rights (CAPRI) and the Women's Empowerment in Agriculture Index (WEAI) - are closely associated with activities that are receiving W1-2 funding.

Although the country and Center visits were organized around these 12 in-depth studies, team members also looked at the research work of PIM in general in each country, organizational performance aspects including collaboration among participating Centers, PIM partnerships at the country level, and gender aspects.

². 2012 CGIAR Stakeholder Perceptions Survey: Final Public Report. Prepared by GlobeScan, May 2013. The survey was sent to 3,938 recipients, of which 1,071 responded - a response rate of 30 percent after excluding undeliverable e-mail addresses.

A four-person panel on global agricultural modeling, constituted for this purpose, conducted in-depth analyses of an additional 6 activities in Flagships 1 and 4. These six activities were based on three legacy streams of modeling work based at IFPRI:

- foresight modeling based on the IMPACT model (International Model for Policy Analysis of Agricultural Commodities and Trade), which aims to generate scenarios indicating which new agricultural technologies and practices will do the most to reduce poverty and hunger in the future, in the light of increasing stresses on global agricultural production;
- country-level CGE modeling (computable general equilibrium), which seeks to understand and advise governments on the impacts of trade, price, tax, regulatory, and investment policies on incentives and decisions of agents in the agricultural sector regarding production, marketing, processing, and investments;
- research on the global agricultural trading system based on the MIRAGE model to assist both countries and regions in understanding the global international implications of national domestic policies in both industrialized and developing countries.

As explained in the Inception Report, there is no in-depth study of a research activity in Flagship 2 on Science Policy and Incentives for Innovation, which has had only one W1-2 funded activity, which is a new activity. There is also no in-depth study from Flagship 6 on Social Protection because IFPRI has commissioned its own impact assessment of its social protection work, and the evaluation team reached an agreement with IFPRI management not to duplicate the work of this impact assessment study. The one W1-2 funded activity in Flagship 6 that is not being covered by this impact assessment is also a new activity. Accordingly, although the PIM-supported activities in Flagships 2 and 6 are covered in the portfolio analysis of 74 projects, this evaluation has a greater emphasis on the other five flagships and on the cross-cutting issues of gender, partnerships, and capacity building.

Main Limitations or Constraints of the Evaluation

Due to the limited time that the PIM has been in operation, this is a formative evaluation of the organizational performance of PIM during its first three years, and a summative evaluation of research and other legacy activities that started before PIM was established. The breadth of the analysis is somewhat limited because the evaluation focuses mainly on those activities whose main source of funding has been W1-2 funds and other activities (receiving W3 and bilateral funds) that are closely linked to them. The evaluation focuses on activities funded by W1-2 funds because these activities have gone through a proposal, review, and selection process involving a review by the PIM Management Committee, and Flagship and Cluster Leaders. Therefore, these activities have received the imprimatur of the PIM program as being aligned with PIM objectives, and information on them is more readily available. The other activities that are mapped to PIM and which are funded primarily by W3 and bilateral funds have not been reviewed as rigorously by PIM management, and information on these activities is not as readily available in a standard format in the program's databases.

Analytical depth comes primarily from the in-depth studies, which focus on legacy activities that, once again, have received W1-2 funding from PIM, as well as other activities (receiving W3 and bilateral funding) that are closely linked to them. The assessment of the outcomes and impacts of PIM activities is largely limited to the in-depth case studies. This is typical of formative evaluations of programs that are only three years old that are still putting in place systematic monitoring and evaluation systems for their activities.

2. Overview of PIM

Objectives, Flagships, and Impact Pathways

The strategic goal of PIM is to “identify and promote implementation of policies, institutions, and markets to improve food security and incomes of the rural poor on a sustainable basis.” The program seeks to produce a body of knowledge to support appropriate policies, institutions and markets for pro-poor, sustainable agricultural growth.

The program views small agricultural producers as having great potential to help meet the global effective demand for food without there being significant price increases if they can obtain access to the inputs, technologies, markets, and public services that they need. Pro-poor agricultural growth has also been constrained in the past by a narrow focus on agriculture that excluded macroeconomic dimensions, environmental inputs and outcomes, and important enabling conditions such as rural infrastructure, effective markets, and complementary services such as credit and agricultural extension. The program aims to help address these constraints by promoting the adoption of evidence-based policies, inclusive institutions, and equitable and efficient markets based on sound and cutting-edge research.³

The specific objectives of PIM for which the program is directly accountable are now best summarized by the Intermediate Development Outcomes (IDOs) that have been formulated for its eight flagships (Table 1).

PIM has aimed to help achieve CGIAR system-level outcomes through three main impact pathways (Figure 1):

1. Informing and enriching research and bolstering the capacity of research communities
2. Influencing policy development and implementation by major development agencies
3. Providing policy recommendations for policymakers and decision makers at the global, national, and local levels.

³. Policies, Institutions, and Markets to Strengthen Food Security and Incomes for the Rural Poor, “A Revised Proposal Submitted to the CGIAR Consortium Board,” October 2011, p. 1.

Table 1. PIM's Intermediate Development Outcomes, by Flagship

	Flagship	Intermediate Development Outcomes
1	Foresight Modeling	Improved prioritization of the global agricultural research effort for developing countries.
2	Science Policy and Incentives for Innovation	In selected countries of focus, attainment of target levels of investment in agricultural research and rates of return to research that at least meet global averages.
3	Adoption of Technology and Sustainable Intensification	Increased adoption of superior technologies and management practices in relevant domains of application.
4	Policy and Public Expenditure	Improved sectoral policy and better public spending for agriculture in agriculturally-dependent developing countries.
5	Value Chains	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	Social Protection	Improved design and coverage of social protection programs with particular emphasis on vulnerable rural populations.
7	Natural Resource Property Regimes	Improved use of scientific evidence in decision processes related to sustainability of natural resources important for rural livelihoods.
8	Cross-cutting: Gender, Partnerships, and Capacity Strengthening	Strengthened empowerment of women through improved metrics that can be used by agricultural research, development, and policy making to identify needs and track progress in women's empowerment.

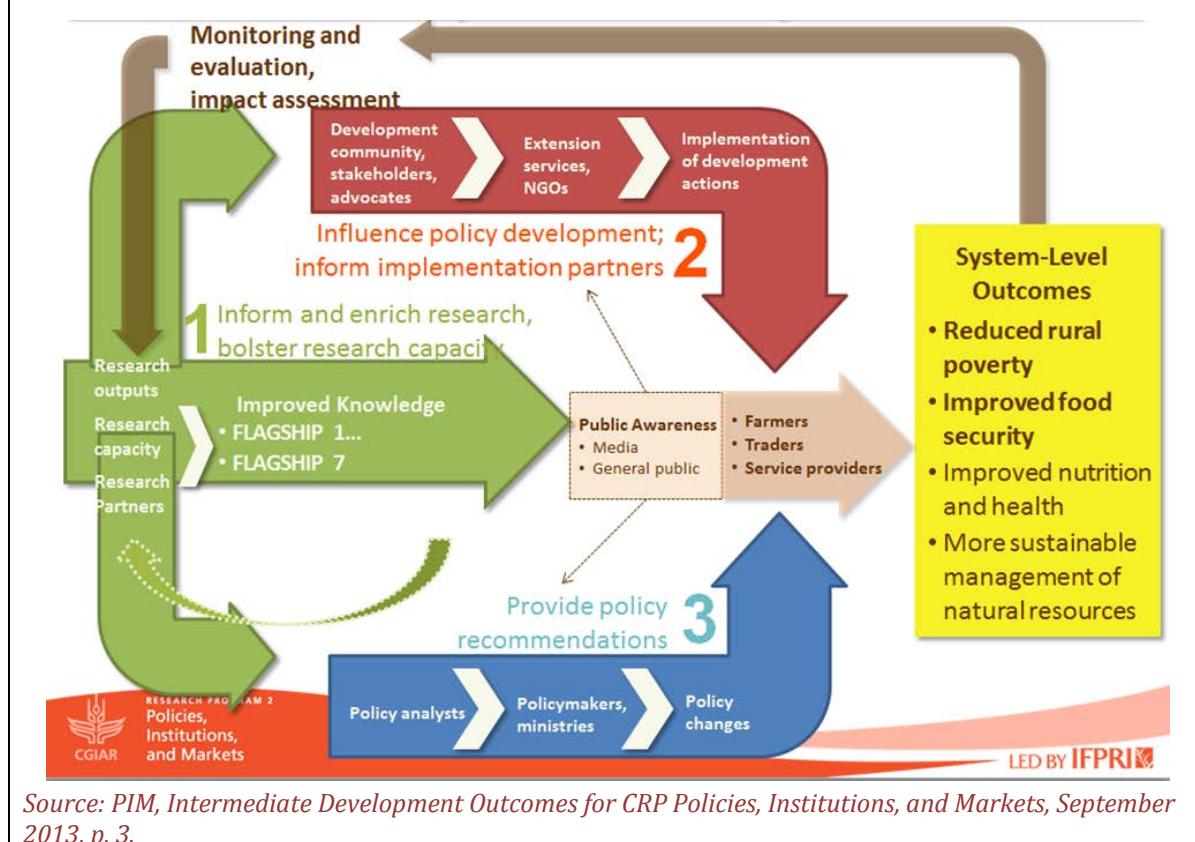
Source: PIM, "Intermediate Development Outcomes for CRP Policies, Institutions, and Markets," September 2013.

PIM has aimed to achieve impacts by influencing decision processes that determine policy outcomes. PIM disseminates research results among key stakeholders, seeking to create increased awareness that, through the policy process, will shape actionable instruments that achieve change, including (a) decisions on the magnitude and composition of public spending, (b) the design of programs, and (c) the adoption or repeal of legislation and regulations. These in turn affect the decisions of producers, consumers, and other economic actors along the supply chains of the food system.

Each flagship has aimed to conform to PIM's generic impact pathway, but has its own causal links and loops between analytical effort and objectives, outputs, outcomes, and intermediate progress benchmarks. Each flagship responds to an identified problem statement, and is linked to indicators that measure progress towards the achievement of the IDO they are aiming to reach.⁴

⁴. PIM, "Intermediate Development Outcomes for CRP Policies, Institutions, and Markets," September 2013.

Figure 1. PIM's Impact Pathways: Original Formulation



Both internal and external partnerships play an important role element in achieving outcomes and impacts. Many partners come from research-focused organizations such as National Agricultural Research Systems, research institutes and academia. Government organizations, regional organizations, non-governmental organizations (NGOs) and development agencies also constitute important channels for implementation, outreach and communication. PIM adopted a specific partnership strategy in October 2012 which is based on the most effective partners for the impact pathways associated with the different kinds of research.

PIM has aimed to integrate gender issues into the program from the beginning, and every activity funded by W1-2 funds has to indicate how it is addressing gender issues. PIM adopted an explicit gender strategy that was approved by the CGIAR Consortium in March 2013 and has established gender-specific IDOs for each of the first seven flagships. The strategy builds on some gender-specific legacy activities such as the Gender, Agriculture and Assets Project (GAAP) and the Women's Empowerment in Agriculture Index (WEAI), and other legacy activities in Flagships 6 and 7 (social protection and natural resource property regimes) in which gender mainstreaming was already strongly established. PIM's gender strategy also foresees the development of guidelines for collecting and analyzing data so as to make all datasets useful for gender analysis.

Governance and Management

The PIM Management Unit consists of a Director and five other staff located in the Lead Center, IFPRI (Figure 2). The PIM Director reports to the IFPRI Director General (Shenggen Fan), who reports to the IFPRI Board of Directors, which has ultimate responsibility for the governance of PIM.

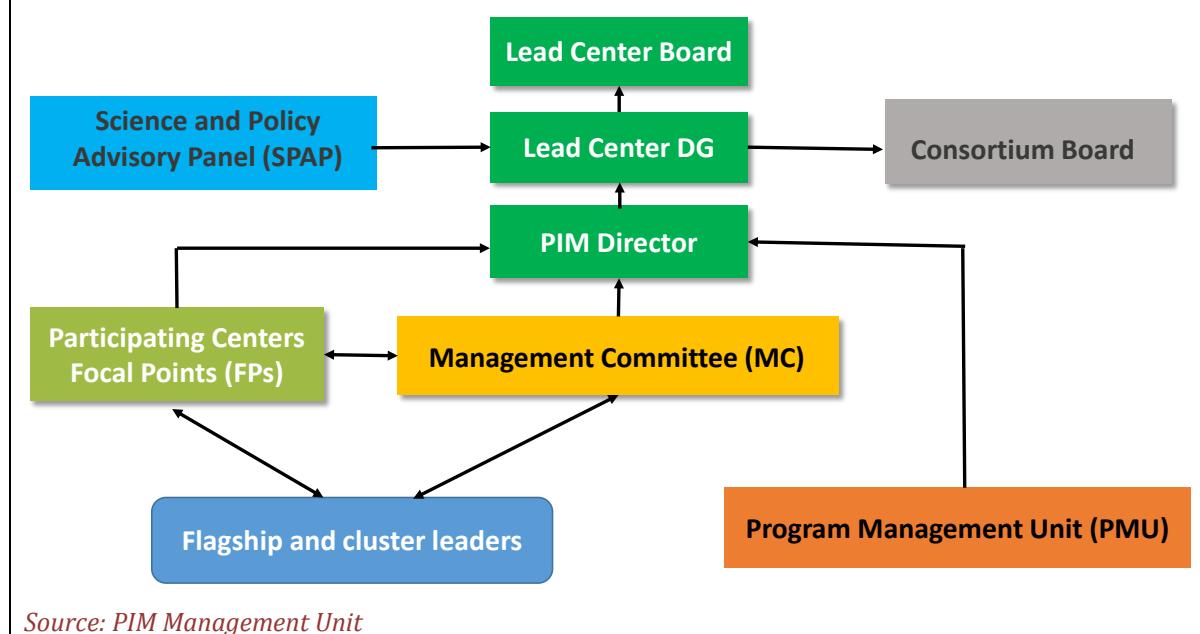
The Science and Policy Advisory Panel (SPAP) consists of ten eminent external experts who provide independent advice to the Lead Center Director General on strategic directions, research priorities and focus, and relevant management and partnership issues.

The Management Committee consists of the PIM Director, 7 other CGIAR staff (five from IFPRI) and two non-CGIAR staff (from Yale University and World Vision International). This assists and advises the PIM Director in a number of management functions.

The Participating Center Focal Points are responsible for coordinating and facilitating interactions between their Center and the Lead Center regarding PIM activities. They are appointed by their own Centers and accountable both to their own Center and to PIM management.

The Flagship and Cluster Leaders are responsible for leading and coordinating their respective flagships/clusters in cooperation with the PIM Director, Management Committee, and PIM Management Unit.

Figure 2. PIM's Organizational Chart



Source: PIM Management Unit

Principal Changes for the Extension Period, 2015–2016

The PIM Management Unit submitted its proposal for the two-year extension period (starting January 1, 2015) to the Consortium Office on April 25, 2014. The proposal aims to enhance the focus of the program on specific threats to achieving the goals of the CGIAR, of policy and institutional origin, as follows:

- misallocation of resources invested in research and technological discovery; missed opportunities to realize high returns to investment;
- regulatory, legal, and social barriers to wide adoption of promising technologies;
- national policies that discriminate against agriculture and/or impede trade, and low levels of public spending on agriculture;
- poorly functioning value chains, with exclusion of poor and marginalized groups;
- vulnerability of disadvantaged groups due to lack of mechanisms for social protection;
- poorly defined property rights and mismanagement of common property.

The principal changes are a restructuring of the program from seven to five flagships to simplify the structure and streamline reporting (Table 2), and a revised presentation of the main impact pathways of PIM research. The program has merged the former Flagships 1, 2, and 3 into a new Flagship 1 called “Technological Innovation and Sustainable Intensification,” thereby bringing together the program’s work from the global to the local level on global and regional foresight modeling, science policy and incentives for innovation, and technology adoption and sustainable intensification under one flagship. Then, generally speaking, what was previously Flagship 4 now becomes Flagship 2, and so on. A new cluster 3.1 on national, regional, and global trade policies (formerly in Flagship 4), has been added to the new Flagship 3 on “Inclusive Value Chains and Efficient Trade.” Combining the research on trade and value chains in one flagship aims to better understand and identify the potential trading opportunities, comparative advantages, and price distortions across each value chain.

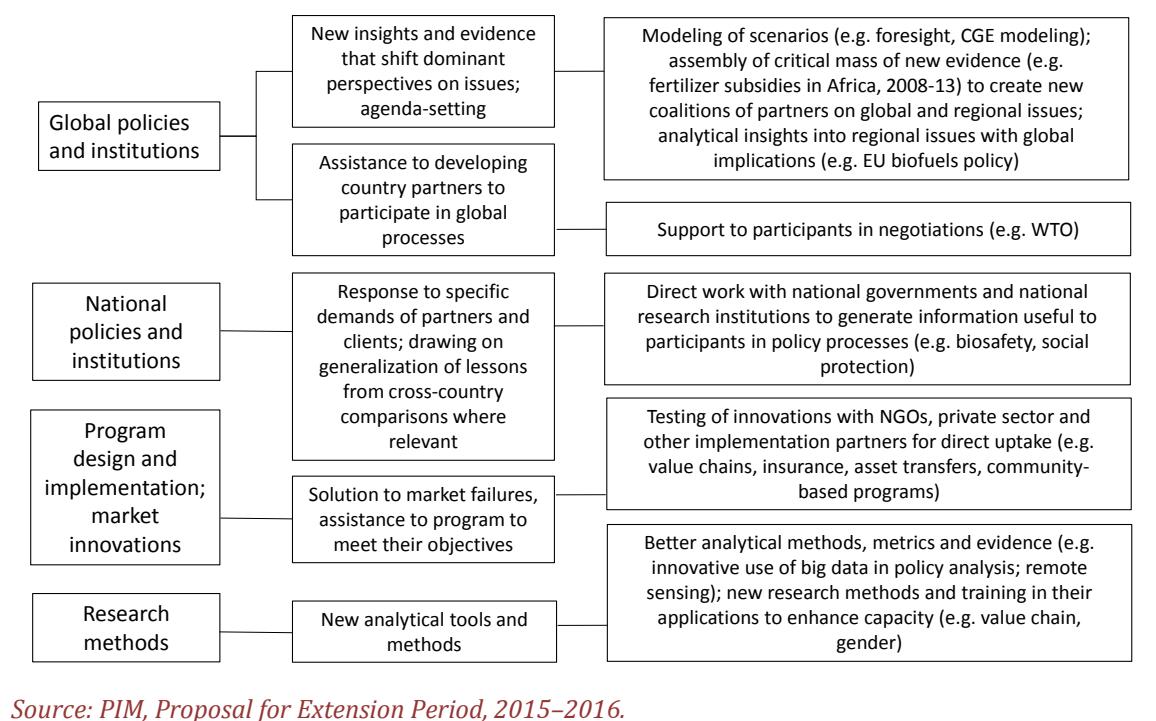
PIM now envisages its work as achieving impact through one of five pathways through working with (a) global partners at the global levels, (b) national partners at the national level, (c) a range of partners to overcome bottlenecks and identify solutions to missing markets and poorly functioning institutions at the national and subnational levels, and (d) by improving research methods (Figure 3). The principal change from the previous formulation in Figure 1 is the greater emphasis on achieving impact through work at the global level such as PIM’s work on foresight modeling and PIM’s support of developing countries participating in the WTO negotiations.

Table 2. Restructuring of PIM for the Extension Period, 2015–2016

2014 Flagship Structure		Proposed 2015–2016 Flagship Structure
1 Foresight Modeling		
2 Science Policy and Incentives for Innovation	1	Technological Innovation and Sustainable Intensification
3 Adoption of Technology and Sustainable Intensification		
4 Policy and Public Expenditure	2	Agricultural Growth and Transformation at the National Level
5 Value Chains	3	Inclusive Value Chains and Efficient Trade
6 Social Protection	4	Improved Social Protection for Vulnerable Populations
7 Natural Resource Property Regimes	5	Property Right Regimes for Management of Natural Resources and Assets
Cross-cutting: Gender, Partnerships, and Capacity Strengthening		Cross-Cutting: Gender, Partnerships, and Capacity Building

Source: Proposal for Extension Period, 2015–2016.

Figure 3. Main Impact Pathways of PIM Research



PIM Activities by Source of Funding, Centers, and Flagships

The Master List of activities mapped to PIM, provided by the PIM Management Unit to the evaluation team on April 2, 2014, contained 493 activities, of which 105 activities were primarily funded by Windows 1 and 2 (W1-2), 58 activities by Window 3, and 330 activities by bilateral donors.

For the W1-2 activities, PIM initially adopted a call-for-proposals from the participating Centers, followed by a centralized review process to allocate its W1-2 funds, but its allocation of these funds among participating Centers was initially constrained for the first two years (2012 and 2013) by the shares of CGIAR core funding that the Centers had historically received. As a result, most Centers submitted proposals to continue funding legacy activities that had started before PIM was established. Thus, the evaluation found that half of the 74 activities it reviewed were legacy activities - 15 led by IFPRI and 24 by other Centers (Table 3). This having been said, many principal investigators have praised PIM management for supporting the continuation of legacy activities in the first two years. According to one principal investigator, “we didn’t have to start from scratch” like some other CRPs that wiped the slate clean and allegedly lost a wealth of experience.

Table 3. Legacy and New Activities

	Legacy Activities		New Activities			Total
	2012	2013	2012	2013	2014	
Start Year						
Leading Center						
IFPRI	10	4	13	2	8	37
Non-IFPRI	23	1	7	4	2	37
Total	33	5	20	6	10	74

Source: IEA portfolio analysis of W1-2 supported activities

“Legacy activities” are a natural continuation of activities that were started before and ongoing when PIM was established at the beginning of 2012.

“New activities” are not a natural continuation of activities that were ongoing when PIM was established in 2012.

For the W3 and bilateral activities, the Consortium initially directed that all CGIAR research activities should be mapped to at least one CRP, whatever their source of funding - W1-2, W3, bilateral, or other CRPs. (That is, some activities have been mapped to and received W1-2 funds from more than one CRP.) This meant that PIM had an unclear amount of responsibility for a number of W3 and bilaterally funded activities that were not necessarily aligned with its objectives. This requirement to map all CGIAR research activities to at least one CRP has since been relaxed somewhat. Today, participating Centers submit requests to the PIM Management Unit to map additional activities to PIM - funded from their own W3 and bilateral sources. The PIM Management Unit considers these

requests and accepts or rejects them based on the alignment of their objectives with those of PIM and its flagships.

Of the 388 W3 and bilaterally funded activities, 104 were associated with IFPRI's Country Strategy Support Programs (CSSPs), funded in large part by USAID. IFPRI has had discussions, internally and with USAID, about whether these should be included in the PIM program because the CSSPs are long-term and flexible programs with large components of capacity strengthening and their activities cut across many PIM flagships. It is also difficult for CSSP activities to report to PIM; including them in PIM adds additional reporting requirements for little real purpose. On the other hand, in the six countries where they operate, CSSPs represent an existing partnership with the government to facilitate the uptake of research results into positive policy outcomes.⁵

Including the 104 CSSP activities in this evaluation presented the risk of focusing the evaluation too much on IFPRI's activities to the relative neglect of those based in other Centers, and IFPRI is in any event currently commissioning its own mega-study of its CSSPs. Therefore, the evaluation team and the IFPRI Director-General mutually agreed that this evaluation would have a reduced emphasis on the CSSP activities that are mapped to PIM. The evaluation has undertaken a meta-review of previous assessments of individual country support programs, and members of the evaluation team also visited four of the CSSP countries (Bangladesh, Ethiopia, and MalawiUganda) and two former CSSP countries (Mozambique and Uganda) — all of which have contributed to the findings in Chapter 7.

Of the 493 activities on the Master List, 416 activities received some form of funding in 2013 - the only year for which such complete information is available (Annex Tables E-1 and E-2). The remaining 77 activities were either discontinued in 2013, or did not start until 2014. Overall, of the total expenditures of \$59.2 million in 2013 (not including the CSSP activities, PIM management expenses, or W1-2 co-financing of W3/bilateral activities), 40 percent came from W1-2 funds, and 60 percent from W3/bilateral funds. Four of the flagships (1, 3, 4, and 5) received more than three-quarters of the W1-2 funding. Activities based in IFPRI received 60 percent of the W1-2 funding, followed by the activities based in ILRI, ICRISAT, ICRAF and Bioversity.

However, this picture overstates the number of research activities that are actually taking place because this is a financial management rather than a programmatic management view of the program. That is, each line item in the Master List represents a research contract with a donor.⁶ So, for example, when a donor supports an activity over a number of years, this typically shows up as several line items, one for each year. When more than one donor supports the same research activity, this shows up as one line item for each donor. And when W1-2, W3, or bilateral funds

⁵. IFPRI currently has six CSSPs in Bangladesh, Ethiopia, Ghana, Malawi, Nigeria, and Pakistan.

⁶. IFPRI's financial management system also treats W1-2 funds from PIM much like another donor. Each activity in the Program Participant Agreements signed between IFPRI and the other Centers shows up as one line item.

support the same research activity, this also shows up as one line item for each source of funds. Instead of 416 activities, there were in all likelihood only about 150 discrete research activities taking place in 2013.

The evaluation asked the PIM Management Unit if they could provide the evaluation team with a programmatic rather than financial management view of the program, but they were unable to do so during the course of this evaluation. The evaluation also tried and started to make a systematic assessment of the strategic, operational, and financial linkages that exist between the research activities mapped to PIM, but being funded from different sources, as follows, but was not able to complete the task in a systematic way.

This having been said, based on the portfolio analysis, interviews and the staff survey, W1-2 funds have, for the large part, been supporting new or expanded components of larger projects already being supported by W3 or bilateral funding. During the first three years, principal investigators have found it difficult to access W1-2 funds to support long-term research programs. They have come to view W1-2 funds as largely short-term because of the uncertainties associated with the annual approval process, and bilateral funds as longer-term.⁷ This does not necessarily mean that bilateral funding is driving the allocation of W1-2 funds. Rather, the bilateral funds are forming the foundation of the research program, and the W1-2 funds are supporting research that builds on this foundation, such as synthesizing and translating cross-country research results into global public knowledge of benefit to a broad array of other countries at similar stages of development.

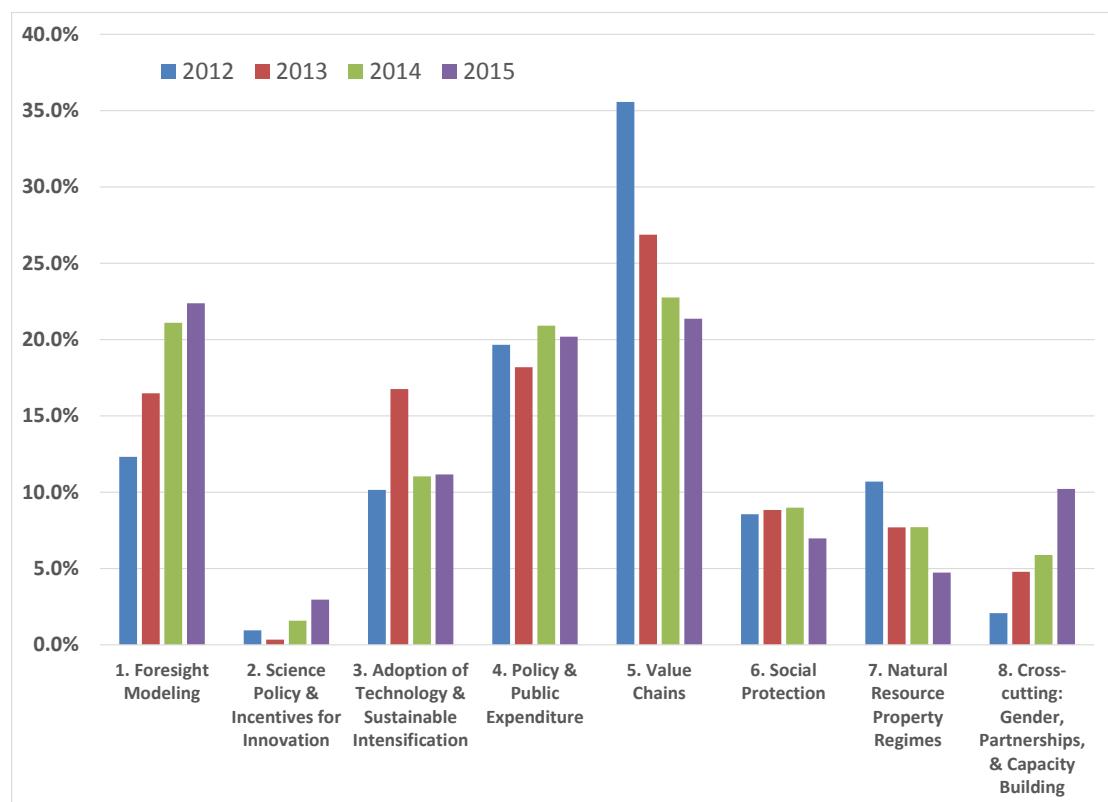
Principal investigators have also found W1-2 funds to be more flexible but less reliable than bilateral funds. W1-2 funds have been more flexible, for example, about including additional external partners in the research, or expanding cross-country research to additional countries not in the bilateral donor's scope, or simply adding a research component alongside what was essentially a bilaterally funded development project. But the W1-2 funds have proven to be less reliable because of the uncertainties about the level of funding to be received from the Fund Council and about the time of year when the funds actually arrive - so far always in the second half of the year for which they were allocated. Principal investigators report delayed authorizations to recruit, not just new staff, based on promises of W1-2 funds later in the year, but also to recruit consultants to assist with research activities, and to negotiate contracts with partners for the delivery of services such as household surveys in developing countries.

In terms of the allocation of W1-2 resources across flagships, Flagship 1 and Flagship 8 (comprising the cross-cutting activities of gender, partnerships, and capacity building) have received an

⁷. Commenting on an earlier draft of this report, PIM management notes that this is a System-wide issue, not specific to PIM. Initially the longest duration a CRP could extend on funding was three years, and in the case of PIM there were many activities that were funded for each of the three years. The security and duration of W1-2 funding is an important issue, since it was an objective for the reform that has clearly failed to materialize.

increasing share of W1-2 budget allocations from 2012 to 2015, Flagships 5 and 7 have received a declining share, and the other flagships have received a stable share (Figure 4). It is not possible for this evaluation to make a judgment about the appropriateness of this allocation of W1-2 funds without having more information about the use of W3 and bilateral funds to support these and other related activities that are mapped to the overall PIM program. It is also doubtful that others, such as the Science and Policy Advisory Panel and IFPRI Board of Trustees, can realistically make such judgments without this additional information either.

Figure 4. Share of Different Flagships in W1–2 Budget Allocations, 2012–2015



Source: Annex Table E-3.

A consolidate, programmatic view of the activities mapped to PIM would clearly be more important from the perspective of governance, management, research implementation, monitoring, reporting, and evaluation of the program. In all likelihood, most principal investigators know who is supporting their research projects, but PIM Management does not have a consolidated record of this information, which should be essential for making strategic resource allocation decisions. If the W1-2 funds are being used to support a component of a larger bilaterally funded activity, which is often the case, it is important to know how this component relates to the larger project, and why the bilateral donor is unwilling to fund it. Those who are preparing and submitting proposals may well

have an incentive not to reveal the other sources of funds that they are already receiving or have applied for their research, but this is important to make strategic decisions that make the best use of all sources of funding. Otherwise, the existence of asymmetric information between those seeking and approving funds will lead to less than strategic allocations.

As a first order of business, the PIM Management Unit should put in place a consolidated, programmatic perspective of PIM activities to improve program management, monitoring, reporting and oversight, as opposed to the current financial management perspective in which a research activity supported by more than one donor, or one donor over several years, shows up as several activities. This should have been done before now. By way of example, CCAFS has put in place such a Planning and Reporting system for planning and reporting CCAFS-related research activities. Its project proposal forms also require those seeking support from CCAFS to indicate transparently the other sources of funds for their activities.⁸

⁸. See the CCAFS Planning & Reporting Platform User Guide.

3. Program focus

This chapter addresses the first overarching issue of this evaluation — “the extent to which PIM is supporting research activities that are responding to global, regional, and country development challenges.” Therefore, it is concerned with the relevance of the flagships, the plausibility of their impact pathways for achieving their respective IDOs, the relevance of the objectives and design of individual activities in relation to their flagship IDOs and impact pathways, and the comparative advantage of the participating CGIAR Centers to conduct this research.

The findings of this chapter are drawn primarily from the detailed portfolio analysis of 74 projects (listed in Annex F) that have received W1-2 funding from PIM, their project proposals, their progress reports, and interviews with the principal investigators, supplemented by responses to relevant questions on the staff survey.

While the project proposals and progress reports contained a lot of useful information, team members found that the project proposals in particular were often deficient in providing detailed information in areas such as the origin of the research activity, the additional sources of funding supporting the activity (W3, bilateral, or other CRPs), the desired outcomes of the research outputs, the postulated impact pathways to achieving these outcomes, and the role of partners in achieving these outcomes. Therefore, interviewing the principal investigators was important to filling these gaps and to understanding the specific outputs and objectives each project was accountable for delivering as opposed to the higher order goals, such as the SLOs and IDOs to which the project was contributing. (See Annex I for some suggested improvements in the project proposal and progress report forms.)

The Organization of the Program into Seven Flagships

PIM’s activities were originally grouped under three broad thematic areas - (a) effective policies and strategic investments, (b) inclusive governance and institutions, and (c) linking smallholders to markets - as well as subthemes in each of these areas. However, the CGIAR Fund Council recommended that PIM be restructured, with a more focused emphasis on impacts, when it approved the program in December 2011. Accordingly, the PIM management team developed the new structure in 2013 which grouped the research work into seven substantive flagships and one cross-cutting flagship on gender, partnerships, and capacity building. Although the program has subsequently reduced the number of flagships from 7 to 5, effective January 1, 2015, this evaluation continues to use and refer to the seven flagship structure that was in place until that time.

There is a strong theoretical and practical logic to the organization of the program into these seven flagships, as follows:

- flagships 2 and 4 are concerned with two aspects of national policies and public expenditures at the economy-wide level - science policy and economic policy per se, which influence, among other things, the agricultural technologies that are used and the agricultural commodities that are produced;
- flagships 3, 5, and 7 are concerned with policies and institutions in three subsectors - agricultural extension, agricultural marketing (both inputs and outputs), and the management of renewable and often commonly held natural resources in agriculture, livestock, forests, and fisheries;
- flagship 6 on social protection is concerned with putting in place effective rural safety nets to protect rural populations against adverse economic or weather conditions, or even facilitating their migration to other economic sectors during the process of agricultural transformation;
- then Flagship 1 elevates the focus to public policies and expenditures at the global level, including the strategic allocation of the CGIAR's own resources for agricultural research, both bio-physical and economic.

Each of the seven flagships is also, to a large extent, internally coherent. Effective policy-oriented research starts with a good understanding of (a) the characteristics of the good or service that is the subject of the research, (b) the policy and institutional environment in which the good or service is being produced and consumed, and (c) the key actors involved in its production and consumption. Each of these three things differ among the seven flagship domains in ways that influence both the strategic approach to the research in each domain, and how the research influences policy makers and other users along the impact pathways to improved policies, institutions, outcomes, and ultimately impacts.

Flagship 7 is focusing mostly on the community management of common pool resources that are rival (or rivalrous) but often non-excludable: only one person can consume or use a unit of the resource at a time, but it is difficult to set up a market to exclude those who do not pay.⁹ Flagship 5 is focusing on the private provision of private goods (rival and excludable), namely, agricultural commodities and inputs as they move along the marketing, processing, and distribution chain from producers to the ultimate consumers. Flagship 3 is focusing on the pluralistic provision and adoption of improved agricultural technologies and farm management practices (generally non-rival, but sometimes excludable and sometimes not). Flagships 2 and 4 are focusing on national policies, which

⁹. For the non-economists who are reading this evaluation, “private goods” are rival and excludable, while pure “public goods” are non-rival and non-excludable within their associated reach (local, national, regional, international, or global). “Tolls goods” like toll bridges and highways are non-rival up to the point of congestion, but excludable by means of toll gates. “Common pool resources” are rival and non-excludable. These basic characteristics of goods and services exert a strong influence on the economically feasible ways in which they can be provided, including, for example, by converting a good or service from one type to another by defining and enforcing new property rights (common or individual).

are pure public goods, albeit abstract public goods (non-rival and non-excludable), to the extent that these are effectively enforced within the jurisdiction of the responsible government authority. Flagship 6 focuses on the public provision of private goods to affected populations, often means-tested in some way. Flagship 1 focuses on global public policies and expenditures in support of the four System-Level Outcomes.

Intermediate Development Outcomes (IDOs) and Impact Pathways

One of the major findings of this evaluation - based on interviews, surveys, and documentary evidence - is that the CGIAR Reform and the establishment of the CGIAR Research Programs, including PIM, have led the social scientists involved with PIM to pay greater attention to impact pathways in the design and implementation of their research. Two-thirds of the staff surveyed agreed or strongly agreed (a) that their own research activities are better rationalized in relation to the CGIAR's Strategy and Results Framework (SRF) and System-Level Outcomes (SLOs), and (b) that their own research is now "more accountable for development outcomes, not just research outputs." These were the two highest responses to the survey question on the value-added of PIM, and showed no significant difference between the staff who responded to the survey from IFPRI and from the other participating Centers (Volume 3, Staff Survey question #30).

This evaluation also finds that the presentation of the main impact pathways of PIM-supported research in the "Proposal for the Extension Period, 2015–2016" (Figure 3 in Chapter 2), represents an improvement over that in the final PIM proposal to the Consortium in October 2011 (Figure 1 in Chapter 2). The evaluation found, among other things, that researchers in the different flagships could more readily identify their research with one of the impact pathways in Figure 3.

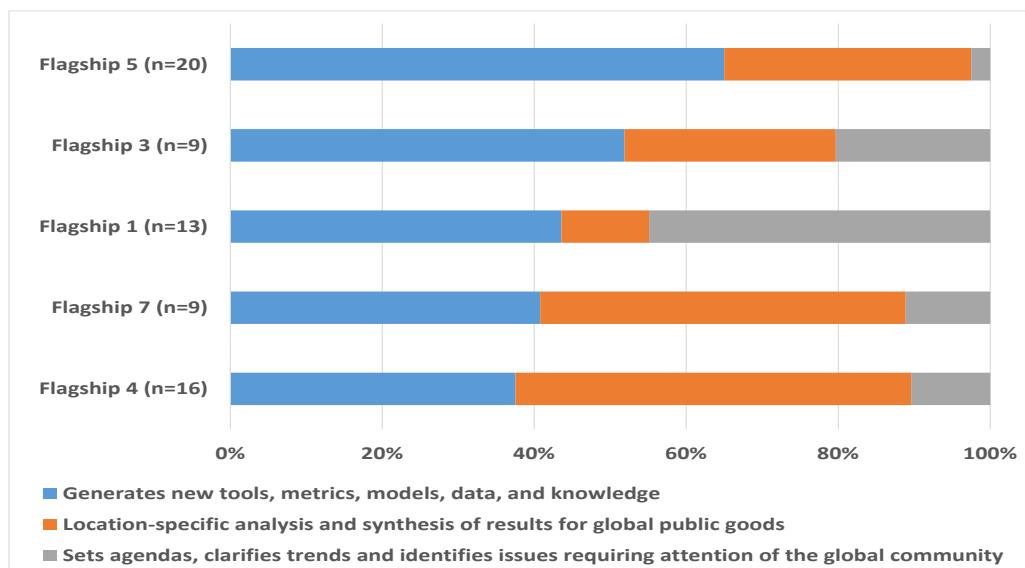
Overall, the 132 respondents to the staff survey said that three most important impact pathways for their research were (Volume 3, Staff Survey question #19):

- (a) applying new analytical tools and methods to policy, institutional, and market challenges - 71 percent highly or substantially applicable;
- (b) generating information useful to participants in national policy processes in response to the specific demands of country-level partners and clients - 66 percent highly or substantially applicable;
- (c) providing new insights and evidence that shift dominant perspective on issues and help set agendas for global policy processes - 54 percent highly or substantially applicable.

But there are significant differences among flagships, based on the portfolio analysis, interviews with principal investigators, and responses to the staff survey (Figure 5). Flagship 5 on value chains has had the greatest emphasis on developing new analytical tools and methods and disseminating knowledge; Flagships 4 and 7 on national policy and on natural resource property regimes have had the greatest emphasis on country-level analysis useful to participants in national policy processes;

and Flagship 1 on foresight modeling has had the greatest emphasis on setting agendas, clarifying trends, and identifying issues requiring the attention of the global community.

Figure 5. What are the principal impact pathways for the projects in each Flagship?

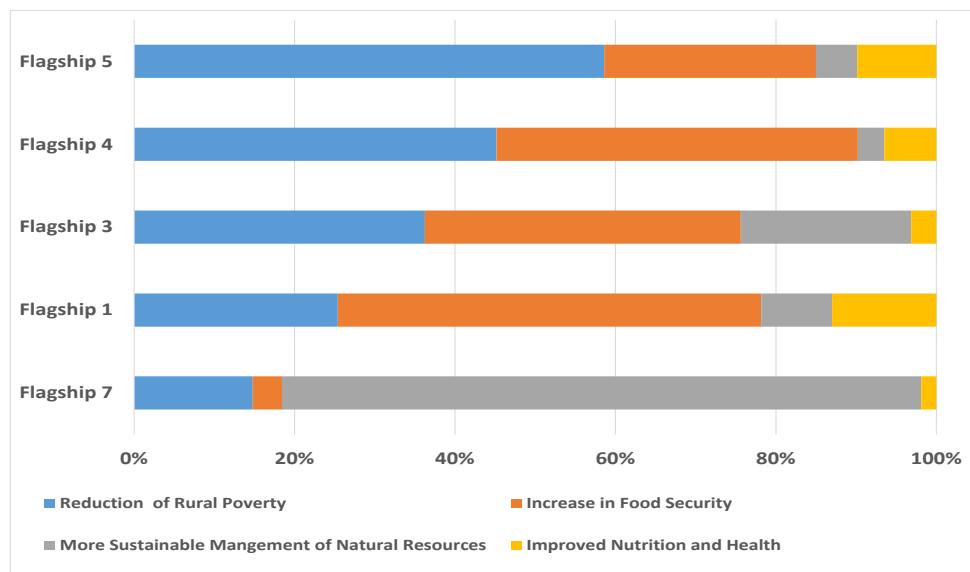


Source: IEA portfolio analysis of W1-2 supported projects. The differences among flagships are significant at the 95% level of confidence. There were not enough projects in Flagships 2 and 6 to include in this comparison - only one in Flagship 2 and three in Flagship 6.

As a result, there are also significant differences among flagships in terms of their contributions to the System-Level Outcomes. Flagship 5 has had the greatest focus on reducing rural poverty, Flagships 1 and 4 on increasing food security, and Flagship 7 on the more sustainable management of natural resources (Figure 6).

For the five major flagships, the impact pathways for achieving the flagship IDOs are largely realistic and plausible at the general level. Starting with Flagship 7, the IDO is “improved use of scientific evidence in decision processes related to sustainability of natural resources important for rural livelihoods,” and the principal impact pathways are (a) responding to specific demands of decision makers and beneficiaries, and (b) seeking to inform policies by producing new analytical tools and methods. All but one of the projects reviewed has now developed a specific impact pathway for its research. The most advanced projects in this flagship - such as those led by ICRAF (#20), IFPRI (#44), and Worldfish (#89) - have conducted detailed and nuanced analyses of stakeholders and their interests to inform the development of their impact pathways. The researchers have built close partnerships with policy actors to develop plausible strategies for the research outputs to influence policies.

Figure 6. To which System-Level Outcomes are the projects contributing?



Source: IEA portfolio analysis of W1-2 supported projects. The differences among flagships are significant at the 99% level of confidence.

For Flagship 5, the IDO is “strengthened value chains that link producers and consumers with lower transactions costs, increased inclusion of smallholders, and provision of benefits to both men and women,” and the principal impact pathway has been the development of new analytical tools and methods and the use of web-based clearinghouses - developed by activities #65 (IFPRI) and #86 (ILRI) - to disseminate these peer-reviewed tools and methods to other CRPs, researchers, and development practitioners. Activities #7 (CIAT) and #15 (CIP) have also established participatory forums - called learning alliances and multi-stakeholder platforms, respectively - in which those with a vested interest in value chain upgrading meet to exchange knowledge and plan for change. The latest step along this journey of converting the abstract concept of impact pathways to something more tangible has been the proposal, now approved for the extension phase, to establish three regional hubs on a pilot basis in Peru and Ethiopia, and a third virtual hub in Senegal. However, the flagship is still working its way through different views as to how these hubs will operate.

For Flagship 3, the IDO is “increased adoption of superior technologies and management practices in relevant domains of application.” It seeks to understand the constraints to the adoption of varieties, farming systems, and management practices considered suitable and superior to existing technologies and to develop practical recommendations to addressing these constraints. The flagship is supporting four sequential streams of research: (a) the ex-ante assessment and selection of best-fit technologies for different agro-ecological regions; (b) improving rural advisory services to facilitate the adoption of superior technologies; (c) tracking the adoption of new technologies; and (d) measuring the impacts of technology adoption. Thus, the impact pathway feeds both forward to

identifying constraints and assessing options to removing or reducing them, and backwards to researchers to improve their assessments of likely adoption rates. Also emphasized are connections with the commodity and system-based CRPs that also have adoption of superior technologies as objectives and IDOs.

For Flagship 4, the IDO is “improved sectoral policy and better public spending for agriculture in agriculturally-dependent countries,” and the principal impact pathway is providing credible economy-wide analysis for decision makers - often based on country-level CGE models - to help improve national policies. The principal users of the research outputs are often major donors like the World Bank, USAID, and the European Union who take this research into their policy dialogue with governments. The impact pathway for the new research (starting in 2014) on agricultural price distortions in Cluster 4.1, which seeks to advance common methodologies among international organizations to measuring distortions in agricultural incentives, is also via the policy advice work of international organizations and IFPRI itself. The impact pathways for the international trade research in Cluster 4.4 based on the MIRAGE Trade Analysis Model lies in the broader international realm. This research focuses on assisting developing countries in the Doha Development Agenda negotiations and on analyzing the effects of regional trade agreements, export restrictions, and policy measures related to food security (such as trade policy versus storage policies/food reserves).

For Flagship 1, the IDO is “improved prioritization of the global agricultural research effort for developing countries,” and the impact pathway works through contributing to the decision processes of donors and research organizations using the analysis, to decisions on research priorities, through individual Centers to reach national partners, and ultimately to the outcomes realized when the prioritized research is completed and the resulting new technology is adopted. This pathway is long and difficult to trace objectively, especially when it comes to attribution, but also rather standard for foresight modeling activities that support policy processes. Evidence-based decision making requires some means to obtain quantitative evidence, say, on coming problems (such as climate change) or alternative choices of technology or research (such as crop or livestock genetics). What is different about the foresight work in Flagship 1 is that the (possible) decision takers have not directly commissioned the quantitative analysis, as is usually the case for ex-post and ex-ante policy impact assessments. This can be a comparative strength, making it possible to respond to new requests in a timely fashion, as in the case of the World Bank-led multi-agency report on the future of African drylands. Still, achieving the activities’ objectives would likely benefit from a stronger focus on outreach and actively marketing their outputs. The newer activities in this flagship seem to be putting more emphasis on this by trying to actively involve regional partners in research and to reach regional decision makers.

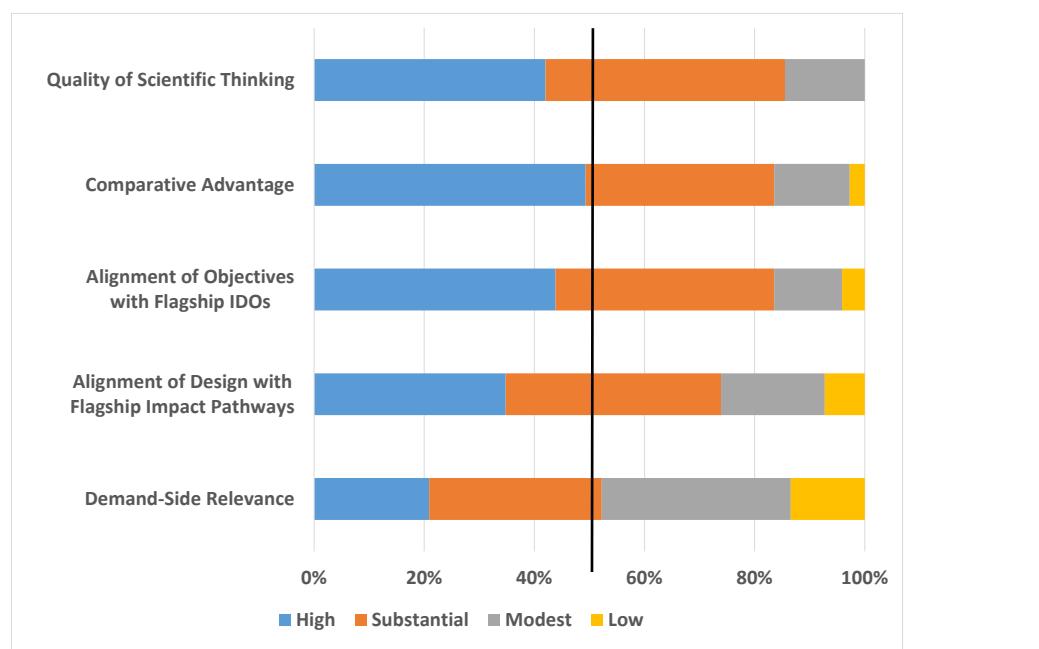
Relevance of Objectives and Design

The portfolio analysis of 74 activities assessed the extent to which the objectives and design of each activity were (a) aligned with their flagship IDOs and impact pathways; (b) reflected a high quality of

scientific thinking, state-of-art knowledge of the scientific literature, and novelty in research approaches; (c) responded to developing country demand; and (d) played up to the comparative advantages of the participating Centers in the CGIAR System.

These assessments were uniformly high with the exception of demand-side relevance (Figure 7). The objectives and design of more than three-quarters of the projects were substantially or highly aligned with the flagship IDOs and flagship impact pathways discussed in the previous section. More than 80 percent of the projects reflect a substantial or high quality of scientific thinking, and play up to the comparative advantages of the CGIAR Centers leading the research. There were no significant differences in these ratings among CGIAR Centers leading the activities or among flagships.

Figure 7. Relevance of Objectives and Design



Source: IEA portfolio analysis of W1-2 supported projects.

Demand-Side Relevance

This concerns the extent to which the objectives and designs of the projects reflect the expressed needs and priorities of intermediary users and ultimate beneficiaries - that is, those speaking or acting on behalf of the rural poor in developing countries. The evaluation found that a large number of projects originated with requests from international donors like the Gates Foundation for the Global Futures project, USAID for the Women's Empowerment in Agriculture Index, and the European Commission to assess the indirect land use changes resulting from the European Union's biofuels policy. Therefore, the extent to which these research activities also reflected the needs and priorities of the rural poor in developing countries was not always immediately apparent. When

interviewing principal investigators as part of the portfolio analysis, the evaluation found that “demand” for the research was not always synonymous with “demand” from developing countries.

The relatively low ratings for demand-side relevance reflect the observation that PIM is supporting both upstream “discovery-type” research and downstream “delivery-type” research. While both may be viewed as applied research, discovery-type research tends to be more strategic in nature - aimed at applying basic scientific knowledge to increase our understanding of, say, the role that policies, institutions, and markets play in pro-poor agricultural growth - and delivery-type research tends to be more adaptive and context-specific in nature - aimed at analyzing the performance of specific policies, institutions, and markets in particular countries or agricultural systems. Discovery-type research tends to be more supply-driven, based on researchers’ own assessments of research priorities, and delivery-type research tends to be more demand-driven, based on requests from developing country governments and other developing country stakeholders.

Both types of research are clearly important and complementary to achieving the overall objectives of PIM, so the relatively low rating for the demand-side relevance of discovery-type projects is not a cause for concern. The discovery researcher needs to inform the delivery researcher of important understandings and the delivery researcher needs to inform the discovery researcher of the types of understandings needed. But there is also a tension between them and there may be difficulties in getting them to work together. Some discovery researchers have argued that delivery research is not really research at all, but rather extension, while some delivery researchers have argued that discovery research is too academic and too focused on outputs and not on outcomes.

This tension appears to exist to some extent between IFPRI and non-IFPRI researchers in PIM, since IFPRI scientists tend to conduct more discovery-type research, while social scientists at the other Centers tend to conduct more delivery-type research. A significantly larger number of IFPRI staff - 88 percent to 54 percent - said that their choice of research topics reflected their own assessment of scientific interest, priorities, needs, and knowledge gaps, a difference that was significant at the 99 percent level of confidence (Volume 3, Staff Survey question #13). That IFPRI and non-IFPRI researchers tend to conduct discovery and delivery-type research, respectively, is also evident from the principal partners that they work with. IFPRI researchers tend to work more with universities in developed countries and national governments in developing countries. Non-IFPRI researchers tend to work significantly more with national research institutions and national agricultural extension systems in developing countries, local and national NGOs, and producer organizations. (Volume 3, Staff Survey question #22. More such findings in relation to partnerships will be discussed in Chapter 7.)

One final comment on the relevance of objectives and design is the question of what should be the basic unit of interest. For example, in Flagship 3, the starting point is superior agricultural technologies, in Flagship 5 the value chain, and in Flagship 7 the commonly held natural resource. However, an alternative starting point might be rural livelihoods and how to integrate a livelihoods

approach in agricultural extension, value chain, or natural resource management research. A rural livelihoods approach would start with the selection of a region and target households within that region. Hence it would also be a place-based/territorial approach to development. The approach would start by assessing the needs and priorities of households in the region, which are typically multi-faceted and go beyond consideration of a single agricultural subsector. They may well be interested in multiple crops, multiple value chains, and multiple natural resources, as well as other issues (like education and health care). It may be time to think about whether and how this approach might be advanced within PIM, for example, in conjunction with the new initiative on regional hubs in Flagship 5. Focusing on issues around value chains, the regional hubs are expected to be a meeting place between the more downstream delivery-type research (taking place within the region) and the more upstream discovery-type research. While currently focused on value chains, the regional hubs could serve as a model for a more integrated approach to research in other CGIAR focal areas. It will thus be important to learn the lessons from the pilots being undertaken.

Comparative Advantage

Visiting the eleven countries for this evaluation, and talking to professional peers, the evaluation found that the CGIAR System and its scientists enjoy a strong reputation in most countries and their research usually carries a great deal of credibility. Equally important for policy makers, who are often suspicious of the ulterior motives of some researchers - that they may be more interested in personal gains arising from their research than the well-being of the people that they are researching - many places recognize the CGIAR brand as politically neutral, its research as scientifically objective, and its researchers as highly legitimate. Scientists who are affiliated with the CGIAR have an advantage in the competition for policy makers' attention.

Of the seven comparative advantages of PIM, listed in the final proposal submitted to the Consortium in October 2011, this evaluation finds the main sources of comparative advantage to be (in order of importance):

- the CGIAR's scale (large enough to generate an intellectual critical mass);
- its large network for data collection in developing countries;
- its specific mandate related to the intersection of food security, poverty, and sustainable agriculture;
- its recognized research capabilities.¹⁰

¹⁰. Policies, Institutions, and Markets to Strengthen Food Security and Incomes for the Rural Poor, "A Revised Proposal Submitted to the CGIAR Consortium Board," October 2011, p. 8. The other three comparative advantages listed in the final proposal were (a) its focus on research-based capacity building in the public, private, civil society, and academic sectors; (b) its institutional and political independence; and (c) its flexibility (nimble enough to adjust to emerging needs).

It is surprising that the seven comparative advantages listed in the final PIM proposal do not include international public goods in the form of global public knowledge relevant to a broad array of countries at similar stages of development. The production of such knowledge and its publication in widely accessible venues is an important justification for local-level CGIAR research, such as that occurring in Flagships 3, 5, and 7, in order to inform other researchers and policy makers more generally, who find themselves in situations similar to those being researched by CGIAR activities.

The System-wide program on collective action and property rights (CAPRI) has been a world-wide leader in terms of applied research on the local governance of natural resources in developing countries. Its legacy of accomplishments and reputation has shaped the research portfolio in Flagship 7. CAPRI has continued to evolve as a network, supporting new cutting-edge research on community governance of shared resources, but the time may have come to expand beyond the relatively narrow local-community focus, especially in light of the importance given to property rights and collective action failures when it comes to large-scale acquisitions of land for export-oriented commodity production.

The most important source of comparative advantage for PIM's work on inclusive value chains has been CGIAR's recognized research capabilities in both discovery and delivery-type research. An important dynamic in the comparative advantage of PIM's work on inclusive value chains has been the emergence of inter-Center collaboration during the first three years. This began with an informal collaboration among individual researchers from different Centers, has developed into a community of practice, and is evolving into a set of multi-Center activities for the extension phase. Through these, the flagship on inclusive value chains has the potential to become a world leader in bringing discovery and delivery-type researchers together to help address important development problems.

For its trade policy work, IFPRI has acquired and is supporting one of the top groups of CGE modelers globally. There are, in fact, only about five modeling groups that have the capacities of the CGE modelers at IFPRI. This is especially true now that they have expanded the MIRAGE Trade Analysis Model to incorporate biofuels, which enables them to analyze the effects of the renewable fuels movement in the European Union and globally, and other policies not yet defined. IFPRI has also been a leader in county-level CGE modeling for decades. Its country-level policy analysis builds on this expertise and leverages it well with expertise in local or collaborating agencies.

The measurement of trade distortions has a long history, the most recent chapter being the Distortions to Agricultural Incentives study (Anderson 2009) led by Kym Anderson at the World Bank and engaging many teams and covering more countries and more years than any previous effort of that kind. However, that World Bank project came to an end and the related work that was continuing at OECD, FAO and IADB was serving a similar purpose but was also sometimes leading to different methods of measurement and conflicting policy signals. PIM has responded to an identified need to facilitate a dialogue that aims to clarify and explain the different measures, not to impose common methods on organizations using them for somewhat different purposes.

There are few partial equilibrium models with a structure similar to IMPACT with a focus on the long term. There was the long-term version of WATSIM (von Lampe 1999, no longer in use) and the @2030 model (Britz and Schmidhuber 2002) developed for the Global Perspective Unit at FAO, by now also abandoned. Although FAO has struggled to develop and maintain a quantitative system to digitize its Global Perspectives analysis that was long conducted by Nikos Alexandratos and Jella Bruinsma, those efforts still continue but have not yet reached a sustainable path. The present evaluation concludes that there are not likely to be easy alternatives to IMPACT, but IFPRI could improve its credibility by forging a strong community of practice with others doing similar work who may have made advances that IFPRI modelers could also use such as through AgMIP (the Agricultural Model Intercomparison Project) in which IFPRI is already involved and coordinating the Global Economics Team. (See also Chapter 7 below.)

There are few organizations or institutions that have a similar combination of range and quality of modeling systems at their disposal as IFPRI. While a few places have IMPACT-type systems, a few have MIRAGE-type systems, and more have country-level CGE systems, no one else would have the scale of effort as IFPRI does under one roof. However, it is not clear that IFPRI has explored the possible synergies that may obtain from increased interaction among these modeling systems, such as:

- harmonizing long-term drivers (population, GDP, total factor productivity, resource endowments, etc.);
- comparing the parameterization of the supply and demand systems in the IMPACT and CGE models;
- making common assumptions about developments of policy instruments and indicators in agricultural and food markets;
- undertaking common work on scenarios arising, for example, from changes in technical progress in selected agricultural sectors: Comparing price and quantity changes, disaggregating impacts at the household level, etc.

The systems should be viewed as complementary, not competing; exploring their synergies may have been hindered by their being located in three different IFPRI Divisions. Each would also benefit from a wider community of practice that includes clients as well as other modelers. The leaders of the three modeling teams should explore possible synergies in their work and broaden their communities of practice to engage their clients and other modelers in reviews of model analyses.

Policy Process Research

This chapter has found that PIM's selection of research topics and analytical approaches has for the most part been sound. The chapter has also found that the impact pathways for achieving the flagship IDOs are largely realistic and plausible at the general level. Nonetheless, this evaluation finds that PIM should be supporting one area of research more than at present, namely policy process

research, to generate more robust findings to inform the development of more detailed and effective impact pathways. Such research did feature more prominently in the final PIM proposal that was submitted to the Consortium in October 2011, but this research has largely disappeared from the PIM portfolio since the program was reorganized into seven flagships.

In its place, the PIM Management Unit has sponsored two workshops - the first on "Approaches and Methods for Policy Process Research," cosponsored with A4NH in November 2013, and the second on "Best Practice Methods for Assessing the Impact of Policy Oriented Research," cosponsored with IFPRI and the Independent Science and Partnership Council in November 2014. Nonetheless, the evaluation finds the decision by PIM management to largely discontinue support for research on policy processes to be problematical.

The absence of policy process research has also been noticed by the Consortium Office in its response to PIM's proposal for the extension period: "No flagship seems to deal with the whole science-policy interface to investigate systematically the different ways and pathways for policy research to actually have an influence on policy making. PIM is the only CRP that can cogently work on this and should be contributing to knowledge globally on this very important issue."¹¹ The PIM Management Unit has responded that it is cautious about funding research in this area because "policy processes are highly context-dependent and no general theory of intervention is likely to pass the tests of robustness."¹²

This evaluation does not find this response satisfactory because there is rarely a general theory underlying the research on most of the pressing social-science research questions related to the CGIAR's SLOs. Rather than an excuse for not doing research in this area, the apparent absence of theoretical underpinnings should be leveraged as a major rationale for developing a deeper understanding of how to move from knowledge to policy and action. Moreover, there are several useful theoretical frameworks that address the questions related to the science-policy interface, and this is an area that is seeing rapid developments, especially in the areas of education and public health.¹³

¹¹. Consortium Office Comments to CRPs regarding 2015–2016 CRP Extension Proposals: Policies, Institutions & Markets (PIM), p. 2.

¹². CRP PIM, "Management response to comments on PIM 2015–2016 Extension Proposal," p. 4.

¹³. See, for example: D. W. Cash, W. C. Clark, F. Alcock, N. M. Dickson, N. Eckley, D. H. Guston, and R. B. Mitchell, 2003, Knowledge systems for sustainable development. *Proceedings of the National Academy of Sciences*, 100(14), 8086-8091; S. R. Hanney, M. A. Gonzalez-Block, 2009, "Evidence-informed health policy: are we beginning to get there at last?" *Health Res Policy Syst* 7:30; and L. van Kerkhoff, and L. Lebel, 2006, "Linking knowledge and action for sustainable development," *Annual Review of Environment and Resources* 31:445–477.

The literature on the influence of research on policy is growing in importance, as both researchers and policy makers seem increasingly frustrated by the lack of connection between the two.¹⁴ The field of “knowledge to action” is an emerging hot topic in the social sciences. Several major academic journals, including the Proceedings of the National Academy of Sciences, World Development, and Global Environmental Change, regularly publish articles that speak to the challenge of moving from knowledge to policy and action.¹⁵ While it may be that much of this work is qualitative in nature, and that the observations generated do not lend themselves to straightforward parameterization, this does not mean that this research is not producing new knowledge that is both important and useful for decision making about rural poverty, food security, and natural resource governance in poor nations. On the contrary, this type of knowledge may be just as important as knowing the impacts of specific policy interventions on development outcomes.

An internal literature review conducted for this evaluation has identified at least five researchable hypotheses, as follows. Research is more likely to influence decision-making when:

- researchers understand policy makers’ political motivations to take research seriously;
- decision makers perceive the research as being relevant, credible, and legitimate;
- researchers, decision makers, local leaders, and knowledge brokers have opportunities to form partnerships and build trust;
- local leadership and knowledge brokers are active supporters of policy uptake;
- both researchers and policy makers enjoy organizational support to remove structural barriers, such as the lack of incentives and support for researchers to link with policy.

The evaluation also finds that this area of study fits squarely within PIM’s overall mission, and that PIM researchers are in an excellent position to produce new knowledge on these issues that could reverberate well beyond PIM and the CGIAR System. IFPRI’s Country Strategy Support Programs provide a particular entry-way for this kind of research across the countries in which these exist (Bangladesh, Pakistan, Ethiopia, Ghana, Malawi, Nigeria, and Uganda). The evaluation recommends that PIM support a vibrant and innovative program on the conditions under which moving from scientific evidence to policy implementation becomes plausible. Such a program, which might be one of PIM’s crosscutting programs, would promote research that seeks to assess the conditions under which knowledge may be translated into action.

¹⁴. P. Matson, W. Clark, and K. Andersson, 2015, Pursuing Sustainability: What you need to know if you want to contribute to the goals of sustainable development. Princeton, NJ: Princeton University Press.

¹⁵. The United States National Academies of Sciences has even recognized the importance of this area of research by establishing a research program that addresses these questions under its relatively new section of “Sustainability Science.” For more, see http://sites.nationalacademies.org/PGA/sustainability/PGA_048724 .

4. Quality of Science

This chapter addresses the quality of the science produced by PIM researchers during the first three years of the program. Therefore, it is concerned with (a) inputs to science quality, including researcher quality and quality assurance processes, (b) the choices of research topics and designs; and (c) and the quality of the research output.

This draws on the portfolio review of 74 projects, including interviews with most of the principal investigators; the in-depth case studies; the staff and partner surveys; a quality review of randomly selected publications; and a bibliometric analysis of 370 PIM publications.¹⁶ Annex I also contains a specific assessment of the scientific quality of three major agricultural modeling systems at IFPRI by the expert panel that was constituted for this purpose.

Previous Assessments

The evaluation builds on two sets of prior studies of the quality of science: The Stripe Review of Social Sciences in the CGIAR (Barrett et al. 2009), and ISPC commentaries on PIM proposals and progress reports from 2011 and 2014, as part of its appraisal of CRP proposals. The Stripe Review represents a qualitative baseline, and the ISPC commentaries also identified important problem areas, followed by related recommendations.

The Stripe review, which was completed just before the current CGIAR reform began, found social science research in the CGIAR to be “on the cusp of an outright crisis” (Barrett et al 2009, p. i.). The authors observed excessively high variance in the quality of research, in program partnerships, and in measurable impacts, which they attributed to two particular factors: mission drift and the fragmentation of social scientists’ time. They noted that:

- the CGIAR was increasingly characterized by short-term planning and reporting cycles that forced researchers to prioritize short-term impacts over sound long-term scientific goals. As a result, the “CGIAR social science’s impact has lessened as donors and management have pushed harder for immediately visible development impact because it has meant less attention to the fundamentals of the intermediate research steps” (Barrett et al 2009, p. ii);
- the research agenda had become more fragmented and less focused on the areas in which the CGIAR enjoyed a comparative advantage: the ability to engage in problem-driven, interdisciplinary research; good infrastructure and long term presence in developing countries; and well-trained staff;

¹⁶. The PIM Management Unit provided the evaluation team with this list of PIM publications in October 2014 for publications from January 1, 2012, to August 10, 2014, and has since provided the team with a more current list to the end of 2014. However, the analysis this chapter is based on the previous list, and will be updated for the next version of this report.

- disciplinary diversity was lacking as 60 percent of all social scientists in the System were economists;
- research designs and methods used throughout the research process were deficient in a majority of cases.

The ISPC has offered commentaries on both the original PIM proposal (2011) and the proposal for the extension phase (2014). Both commentaries discussed the quality of science and reiterated several of the findings from the Stripe review. Their main findings may be summarized as:

- there is little or no research that focuses on the science-policy interface that could help inform and improve PIM's stated impact pathways;
- PIM does not have a clear and convincing long-term data strategy;
- the gender perspective is very strong throughout the portfolio.

Inputs to Science Quality

This section addresses the inputs to the scientific process, including (a) the quality of the principal investigators, research staff, facilities, and resources that feed into the research process, and (b) the extent to which IFPRI and the participating Centers have internal processes and staff incentives in place to ensure high quality research. That is, the participating Centers retain responsibility for recruitment, promotion and other human resource management issues, and for putting in place their own quality assurance mechanisms. So this section is first of all an assessment of the Centers' inputs to science quality.

About 52 percent of the principal investigators of PIM activities and 55 percent of the senior research staff allocating time to PIM activities are located in the Lead Center, IFPRI (Table 4). This includes all the activities mapped to PIM, whatever their sources of funding (W1-2, W3, bilateral). That 55 percent of senior research staff are located in IFPRI understates the share of IFPRI in the total staff time devoted to PIM research since IFPRI staff tend to devote a greater share of their total time to PIM research.

Quality of PIM Scientists

To assess the quality of the principal investigators and their track records, the evaluation relied on a bibliometric analysis of all PIM researchers' publications as well as the expert opinions of the evaluation team, who made an assessment of expected project performance with respect to the project objectives. The bibliometric analysis calculated the total number of peer-reviewed

publications, citations, and h-indexes¹⁷ for all researchers who are leading W1-2 activities (Principal Investigators) in both IFPRI and the participating Centers.

Table 4. PIM-Related Staff by CGIAR Center

CGIAR Center	Principal Investigators of PIM Projects		Senior Research Staff Allocating Time to PIM Projects		Number of Survey Respondents
	Number	Percent	Number	Percent	
IFPRI	72	52.2%	118	54.9%	69
ICRISAT	16	11.6%	15	7.0%	8
Bioversity	9	6.5%	10	4.7%	9
CIAT	6	4.3%	6	2.8%	4
IITA	5	3.6%	14	6.5%	6
CIP	5	3.6%	13	6.0%	7
ICRAF	5	3.6%	9	4.2%	9
ILRI	4	2.9%	16	7.4%	9
WorldFish	3	2.2%	11	5.1%	8
ICARDA	2	1.4%	2	0.9%	2
CIMMYT	1	0.7%	1	0.5%	1
IWMI	1	0.7%			
Other	9	6.5%			
Total	129	100.0%	215	100.0%	132

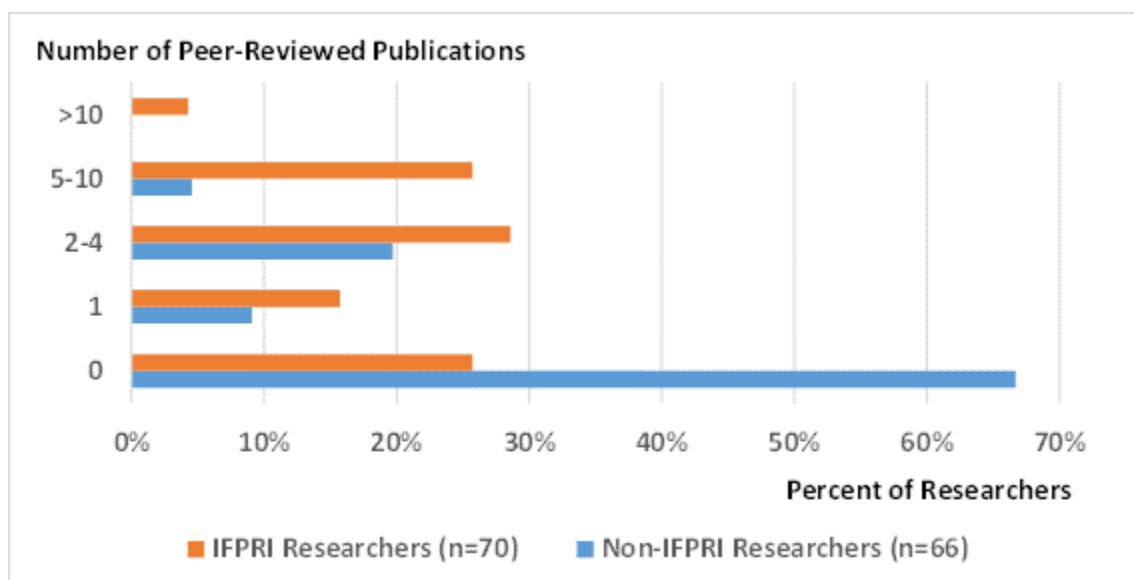
Sources:

- (a) The principal investigators were obtained from the Master List of PIM activities provided by the PIM Management Unit.
- (b) The list of senior research staff allocating time to PIM projects were obtained from the Center Directors Finance and Administration for the purpose of administering the staff survey, and correspond to the recipient of the staff survey. The number of survey respondents per Center is also provided for comparison's sake.

The productivity of PIM scholars was analyzed data on peer-reviewed publications provided by PIM management. Figure 8 shows the proportion of PIM principal investigators who produced peer-reviewed publications in 2013–2014 at varying levels of productivity. On the positive side, there are a good number of extremely productive PIM scientists: 24 out of the 136 principal investigators produced 5 or more publications in 2013–2014. Representing 18 percent of all principal investigators, these 24 exceptional researchers were responsible for 63 percent of all peer-reviewed publications during this period.

¹⁷. The h-Index was developed by J.E. Hirsch to qualify the impact and quantity of individual author research output. Hirsch defines the h index as follows: "A scientist has index h if h of his/her N_p papers have at least h citations each, and the other (N_p - h) papers have no more than h citations each." For more information about the h index, see Hirsch, J.E. "An index to quantify an individual's scientific research output." Department of Physics, University of California, San Diego.

Figure 8. Distribution of Principal Investigators by Number of PIM Publications and Center, 2012–2013



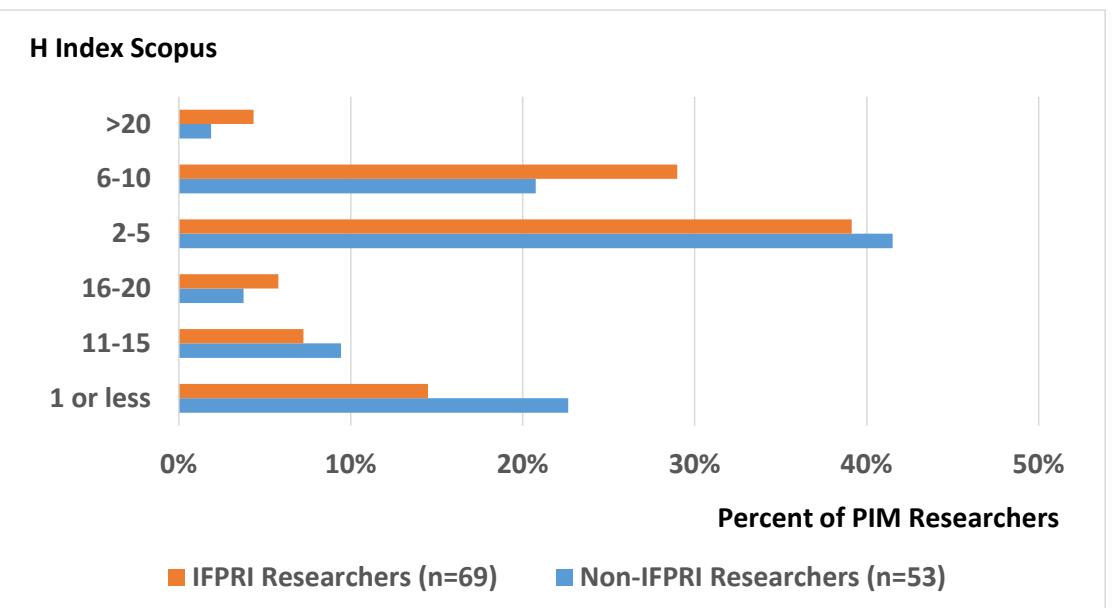
Source: IEA analysis.

The difference between IFPRI and non-IFPRI Researchers is significant at 99% level of confidence.

At the other end of the spectrum, 58 percent of all PIM principal investigators published less than two peer-reviewed publications in 2013–2014, and almost half of all PIM researchers did not publish a single peer-reviewed paper during this two-year period. However, this low level of productivity is more of an issue at the participating Centers than at IFPRI - the differences in productivity being statistically significant at the 99 percent level of confidence. While this difference may be mitigated somewhat by non-IFPRI scientists spending less time on PIM research and publishing for other CRPs instead, this poses a challenge to PIM in supporting the quality of science at places outside of IFPRI headquarters.

The career h-index is another measure of the quality of principal investigators. The h-index was calculated using Scopus citations. Again there is a skewed distribution among PIM's principal investigators: 22 researchers have an h-index of 10 or higher, and 38 researchers have an h-index of 1 or lower (Figure 9). However, comparing the h-index scores for all IFPRI and non-IFPRI researchers, there is no statistically significant difference at the 95 percent level of confidence. While h- indices should be interpreted with caution - because these tend to correlate highly with the number of researchers' years of experience since their doctoral degree - combining this with the investigators' productivity during the last two years indicates a high degree of variability when it comes to the quality of researchers leading PIM research activities.

Figure 9. Distribution of H Index of Principal Investigators by Center



Source: IEA Analysis

The difference between IFPRI and Non-IFPRI researchers is not significant.

Interviews with principal investigators yielded a number of reasons for the diminished productivity of some researchers:

- they were managing large and complex projects that involved a great deal of fieldwork and data collection, and have not yet generated results because of these time-consuming activities;
- they chose to present the results of their research in a non-peer reviewed format to better target policy makers, practitioners and other decision makers in the country where the research was taking place;
- they were doing delivery-type research that sought to provide the research results directly to development actors without delays. It was also more difficult to get delivery-type research published in leading journal;
- there is some confusion among PIM researchers as to what the PIM management team expects of them. The widespread perception among PIM researchers is that the management team has not explicitly indicated their expected levels of research outputs. Researchers could only discern this implicitly when their funding was discontinued or new proposals not approved for funding. From the researchers' perspective, PIM management appeared to be using IFPRI-based standards which were historically higher than in their own Centers, which did not have the same quality of research support.

This evaluation does not find the first three explanations to be valid in general. Even with complex and data intensive projects for which the final results are not ready to include in publications, there is often other more intermediate work that could be published. Such work includes development of conceptual and theoretical frameworks, methodological innovations, review of previous literature, systematic reviews of empirical work addressing broader research questions, and so on.

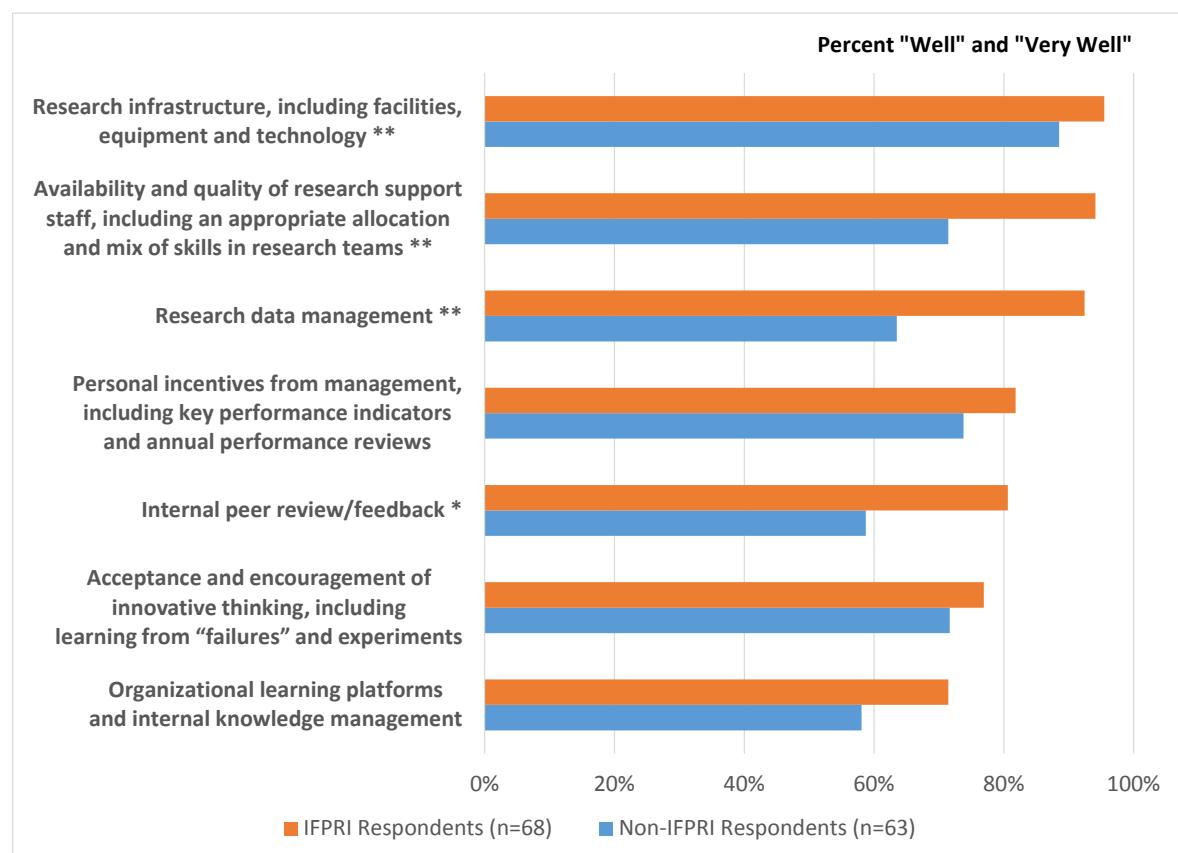
Choosing to publish in a non-peer review format to make sure the intended target audience is reached is often a good way to get the results out quickly when the demand for the research is still there. But such non-peer reviewed products should not be substituting for peer-reviewed publications. One should not exclude the other - PIM researchers should be able to produce both. A two-pronged publishing strategy could be expected: publishing research and preparing other kinds of communications from the same research, so that any advice is based on valid and credible analysis. PIM is a scientific research program and external peer review is an integral part of the scientific process. Simply getting the word out - through either working papers, videos, radio broadcasts, brochures, or policy briefs - without subjecting the research to the evaluation of other scientists at any stage of the research process jeopardizes the quality of the research. Such practices are, in turn, a threat to the long terms reputation and scientific credibility of the research program. Some of the most published PIM scientists are also involved in delivery-type activities involving participatory action research, thereby demonstrating that there is not necessarily a tradeoff between doing good research, publishing in peer-reviewed journals, and influencing policies.

However, the evaluation does agree that PIM management should be more explicit about the expected levels of research outputs to sustain or approve new funding for the particular research activities, while perhaps drawing upon some of the metrics used below: the number of publications, the placement of the research, and impacts of the research. The evaluation found a great deal of ambiguity in terms of what principal investigators thought the program expected. Not having a clear and shared understanding of what was expected also makes it more difficult to put in place effective quality assurance mechanisms.

Quality Assurance Processes

IFPRI respondents to the staff survey uniformly felt that quality assurance mechanisms were working better at IFPRI than other researchers felt they were working at their own Centers (Figure 10). Four of these differences were statistically significant: the quality of facilities, equipment, and technology; the availability and quality of research support staff; research data management; and internal peer review. This is not surprising. IFPRI has always focused on economic and social science research, has specialized in rigorous quantitative methods, and has set up its research infrastructure from the beginning to meet social scientific needs. Most other Centers focused originally on biophysical research, only later adding and putting in place support structures for social science research.

Figure 10. In your Center, how well are the following quality assurance mechanisms working to help enhance the scientific quality of your research?



Source: IEA Staff Survey

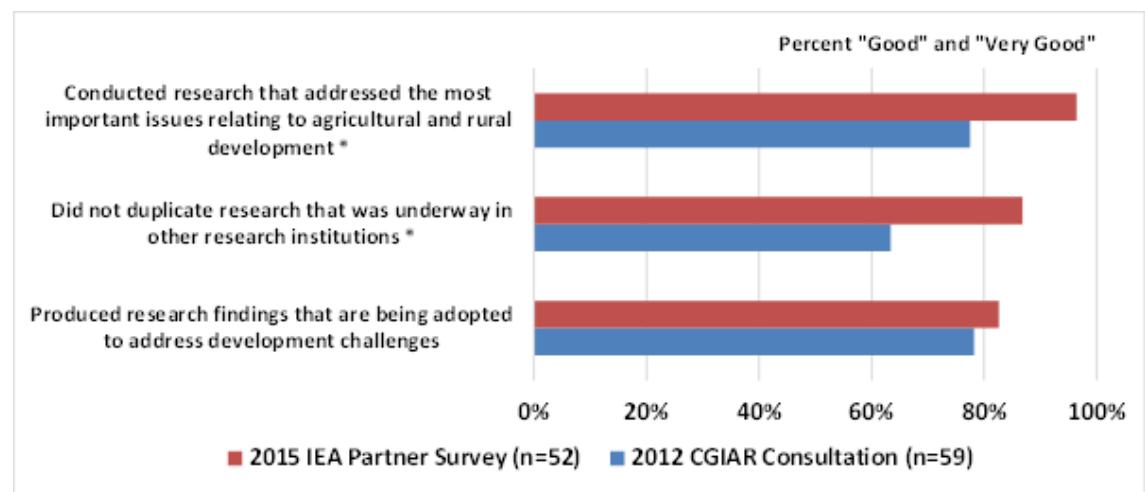
Choice of Research Topics, Design, and Methods

One of the core findings of research on the science-policy interface is that the likelihood of researchers contributing to and influencing public decision making processes depends on the degree to which the users of the research perceive it to be relevant, credible, and legitimate (Cash et al 2004; Clark et al 2012; Matson et al, 2015). That is, PIM researchers need to strike a balance between responding to policy makers' demands for new knowledge (relevance), producing high-quality scientific evidence respected by their peers (credibility), and conducting the research in a way that demonstrates personal integrity and unwavering commitment to the greater good of societies where the research takes place (legitimacy). This section examines the extent to which PIM researchers are successful at striking such a balance in terms of the choice of research topics, research design, and analytical methods.

As reported in the previous chapter (Figure 7), the portfolio analysis of 74 projects found that the choice of research topics in 85 percent of the projects reflected a high or substantial quality of

scientific thinking, state-of-the-art knowledge of the scientific literature, and novelty in research approaches. Three-quarters of the respondents to the staff survey said that PIM's strategy and priorities, and their flagship priorities had a high or substantial influence on their choice of research topics - the highest of all responses to this question. And 96 percent of respondents to the partner survey felt that the CGIAR related activities that they had worked on "conducted research that addressed the most important issues relating to agricultural and rural development," and 87 percent that they "did not duplicate research that was underway in other research institutions." The responses to these two questions were significantly higher than the responses to the same questions in the 2012 Stakeholder Perceptions survey commissioned by the Consortium Office (Figure 11).

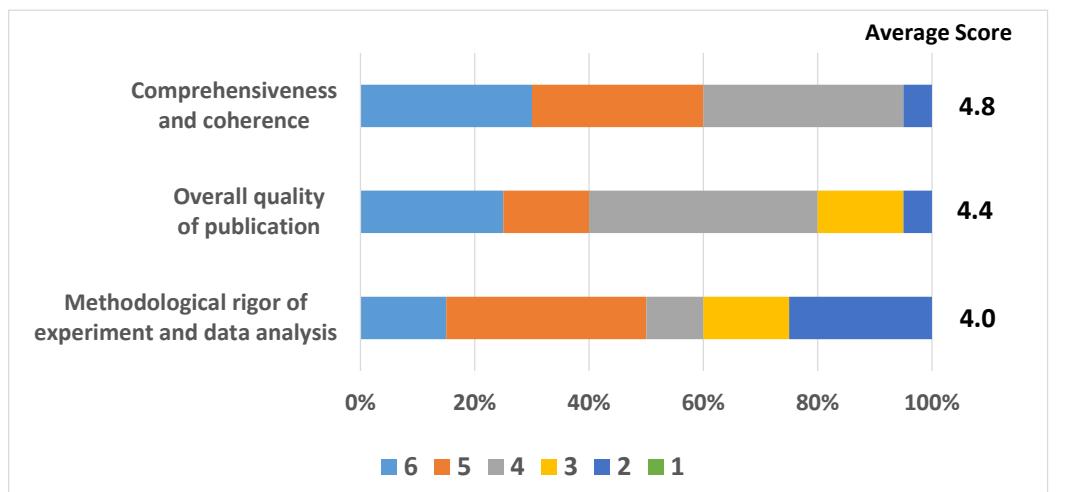
Figure 11. How would you rate the following aspects of the CGIAR research projects that you have worked on?



Source: IEA Survey of PIM Partners and 2012 CGIAR Stakeholder Perceptions Survey.

Each of the five members of the core evaluation team also performed an in-depth review of twenty-five randomly selected publications, 19 out of the 25 publications being peer-reviewed. These represented 12 percent of all PIM peer-reviewed publications. While the result of this review is largely positive, the least positive results were for "methodological rigor of experiment and data analysis," for which the average score was 4.0 out of 6 (Figure 12). While this is clearly a passing grade, the average score masks several extreme values. Five publications received scores of 2 out of 6.

Figure 12. Expert Review of 25 Randomly Selected PIM Publications



Source: IEA review of 25 randomly selected PIM journal articles

The three major concerns that principal investigators expressed to the evaluation team in relation to the choice of research topics, design, and methods were the following. The evaluation shares these concerns:

- while W1-2 funds are more flexible than bilateral funding, they have also proven to be shorter-term and less reliable than bilateral funding, as discussed in Chapter 2. PIM did not make much progress during the first three years in supporting larger research programs that involve longer-term data collection efforts that can help answer fundamental scientific questions. The Stripe review had also noted insufficient support for “long-term, multi-locational data collection using a mix of methods at sentinel sites for regional systems analysis in platforms that bring together social and natural scientists” (Barrett et al. 2009, p. 3). PIM has not been able to use its W1-2 funds toward this end due to the short-term focus of the CGIAR’s planning cycles during the first three years of the Reform. No CRP could commit to funding research beyond 2014 for the first phase — and now beyond 2016 for the extension phase;
- the research is overwhelmingly dominated by economic perspectives. Almost three-quarters (72 percent) of the respondents to the staff survey were economists. There were more agricultural and life scientists (13 percent) than there were sociologists, anthropologists, and the political scientists combined (6 percent);
- there has been a shortage of opportunities for intellectual exchange and dialogue among PIM researchers in which to discuss ideas and methodologies for new research topics, in comparison with other CRPs in which they were involved. Researchers at ICRAF and CIFOR, for example, regularly organize science-focused events, which have offered a venue in which many new and creative research ideas have sprung up through informal conversations among scientists with shared interests. This may be something that PIM could try at the CRP level to encourage more intellectual exchange among its researchers.

Output Quality

The final set of assessments of the quality of science concerns an examination of the scientific output from PIM. First, we look at the total number of PIM publications during the first three years of the CRP. Second, we look at where this work was published and the impact it has had on the greater scientific community. Third, we assess the degree to which PIM research is meeting expectations regarding its impact on other researchers' work. Finally, we look at some alternative metrics for measuring impact, and discuss ways in which PIM could improve the tracking its publications and their influence not only on academic research but more importantly on the policy communities that it seeks to inform with these outputs.

Number of Publications

During the first three years, 2012–2014, principal investigators of PIM activities published 370 articles, books, working papers, data sets, info briefs, and other types of publications, of which more than half (226) were peer-reviewed (Figure 13).¹⁸ Of these, 9 were published in 2012 (a transitional year in which PIM was putting in place processes to start tracking its publications), 136 were published in 2013, and 225 were published in 2014. Producing an average of 180 publications in its first two full years of operation (2013 and 2014), of which 63 percent were peer-reviewed, is a respectable number for any research program, even if only half were peer-reviewed.

The most prolific flagships in terms of peer-reviewed publications per dollar of research expenditures were Flagships 7 and 1 (natural resource property regimes and foresight modeling), followed by Flagships 8 and 6 (the cross-cutting flagship of gender, partnerships, and capacity building; and social protection). We have divided the number of publications by expenditures in 2013 because this is the only year for which this expenditure information is currently available by flagships for all sources of funding (W1-2, W3, and bilateral). It is of course acknowledged that much of this research would have started before 2012 when PIM was established, and so reflects to a large extent the outputs of legacy projects now mapped to PIM.

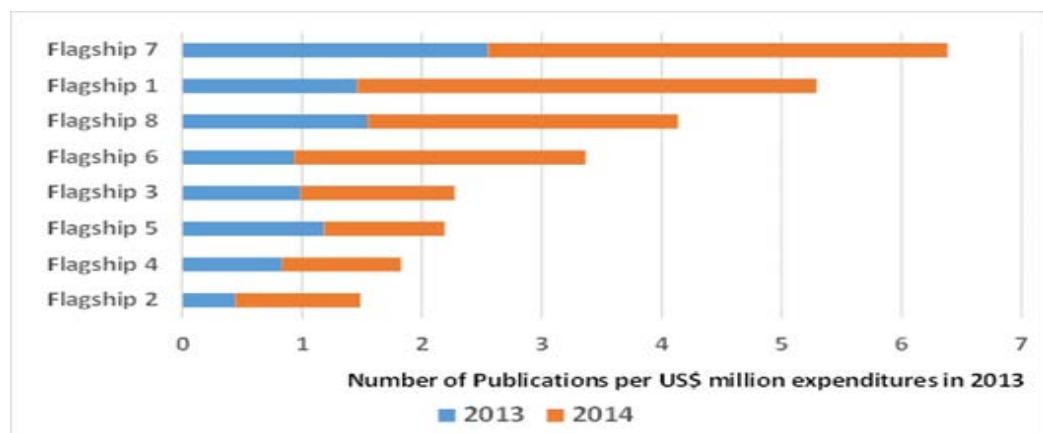
Placement of Research

Of the 370 publications, 167 came out in academic journals that were for the most part peer-reviewed. The journals with the highest number of published PIM research articles are listed in Box

¹⁸. These were published between January 1, 2012 and December 31, 2014. Ideally, one should record the number of publications that arose out of activities that are formally mapped to PIM, whether funded by W1-2, W3, or bilateral funds, but this level of detail is not available in the publication lists provided by the PIM Management Unit. Therefore, that a PIM principal investigator is at least one of the authors of each publication is used a proxy for being associated with a PIM activity. This may overstate somewhat the number of publications to the extent that the publications reflect research that was conducted before PIM was established.

2. Although there were no articles published in the top three academic journals (Nature, Science, or the Proceedings of the National Academy of Science),¹⁹ the journals on the list are good journals, some with high impact factors. The evaluation concludes that PIM researchers have placed their research quite well in the peer-reviewed literature.

Figure 13. Number of PIM Publications per Flagship (n=289) for 2012–2014



Total Number of Publications (both peer-reviewed and not peer-reviewed)

Journal article	167	Factsheet	7
Discussion paper	49	Brochure	2
Book chapter	46	Data paper	1
Working paper	27	Note	1
Brief	19	Poster	1
Project note	14	Policy paper	1
Conference paper	10	Research report	1
Project paper	9	Technical guide	1
Book	7	Total	370
Report	7		

Source: IEA analysis of PIM publication data.

¹⁹. According to ISI Web of Science (http://admin-apps.webofknowledge.com/JCR/JCR?RQ=LIST_SUMMARY_JOURNAL), the journals with the highest ranking that regularly include some social science research and that could potentially publish PIM-funded are: Nature (IF=42.4), Science (IF=31.5), PNAS (IF=9.85).

Box 2. Peer-Reviewed Journals Where PIM Researcher Published Two or More Papers in**2013-14.**

Food Policy	22	Agricultural and Food Economics	2
World Development	17	Agricultural Systems	2
Agricultural Economics	15	Current Opinion in Environmental Sustainability	2
American Journal of Agricultural Economics	5	Economics Modelling	2
Journal of Development Economics	4	Food Security	2
Water International	4	International Journal of the Commons	2
China Agricultural Economic Review	3	Journal of Agricultural Economics	2
Ecological Economics	3	Journal of Development Studies	2
Global Food Security	3	Sustainability	2
Land Use Policy	3	World Bank Economic Review	2

*Source: IEA analysis of PIM publication data.***Impact of the Published Research**

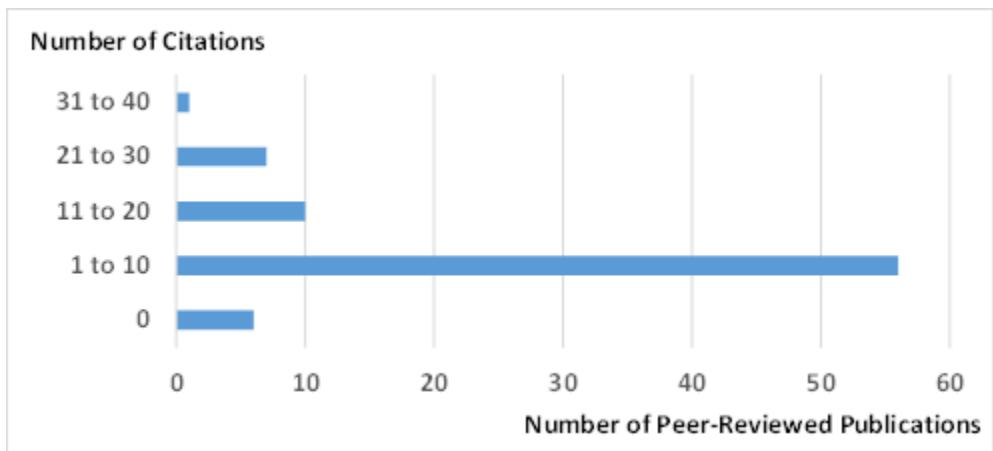
The impact of a given publication may be measured in several ways. In this evaluation we limit our analysis of impact to the conventional measurements - the number of times a publication has been cited by other researchers. Figure 14 below shows the number of publications published in 2013 that have been cited at variable levels. About 70 percent of all PIM publications were cited at least by one other study (according to Google Scholar). The most common number of citations was from 1-10 citations per study, 98 of the 160 publications (61 percent) falling into this category.

There are some excellent examples of PIM-supported work that are making waves in the scientific community, and attracting large numbers of citations, but these are mostly exceptional cases. When compared to papers published in the same journals where the PIM research appeared, 58 percent of the PIM papers were cited less than the average frequency for that journal (using Scopus for citation frequencies), and 42 percent were cited more. This is not alarming, but PIM could elevate its minimum standards when it comes to both productivity and impact.

Unfortunately, these conventional metrics tell us little about the extent to which PIM research is influencing decision makers. Many research organizations and librarians are now using alternative metrics to measure impact beyond the number of citations to publications. Several of those are relevant to PIM's publication monitoring program, such as (a) the number of views and their IP location codes; (b) the number of downloads of the paper and IP location; (c) references to PIM research in mass media (to researcher or paper), classified according to type of outlet; (d) impact indicators on Researchgate (academic social media platform); (e) references to PIM research results on Facebook, Twitter, and other social media; and (f) references to PIM supported research at high-level international policy meetings on food security, natural resources, or international development

in general. It would make sense for PIM to collect and publish these data systematically. A careful analyses of these data could inform researchers of effective strategies to reach its primary audiences.

Figure 14. Citation Frequency of PIM Publications, Published in 2013



Source: IEA analysis of PIM publications data. This analysis is limited to publications in 2013, because there were only 13 publications in 2012, and 2014 publications would be too new to be cited much.

5. Center and CRP collaboration

This chapter addresses the second overarching issue of this evaluation – “the extent to which PIM is creating opportunities for researchers to engage in relevant and effective collaborations among CGIAR Centers and CRPs.” It investigates what PIM has so far achieved in terms of Center and CRP collaboration, and what such collaborations have accomplished.

Center Collaboration

Although Center collaboration is one of the six reform principles of the CGIAR, the 2011 Strategy and Results Framework does not clearly state the objectives of Center collaboration, thus leaving these open to interpretation. The phrase “Center collaboration” does not even appear in the SRF. Seeking the views of PIM researchers on Center collaboration, the evaluation found a general consensus that inter-Center collaboration is not an end in itself, but a means to an end, and should reflect the staffing skills of the different Centers. The principal objective appears to be to promote more interdisciplinary research - particularly among biophysical and social scientists, but also among the different social scientists - thereby drawing upon all their perspectives, as appropriate, to address the complex problems of rural poverty, food insecurity, malnutrition, and unsustainable management of natural resources. Collaboration does not only mean shared work; it can also mean shared use of research products generated in one Center.

In the case of PIM, the social scientists in the participating Centers saw opportunities for improving the scientific quality of their work by being more closely connected to IFPRI, which, as the previous chapter indicated, had set up its research infrastructure from the beginning to support social scientific research. Most other Centers focused originally on biophysical research, only later adding and putting in place support structures for social science research. But many social scientists in the other Centers also felt that they have something to offer IFPRI in terms of more delivery-type research and stronger country-level partnerships that have greater potential for more immediate development outcomes. Others also saw inter-Center collaboration as a means to effectively mainstream System-wide initiatives such as the Consortium-level gender strategy approved in November 2011.

The major flagships have mixed achievements in relation to Center collaboration. Flagship 1 on foresight modeling and Flagship 5 on value chains have achieved the most, Flagship 4 on policy and public expenditure has achieved the least, and Flagships 3 and 7 on technology adoption and natural resource property regimes have been in between.

Flagship 1. Global Futures and Strategic Foresight

The entire flagship has been essentially one large collaborative initiative, now involving twelve Centers (CIAT, CIMMYT, CIP, ICARDA, ICRISAT, IFPRI, IITA, ILRI, IRRI, IWMI, and Worldfish) and supported by the Gates Foundation, PIM, and CCAFS. PIM has clearly contributed to the expansion of this initiative which started in 2009 with the involvement of only five Centers.

The initiative consists of a series of projects, each led by a different Center, with support from IFPRI. The anchor of the initiative is the International Model for Policy Analysis of Agricultural Commodities and Trade, or IMPACT model, developed at IFPRI over several decades. The reasons for and the benefits of the collaboration are mutual. IFPRI is drawing on the specific technical expertise of the commodity Centers and links with crop modelers (e.g. DSSAT) to improve the technological specifications of the model, and the other Centers are gaining access to the model to generate technology scenarios relevant to their own work.

The principal investigators at the other Centers generally regard contributing to the foresight activities and gaining access to IMPACT as a highly valued and relevant activity. The other Centers have less socio-economic expertise than IFPRI, and for those working at these Centers, the activities around IMPACT have offered an opportunity to liaise across Centers with colleagues working on similar issues, however, with a different product and regional focus.

Collaborating CRPs also include Dryland Cereals, Dryland Systems, Grain Legumes, Livestock and Fish, Maize, RTB, Wheat, and WLE. Most of these were represented at the recent Foresight Conference held at IFPRI in November 2014 where several CRP Directors joined the PIM Director to discuss different ways in which they could use IMPACT model analysis. Some were more interested in impact analysis and others in foresight projections.

There is, however, some danger in a purely IMPACT-centric approach to collaborative foresight work because this contributes to an information flow that is quite narrow. Important aspects such as introducing new technologies either show up at a resolution not covered by IMPACT, such as household types, villages or sub-regions inside countries, or relate to effects not covered by IMPACT, such as the work distribution inside the household or village. Given the positive experiences of using a tool such as IMPACT to foster collaboration, IFPRI might consider extending its toolbox to socio-economic simulation models operating at different scales and with more technological detail.

The activities under Flagship 1 also comprise training CGIAR staff in the collaborating Centers in the use of IMPACT. The present evaluation doubts the benefits relative to the costs of training CGIAR scientists in using the model. An overview introduction to IMPACT is certainly necessary to explain to all project participants the flow of information in the project and to motivate the team to provide the necessary input data. However, it may take quite some time, potentially years, until even a trained economist has gathered the necessary knowledge about the modeling in general and the

model at hand to perform independent simulation exercises and to judge the results of a particular simulation experiment. Clearly, some Centers might be in the favorable position to have trained modelers in their team or might be able to invest in building up the necessary expertise. For other Centers and for scientists who cannot undergo lengthy training, this evaluation suggests investigating how researchers in CGIAR Centers could let IFPRI staff run simulations for them and discuss with them the results in detail. Doing so would also mean that the model would not need to be installed (and kept updated) at the different Centers.

As discussed in Chapter 7, these collaborative efforts cannot yet demonstrate many outcomes because the team has been undertaking, based on an earlier review, a thorough restructuring and enhancing of the IMPACT model, which forms the anchor for this work. Outcomes are also not easy to attribute since many are joint with other contributors, visible over the long term, and global or regional in scope.

Flagship 5. Value Chains

There is a growing dynamic for increased inter-Center collaboration in Flagship 5. This began with an informal collaboration among some individual researchers from different Centers in the first phase and has now evolved into a set of multi-Center activities for the extension phase, 2015-16. Much of the credit for this belongs to the Flagship Leader and also to leading value chain researchers from other Centers who have responded so positively to his initiative.

There is also a strong desire among value chains researchers for increased collaboration who are looking to PIM to make this possible, for the following main reasons:

- (a) researchers from some commodity-based Centers see their own Centers as focusing primarily on biological work, leaving little space for them to interact with others about the social science dimension of value chains. Researchers from commodity-based Centers also feel pressured to work only on the commodities covered by their Center even though the socio-economic issues might be much broader. Thus they are looking to PIM to enable this. One impetus for taking a broader approach is the growing interest in a *livelihoods* approach to value chain upgrading (discussed in Chapter 3). Adopting such an approach would require Center collaboration to deal with the multi-value chain and multi-disciplinary issues that arise because rural households typically have multiple needs and priorities and depend on multiple sources of income. Flagship Leaders in PIM would be well-placed to lead this approach because PIM is not restricted to working in a particular commodity space;
- (b) there are different and complementary sets of expertise in IFPRI and the commodity-based Centers. While IFPRI has recognized expertise in economics and use of the scientific method for essential discovery research, while many researchers in the commodity-based Centers have expertise in participatory action research essential for delivery research. Working together can use both types of expertise;

- (c) working together might make it easier to mobilize W3/bilateral funding. As one non-IFPRI researcher said, "IFPRI has better contacts than we do and IFPRI's location in Washington is better for seeking W3/bilateral funding."

The institution of semi-annual meetings of the principal investigators as well as virtual meetings of key researchers have helped facilitate inter-Center collaboration. Value chain researchers have praised the Flagship Leader for so bringing the various Centers together and for opening space for discussion. Before PIM, they often felt isolated in their Centers, as "one-man bands." A strong community of practice involving researchers, especially from IFPRI, Bioversity, CIAT, ICRAR and ILRI has now developed, who hope to extend this to other value chain researchers in the CGIAR System.

There have also been some significant development for the extension phase, 2015–2016. After PIM management indicated in mid-2014 a preference for reducing the number of individual activities and doing more collaborative work in multi-Center projects, the Flagship Leader worked with the various Centers to submit five multi-Center proposals to PIM management for W1-2 funding in the extension phase - more than in any other flagship. These were on (a) post-harvest losses, (b) value chains and farmer association, (c) regional hubs, (d) improvement of gender tools, and (e) value chains clearinghouse. This clearly represents a strong collaborative effort, even though PIM was only able to approve partial funding for four activities and none for the fifth due to the 18 percent cut in the budget between April and October 2014.

Flagship 3. Technology Adoption and Sustainable Intensification

Flagship 3 has so far been less successful than Flagships 1 and 5 in fostering inter-Center collaboration, even though its impact pathway is through the technology adoption and sustainable intensification objectives and strategies that most other Centers and CRPs have. One project has involved some inter-Center collaboration between IFPRI and CIAT, namely, activity #45: "Geospatial tools to support (a) mapping the work of the CRPs, (b) development of the G8 technology platform, and (c) scaling up investments in African agricultural to accelerate growth." The first sub-activity responded to a specific request from the Consortium Office for PIM to work with the Centers and CRPs to document the geographic location of the work of the fifteen CRPs in a consolidated mapping exercise in order to facilitate better coordination among teams working in contiguous or overlapping locations and to inform decisions about the geographical research domains over which to measure progress towards meeting the SLOs. CIAT has contributed to this sub-activity by assuming responsibility for mapping the activities of three CRPs - RTB, FTA, and CCAFS.

The ongoing results of the CRP mapping exercise have been presented at over 15 international meetings during 2012–2014. The 2014 progress report indicates that the data/visualization/entry platform for the CRP mapping exercise is still being compiled, and that the primary website has not been publicized yet, although the information collected during 2012–2014 has been used internally.

In the case of PIM, and probably other CRPs as well, the exercise suffers from the absence of a consolidated, programmatic perspective of PIM activities as mentioned in Chapter 2.

At a technical workshop in September 2014 in relation to sub-activity (b) above, representatives from five CRPs (GRISP/AfricaRice, RRB/IITA, Dryland Systems/ICRISAT, Dryland Cereals/ICARDA, and MAIZE/CIMMYT) agreed to work closely together on the geospatial monitoring of research activities in 2015–2016, starting with monitoring the geospatial diffusion of agricultural technologies in East and Southern Africa. The workshop also had participants from 14 CGIAR Centers and from partners including ASARECA.

There were no other multi-Center activities undertaken in 2012–2014. However, the Global Forum for Rural Advisory Services (GFRAS), IFPRI and ICRAF are now leading a multi-Center extension network — co-funded by PIM, GIZ and USAID — that includes several scientists from IFPRI, several from ICRAF, and one from CIRAD. PIM is providing funding in 2015 to track outcomes from the flagship's phase 1 research activities, including documenting the policy and other uptakes from the volunteer farmer training approaches being researched in activity #18 - "Evaluation of innovative extension approaches" - and the institutionalization of the approach in producer organizations. GIZ is providing funding to GFRAS to develop good practice notes on extension methods in which IFPRI and ICRAF will be collaborating. The initiative also involves developing a common framework for analyzing pluralistic agricultural advisory services that can be used to guide future research on extension in the flagship.²⁰

IFPRI is also leading the establishment of a "Learning Network on Technology Adoption and Impact," which is a multi-Center project involving four Centers (IFPRI, ICRAF, ICRISAT and IITA) and maybe others during the extension phase 2015–2016. This is intended to emulate the collaborative work which occurred in Flagships 1 and 5 during the first phase, 2012–2014.

Flagship 7. Natural Resource Property Regimes

The System-wide program on Collective Action and Property Rights (CAPRI), which forms the backbone of Flagship 7, has had a long history of successful collaborative work on community governance of common pool resources. Among other things, the program used to hold large, CGIAR-wide, week-long meetings on specific topics, hosted and led by one of the Centers. Today, there is a strong perception among CAPRI participants that CAPRI and its inter-Center work have been negatively affected as an unanticipated consequence of the CGIAR Reform and the establishment of the CRPS.

²⁰. This follows R. Birner et al., 2006, "From 'Best Practice' to 'Best Fit': A Framework for Analyzing Pluralistic Agricultural Advisory Services Worldwide," DSGD Discussion Paper No. 37, IFPRI Washington, DC, at <http://www.ifpri.org/DIVS/DSGD/dp/dsgdp37.asp>.

Before the Reform, all Centers were members of CAPRI, but three Centers (CIFOR, IWMI, and IRRI) chose not to continue being members when CAPRI became part of PIM. In the case of CIFOR, the Director-General appears to have decided not to join PIM in order to prioritize the mapping of CIFOR activities to FTA — the CRP that CIFOR itself was leading. The departure of CIFOR from CAPRI was a significant blow, especially for the work on tenure and property rights, which had been an area of strong inter-Center collaboration, in which CIFOR had played a leading role. With the CGIAR Reform and the creation of PIM, the requirements to enter or to remain in CAPRI have also been raised considerably. CAPRI membership used to be quite flexible before the Reform, allowing variable levels of involvement depending on interests, capabilities, and resources. Being a member of CAPRI under PIM now means higher transactions costs because Centers now have to map activities and commit resources in a much more formalized fashion. It is no longer feasible to be a loosely affiliated member who drops in and out depending on the themes of research. The formalization required under the CGIAR Reform has produced a less flexible and less responsive CAPRI network.

Of the Flagship 7 activities that have received W1-2 funding from PIM, only two projects - #89 led by Worldfish and #16 led by ICARDA - have developed significant collaborations with other Centers, and with disciplines other than their own. Except for these two, there has been little collaboration or communication across scientists working in the different Centers. The value in this regard of belonging to this flagship is still to a large extent linked to CAPRI, whose members do interact with other researchers regularly. The Flagship Leader is aware of this perceived lack of opportunities to interact with other Flagship 7 researchers and has started to create more opportunities for research exchange. One recent example was the joint PIM-WLE workshop on Ecosystem Services, which was hosted by PIM in Washington DC in October of 2014.

Flagship 4. Policy and Public Expenditure

All but two of the W1-2 activities in this flagship have been led by IFPRI researchers, and both of these were discontinued in 2013. Therefore, there has been very little inter-Center collaboration in Flagship 4. Activity #37 - "Databases and tools for analyzing pro-poor growth and food security in Arab countries" - has had some collaboration with ICARDA, who requested support from IFPRI to analyze growth under different scenarios for their project in Iraq. The other activities in this project originated from requests from the Governments of Yemen and Egypt, the World Food Programme, and the World Bank.

The global trade modeling team at IFPRI is also collaborating mainly with other international organizations such as FAO, OECD, the Inter-American Development Bank, and the World Bank. ILRI has expressed some interest in collaborating with the IFPRI's trade team and has outposted an ILRI staff member to IFPRI who is working with the IFPRI team, notwithstanding the technical issues involved. Most of the work of with the MIRAGE Trade Analysis Model has been for crops. Livestock represents a different set of modeling problems, since livestock cannot be effectively modeled in an

annual timeframe. Poultry have a growth cycle that is shorter than the annual timeframe for crops, while cattle have a growth cycle that is longer.

Interviewees suggested several reasons for the general lack of inter-Center collaboration in economy-wide economic policies and international trade: (a) the commodity Centers and/or their economists have lacked the interest in these issues; (b) they are interested in these issues, but their economists are insufficiently trained in the type of modeling work being conducted by the IFPRI teams; and (c) IFPRI has failed to reach out to them. There are clearly national policy and international trade issues that should be of interest to the commodity Centers in encouraging the development of their mandated commodities, and there has been some such work in the past, such as at AfricaRice on the rice trade. The evaluation recommends that a greater effort should be made to bring about more inter-Center collaboration in international trade, while also recognizing that this may require some in-depth training of existing staff, or different hiring practices by the commodity Centers.

CRP Collaboration

There has been no centralized mechanism to facilitate such CRP collaboration beyond the annual meetings of the CRP Directors. Some such collaboration is occurring within the context of the flagships, as in the above-cited examples. But mostly, this seems to occur largely at the initiative of individual principal investigators and their line managers.

Of the 102 respondents to staff survey who have allocated some of their research time to PIM, three-quarters also said that they had allocated some of their time to research funded by other CRPs - typically to the other CRPs in which their own Centers are participating. So, IFPRI staff are also allocating their time to A4NH, CCAFS, and WLE; ICRAF staff to FTA; ICRISAT staff to Dryland Cereals and Grain Legumes; IITA and CIP staff to RTB; Worldfish staff to Aquatic Agricultural Systems; ILRI staff to Livestock and Fish; CIAT staff to Humidtropics; and ICARDA staff to Dryland Systems.

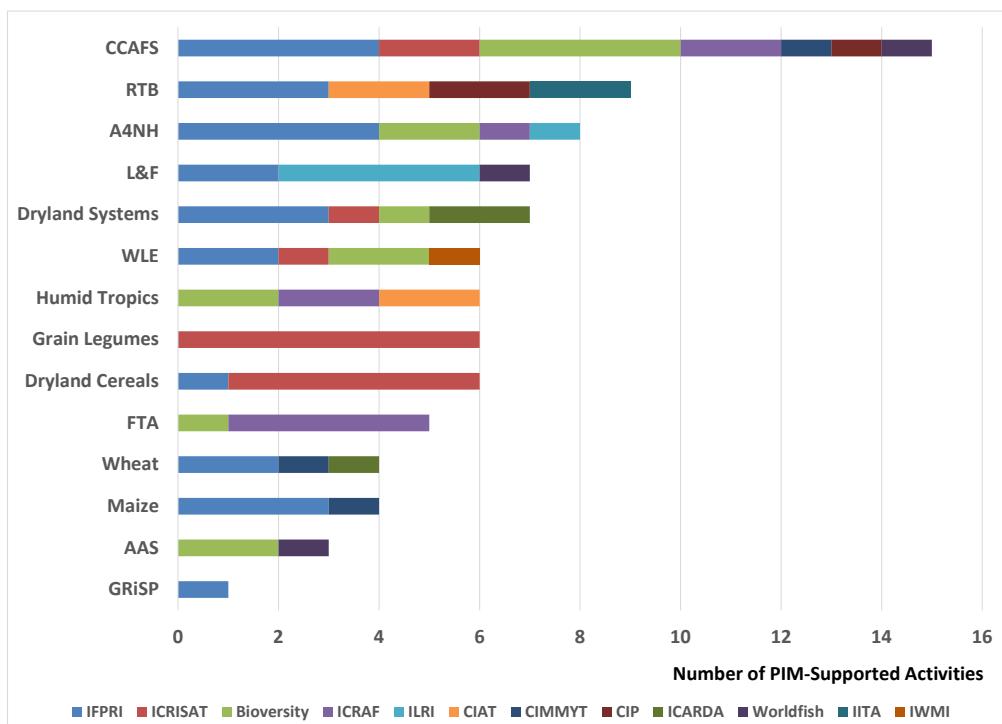
More significantly, 42 of 67 PIM-supported projects (63 percent) reported some collaborations with other CRPs in their 2014 progress reports. Fifteen projects reported technical support to or from other CRPs, 12 projects indicated research collaboration, a few reported joint workshops, and at least 10 reported co-funding by another CRP. That is, there have been more PIM activities co-funded by two or more CRPs than there have been multi-Center projects in PIM's first phase. This is not actually surprising, since it is easier for a research team at one Center to obtain funding from two different sources - in this case, from two CRPs - than for two Centers to obtain funding from one source to implement a joint project, whether that project is funded from W1-2 or bilateral sources. The former involves fewer legal and accountability issues than the latter.

Once again, projects are typically collaborating with CRPs in which their Centers are participating. IFPRI-led projects are collaborating with CCAFS and A4NH, and WLE; ICRAF-led projects with FTA;

ICRISAT-led projects with Grain Legumes and Dryland Cereals, etc. (Figure 15). Collectively, PIM-supported projects are collaborating to the greatest extent with CCAFS, followed by RTB, A4NH, Livestock and Fish, and Dryland Systems. After IFPRI-led projects, Bioversity-led projects are collaborating with the largest number of CRPs - a total of seven CRPs. Bioversity staff who allocate some of their time to PIM also reported allocating their time collectively to the largest number of CRPs - in this case to all fifteen CRPs.

These findings reinforce the need for PIM to put in place a programmatic view of all the research activities that are mapped to PIM, including the sources of finance for each activity, whether W1-2, W3, bilateral, or another CRP. They also raise the issue of what kinds of collaboration PIM and its Flagships desire to have with other CRPs. For example, does the value chains flagship want to become a service provider of technical support to other CRPs (i.e. responding to their requests on demand), or become a leader and an active collaborator with other CRPs (i.e. helping to direct other CRPs in the right research direction).

Figure 15. PIM-Supported Projects Reporting Collaborations with other CRPs, by CRP and Center



Source: PIM progress reports in October 2014.

6. Gender

PIM adopted an explicit gender strategy that was approved by the CGIAR Consortium in March 2013 and has established gender-specific IDOs for each of its flagships. The overall objectives of the strategy are (a) to create and apply new tools and methods to strengthen the ability of all CRPs and other research communities to address gender in a systematic and rigorous way, and (b) to make issues related to gender explicit in evidence-based options for participants in policy processes at the global, national, and local levels.

The strategy has three components. First, it builds on some gender-specific legacy activities such as the Gender, Agriculture and Assets Project (GAAP), the Women's Empowerment in Agriculture Index (WEAI), and the new Sex-Disaggregated Data initiative (started in 2014) to develop concepts, tools, and methods with broad application throughout the CGIAR System. Second, it aims to deepen the mainstreaming of gender analysis throughout PIM's portfolio of activities, building on other legacy activities in Flagships 6 and 7 (social protection, and natural resource property regimes) in which gender mainstreaming was already strongly established. Third, the strategy proposes to develop guidelines for collecting and analyzing data (according to guidelines developed by the Sex-Disaggregated Data initiative) so as to make all datasets useful for gender analysis, and a monitoring and evaluation system to track progress towards gender-responsive objectives.

The three sections of this chapter assess the progress made in each component, respectively. The findings are based on the portfolio analysis of 74 PIM-supported projects (listed in Annex F); an in-depth analysis of three gender-specific projects; interviews with CGIAR staff, partners, and beneficiaries on visits to five countries (Bangladesh, Kenya, Malawi, Mozambique, and Uganda) as part of these in-depth analyses; and interviews with 40 gender experts and researchers in IFPRI, FAO, and other international organizations. The three in-depth case studies were:

- the Gender, Agriculture and Assets Project (GAAP);
- the Women's Empowerment in Agriculture Index (WEAI);
- activity #103: "Does agricultural training and female representation in extension foster investments among female farmers? Lessons from a policy experiment in Mozambique."

The GAAP and WEAI are legacy activities, starting in 2009 and 2010, and funded by the Gates Foundation and USAID, respectively. Activity #103 was an impact evaluation (co-funded by 3ie - the International Initiative for Impact Evaluation) that represents gender mainstreaming in a Flagship 3 activity. The impact evaluation was conducted in 2013 based on a baseline survey that had been done in 2010 as part of a World Bank-supported project in Mozambique. (See Annex F for basic information about the three projects.)

Relevance and Effectiveness of Gender-Specific Activities

Relevance of Objectives and Design

The choices of research topics and research designs for the GAAP and WEAI reflected a high quality of scientific thinking. The GAAP activity aimed to document the gender gap in agricultural assets, to examine the consequences of the gap, and to identify and evaluate policy and program interventions that successfully build women's assets in order to achieve better development outcomes. It also hoped to improve the partner organizations' abilities to measure and analyze qualitative and quantitative gender and assets data in their monitoring and evaluation plans for current and future projects.

The GAAP had a particularly innovative design. Led by IFPRI and ILRI, the project organized an inception workshop in Nairobi, to which existing development projects and their M&E partners were invited in order to familiarize those interested with what their participation would entail. GAAP then called for expressions of interest from those projects that attended the workshop. Following this, eight projects were selected by the GAAP team (with input from its External Advisory Committee), of which five were visited by the evaluation. As a result of this selection process, what started out as a supply-driven activity, ended up being highly demand-driven, since the projects had to express a specific interest to become involved.

The WEAI aimed to increase understanding of the connections between women's empowerment, food security, and agricultural growth. It is the first ever comprehensive and standardized measure to directly capture women's empowerment and inclusion levels in the agricultural sector. It is also the first to compare responses to the male and female heads of the same household, administered separately, to measure gender parity. USAID approached IFPRI and later the Oxford Poverty and Human Development Initiative (OPHI) to develop such a measure that could be used to track changes in women's empowerment levels that occurred as a direct or indirect result of interventions under USAID's Feed-the-Future programs. USAID approached IFPRI due to its reputation as a leader in gender and intra-household decision making research in developing countries.

Partnerships and Impacts

The Bangladesh and East African partners gave very high marks for their involvement in these research activities. For GAAP, the main partners were BRAC, CARE-Bangladesh and DATA in Bangladesh and Kickstart, HarvestPlus, and Land O'Lakes in East Africa. Those interviewed particularly praised and enjoyed working with the two principal investigators. The GAAP team developed close working relationships with the partners and advised on how to incorporate relevant questions to capture women's and men's access, ownership, control and use of assets.

In Bangladesh, the outcomes for the CARE-Bangladesh dairy value chain project demonstrated that the impacts of the project were not as significant as expected, and that focusing only on income objectives neglected the other gains from project participation, particularly in increasing women's asset ownership through joint ownership and in increasing women's mobility. The findings also showed that participation in the dairy value chain increased women's time burdens, because women devoted more time to dairy while still maintaining their household responsibilities. As a result of participation in GAAP, CARE-Bangladesh implemented a pilot community-based intervention to increase men's support for women in their dairy and domestic responsibilities and also to reduce domestic violence.

In Mozambique, Land O'Lakes reported that the GAAP activity had contributed to the development of a corporate gender strategy for Land O'Lakes world-wide. The researchers who were involved with the GAAP project became members of the gender task force that was responsible for developing this strategy. HarvestPlus is also using results of the Reaching End Users GAAP evaluation to inform the process of developing their corporate gender strategy.

For WEAI, Bangladesh was the only country in which the WEAI was implemented as part of a nationally representative survey, with the data collected by IFPRI's long-term collaborator, Data Analysis and Technical Assistance, Ltd. (DATA). The diagnostics on women's disempowerment has influenced USAID programming in Bangladesh. As a result, USAID in partnership with the government of Bangladesh and IFPRI increased the funding dedicated to improving women's empowerment by about US\$6 million and changed the focus of its Feed-the-Future projects to address constraints women faced in agricultural development.

The WEAI has so far had fewer outcomes in East Africa, such as informing the design or redesign of Feed-the-Future projects. Those interviewed found the WEAI activity to be highly supply-driven by USAID Washington and to have produced results that did not resonate as readily with the reality of women's empowerment status in their countries. They also alleged that the WEAI surveys took a long time to administer and may have resulted in low quality data as respondents may have wanted to finish the interviews as soon as possible. Unlike in Bangladesh, where IFPRI relied on its long-term partner for data collection, the use of external consulting firms to administer the WEAI surveys (at the population level as opposed to the project monitoring and evaluation level) also limited ownership of the WEAI by USAID Feed-the-Future project staff in the countries. The overall WEAI scores were also considered good - 0.86 in Uganda, 0.84 in Malawi and 0.72 in Kenya - and therefore it was perceived that women's empowerment (or the lack thereof) was not in need of any drastic attention.²¹

²¹ Scores of less than 0.80 were considered "low", between 0.80 and 0.84 as "medium" and greater than or equal to 0.85 as "high" (Malapit et al. 2014).

The WEAI has received widespread attention and increasing adoption and adaptation beyond the USAID Feed-the-Future Initiative for which it was initially designed. The principal investigators have identified over 35 instances of other organizations incorporating WEAI, or using significant elements thereof, in their M&E systems. Hence, there is a growing interest in developing a streamlined version of the WEAI at both the population and project levels. At the level of the population-based surveys, IFPRI has been working with USAID using cognitive testing and piloting of a more streamlined version of the questionnaire to be used in subsequent population-based surveys. At the project level, USAID and other donors have also expressed interest in funding the development of a WEAI that is suitable for project-level monitoring - more streamlined but also adaptable to projects' specific needs. With many organizations (including FAO and IFAD) now implementing their own modifications of the WEAI, there is an urgent need to develop a project-level WEAI that is comparable as well as robust (when using the small samples that are typical of project monitoring and evaluation).

Mainstreaming Gender throughout the PIM Portfolio

Program activities supported by W1-2 funds are required to indicate - in both the project proposals and the progress reports - how gender is addressed, and PIM Management Unit established a system of indicators for measuring the degree to which each project is addressing gender issues (Table 5).

Table 5. Indicators for the gender focus of individual projects

100%	Gender and/or women are the primary focus of the entire research process, from design to analysis.
50%	Gender and/or women are not the primary focus of the research project, but all data are collected on both men and women AND gender analysis is the key component of the majority of the research deliverables.
33%	One of several research questions is focused on gender and/or women and at least one deliverable explicitly analyzes sex-disaggregated data.
20%	Sex-disaggregated data are collected but deliverables do not include gender analysis.
0%	None of the research questions are focused on gender and/or women AND no sex-disaggregated data is collected AND none of the deliverables include gender analysis.

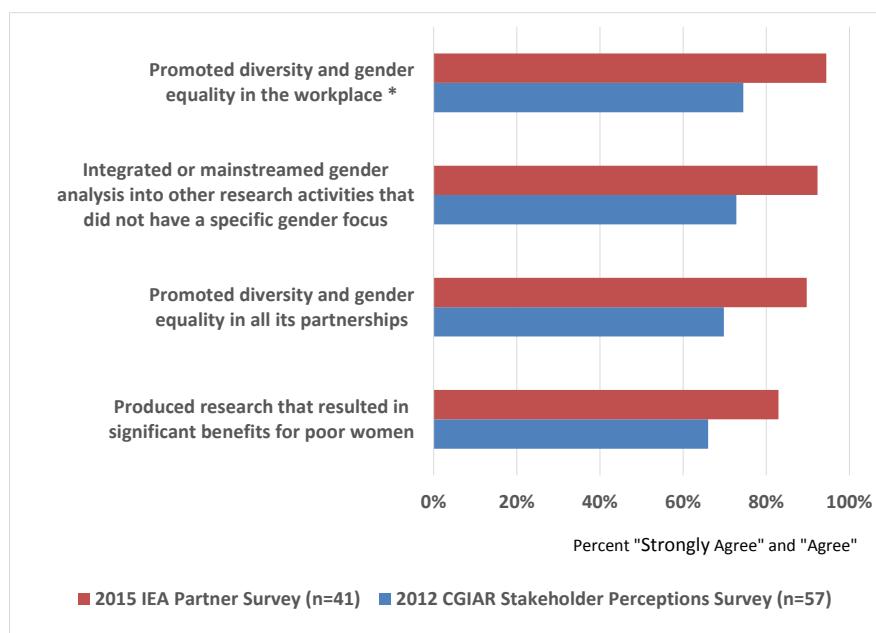
Source: PIM Management Unit.

The evaluation assessed the degree to which each of the 74 projects in the portfolio analysis addressed gender issues according to these indicators, based on information provided in project documents and interviews with the principal investigators. Overall, the evaluation found that a weighted average of about 31 percent of the portfolio is addressing gender issues, based on the 2013 expenditures of each project, and about 28 percent is addressing gender issues, based on the 2014 budget allocations to each project. There have been eight projects with a 100% gender focus and ten with a 50% gender focus (Annex F.) Gender mainstreaming in PIM is clearly benefiting from

the strong reputation that its Lead Center, IFPRI, has built up over the years in addressing gender issues.

Both IFPRI and non-IFPRI PIM researchers agree that attention to gender is important, but non-IFPRI researchers feel significantly more strongly (a) that research teams should have to justify why they are not including gender in their work, and (b) that there are insufficient funds to mainstream gender in their work. (Volume 3, Staff Survey question #27). However, survey respondents appeared to overstate the extent to which their research teams “collect and analyze gender-disaggregated data in their research activities:” 80 percent of respondents said that their teams did so. The portfolio analysis, which included interviews with the principal investigators, found that only 51 percent of the projects were analyzing sex-disaggregated data (i.e. those projects with a gender indicator of 33% or higher).

Figure 16. The CGIAR adopted a system-wide gender strategy in 2011, which commits the CGIAR to develop agricultural technologies, farming systems, and policies to support rural women in improving agricultural productivity and their livelihoods. Please rate the performance of the CGIAR project teams that you have worked with in terms of the following gender-related areas?



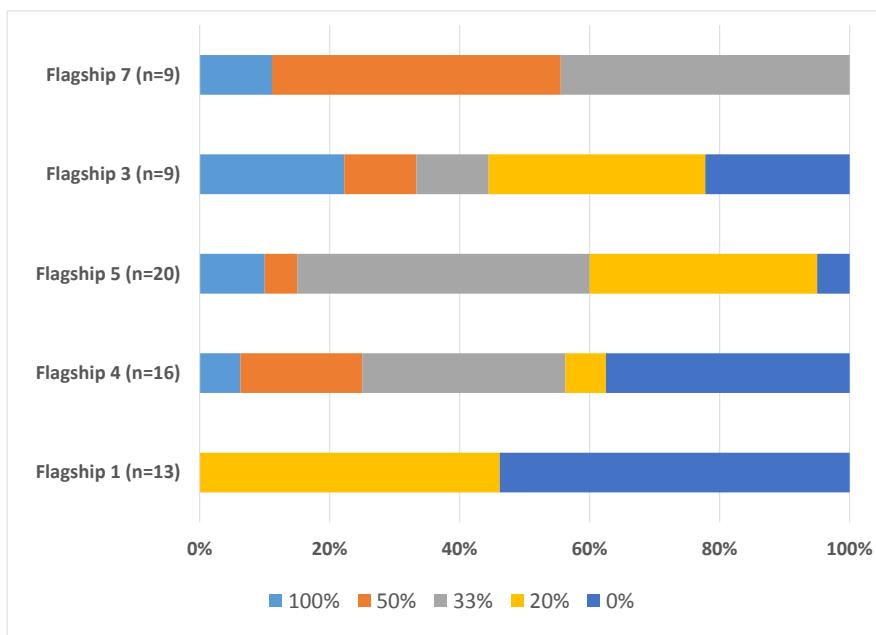
Source: IEA Survey of PIM Partners and 2012 CGIAR Stakeholder Perceptions Survey.

The partners of PIM-supported projects also feel that CGIAR researchers are paying a lot of attention to gender issues. Figure 16 compares the responses to the evaluation’s partner survey administered in January 2015 with the responses to the same questions in the Stakeholder Perceptions survey

commissioned by the Consortium Office in 2012. The partners in the 2015 survey uniformly felt that CGIAR researchers are paying more attention to gender issues than the partners in the 2012 survey did. However, only one improvement is statistically significant at the 95 percent level of confidence - the extent to which CGIAR researchers promoted diversity and gender equality in the workplace. The improvement in a second attribute - the extent to which CGIAR researchers “integrated or mainstreamed gender analysis into other research projects that did not have a gender focus” - is significantly higher at the 90 percent level of confidence.

The portfolio analysis yielded a significant difference in the attention to gender among flagships (Figure 17). Flagship 7 has had the most emphasis on gender and Flagships 1 and 4 have had the least – generally because they are involved in policy research at the more aggregate level – Flagship 1 at the global level, and Flagship 4 at the national economy level.

Figure 17. Distribution of Projects by Gender Percentage, by Flagship



Source: IEA portfolio analysis of W1-2 supported projects.

Flagship 7: Natural Resource Property Regimes. Flagship 7 pays the most attention to gender issues. All the projects are collecting sex-disaggregated data, and all projects are addressing some gender aspects, although these are not usually the primary research question being addressed. One research activity has recently formulated a gender-specific question as a result of an unexpected finding from earlier work. Researchers for the Foundation for Ecological Security, a major CAPRI partner in India, found no difference between men and women when it came to cooperative behavior around ground water management, contrary to their expectations that women would cooperate more than men. Follow-up research is now addressing why this might be the case.

Flagship 5: Value Chains. A set of five well-researched and useful *gender in value chains tools* has been developed in Flagship 5 as part of the Value Chains Knowledge Clearinghouse. In addition, about 80 percent of the projects in Flagships 5 have a gender component, involving the collection of sex-disaggregated data, and including some analysis of the sex-disaggregated data for most of these. This includes a number of activities that have modified their original design to include a gender component as a result of the growing expectation for projects to include a gender dimension. One of the findings from this research has been that value chain upgrading can have unintended impacts on women due to the power dynamics in the household. One early example was sweet potato in Uganda - a low-value crop that women have been allowed to grow and market. But when interventions were introduced to improve the functioning of the value chain for sweet potato, the men moved in to displace the women. This pointed to the need to have a “gender lens” and to develop gender tools when looking at value chain improvements. The CIP-led activity #15 has been leading the way in developing gender tools for value chain development, which is a positive development.

Flagship 3: Adoption of Technology and Sustainable Intensification. Flagship 3 has the most diverse portfolio with respect to gender issues. At one end of the spectrum, the mapping exercises and the strategies, models and tools for sustainable intensification (Bio-sight) activities are not addressing gender issues much. At the other end of the spectrum, three activities implemented in 2013 addressed gender issues: (a) the relationship between gender, assets and the adoption of “climate smart” agricultural technologies in Bangladesh, Kenya, Senegal, and Uganda; (b) the influence of female time and risk preference on agricultural technology adoption in Kenya and Tanzania; and (c) the impact of training female contact farmers on the adoption of better sustainable land management practices in Mozambique. For the latter activity #103, PIM specifically funded the gender component of the impact evaluation. Extending the training to female contact farmers helped improve the adoption of technologies, marginally among men but significantly among women. Activity #18 on evaluating innovative extension approaches has also addressed gender issues with informative results: the project found that the volunteer farmer trainer approach had a higher representation of women as farmer trainers (about 38 percent) compared to the representation of women in the formal extension system (usually less than 20 percent).

Flagship 4: Policy and Public Expenditure. Some of these activities are finding ways of addressing gender issues, notwithstanding the difficulty of doing so at the national policy level. For example, the agricultural transformation activity #38 in Africa has addressed gender issues by analyzing technology adoption of different farm activities according to whether the head of the household was a man or a woman — finding that female-headed households were less likely to use tractors or draft animals in Nigeria. A tractor owner-operators’ survey in Nigeria also found that tractor ownership was male-dominated, and its earnings rarely shared with spouses. The databases and tools activity #37 for analyzing pro-poor growth and food security in Arab countries allows highlighting the systematic differences according to gender (women literacy rates, education levels etc.).

Gender is not a major issue addressed in most of the MIRAGE-based models, since most of the research is about national and international policy and how it can be improved to better reflect the interests of developing nations. However, the breakdown of the households in the MIRAGE Household Model using the World Bank household survey data is potentially a major activity related to gender issues. By selecting households that are identified with gender in the workforce, and following through on related policies, the model is aiming to address gender issues directly. Those involved in the development and application of the MIRAGE-BioF Model are also now working on utilizing the World Bank household surveys to conduct significant gender modeling activities.

Flagship 1: Global Futures and Strategic Foresight. Several of the PIM-supported activities aim at collecting and integrating gender-related data and parameters in the modeling activities. However, the core welfare and nutritional indicators in IMPACT are difficult to disaggregate by gender. Other core aspects of gender in the context of evolving agricultural management and food chain practices (male and female labor use, move from household to industrial production, and impacts on labor markets or the marketing chain) are not reflected in IMPACT. However, the researchers in the participating Centers often have access to data, for example, with regard to labor use at the household level in specific crop management practices, so that the impact of changes in management on household labor use could be evaluated.

The evaluation therefore suggests searching for tools that could be applied in parallel with IMPACT in projects linked to global foresight and that could bridge the scale between individual crop management simulation in DSSAT and global modeling in IMPACT. Such tools could, for example, be simulation models at the village or regional level, but also simple approaches such as the calculation of crop budgets including labor use estimates.

Guidelines and Monitoring

The Sex-Disaggregated Data activity in the cross-cutting Flagship 8 aims at improving both the quality and quantity of sex-disaggregated data that are collected and analyzed in order to enhance the understanding of the role of gender in agriculture and food security. This involves (a) developing guidelines on minimum standards and good practices for collecting sex-disaggregated agricultural data for gender analysis; (b) assembling matrices to track sex-disaggregated agricultural data; and (c) conducting data experiments on how to best collect sex-disaggregated data. One of the major outputs from the activity has been the publication on "Gender Inequalities in Ownership and Control of Land in Africa: Myth versus Reality," accepted for publication in *Agricultural Economics*.

The activity has also produced "Standards for Collecting Sex-Disaggregated Data for Gender Analysis," that has been officially endorsed by the CGIAR Gender and Agriculture Research Network. The CGIAR Consortium Office has also unofficially endorsed these standards and is expected to formally endorse them soon. By adopting these guidelines for all CGIAR Centers and Research

Programs, this would increase both the quality and the quantity of sex-disaggregated data collected and analyzed.

The GAAP, the WEAI, and the Sex-Disaggregated Data initiative have attracted the attention of FAO. It is hoped that a collaboration with FAO will help governments be better positioned to design and implement agricultural policies that reflect the latest advances from empirical research. Since FAO can have direct influence on countries' data collection efforts, IFPRI's partnering with FAO has the potential to increase its influence on how sex-disaggregated data are collected and reported.

Notwithstanding these achievements, putting in place an effective system to monitor the progress of its own activities with respect to gender is still a work in progress. PIM's activity proposal form and the annual progress reports have sections on what each activity plans to and accomplishes in relation to gender. The PIM Management Unit now has full year of reporting on the degree gender focus in reported deliverables in progress reports, so that they can start comparing the predicted and actual levels of gender focus for 2014. They also plan to start validating what the proposals and progress reports say on gender to minimize potential for "lip service" in relation to the activities' achievements with respect to gender.

The Consortium has not yet provided sufficient guidance on methodologies to capture the level of attention given to gender issues, according to interviews with gender experts. However, the CGIAR has a gender network that has been meeting to standardize the way gender is monitored and reported across the CRPs and Centers.

7. Partnerships and impacts

This chapter addresses the third overarching issue of this evaluation — “the extent to which PIM is fostering strong and innovative partnerships for positive development impacts.” Partnerships and impacts are discussed together because partnerships are a key component of the program’s impact pathways, both for producing research outputs and for helping to translate those outputs into policy and other outcomes.

The findings of this chapter are drawn from multiple sources: the most recent progress reports of 67 projects that provided information on more than 160 external partners, the 18 in-depth case studies (listed in Annex G), the eleven country visits, the staff and partner surveys, and relevant impact assessments of activities now mapped to PIM.

Partnerships

PIM issued a “Statement of Partnerships” in October 2012 in which the program has identified four types of partners:

- research partners, who participate in the design and conduct of PIM’s research program;
- implementation partners, who are active in applying research results in policy dialogue or in the design and implementation of investment programs;
- outreach and communication partners, who help to store and transmit knowledge to their own constituencies and to the broader public;
- funding partners, who are donors that invest in and support PIM’s work.

This evaluation has also determined that PIM has capacity strengthening partners who contribute to training and other activities to strengthen the capacity of partners, clients, and beneficiaries as well as technology transfer partners who are informing farmers, communities and other clientele in the use of new knowledge or technology. A larger number of respondents to the present partner survey and the 2012 CGIAR Stakeholder Perceptions Survey identified themselves as capacity strengthening or technology transfer partners than as outreach partners, suggesting that these might be more numerous than outreach and communication partners (Table 6).

The program acknowledged in its statement on partnerships that the CGIAR System had historically put less emphasis on developing implementation and outreach partnerships than research partnerships, including in relation to policy-oriented research. In the past, outreach and communications had been primarily oriented toward a professional audience, peer-reviewed publications, and web postings. The System had underinvested in partnerships in the policy process and in communication of research findings to a wide audience.

There can be no doubt, based on all sources of evidence, that CGIAR researchers involved with PIM view partnerships as important for their activities' impact pathways: 95 percent of respondents to the IEA survey agreed or strongly agreed that "attention to partnerships is important for their research to have positive outcomes and impacts" (Volume 3, Staff Survey question #26).

Table 6. Respondents to the Two Surveys, by Types of Partners

Type of Partner	2015 IEA Partner Survey		2012 CGIAR Stakeholder Perceptions Survey /1	
	Number	Percent	Number	Percent
Research	38	55.1%	50	42.4%
Implementation /2	10	14.5%	20	16.9%
Capacity Strengthening	7	10.1%	22	18.6%
Technology Transfer	4	5.8%	16	13.6%
Outreach and Communication	1	1.4%	7	5.9%
Funding	2	2.9%	0	0.0%
Other	7	10.1%	3	2.5%
Total	69	100.0%	118	100.0%

1. Respondents to the CGIAR Survey were allowed to answer all that applied, thereby allowing the number of responses to total 118 for the 70 respondents.

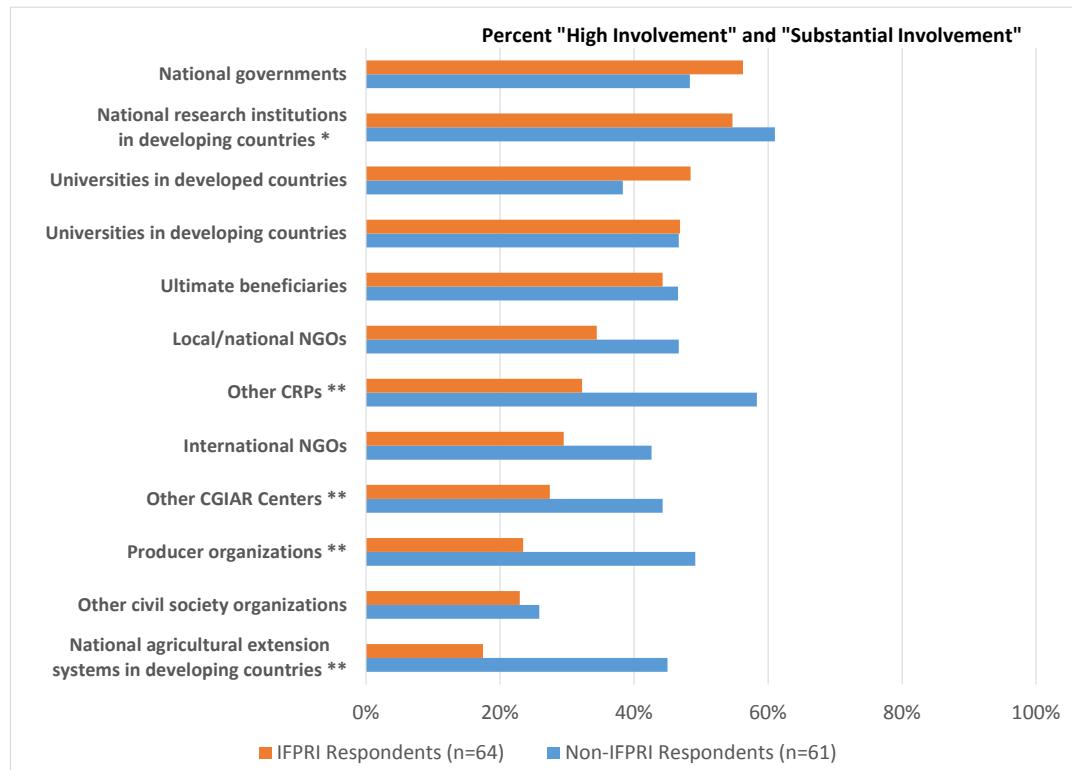
2. The CGIAR Survey referred to implementation partners as "policy processes" partners.

However, many researchers - in interviews and in the open-ended responses to the survey - cautioned against attributing this result to PIM. Less than 50 percent agreed or strongly agreed that PIM's approach to partnerships had been well communicated or had influenced the way in which their teams planned or conducted their work (Volume 3, Staff Survey question #26). The evaluation found that one of the main influences of PIM on researchers' attention to partnerships has been the requirement to include detailed information on partnerships in their annual progress reports, starting in 2013.

The staff survey, the partner survey, and the PIM progress reports consistently revealed that IFPRI and non-IFPRI researchers tend to partner with different kinds of organizations. IFPRI researchers tend to partner more frequently with universities in developed countries and national governments in developing countries. Non-IFPRI researchers partner more frequently with national research institutions and extension systems in developing countries; with international, national, and local NGOs; with producer organizations; and with other CGIAR Centers and other CRPs - most of these differences being statistically significant (Figure 18). These findings are consistent with previous findings in this evaluation that IFPRI researchers tend to conduct more discovery-type research and non-IFPRI researchers tend to conduct more delivery-type research with farmers and agriculture more directly, and provide further rationale for the existence of a CRP like PIM that can accommodate both types of research. The other Centers clearly have something to bring to the overall program in terms of their involvement with partners that tend to be closer to the intermediary users and ultimate beneficiaries of the research.

Given the increased focus on impacts and results in the CGIAR Reform, PIM's "Statement of Partnerships" adopted an approach to identifying and fostering partners that is based on the most effective partners for the impact pathways associated with the different kinds of research. The identification of the most appropriate partners would flow from the most probable agents of change along each impact pathway. That is, for research that aimed to set agendas, clarify trends and identify issues requiring the attention of the global community - such as the foresight work in Flagship 1 - the partnership statement viewed partners who could influence public opinion as important. For research involving new analytical tools and methods - such as much of the value chain work in Flagship 5 – the partnership statement viewed research partners and the professional community as important in providing regular feedback on the usefulness of the tools and methods. For location-specific research relevant to policy decisions in specific jurisdictions - such as the country-level CGE modeling work in Flagship 4 - the partnership statement viewed the identification of implementation partners at an early stage as important to ensure that the work undertaken would be useful to them

Figure 18. How involved are the following types of partners during the various phases of your own research projects?

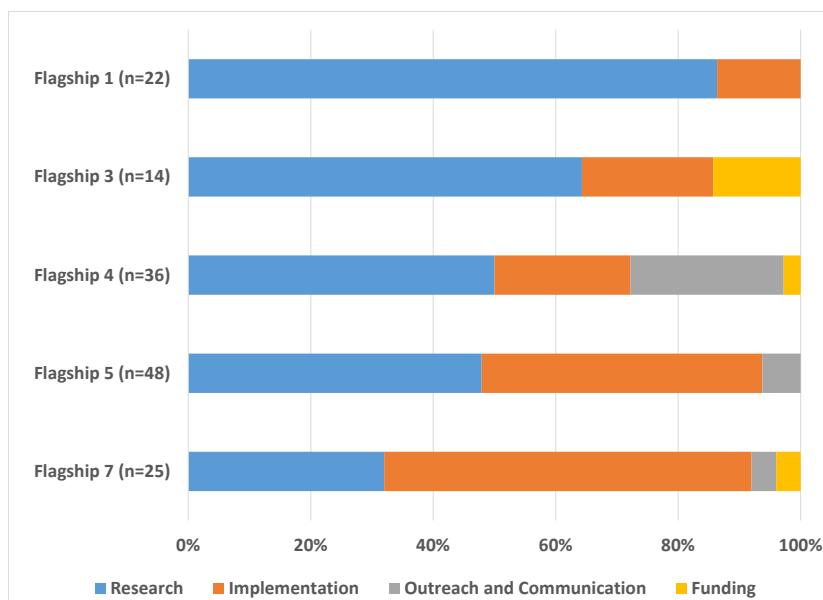


Source: IEA survey of CGIAR staff involved with PIM, administered November 2014

As discussed in the next few paragraphs, the evaluation did not find such a strong association yet between the types of research being conducted in each flagship, their stated impact pathways as discussed in Chapter 3, and the partners identified in the progress reports (Figure 19).

Starting with those flagships doing research at the global level, the Global Futures and Strategic Foresight work in Flagship 1 is largely a collaborative effort, anchored in IFPRI, with the other participating Centers. The IMPACT team at IFPRI is also part of the highly visible AGMIP (the Agricultural Model Intercomparison and Improvement Project, <http://www.agmip.org/>), in which IFPRI acts as the coordinator of the group called the Global Economics Team. Supported by major funding from the U.K. Department for International Development and the U.S. Department of Agriculture Research Service, this is largely a network of international organizations and developed country universities such as Columbia University in New York, the University of Florida, and Oregon State University. This partnership has a high potential to guide the further development of IMPACT based on a systematic comparison with similar activities at the global scale, while exploiting possibilities for collaboration. However, partners to influence public opinion are not yet prominent. As stated in Chapter 3, the activities would likely benefit from a stronger focus on outreach and actively marketing their outputs.

Figure 19. Principal Partners Identified in the Progress Reports, by Flagship



Source: IEA analysis of partners identified in PIM progress reports, October 2014. The differences in the types of partnerships between flagships are statistically significant at the 99 percent level of confidence.

The international trade and price distortions team in Flagship 4 is primarily engaging with international partners such as the EC, FAO, the OECD, the Inter-American Development Bank, the International Center for Trade and Sustainable Development (ICTSD - the leading NGO on trade issues), the World Bank, the World Trade Organization, and other CGE modeling Centers such as CEPII (Centre d'Etudes Prospectives et d'Informations Internationales) in France, and the International Institute for Applied Systems Analysis (IIASA) in Austria. These partners are at the top of the scientific field in CGE and related modeling. In developing and applying the MIRAGE-BioF Model, the IFPRI team reached out to modelers and specialists who were at the cutting edge of CGE modeling, biofuels modeling, and the assessments of emissions (Babcock and Carriquiry 2010), and they are doing this again in incorporating the World Bank household surveys into the MIRAGE model. However, there is little evidence so far of developing country users of this research beyond the WTO negotiations. The principal users appear to be the international development partners in their policy dialogues with aid-recipient countries.

Moving on to those flagships doing research at the national level, the country-level CGE modeling team in Flagship 4 has a long history (somewhat reflected in Figure 19) of working, not just with research partners in universities and research institutes in developing countries, but also with immediate users of the research such as Ministries of Planning and Agriculture, and development partners such as the World Bank, the EC, USAID, DFID, and the African Union in the context of the implementation of the Comprehensive Africa Agricultural Development Program (CAADP). After 2005, when the African Union and its NEPAD Secretariat (New Partnership for Africa's Development) placed greater emphasis on influencing and improving national agricultural policy formation to realize the CAADP objectives of allocating 10 percent of government budgets to agriculture and 6 percent growth in agricultural production, the provision of IFPRI's modeling expertise was the principal technical assistance offered by the international community in this regard (Poulter et al., 2014).

The main partners in activity #37, "Databases and tools for analyzing pro-poor growth and food security in Arab countries," have been the World Food Program (WFP), CAPMAS (Egyptian statistical institute), the International Fund for Agricultural Development (IFAD), the Yemen Ministry of Planning and International Cooperation (MOPIC),²² and the Economic Research Forum (ERF) in Cairo - the main network of applied economists in the MENA region. Ministries of Agriculture have been less involved in IFPRI's research than in Africa. This could be due to the weak analytical capacities of these ministries in the region. Strengthening their analytical capacities would seem to be a strategic necessity to have a real impact on policy reform. This could constitute an activity in itself in which PIM could collaborate with other bilateral, regional or international institutions such as the IDRC, ERF, the World Bank, etc.

²². The training of Yemen MOPIC staff in CGE modeling has been temporarily halted due to the current political and security situation.

The value chains researchers in Flagship 5 have been expanding their partnerships (reflected in Figure 19) beyond traditional research partners involved in developing new tools and methods to include implementation partners in developing countries. The learning alliances in activity #6 - “Building R4D learning platforms in Latin America, Africa and Asia” are a prominent example. These represent a systematic approach for developing partnerships in a region or country among CRPs, NGOs, the public sector, donors, the private sector, farmer associations and other researchers. Flagship researchers also expect the new regional hubs (to be implemented in the extension phase) will also be used to facilitate more engagement with local partners.

The evaluation is impressed with the high quality of the partner organizations in Flagship 7 on natural resource property regimes, although it is not always clear why a certain partner has been chosen - whether the choice has been strategic or convenient. For example, in the Worldfish project #89 in Cambodia, the partner organizations represent a variety of interests, which may have contributed to the project’s widespread acceptance and perceived legitimacy among policy makers. The IFPRI-led project #44 on Land Tenure in Selected African Countries provides another example of an excellent choice of partners, namely LAUD, the Ethiopian government agency in charge of land-use certification.

The evaluation found widespread agreement that it is the quality of partnerships that eventually help determine the impact of the project’s research outputs on development processes and outcomes. Principal investigators also pointed out the challenges in fostering strong and innovative partnerships, including:

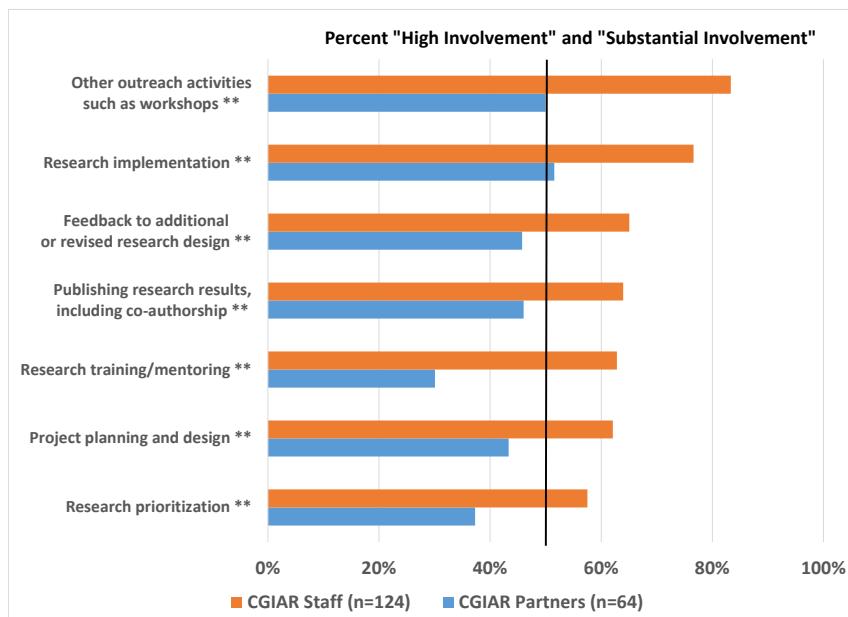
- research partners (e.g. with non-CGIAR research institutes or universities) typically have their own agenda and often their own pet methodologies;
- implementation partners in the public policy arena and the private sector are often time-poor and very outcome-oriented;
- building confidence and trust with new partners take time. One cannot also be completely sure how new partners will perform, so there is a need to invest in building longer-term partnerships.

In this regard, PIM’s “Statement on Partnerships” adopted an aspirational statement on partnerships that contained eight key principles to guide its working with partners. The respondents to PIM partner survey rated the performance of the CGIAR project teams uniformly high in terms of applying these principles (Volume 3, Partner Survey question #14). Ninety-four percent of respondents also said that they have been “satisfied” or “very satisfied” working as a partner in CGIAR research activities, and 92 percent rated the overall quality of their organization’s partnership with CGIAR research activities “better” or “much better” in comparison with the activities of other international organizations that they work with (Volume 3, Partner Survey questions #18 and 19).

Respondents to the partner survey also rated the performance of the CGIAR project teams more highly in terms of fairness, accessibility, and transparency than did the respondents to the 2012 CGIAR Stakeholder Perceptions (Volume 3, Partner Survey question #15). The improvements between 2012 and 2015 were statistically significant in three areas: Fairly sharing workload and responsibilities with partners; making accurate information available about the team's internal processes, budgets, objectives, and activities; and meaningfully involving partners in important decision making.

Notwithstanding these very positive views that partners have about working with CGIAR research teams, CGIAR staff uniformly perceive their partners to be more involved in their research activities than the partners so perceive (Figure 20). Both staff and partners agree that partners have been most involved in research implementation and outreach activities such as workshops. Less than 50 percent of partners feel that they have been highly or substantially involved in all other aspects of the research activities including research prioritization, project planning and design, and publishing research results, including co-authorship. To some extent, this probably reflects the likelihood that the CGIAR partners are devoting less of their overall time to their partnership activities with the CGIAR than CGIAR staff are devoting to these same activities.

Figure 20. To what extent are your partners involved in the following aspects of your research projects?



Source: IEA Staff and Partner Surveys

Outcomes and Impacts

This section is largely based on the findings of 15 of the 18 in-depth case studies (listed in Annex G). The three gender-specific activities (the GAAP, WEAI, and #103) were discussed in the previous chapter on gender. The activities are discussed from global to local - i.e. from those flagships doing research at the global level to those doing research at the national and local levels. The likely outcomes in Flagships 1 and 4 are more about influencing public policy and expenditure decisions with potentially huge pay-offs. The outcomes in Flagships 3, 5, and 7 tend to be more micro-institutional in nature with local but more immediate impacts on the welfare of the involved beneficiaries. What is common to all flagships is evidence-based research that aims to influence public policies from the global to the local level, and publishing research results to add to the collective knowledge that may inform other researchers and policy makers more generally, who find themselves in situations similar to those being researched by PIM activities.

Flagship 1. Global Futures and Strategic Foresight

The foresight activities in Flagship 1 cannot yet demonstrate many outcomes because the team has been undertaking, based on an earlier review, a thorough restructuring and enhancing of the IMPACT model, which forms the anchor for this work. Outcomes are also not easy to attribute since many are joint with other contributors, visible over the long term, and global or regional in scope.

The direct outputs of the foresight activities are large data sets (simulation results from IMPACT) which need carefully designed dissemination activities to become useful for informing policy design processes. Here, the outputs are to a large extent conventional (typically conference contributions, peer-reviewed journal publications, monographs). Thus, the output strategy is similar to that of more blue sky oriented research institutions such as universities. This might also reflect preferences of the involved researchers who like to keep a door open to less applied research activities. Scientific peer-reviewed output clearly adds credibility to modeling activities and should certainly be continued.

However, it is not evident that these more scientifically oriented outputs are likely to have a high impact on policy design processes. The information available in these publications is often too general to be of specific use for national and international decision makers. A clear counter-example to this is IFPRI's climate change in Africa series with its national chapters, which however draws on much more than the global foresight activities. Thus, the team could be encouraged to seek direct contact with policy makers and think about alternative formats to funnel their findings in the policy debate.

IMPACT is a long-run simulation model designed for scenario analysis. The main policy being addressed is the allocation of resources for agricultural research among competing priorities, this being important to the principal clients for the work — the CGIAR, NARs and SROs. The model itself

offers very limited possibilities to explore targeted national policy interventions to countervail negative developments highlighted by the foresight activities. While the model does include ad valorem wedge instruments (PSE, CSEs, and tariffs), these are not part of the long-run analysis of climate change scenarios that the team has focused on in recent years.

The IMPACT model has a long history and has a relatively large development team. With regard to human capital, there are no obvious concerns that crucial knowledge is either not documented or only available to one or two staff members. The involvement of external expertise, e.g., in the development process of IMPACT3 can be seen as an additional safeguard. Some professional peers have nevertheless suggested that the IMPACT team should actively try to attract additional experienced partial equilibrium modelers, and more commodity analysis expertise. Experience in policy and outlook modeling has shown that early and regular review and interaction with clients as well as with other analysts is a good way to validate a model at the same time as it informs users how to interpret analytical results and understand its strengths and weaknesses. This also helps to avoid misuse or misinterpretation of the analysis. While the Foresight Conference in November 2014 was a good start along this road, it was mostly an “in-house” interaction. Participation needs to be broadened and perhaps specialized to different user groups that IFPRI and PIM serve, including decision makers in the CGIAR system.

MIRAGE Trade Analysis Model in Flagship 4

Bringing the MIRAGE Trade Analysis Model to IFPRI and the capacity to operate and develop the main and related versions during the past few years has been a real plus for IFPRI, PIM, and the other CGIAR Centers. Simply put, IFPRI and the Centers have now made a significant place for themselves in world and regional trade policy and related negotiations. IFPRI and the Centers now have the capacity to effectively represent the interests of the developing countries in the areas of research, evaluation, and actual trade negotiations. As the world becomes more and more connected and must address traditional and new common problems like climate change and related issues, the MIRAGE Trade Analysis Model will likely assume even more importance in research and analysis representing the interests of the developing (and developed) countries.

The MIRAGE-BioF Model has significantly strengthened the capacities of the European Union for understanding biofuels policy and its implications for indirect land use changes and greenhouse gas emissions. The application of the MIRAGE-BioF Model has produced a renewable fuel baseline for the EU, and an analytical structure that can perhaps be used by other nations trying to understand the implications of the evolution of biofuels for land use and GHG implications. With the MIRAGE-BioF Model, IFPRI has taken the lead in developing this fuller understanding of the trade-offs between renewable fuels, ILUC, and GHG emissions.

Validation of the results of the biofuel modeling exercise and the MIRAGE-BioF Model itself has been demonstrated by the continuing requests from the EU for assistance in improving their

understanding of these issues, and transferring them to the Member States that are charged with the implementation of the biofuels policy. In fact, these biofuel results are now a part of EU policy. Thus, the development of MIRAGE-BioF Model and merging it into a MIRAGE Trade Analytical Model represents what will likely be a sustainable effort on the part of IFPRI and the CGIAR Centers.

There will of course continue to be issues with respect to food and trade policy to which the standard CGE models and the basic MIRAGE model are well adapted to generating scenarios to assist policy actions. This is another reason for keeping and nourishing the MIRAGE modeling capacity along with the multi-market modeling activity at IFPRI. IFPRI can become an international leader in both efforts and one of few centers that have both these capacities.

Country-Level CGE Modeling in Flagship 4

The two projects #37 and #38 are fulfilling their promises in terms of outputs. While the Arab Spatial project seems to focus more on database development, access to information and organizing workshops, the agricultural transformation project in Africa focuses more on publishing papers (mainly for the mechanization activity). The nature of the research is different. The research in the first case is more applied, while that in the mechanization activity is more strategic - aiming to raise awareness about a subject that was not studied for a long period.

In terms of outcomes and impacts, the Arab countries project operates in a currently unstable environment. In some countries the State is weakened. While these countries definitely need the support of the international community, implementing policy recommendations is not an easy task. Despite this, it seems that the outputs of the project were widely used by the Government of Yemen in the oil subsidy reform and in its interactions with international organizations. Yemen also established a National Food Security Council and Technical Secretariat to implement the strategy defined with IFPRI.

For the second project, the classical component (the country-level CGE model) seemed to have had a significant policy outcome through the analysis of the effects of the maize export ban in Tanzania. IFPRI's analysis contributed to the government's decision not to reinstitute the ban, which it had been reconsidering. The mechanization component will probably not have an immediate outcome or impact, but it could encourage further research on similar themes and policy debates which could ultimately have an impact on agricultural production and smallholder farmers' incomes.

Flagship 3. Adoption of Technology and Sustainable Intensification

The IFPRI-led geospatial tools activity #45 has not yet demonstrated any outcomes because it has been putting together the various databases for its sub-activities such as the CRP mapping initiative. Its outputs have so far included methodological discussion papers, datasets, websites, maps, blogs, and workshops. Its impact pathways are more similar to the foresight activities in Flagship 1 than to

the other technology adoption activities in Flagship 3. These work through the decision processes of donors and research organizations using the geospatial analysis, and ultimately to the outcomes realized when farmers adopt improved technologies.

The ICRAF-led “Evaluation of innovative extension approaches” (activity #18) has been researching the volunteer farmer trainer approach in a number of countries. The East African Dairy Development (EADD) Project has adopted the VFT approach, as a direct result of its partnership with ICRAF, to training farmers in Kenya, Tanzania, and Uganda to increase fodder and silage production, particularly to increase milk production during the dry season. Studies in Kenya and Uganda have shown that farmers have increased their milk production (usually 2–3 times their original productivity) since joining the EADD project; increased the number and quality of their cows/breeds; and undergone a transformation from subsistence to commercially oriented farmers. Farmers in Kenya have progressed to the point in which their farmers’ association has built its own chilling plant to assemble the milk en route to the dairy processors in Nairobi.

Activity #18 also has a strong partnership with the USAID-funded Modernizing Extension and Advisory Services (MEAS) project, which is studying the VFT approach in an effort to popularize the approach and integrate it into the formal extension service. Currently, different countries are applying different versions of this approach with little coherence or coordination, or even proper evaluation of their effectiveness, as was done with other extension approaches such as the Training and Visit system and Farmer Field Schools.

Flagship 5. Value Chains.

The evaluation reviewed the experience of four value chain activities, all of which are led by non-IFPRI Centers. The first three activities could best be described as delivery-type research activities, and the fourth (activity #21) as a discovery-type activity:

- Activity #4 (Bioversity): Enhancing Agricultural Value Chains of Underutilized Crops through Improved Quality Assurance and Coordination Mechanisms across Actors
- Activity #7 (CIAT): Building Sustainable Relationships between Smallholder Farmers and Buyers
- Activity #15 (CIP): Adapting, consolidating and scaling out methods for equitable value chain upgrading
- Activity #21 (ICRAF): Understanding the potential for addressing rural poverty through value chain development for underutilized fruit

All four activities aim to improve the access of low-income, small-farm households to high quality, differentiated-product value chains. Three of the activities have focused on “inclusive value chain upgrading” of particular products, primarily grown by smallholder farmers, that have potential for becoming high quality consumer products - for activity #4, quinoa and native chilies in Peru and

Bolivia; for activity #15, native potatoes in Ecuador; and for activity #21, camu camu in Peru. Activity #7 has been helping to build business relationships between smallholder farmers and Unilever/Oxfam in the Sunrise project - a large-scale multi-national project aimed at helping smallholder farmers understand the Unilever supply chain and its requirements.

The three delivery-type activities have all used participatory research methods (including the private sector) to be sensitive to the local context (social, economic, cultural, and political) and responsive to the needs and priorities of local stakeholders. Activities #4 and #15 have used the participatory market chain (PMCA) approach and multi-stakeholder platforms, while activity #7 has used learning alliances and the LINK methodology. The use of participatory methodologies has been instrumental in bringing about positive, context-specific, development outcomes including the following:

- Activity #4 changed the culture of INIA (the Peruvian government department in charge of the native chili seedbank) from a culture of conservation that was hostile to the private sector to one that views the private sector as a valuable development partner. In addition, the activity facilitated direct negotiations between processors and smallholder native chili farmers, which opened the eyes of smallholder farmers to previously unimagined possibilities. There are now signs of an increasing number of high-value native chili products on the market.
- Activity #7 provided a blueprint for interaction between procurement officers of Unilever and smallholder farmers in a number of developing countries so that Unilever/Oxfam now plans plan to roll out the LINK-based approach to all their agricultural procurement managers, which could potentially involve 2 million smallholder farmers by 2020.
- Activity #15 brought together a farmers' association in Ecuador (CONPAPA) and a small-scale processor (InalProcess) to develop a new product (Kiwa native potato chips) which is now being marketed into the European Union as a niche product. In 2013, InalProcess was selected as a finalist for the GIZ Changing Markets Award.²³
- Activity #21 in Peru is a case study of the camu camu value chain that is exploring and refining the 5Capitals methodology, and that is primarily about discovering a better way to assess the impact of value chain development on rural poverty. Its contributions to development outcomes are not as direct as those of the delivery-type activities, but come from the support it provides to the delivery-type activities. Thus, the other three activities are all using the 5Capitals framework to measure the impacts on rural poverty of value chain upgrading using PMCA and LINK.

These four activities demonstrate how discovery and delivery-type research can work together to help produce positive development outcomes and need not be seen as an “either/or” proposition. There is a need to explore other opportunities for synergy between discovery and delivery-type

²³. See <http://www.potatopro.com/news/2013/kiwa-andean-potato-chips-gets-ecuadorian-company-nominated-award> .

research - where discovery research informs delivery research and where delivery research informs the type of discovery research to be undertaken. It may also be useful to try and systematize the way activities are developed to encourage and facilitate these opportunities for synergy. The multi-Center projects approved for the extension phase (and, in particular those on the regional hubs and the value chains clearinghouse) provide an opportunity for this to happen.

Flagship 7. Natural Resource Property Regimes

The evaluation reviewed the experience of three projects. Two of the projects (CAPRI and #44) are led by IFPRI and one project (#89) is led by Worldfish. These can point to the following achievements.

CAPRI has established itself as a central node of excellence in an international network of both scholars and practitioners who work on the local governance of natural resources in developing countries. This network has clearly benefited the CGIAR system as a whole, not just PIM and IFPRI, but has also made a mark on the field of common-pool resource studies as a whole. PIM researchers who are affiliated with CAPRI benefit from this network in several ways: it gives these researchers access to contacts and research expertise beyond PIM and it provides thematic cohesion to the Flagship 7 activities. It is no coincidence that the scholars who belong to CAPRI perceive stronger program cohesion and inter-Center linkages compared to other PIM researchers.

Both CAPRI and activity #89 have produced research that has informed decision-making. CAPRI's work to strengthen the Foundation for Ecological Security in India and their research capacities have helped to scale up FES work with villages and the acquisition of common property rights. It has also produced studies that have shaped new state policies on village commons in Andhra Pradesh and Rajasthan. Activity #89 on "Engaging policy stakeholders across scale through community-based action research" has led the Government of Cambodia to adopt a new inland fisheries policy, which recognizes the rights of multiple interests, including local fishing communities.

Activity #44, "Land tenure security and land policy in selected African countries," has not progressed as far as the first two. The impact pathway for this project in Ethiopia has so far relied mostly on targeting bilateral donors who in turn raise evidence-based issues in dialogue with the government. It is still too sensitive to raise these issues directly with the government if you are a researcher. In addition to the ongoing work with USAID and DFID, the principal investigator and IFPRI's Ethiopia Strategy Support Program are currently working together with LAUD - the government agency in charge of land-use certification - to develop an initiative that seeks to start an evidence-based dialogue for diagnosing problems and possible policy remedies. The partnership with LAUD will be very important for moving the research into the decision-making spheres of the government, which is encouraging since this was lacking in the past.

Country Strategy Support Programs

The evaluation team visited four countries in which IFPRI has a Country Strategy Support Program (Bangladesh, Ethiopia, Malawi, and Uganda), and a fifth country in which it used to have one (Mozambique) to learn more about these programs and to discuss their role in helping PIM-supported activities in achieving outcomes and impacts. The team also reviewed the impact assessment of IFPRI's work in Ethiopia, issued in June 2013 (Renkow and Slade, 2014). Although CSSP activities are officially mapped to PIM, the evaluation team and the IFPRI Director General had agreed during the inception phase that the evaluation would have a reduced emphasis on the CSSPs. The evaluation team simply shares a few observations about the CSSPs in the countries visited.

The CSSPs do not really consider themselves to be part of PIM. They have a different authorizing environment, namely, a tripartite agreement between their donors (most frequently USAID), IFPRI, and the government of the country. In 2013, the seven CSSPs collectively spent the same order of magnitude as the entire W1-2 budget of PIM - \$25.3 million compared to \$24.9 million. They play a role in assisting IFPRI-led, PIM-supported activities in the country, but they would prefer to be a partner with PIM rather than (officially) a part of PIM. They were generally not aware of the PIM-supported activities in the countries that were not led by IFPRI.

The Bangladesh and Ethiopia programs have worked with a number of PIM-supported activities such as the GAAP and the WEAI in Bangladesh, and the Productive Safety Net Programme, weather index insurance, SAM updating and CGE modeling, and the land tenure security and land policy project in Ethiopia, all of which are legacy projects that began before PIM was established in 2012. When working with PIM researchers, the CSSPs give priority to those projects that can contribute directly to their own approved program (between IFPRI, the donor(s), and the government). The CSSPs offer only minor assistance to PIM researchers who are working on activities that do not align with their own programs.

The Bangladesh and Ethiopia CSSPs have been instrumental in contributing to the government policy uptake of the research arising from the above-mentioned activities. For example, IFPRI's engagement in the policy process in Bangladesh and in building research capacity has contributed to both the implementation and the uptake of the WEAI results in Bangladesh. IFPRI had worked for a long time with the data collection firm that piloted and implemented the WEAI in Bangladesh so that reluctance to field a long questionnaire was not an issue (like it was in some other countries). IFPRI is very engaged both with the Ministry of Agriculture through a policy support unit and with USAID, which funds the CSSP. When the first WEAI results became available, USAID in partnership with the government of Bangladesh and IFPRI increased the funding dedicated to improving women's empowerment by about US\$6 million, and changed the focus on its Feed-the-Future projects to address constraints women faced in agricultural development.

The Ethiopian CSSP has also contributed to three policy outcomes that are directly related to IFPRI's impact evaluation of the Productive Safety Net Program: (a) The main donor to the PSNP, the World Bank, made more than 60 references to this project's results when justifying its 2013 proposal of an additional \$300 million in funding; (b) the project document for the next phase of PSNP contains a section on "Lessons learned informing this phase of the programme design," which makes explicit reference to IFPRI's research results; and (c) the Donor Coordination Team requested IFPRI's project to provide input into the re-design documentation to strengthen the nutrition-sensitivity of the Next Generation PSNP.

The extent to which PIM-supported activities in CSSP countries are translating country-level research results into global public knowledge of benefit to other countries facing similar challenges is inconclusive. While the evaluation team has observed PIM-supported activities that are doing this, this does not appear to be dependent on or necessarily facilitated by CSSPs. For example, three projects in Flagship 7 - led by Bioversity, IFPRI, and Worldfish, respectively - are making significant contributions to global public goods in this sense, but only one of them is located in a CSSP country. Instead, what all three projects have in common is being motivated by a broad theoretical puzzle that is readily applicable across specific contexts.

Capacity Strengthening

The evaluation has interviewed principal investigators about their capacity strengthening activities and reviewed what they have reported in their progress reports. The evaluation has asked questions about capacity strengthening on the staff and partner surveys. And the evaluation has reviewed the recent impact assessment of IFPRI's capacity-strengthening work, 1985–2010 (Kuyvenhoven, 2014). As in the preceding section, the evaluation shares a number of observations about PIM's capacity building activities based on the information collected.

CGIAR researchers involved with PIM view capacity building as very important both for their impact pathways and for sustaining the outcomes arising from their activities (Volume 3, Staff Survey question #28). They demonstrate that they are doing a lot of different kinds of capacity strengthening of other researchers (such as research partners and students), and of development actors (such as development partners and value chain participants). But, overall there does not appear to be significantly more or less capacity strengthening than before PIM was established. The situation could be described as "business as usual." PIM does not appear to have had a significant effect on the extent or nature of capacity strengthening activities that are taking place, based on interviews with principal investigators and the staff survey.

The CGIAR partners really appreciate these capacity strengthening activities, based on the country visits and the partner survey. They appreciate how the activities are providing funding for capacity strengthening that is helping their organizations to meet their capacity development needs. Their responses are even significantly more positive than the responses of CGIAR staff to the same survey

questions on the performance of CGIAR research projects in relation to capacity building (Volume 3, Partner Survey question #6).

There appears to be some tendency, in Flagship 5 for example, for discovery-type projects to be more focused on capacity strengthening of other researchers and for delivery-type projects to be focused on capacity strengthening of development actors.

What the principal investigators are reporting on the progress reports are a mixed bag of activities. About a third of the activities are strategic and impact-oriented, such as the training of ILRI, CIMMYT, and ICRAF scientists on the use of GAMS-based models for the analysis of agricultural and natural resource policy (in the BioSight activity #98). Another third are contributing to the needs of the project, such as training extension organizations in farmer-to-farmer extension (in project #18). And the remaining third, such as presentations at international conferences, are not really seriously capacity enhancing.

Unlike for gender and for partnerships, PIM does not have an explicit capacity strengthening strategy beyond what is stated in the final PIM proposal submitted to the Consortium in October 2011. This envisaged two broad sets of capacity strengthening activities across the entire PIM portfolio: (a) sharing research methods and results in collaborative research partnerships; and (b) producing global public goods that partner institutions could effectively use to build local capacity and enhance the use of research methods. This strategy seems to be incomplete based on the above observations and the findings of the recent impact assessment of IFPRI's capacity strengthening activities. In particular, it seems not to take into account the extent and nature of the capacity strengthening activities that are taking place at the other Centers.

PIM should develop an explicit capacity building strategy like those for gender and partnerships. Almost 80 percent of the staff in the non-IFPRI Centers, and more than 60 percent of the IFPRI staff agreed or strongly agreed that it would be helpful if PIM had a formal strategy. But it makes little sense for PIM to have a capacity strengthening strategy independent of its Lead Center, IFPRI. Both the CSSP activities (which have a strong emphasis on capacity strengthening) and the other W3/bilateral activities in IFPRI are of the same order of magnitude as, or even larger than PIM's W1-2 budget. It makes little sense for PIM to allocate its resources to capacity strengthening activities independently of the other capacity strengthening activities that IFPRI is undertaking with its other resources.

The recent impact assessment of IFPRI's capacity strengthening activities has made a number of recommendations, which could also form the starting point for formulating PIM's capacity strengthening strategy:

- being more strategic in its choice of capacity-strengthening partners;
- recognizing the importance of capacity strengthening in terms of budget allocation, incentives, and rewards;
- expanding its research and publications effort on capacity strengthening;
- putting in place a better internal tracking system for its capacity strengthening work, including more systematic measurement of outputs and outcomes, and the costs of providing different types of capacity strengthening.

Things already seem to be moving in the direction of PIM developing a capacity strengthening strategy in conjunction with IFPRI's. IFPRI has recently established a capacity strengthening task force to respond to the recommendations of the impact assessment report, and the PIM Management Unit has a senior representative on this task force.

8. Organizational performance

This chapter addresses the fourth overarching issue of this evaluation— “the extent to which PIM is characterized by streamlined and efficient governance and management, with clear accountability.”

The IEA has already completed, in March 2014, a comprehensive Review of the Governance and Management of CGIAR Research Programs, and the IEA’s first CRP evaluation - that of the Forests, Trees, and Agroforestry (FTA) program - also contained a comprehensive assessment of the governance and management of that program. Both adapted the now widely used approach to assessing the governance and management of global partnership programs based on compliance with generally accepted principles of good public sector governance: legitimacy, accountability, responsibility, efficiency, transparency, and fairness.²⁴

The CGIAR Internal Audit Unit is also commencing an internal audit of PIM in March or April 2014 that will include an assessment of the program’s governance and management. The IEA and the Internal Audit Unit have signed a Memorandum of Understanding in which it was agreed that CRP evaluations would not include in-depth financial analysis.

Therefore, this chapter has adopted a less comprehensive approach than the two previous IEA evaluations. It investigates selected governance and management issues that have arisen during the course of this evaluation, namely (a) strategic direction and oversight, (b) resource allocation, (c) accountability, (d) conflicts of interest, and (e) monitoring and reporting. But first it is important to point out how PIM operates within certain features of the CGIAR Reform process, and is constrained by decisions that have been made at a higher level (Box 3).

Contextual Background

That what used to be called CGIAR core funding is now being channeled through the CRPs raises questions about sustaining the research infrastructure which the CGIAR Centers have built up over the years. Allowing IFPRI and the other Centers to allocate some W1-2 funds to help finance the indirect administrative costs of bilaterally funded activities only partially addresses this issue. While

²⁴. This approach was introduced in 2007 by the Independent Evaluation Group of the World Bank and the OECD/DAC Network on Development Evaluation in their *Sourcebook for Evaluating Global and Regional Partnership Programs*. The principles are adapted from the OECD Principles of Corporate Governance (2004) - the principal set of corporate governance principles on which there is clear international consensus. Many governance functions for the for-profit private sector, as laid out in the OECD Principles, translate directly into equivalent functions for global partnership programs (as well as for other public sector organizations, NGOs, and foundations). The key differences for global, public sector partnerships are the absence of tradable shares, the need to establish legitimacy on a basis other than shareholder rights, and the greater need for transparency in the use of public sector resources in achieving public policy goals.

contributing to sustaining IFPRI's research infrastructure over the long term, this has also created an incentive at the margin to map bilaterally funded activities to PIM in order to use W1-2 funds for this purpose.

Box 3. Selected Features of the CGIAR Reform Process and Higher-Level Decisions Affecting the Governance and Management of PIM

- (1) What used to be called CGIAR core funding, and what are now called W1-2 funds, are being channeled through the 16 CRPs like PIM, rather than apportioned to the 15 Centers on a largely unrestricted basis.
- (2) All CRPs are hosted by a Lead Center to give them a legal umbrella under which the CGIAR donors can transfer their funds to support each program.
- (3) The Fund Council and the Consortium have put in place three levels of contracts to provide for fiduciary oversight of the W1-2 funds provided to the respective CRPs: between the Fund Council and the Consortium; between the Consortium and each Lead Center; and between each Lead Center and the other participating Centers in each CRP.
- (4) At the outset in 2012, the CGIAR Consortium directed that all CGIAR research activities should be mapped to a CRP, whatever their source of funding - W1-2, W3, or bilateral.
- (5) In response to demands from the Centers, the Consortium has allowed the Centers to use W1-2 funds to help finance the indirect administrative costs of bilaterally funded activities mapped to the CRPs, whose donors have not provided a sufficient allowance for these administrative costs (in the case of IFPRI, this being 17 percent).
- (6) The Directors-General of the Centers agreed among themselves that, for the first year or two (2012 and 2013), the CRPs should allocate their resources among the participating Centers in accordance with the Centers' historical allocations of CGIAR core funding.
- (7) At the outset, the Fund Council treated W1 and W2 as substitutes in meeting the budgets of the CRPs. If a CRP raised more W2 funds than expected, then the Fund Council would reduce its allocation of W1 funds.
- (8) At the end of the first year of the transition, the Consortium forbade CRPs from carrying over unspent funds from 2012 to 2013. The Consortium reversed this decision in early 2013 under pressure from the Lead Centers, so that they were able to carryover unspent funds from 2012 to 2013, as well as in subsequent years.
- (9) During the first three years of PIM, the Fund Council has only disbursed 48 percent of the W1-2 funds to IFPRI for PIM that were anticipated in the initial Program Implementation Agreement between the Consortium and IFPRI - \$67.9 million compared to the anticipated \$140.8 million.

Source: Compiled by the IEA for this evaluation.

Requiring PIM, as a transitional measure, to allocate its W1-2 funds among Centers according to their historical allocations of CGIAR core funding, constrained PIM's allocation process for the first two years, as discussed in the second section below.²⁵

Requiring all CGIAR research activities to be mapped to a CRP, whatever their source of funding - W1-2, W3, or bilateral - has raised issues of accountability, as discussed in the third section below.

Having each CRP located in a Lead Center, for understandable legal reasons, nonetheless requires the transparent management of the resulting conflicts of interest, as discussed in the fourth section below.

Putting in place three levels of contracts to provide for the fiduciary oversight of W1-2 funds has impeded the flow of funds down to the principal investigators managing each research activity, since IFPRI must sign annual Program Participant Agreements (PPAs) with each Center before disbursing the funds to each Center. Looking only at the last two years, since 2012 was a transition year, the participating Centers took an average of 58 days to review and sign the PPAs in 2013 and an average of 39 days in 2014, and actually received their funds between August and November - that is, for some Centers in the final quarter of the year in which funds were to be spent.

Center Directors of Finance and Administration report cash flow problems. They pre-finance the research activities, starting in January of each year, essentially by continuing to pay the salaries of long-term staff. Principal investigators report delayed authorizations to recruit, not just new staff, based on promises of W1-2 funds later in the year, but also to recruit consultants to assist with the research activities, and to negotiate contracts with partners for the delivery of services such as household surveys in developing countries.

²⁵. While the amount of core funding that the Centers had historically received was a matter of public record, and available in the annual CGIAR financial accounts, the precise amount each Center had received for policy-oriented research of the type that PIM planned to undertake was not. This has led to allegations, impossible to prove, that some Centers overstated these amounts in order to secure more funding from PIM at the outset. This evaluation takes no position on this issue. To investigate it would have been beyond our mandate.

Table 7. Processing of PIM Program Participant Agreements, 2013 and 2014

Centers	2013		2014	
Sent to Centers for Review and Signing	July 1, 2013		June 27, 2014	
	PPA Signed	Payment Made	PPA signed	Payment Made
IFPRI	August 8		July 16	
BIOVERSITY	August 1	August 2	July 25	August 15
CIAT	August 16	August 23	August 8	August 16
CIMMYT	August 12	August 16	August 25	October 1
CIP	September 10	September 27	July 10	September 5
ICARDA	September 6	October 4	July 23	/1
ICRAF	October 3	October 11	July 23	September 26
ICRISAT	August 13	August 16	July 11	August 15
IITA	August 7	August 9	July 23	August 15
ILRI	October 3	October 11	November 14	November 19
WORLDFISH	August 15	August 16	July 11	August 15
Average No. of Days between Steps	58.4 days	6.5 days	38.8 days	31.8 days

1. From August 2014 to January 2015 IFPRI made several attempts to make payments to ICARDA. IFPRI's bank SunTrust Bank was unable to process any of these. The payments were stopped by the SunTrust's Office of Foreign Asset Control (OFAC) department and returned to IFPRI. This situation has been resolved since then, and payments are now being made to ICARDA.

Source: PIM Management Unit

Initially not allowing CRPs to carry over unspent funds from 2012 to 2013 also impeded budgeting and the flow of funds in 2013. When the Consortium relented, IFPRI was able to carryover \$11.7 million dollars dedicated to PIM from 2012 to 2013.

Treating W1 and W2 funds as substitutes in meeting the budgets of the CRPs helps explain why neither IFPRI nor the PIM Director has much spent time and effort mobilizing W2 resources. Now (in 2015), it appears that this may be changing - allowing Centers and CRP Directors to mobilize additional W2 resources without losing W1 funds.

Finally, the Fund Council has only disbursed 48 percent of the anticipated W1-2 funds to IFPRI for PIM (Table 8). This has changed the relative stakes in the overall program, which has profound implications for its governance and management, discussed below. That the share of W3 and bilateral funds has diverged from an anticipated 47 percent to an actual 74 percent over the first three years, increases the importance of recognizing the commitments that each Center has made to its own bilateral donors.

Table 8. Sources of Funding for PIM, 2012–2014

Anticipated Funding	2012	2013	2014	Total
Window 1 and 2	30,310	47,797	62,723	140,830
Window 3 and Bilateral Funding	51,633	40,231	32,539	124,403
Total	81,943	88,028	95,262	265,233

Actual Funding	2012 Expenditures	2013 Expenditures	2014 Budget	Total
Window 1 and 2	15,200	27,000	25,700	67,900
Window 3 and Bilateral Funding	59,900	65,600	67,700	193,200
Total	75,100	92,600	93,400	261,100

Sources:

- For anticipated funding, the Program Implementation Agreement on CRP2 - Policies, Institutions, and Markets - between the Consortium and IFPRI, Annex 3.
- For actual funding in 2012 and 2013, the CGIAR Financial Reports for 2012 and 2013.
- For the 2014 budget, the PIM Management Unit.

Strategic Direction and Oversight

Strategic direction and oversight are the two most important functions of a governing body. Strategic direction includes “exercising effective leadership that optimizes the use of the financial, human, social, and technological resources of the program; establishing a vision or a mission for the program; reviewing and approving strategic documents, and establishing operational policies and guidelines.” Oversight includes “monitoring managerial performance and program implementation, appointing key personnel, and approving annual budgets and business plans” (IEG and OECD/DAC, 2007, pp. 72-73).

However, PIM does not have a CRP governing body as such. Instead, the PIM Director was appointed by and reports to the IFPRI Director General of IFPRI, who reports to the IFPRI Board of Directors, which has ultimate responsibility for the governance of PIM. (See Figure 2 in Chapter 2.) The IFPRI Director General also reports to the Consortium Board in accordance with the Program Implementation Agreement signed between the Consortium and IFPRI.

PIM does have a Science and Policy Advisory Panel (SPAP) consisting of ten eminent external experts, who, according to their terms of reference, perform a number of governance functions, but on an advisory basis. This includes to “review and provide advice on resource allocation, work plans and budgets.” (See Annex C for the complete terms of reference for SPAP.)

PIM also has a Management Committee that assists and advises the PIM Director in a number of management functions; participating Center Focal Points who are responsible for coordinating and facilitating interactions between their Center and the Lead Center regarding PIM activities; and Flagship and Cluster Leaders who are responsible for leading and coordinating their respective flagships/clusters in cooperation with the PIM Director, Management Committee, and PIM Management Unit.

Regarding the composition of SPAP, IFPRI and PIM management have done a good job of appointing eminent external experts who cover different subject areas of topical interest (development economics, general agricultural economics, international trade, etc.) who have achieved much recognition in their professional lives, and who also come from the major regions of the world. (See Annex D for the membership of SPAP.) Selecting retirees likely increases their availability, but also runs the risk of missing out on recent trends, especially since the Lead Center, IFPRI, has such a strong focus on quantitative research, which is a fast-moving field. Based on the experience of the present evaluation in assessing the scientific quality of three major streams of global agricultural modeling work, it might also be desirable to approach scientists who are currently more actively involved in such modeling work.

The more significant issue has been the Panel's degree of engagement to date. SPAP meets once a year for two days and has so far met three times - in November 2012, October 2013, and December 2014. Panel members have mostly provided advice on the strategic direction of the program. The meetings have consisted to a large extent of presentations by the PIM Director and each of the Flagship Leaders on their main activities, findings, achievements, and plans for the future, followed by a discussion involving comments, questions, answers, and potential recommendations. After each meeting, the Panel prepares a summary of the meeting that also contains a number of recommendations and constitutes their annual report to the Director General. The Panel has not reviewed or provided advice on resource allocation, work plans, and budgets, according to interviews with the chair and three other panel members.

The PIM Management Unit provides the panel members with various reports and the monthly PIM newsletter throughout the year, but the PIM Director has not consulted them on particular issues in between meetings, again according to interviews with the panel members. The panel members acknowledge that they could request more, particularly financial information about the program, so as to exercise more oversight, even in an advisory capacity, but they have not done so. Again, it might be easier to exercise oversight if the PIM Management Unit could present a more programmatic view of the program, as well as the strategic and financial linkages between W1-2, other CRP funding, and W3/bilateral funds, as discussed in Chapter 2.

The principal occasions during the year in which the Director General formally exercises oversight over the program are during his annual performance review of the PIM Director; during approval of the budget allocation, provisional upon approval by the IFPRI Board; and during the annual signing of

the PPAs with the other Centers. Both his office and the Finance and Administration Division review the latter with a fine-tooth comb before these are sent to the other participating Centers. The PIM Director also attends the semi-annual meetings of the IFPRI Board of Trustees. Each meeting typically lasts three days, one day of which is devoted to IFPRI's research program. Again, each of the four Division Directors and the two CRP Directors (for PIM and A4NH) give presentations on their main activities, findings, achievements, and plans for the future, followed by a discussion. The Director General also exercises oversight of PIM publications, reports, and other formal communications with the Consortium Office, which are channeled through his office.

The appropriate boundary between the governance and the management of global partnership programs depends on factors like the maturity and the size of the program. Less mature programs may take time to establish formal governance structures. The extent of governance should also be proportionate to the size of the program in order not to result in an over-governed and under-performing program (IEG and OECD/DAC, 2007, p. 71). Having said this, PIM is clearly not over-governed for its size and its collective action nature, as discussed below. The PIM Director has been allowed to exercise a great deal of autonomy and discretion in consultation with the structures that advise and report to her - the Management Committee, the Focal Points, and the Flagship and Cluster Leaders - and to establish new processes and procedures without getting these approved by a higher authority. This should only be regarded as acceptable to the extent that the overall governance and management of PIM complies with generally accepted principles of good governance of international public sector programs such as legitimacy, accountability, efficiency, transparency, and fairness.

PIM is clearly a legitimate program, derived initially from the legitimacy of the CGIAR, which in turn derives from the CGIAR's membership, its donors, its historical achievements, and its Centers' legal arrangements with their host countries. But the long-term legitimacy of PIM also depends on achieving positive results and on compliance with the other good governance principles. Therefore, the next sections of this chapter focus on efficiency in relation to resource allocation, transparency, fairness, and accountability.

Resource Allocation

The efficient and transparent allocation of financial resources among competing activities has proven to be a challenging issue for most global partnership programs, PIM included. Generally speaking, one observes four major ways in which programs allocate resources in practice:

- a formula-based allocation system like IFPRI used to use for allocating its CGIAR core funding among its four programmatic divisions;
- calls for proposals in response to published criteria, followed by a centralized review process to identify the most worthy proposals;

- block grants to different organizational units, giving some degree of discretion to each unit to allocate resources within its unit;
- the contributing donors pre-select the activities to be funded, as in the case of the bilaterally funded research activities that are mapped to PIM.

Initially, in 2012, the program followed a call-for-proposals process for allocating its W1-2 resources, constrained by the historical allocations of CGIAR core funding among Centers. What were then called Subtheme Leaders were asked to assess and score the proposed activities according to the following criteria: Clarity of purpose (statement of problem, purpose, and feasibility); methodology (detail, appropriateness, and feasibility); innovation (refinement, improvement, or new application of theoretical concepts, methods, or interventions); contribution to PIM outputs and outcomes; partnerships and collaborations; and relevance to other themes, outputs, and outcomes of PIM. Then the Management Committee members were asked to assess the proposals particularly with regard to their "partnership and collaboration opportunities between Centers and activities."

However, several interviewees described the 2012 process as one in which they eliminated the least worthy proposals received from each Center until arriving at each Center's pre-determined monetary allocation. At the end of the day, 64 proposals were approved out of 90 submitted. Bioversity, ICARDA, ICRISAT, and ILRI received allocations that were at or exceeding their requests in 2012, although not all their proposals were approved. The other Centers, and particularly IFPRI received allocations that were below their requests - in the case of IFPRI, more than \$5 million below their overall request of \$12.9 million. The allocations were firm for 2012, and indicative for the next two years, pending acceptable progress in line with the approved proposals and the availability of W1-2 funds.

The program gradually relaxed the historical allocation constraint during the next two years (2013 and 2014). Then, for the extension phase, the program essentially switched to a "block grant" process of allocating resources among flagships. The number of flagships was reduced from 7 to 5, and each flagship was given both an indicative allocation and a fair amount of discretion to come up with an overall set of proposed activities for the extension phase, based on an overall budget of \$27.0 million - \$21.1 million after deducting PIM management and coordination expenses and co-financing of IFPRI bilaterally-funded activities.²⁶ This was roughly in line with the previous two years' budgets.

The planning process actually started at the PIM Extended Team Meeting in March 2014, during which each flagship presented their plans for the extension phase. Subsequently, each flagship formulated their concrete proposals in their own way, depending on how they were functioning as a group. For example, Flagship 3 (on technology adoption) decided to streamline its work by

²⁶. PIM, "Proposal for the Extension Period, 2015–2016," submitted to the CGIAR Consortium Office by the PIM Management Unit on April 25, 2014, p. 16.

continuing only 4 out of 9 activities and by starting one new multi-Center activity called “Learning Network on Technology Adoption and Impact,” involving ICRAF, ICRISAT, IFPRI, and IITA. Flagship 5 (on value chains) decided to discontinue 11 activities and to submit 5 new multi-Center activities — more than any other flagship — four of which received partial funding and the fifth of which was not approved. Flagship 7 (on natural resource property regimes) decided to discontinue two activities that were performing subpar and to continue seven others — only four of which were approved for 2015 funding, and one of which is moving from PIM to A4NH (the Gender, Agriculture, and Assets Project).

While there was no “call for proposals,” the flagships still had to submit project proposal forms for their new proposals. The PIM Management Unit established five, merit-based criteria for assessing the flagship proposals (both old and new), and introduced an external peer review process to review the new proposals:²⁷

- strategic focus and coherence; alignment with objectives of the cluster and/or flagship;
- hitting the key issues – priorities;
- quality of science - methodology, data (to the extent visible in the proposal);
- appropriate inclusion of gender issues;
- explicit attention to application, M&E, and outcomes.

Linkages with bilaterally funded activities mapped to PIM were not an explicit criterion, but appear to have been an implicit one. Three bilaterally funded activities mapped to PIM (all led by IFPRI) are now receiving W1-2 funds for the first time in 2015.²⁸

Then, towards the end of the process, the indicative budget was cut by 18 percent from \$27.0 million to \$22.1 million due to reductions in W1-2 funding from the CGIAR Fund Council. The PIM Director and Senior Research Fellow in the PIM Management Unit essentially formed a subcommittee of the Management Committee to decide upon the final allocation of funds, in consultation primarily with the Flagship and Cluster Leaders, which was presented to the PIM Extended Team Meeting in November 2014.

²⁷. According to the PIM Management Unit, this external peer review process did not work very well, because proposals did not include enough detail on methodology and applications for adequate review and because the external peer reviewers lacked sufficient context of the entire program, while delaying the final allocation decisions. This is consistent with the experiences of the principal author of this evaluation with trying to use such external peer review processes for resource allocation at the World Bank.

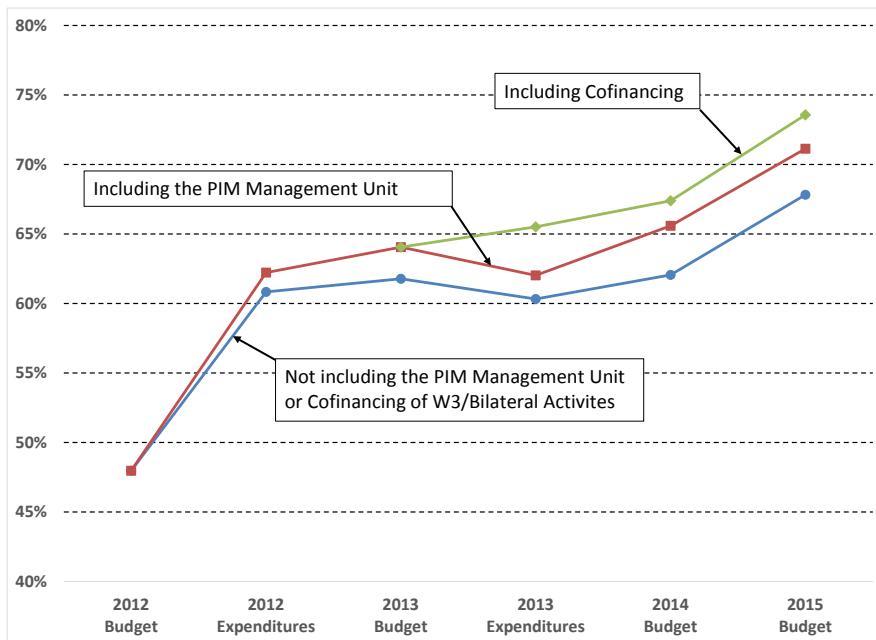
²⁸. These are the Agricultural Science and Technology Indicators (ASTI) project, the Biosafety Program - both in Flagship 2 - and the Women’s Empowerment in Agriculture Index in Flagship 8. The latter two have been in-depth case studies in this evaluation.

The evaluation team has probably received more complaints about the allocation of W1-2 funds for the 2015–2016 extension phase than any other issue that has arisen in the course of this evaluation. Principal investigators from virtually all Centers have criticized the process as lacking in transparency, inclusiveness, and timeliness. While they understood that not all proposals could be funded in the face of the large budget cut in late 2014, they would have liked to have received more feedback as to why or why not the funding was provided, and how their proposals might be improved in the future. They also complained of favoritism toward the Lead Center.

The staff survey confirmed the generality of these findings: 74 percent said they were dissatisfied or very dissatisfied with the transparency in the allocation of W1-2 funding within PIM, a result that showed no significant difference between IFPRI and non-IFPRI staff (Volume 3, Staff Survey question #29). Sixty-six percent said that they were dissatisfied or very dissatisfied with the fairness in the allocation of W1-2 funding within PIM. In this case, there was a significant difference: 78 percent of non-IFPRI staff said that they were dissatisfied or very dissatisfied, compared to 54 percent for IFPRI staff. Perceptions of fairness have an added dimension for IFPRI staff - not only between IFPRI and the other Centers, but also among the four Divisions in IFPRI.

In fact, the share of W1-2 resources allocated to IFPRI has increased over time, from 48 percent of the initial 2012 research budget allocation to 68 percent of the 2015 research budget, not including the budget for the PIM Management Unit or the co-financing of IFPRI's bilateral activities (Figure 21). The share has increased to 74 percent in 2015 including PIM management and co-financing.²⁹ Having moved from a call-for-proposals system, based on the historical allocation of CGIAR core funding to the participating Centers, to a block grant system based on flagships makes the allocation among participating Centers more of a dependent variable. But non-IFPRI staff as well as some IFPRI staff have also alleged that the merit-based assessment criteria have tended to favor upstream, discovery-type research that can be assessed using more traditional metrics compared to downstream, delivery-type research. Even if the allocation of W1-2 funds is not biased in favor of IFPRI, that so many perceive this to be the case undermines the legitimacy of PIM and limits the sense of ownership among CGIAR scientists involved in the program.

²⁹. Calculated as the allocation to IFPRI (including research, co-financing and management) divided by total budget allocated.

Figure 21. IFPRI Share W1–2 Resources, 2012–2015


Source: Table 4.

Accountability

Accountability concerns the extent to which an organization makes, accepts, and fulfills its commitments along the chain of command and control, starting with its ultimate authorities at the top - in this case the Fund Council, the Consortium Board, and the IFPRI Board of Trustees - and going down to the chief executive officer, team leaders, and implementers - in this case the **PIM** Director, the principal investigators, and their research teams. One of the principal objectives for channeling core-type funding through the 16 CRPs like PIM has been to achieve greater focus and accountability in the use of these resources in pursuit of the key goals of the CGIAR System. This was partly in response to allegations that the Centers had been insufficiently accountable in the past for the use of their core funds.

This was not a unanimous view, however. The 2009 Stripe Review of Social Science in the CGIAR concluded the opposite - that social science research in the CGIAR had “lost much of its coherence and quality because of increasing reliance on short-term restricted project funding and the associated pressure to generate on-the-ground development results.” Social science research was increasingly characterized “by a shift from largely unrestricted core funding to restricted funding, most of which comes through small, short-duration development-oriented grants, and by an almost

unlimited expansion of social scientists' agenda due to a lack of vision as to how CGIAR social science research can best contribute to agricultural development.”³⁰

Be that as it may, under the features of the CGIAR Reform discussed at the beginning of this chapter, PIM has an organizational structure in which it relies on principal investigators and their research teams outside of its direct line of accountability to deliver the research that it funds. Rather than a hierarchical structure, the PIM Director and the small Management Unit find themselves in more of a collective action situation in which they play largely a coordinating role in terms of accountability. Rather than being in a hierarchical relationship with the PIM Director, the scientists in IFPRI and the other participating Centers still report to their line managers and to their Directors-General, and the latter are accountable to PIM like they are accountable to any donor, except that this donor happens to be located inside one of the Centers.³¹ Indeed, some CGIAR scientists have told the evaluation team that they regard PIM as little more than another donor.³² The PIM Director has also had little or no accountability in practice for the use of bilateral funds that are supporting activities mapped to PIM, notwithstanding the somewhat nebulous language to contrary in the Program Implementation and Participant Agreements.

For this organizational structure to work effectively, CGIAR scientists in IFPRI and the other Centers have to have an individual sense of mutual accountability and shared commitment to conducting research to benefit the poor in developing countries. It is not possible for the PIM Management Unit to effectively supervise the research that is taking place, particularly in the non-IFPRI Centers, in a purely contractual way through the PPAs. PIM Management, of course, also aims to make PIM much more than just a donor. It aims to instill the sense of being part of a team that is working together for a larger purpose by involving staff in the formulation of its vision, by allocating its W1-2 resources strategically and coherently in support of its vision, by holding semi-annual Extended Team Meetings of Focal Points and Flagship and Cluster Leaders, and by sponsoring other events such as the Policy-Oriented Research Impact Assessment (PORIA) workshop and the Ecosystems workshop (jointly with the Water, Land and Ecosystems and Forests, Trees and Agroforestry CRPs).

Notwithstanding these efforts, this evaluation concludes that a sufficient sense of mutual accountability and shared commitment has not happened and is not likely to happen under the current governance and management arrangements. Therefore, this evaluation agrees with the recent (January 2015) agreement between the Fund Council and the Consortium regarding CRP governance structures for the next generation of CRPs - that each CRP should have an Independent

³⁰. Christopher Barrett (chair) et al., 2009, “Stripe Review of Social Sciences in the CGIAR,” Science Council Brief Number 33, p. 1.

³¹. And the PIM Director does not perform human resource functions like recruitment, performance evaluation, and promotion outside of the small staff that are part of the PIM Management Unit.

³². IFPRI’s Finance and Administration Division also manages W1-2 funds from PIM in its financial management system much like it manages funds from any donor.

Steering Committee as its central decision-making body, and make a progressive transition towards this structure during the extension phase (2015–2016). However, making this new structure work will require due attention to the composition of the Steering Committee and a greater appreciation of the distinction between programmatic and fiduciary management and oversight.

With respect to the composition of the Steering Committee, PIM is not an independent grant-giving foundation, in which case an independent governing body similar to the current composition of the SPAP would make sense, but with the normal powers of a governing body. Nor is PIM a purely collective action situation like the former System-wide programs in which each Center brought its own bilateral and other resources to the table in return for a seat at the table. Rather, PIM is a hybrid of these two situations. Therefore, PIM should consider having representatives from the participating Centers on the Steering Committee as well as independent members who, it should be recognized in the terms of reference, charter, or constitution of the Steering Committee, would have a greater than their numerical say in the allocation of the W1-2 resources.

As pointed out in the IEA's evaluation of the FTA program, the governance of each CRP needs to recognize the bilateral resources that the participating Centers are bringing to the CRP and the commitments that the Centers have made to their bilateral donors for the use of these resources, particularly now that W3 and bilateral resources represents almost three-quarters of the resources for the overall program. This same logic applies as much to PIM as to FTA, replacing FTA with PIM in the following quotation from that evaluation:

“While strengthening the independence of the SC is important, the role of FTA Participant Institutions cannot be reduced to that of implementers that receive their marching orders from one central governing body in which they have no say. Currently, most of FTA’s portfolio consists of projects voluntarily mapped to FTA by Centers. If programmatic direction-setting is to translate into the bilateral part of FTA portfolio as well, for example through increased selectivity and visible integration of bilateral grants with FTA, FTA Participant Institutions need a continued strong voice in FTA strategic priority setting. The SC should therefore maintain the current policy of having up to 8 members representing FTA Participant Institutions (IEA, 2014b, p. 144).”

With respect to the distinction between programmatic and fiduciary management and oversight, the IFPRI Board of Trustees has to be willing to delegate the programmatic responsibility for PIM's W1-2 resources to the Independent Steering Committee while retaining the fiduciary responsibility for ensuring that the funds are used for their intended purposes. Delegated responsibility can, of course, also be rescinded if the Steering Committee should start to make decisions that are damaging to the interests of the CGIAR and IFPRI. So the IFPRI Board of Trustees would also retain the right to dissolve the Steering Committee under such circumstances.

The terms of reference, charter, or constitution of the Steering Committee should also address another related issue arising from the hybrid nature of PIM, namely, the “two masters” problem.

Under the new envisaged structure, the PIM Director would report both to the Steering Committee and to the IFPRI Director General, and the participating Center members of the Steering Committee would have a corporate duty to PIM as well as reporting to their own line managers. It will be important to specify who would be responsible for their annual performance reviews, and how those responsible would consult with the other parties. The constitution might even provide for joint responsibility in some cases.

Finally, IFPRI and the other Centers are no longer receiving unrestricted core funds from the CGIAR to sustain their research infrastructures and other research support. For example, IFPRI Division Directors used to have a core budget to allocate in which they could give their staff time, for example, to write peer-reviewed journal articles or attend international conferences to keep in the loop.³³ Now IFPRI and the other Centers have to be very disciplined about making sure that all donors pay the full costs, including the indirect administrative costs, of the research that they are funding. The CGIAR donors made a commitment in the Joint Agreement with the Consortium and in the CGIAR Principles to full cost recovery for all sources of financing (including W3 and bilateral) that are supporting the SRF for precisely this reason³⁴ - to sustain the research infrastructure that the Centers have built up over time. That some donors are renegeing on these commitments while collectively denying unrestricted core funding to the Centers is also an accountability issue that is threatening the maintenance of that infrastructure. The CGIAR Centers cannot be run like a for-profit research consultancy. They require reliable long-term funding to sustain their research infrastructures, including keeping their top-level research personnel. This is such an important issue that the Fund Council and the Consortium should jointly commission a study on the problems that the Centers are facing in sustaining their research infrastructures under the CGIAR Reform.

Conflicts of Interest

There is little doubt that IFPRI should continue to host the PIM Management Unit. There are really **few** alternatives in this matter, other than establishing PIM as an independent legal entity, since IFPRI is the only CGIAR Center that has a principal focus on social science research, the largest concentration of social scientists in the System, and the strongest research infrastructure and quality assurance systems to support high quality social science research. Many of the benefits of PIM arise from connecting the social scientists in the participating Centers to IFPRI through PIM. Other

³³. As another example, the evaluation found that IFPRI's global trade modeling team has not had the time to adequately document the MIRAGE model and its various versions due to the donor pressure to produce immediate results from their work.

³⁴. The Joint Agreement, section 12.5 states as follows: "The Fund Council and the Consortium acknowledge and support the CGIAR policy of full cost recovery from all sources of financing for implementation of the SRF. The Consortium shall cause Centers to accept Bilateral Funds for implementation of the SRF only at full cost recovery." And the CGIAR Principles, section 5 states as follows: "The Consortium, as the representatives of the Centers, agrees to . . . (vi) Have CGIAR research funded on a full cost recovery basis."

benefits of course include the many systems and support services provided by IFPRI to PIM, including human resource systems, financial management, procurement, communications, legal support, access to information and knowledge databases, and the privileges and immunities associated with employment in an international organization.

Against these benefits, the three principal costs of locating a global partnership program like PIM in an existing organization have been (a) the need to transparently identify and manage the conflicts of interest that arise from host arrangements, (b) the “two masters” problem - already mentioned above - in which the program manager reports both to the governing body of the program and to the line management in the host organization, and (c) the threat of “organizational capture” by the host organization (IEG, 2011, p. 61).

With respect to (a), real and perceived conflicts of interest are an inherent and essentially unavoidable feature of partnership programs, deriving primarily from the multiple roles that the principal partners - in this case, IFPRI - play in a given program. So far, these multiple roles of IFPRI have included (1) hosting the PIM Management Unit, (2) programmatic and fiduciary oversight by the Director General and the IFPRI Board of Trustees, (3) financial management by the Finance and Administration Division, (4) most Flagship and most Cluster Leaders, and (5) implementer of most of PIM’s research activities. IFPRI and PIM need to manage these real and perceived conflicts of interest more transparently. PIM has taken some steps in this direction by including two non-IFPRI staff and two non-CGIAR members on the Management Committee (although still a minority on the overall committee), and by having the participating Centers appoint their own Focal Points. But these have not been enough to create the common sense of ownership among the social scientists involved with PIM.

PIM does not have a conflict of interest policy. While IFPRI does have such a policy, this is mostly concerned with conflicts between institutional and personal interests, such as staff being “in a position to influence a decision that may result in a personal gain for that staff member or for a relative of that staff member.” IFPRI’s policy does not address the institutional conflicts of interest that arise from the multiple roles that IFPRI plays in PIM. Therefore, the IFPRI Board of Trustees should develop and apply a conflict of interest policy that addresses such institutional conflicts that arise from hosting PIM, and for that matter, also A4NH.

Monitoring and Reporting

The establishment of an operational monitoring and reporting system for PIM is currently a work in progress at both the System and the CRP levels, which is not unusual for relatively new programs. Therefore, this evaluation has conducted a formative assessment of the progress that has been made to date.

The biggest weakness in PIM’s monitoring and reporting system has already been mentioned several times, starting in Chapter 2 - the absence of a programmatic as opposed to a financial management

perspective on the activities associated with PIM, including systematic information on the different sources of funds that are supporting each activity. Such a programmatic view of the activities mapped to PIM should form the foundation for PIM's monitoring and reporting system, like the Planning and Reporting System that CCAFS has put in place.

The PIM Management Unit has developed two major instruments to monitor and report on its program to the IFPRI Director General and the Consortium - namely, the project proposal form and the annual progress report form. Then the PIM Management Unit uses the information in these forms to prepare its annual Program of Work and Budget (POWB) and its annual reports to the Consortium. It also draws upon these to prepare its presentations to the annual meetings of the SPAP and to the semi-annual meetings of the IFPRI Board of Trustees.

The Consortium also initiated a System-wide effort in 2013 among all the CRPs to put in place a collective monitoring and reporting framework. As a result of this initiative, PIM prepared an elaborate set of results frameworks for each Flagship and Cluster which included problem statements, objectives, IDOs, gender-specific IDOs, outputs, annual outcomes, 5-year horizon outcomes, and indicators of progress. But these are so elaborate and so operationally unrealistic that the evaluation team has not observed them to be used much in practice as a monitoring and reporting instrument, except for the IDOs. The PIM Management Unit has also not found that the 2011 SRF has leaned itself to a monitoring and evaluation framework based on outcomes, and hopes that the new SRF that is currently being prepared will be better in this regard.

More recently, the Senior Research Fellow who joined the PIM Management Unit in July 2014 with a specific responsibility for monitoring and evaluation, has been working with some flagship teams, starting with Flagships 1 and 6 (foresight modeling and social protection) to put in place operationally relevant theories of change and impact pathways. The PIM Management Unit also has a Senior Administrative Coordinator who works with IFPRI's Finance and Administration Division to manage and report on PIM's finances. It has a communications specialist who works, among other things, with IFPRI's Communications and Knowledge Management Division to monitor and report on PIM-related publications. And it has a senior research assistant who is responsible, among other things, for monitoring and reporting on gender-specific and gender-related PIM activities.

The PIM Management Unit feels that it is doing a reasonably good job of tracking program outputs such as peer-reviewed journal articles, books and chapters in edited books, discussion and working papers, conference presentations, policy briefs, etc. However, they acknowledge that even this is a work in progress. PIM's branding and acknowledgment guidelines, which can be found on the PIM website, were released in June 2014, and shared on several occasions with the PIM researchers. Since then the PIM Management Unit has observed a higher number of publications acknowledging PIM, which makes tracking easier.

This brings us back to the project proposal and annual progress report forms, as the two major instruments that the program has been using to monitor and report on its activities. The evaluation team has drawn extensively on these two forms, as well as interviews with the principal investigators, for its portfolio analysis of W1-2 supported activities. The evaluation suggests a few improvements in both forms, based on the experience of using them (Annex I).

The evaluation has found the annual progress report form to be stronger than the initial project proposal form. The project proposal form is lacking some important information, the inclusion of which would require more strategic thinking at the outset of each activity and foster a more merit-based and transparent selection process. The form should also require information on the strategic, operational, and financial linkages with bilaterally funded activities. If W1-2 funds would be used to support a component of a larger bilaterally funded activity, which is often the case, the project proposal form should indicate how this component relates to the larger project, and why the bilateral donor is unwilling to fund it.

The evaluation team has actually received a lot of positive feedback from principal investigators about the content of progress report forms, particularly from the CGIAR scientists in the other (non-IFPRI) Centers, and particularly since the inclusion of information about each activity's principal partners starting in 2013. What gets measured gets done. They acknowledge that filling out the progress report forms has forced them to think more about the impact pathways for their research, to list their outputs, and to think about the role that partners play in producing outcomes. They also appreciate how the PIM Management Unit has streamlined the process by pre-filling the basic information about each activity. Their major complaint has been the need to report to more than one donor, including more than one CRP, on separate forms. They asked if it might be possible, for example, for all the CRPs to use the same or a similar reporting form.

9. Conclusions and recommendations

PIM is now three years old and entering the two-year extension phase, 2015–2016, prior to the second round of CRPs starting in 2017. It is the CRP with the greatest focus on social science research to achieve the four SLOs established by the 2011 Strategy and Results Framework. PIM now involves the second largest number of participating Centers (14) after CCAFS, which includes all 15 CGIAR Centers.

This has been primarily a formative evaluation with some summative aspects. The formative part has reviewed the organization of the program, the relevance of its flagships, the plausibility of their impact pathways for achieving their respective IDOs, the relevance of individual activities in relation to these IDOs and impact pathways, and the progress in implementing the program's gender strategy and approach to partnerships. The summative part has reviewed the scientific quality of PIM-related outputs, and the outcomes and impacts of selected legacy research activities that began prior to the establishment of PIM.

The evaluation has addressed four overarching issues relating to the CGIAR reform principles and the value added of PIM in the new CGIAR structures:

- (a) the extent to which PIM is supporting research activities with clear and coherent objectives that are responding to global, regional, and country development challenges;
- (b) the extent to which PIM is creating opportunities for researchers to engage in relevant and effective collaborations among CGIAR Centers;
- (c) the extent to which PIM is fostering strong and innovative partnerships for positive development impacts;
- (d) the extent to which PIM is characterized by streamlined and efficient governance and management, with clear accountability.

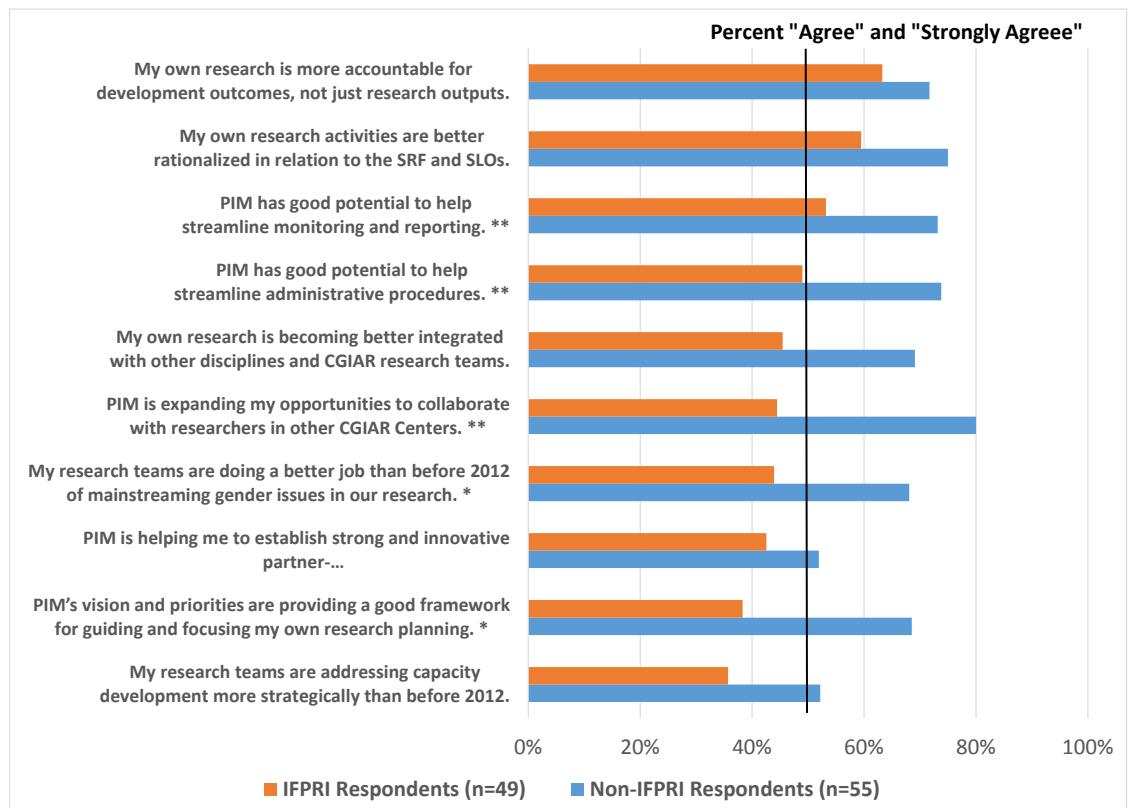
Overall the evaluation concludes that PIM has added sufficient value to the CGIAR's research on policies, institutions, and markets to warrant the continuation of a CGIAR Research Program like PIM in the second round of CRPs, starting in 2017. Engaging most of the social scientists across the CGIAR System has created an intellectual critical mass to pursue cutting-edge science. Extending the life of PIM would also sustain and expand the benefits arising from the inter-Center collaboration that is already occurring, including: (a) strengthening the impact pathways of PIM research by engaging Centers that are closer to the users of the research; (b) facilitating a more integrated approach to addressing development challenges through a combination of discovery and delivery-type research; (c) deepening country-level partnerships that have greater potential for more immediate development outcomes; (d) enabling researchers in the commodity-based Centers to work on important socio-economic issues that are broader than the commodities covered by their Centers;

and (e) helping to raise the scientific quality of social science and policy research in the participating Centers.

The evaluation also concludes that IFPRI should continue to host the PIM Management Unit. There are really few alternatives in this matter, other than establishing PIM as an independent legal entity, since IFPRI is the only CGIAR Center that has a principal focus on social science research, the largest concentration of social scientists in the System, and the strongest research infrastructure and quality assurance systems to support high quality social science research. Many of the benefits of PIM arise from connecting the social scientists in the participating Centers to IFPRI through PIM. Social scientists in the participating (non-IFPRI) Centers feel more strongly than those in IFPRI that PIM has added value to their work, according to the preponderance of the evidence collected in this evaluation. This is particularly evident from the responses to the final question on the staff survey in relation to the overall value added of PIM (Figure 22). The majority of non-IFPRI respondents agree with every statement on the value added of PIM. The majority of IFPRI respondents disagree with every statement except three: that their own research activities are better rationalized in relation to the SRF and SLOs; that their own research is more accountable for development outcomes, not just research outputs; and that PIM has good potential to streamline monitoring and reporting. While making a good faith effort to work with the new structures and acknowledging some benefits, IFPRI staff still tend to see PIM as adding another layer of management to allocate what used to be unrestricted core funding to IFPRI.

However, all is not well with respect to the governance and management of PIM. In what follows, the evaluation draws conclusions and makes recommendations in a number of areas to improve PIM's operations to become a more effective program.

Figure 22. To what extent do you agree with the following statements on the value added of PIM compared to an arrangement in which your Center allocates the equivalent amount of W1-2 funds directly without PIM as an intermediary?



Source: IEA staff survey. The results presented in descending order from most agreement to least agreement.

Program Focus

There is a strong theoretical and practical logic to the organization of PIM into seven flagships during the first three years, and an internal coherence to each flagship. The respective flagships are conducting policy-oriented research on the provision of different kinds of goods and services, by different kinds of actors, and in different domains. They are also utilizing different impact pathways to contribute to different SLOs, which are largely realistic and plausible at the general level.

The portfolio analysis found that the relevance of the objectives and design of PIM-supported projects has been uniformly substantial or high with respect to the quality of scientific thinking underlying the choice of topics and research designs, the alignment of their objectives and design with their flagship IDOs and impact pathways, and the comparative advantage of the CGIAR Centers to conduct this research. The upstream, discovery-type research activities understandably score

lower with respect to demand-side relevance than the more downstream, delivery-type research activities.

PIM is facilitating a more integrated approach to addressing development challenges than in the past through a combination of discovery and delivery-type research — a clear value added. ***The program should continue to accommodate both types of research in a complementary fashion, without applying processes or criteria that unfairly disadvantage either type of research in the allocation of its W1-2 resources.*** The discovery research needs to inform the delivery research of important understandings while the delivery research needs to inform the discovery research of the types of understandings needed. But there is also a potential tension between the two arising from methodological competition between proponents of the scientific method (primarily discovery research) and those of action research (primarily delivery research). This tension appears to exist to some extent between IFPRI-based researchers, who tend to conduct more discovery-type research based on their own assessments of scientific interest, priorities, needs, and knowledge gaps, and non-IFPRI-based researchers, who tend to conduct more delivery-type research.

The CGIAR has a strong comparative advantage in conducting social science research at the intersection of food security, poverty, and sustainable agriculture. There are, for example, few organizations or institutions that have a similar combination, range, and quality of modeling systems at their disposal as IFPRI, and therefore PIM. While a few places have IMPACT-type systems, a few have MIRAGE-type systems, and more have country-level CGE systems, no one else has this scale of effort under one roof. However, it is not clear that IFPRI has explored the possible synergies that could obtain from increased interaction among these modeling systems, such as harmonizing the long-term drivers of change and undertaking common work on scenarios. The systems should be viewed as complementary, not competing; exploring their synergies may have been hindered by their being located in three different IFPRI Divisions. Each would also benefit from a wider community of practice that includes clients as well as other modelers. ***The leaders of the three modeling teams should explore possible synergies in their work and broaden their communities of practice to engage their clients and other modelers in reviews of model analyses.***

PIM has allocated its W1-2 funds, for the large part, to support new or expanded components of larger projects already being supported by W3 or bilateral funding. Principal investigators have come to view W1-2 funds as largely short-term and flexible and bilateral funds as more long-term and reliable, due to the uncertainties associated with the amount of W1-2 funding available and the annual allocation of these funds. They now tend to regard bilateral funds as forming the foundation of their research programs, and the W1-2 funds as supporting research which builds on this foundation.

The evaluation is unable to make a judgment about the appropriateness of the current strategic allocation of W1-2 resources among the seven flagships and cross-cutting activities without having more information about the use of W3 and bilateral funds to support these and other activities that

are mapped to the overall PIM program. As a first order of business after this evaluation has been completed, the PIM Management Unit should put in place a consolidated, programmatic perspective of PIM activities to improve program management, monitoring, reporting and oversight, as opposed to the current financial management perspective in which a research activity supported by more than one donor, or one donor over several years, shows up as several different activities. Such a programmatic view is clearly more important for the governance and management of the program; its absence has hindered not only planning, but also monitoring, reporting, and this evaluation.

PIM has not provided sufficient support for research on the science-policy interface. The limited support for such policy process research (which was part of the original PIM proposal) on the factors that affect the uptake of policy-oriented research has been a serious deficiency because PIM's research projects seek to influence policy making. More robust findings in this area would help not only PIM, but also the other CRPs by providing more scientific evidence to inform the development of more detailed and effective impact pathways. *PIM should support a vibrant and innovative program on the conditions under which moving from scientific evidence to policy implementation becomes plausible.*

Center and CRP Collaboration

The five major flagships in PIM have achieved different degrees of inter-Center collaboration. Flagship 1 on foresight modeling and Flagship 5 on value chains have achieved the most; Flagship 4 on policy and public expenditure has achieved the least; and Flagships 3 and 7 on technology adoption and natural resource property regimes are in between.

The entire Flagship 1 on foresight modeling is essentially one large collaborative initiative, now involving twelve Centers, and supported by the Gates Foundation, PIM, and CCAFS. PIM has clearly added value to this initiative which started in 2009 with the involvement of only five Centers. IFPRI is drawing on the specific technical expertise of the commodity Centers to improve the technological specifications of the IMPACT model on which the whole initiative is anchored, and the other Centers are gaining access to the model to generate technology scenarios relevant to their own work.

There is a growing dynamic for increased inter-Center collaboration in Flagship 5 on value chains. This began with an informal collaboration among some individual researchers from different Centers in the first phase and has now evolved into a set of multi-Center activities for the extension phase, 2015-2016. Much of the credit for this added value belongs to the Flagship Leader and also to leading value chain researchers from other Centers who have responded so positively to his initiative. *The program should strongly support the new regional hubs on value chains that are being pilot-tested during the extension phase to facilitate more engagement with local partners and to provide a forum for bi-directional knowledge and information sharing.*

Flagship 3 on technology adoption and sustainable intensification has so far been less successful in fostering inter-Center collaboration. IFPRI and CIAT have collaborated in the geospatial tools project that is mapping the CRPs. In addition, two other inter-Center initiatives are now emerging as PIM enters the extension phase - a multi-Center extension network and multi-Center learning network on technology adoption and impact that seeks to emulate the collaborative work that occurred in Flagships 1 and 5 during the first three years.

The System-wide program on Collective Action and Property Rights (CAPRI), which still forms the backbone of Flagship 7, has had a long history of successful collaborative work on community governance of common pool resources. However, both CAPRI and its inter-Center work have been negatively affected by being folded into PIM - an unfortunate unanticipated consequence of the CGIAR Reform and the establishment of the CRPs. Three Centers chose not to continue being members of CAPRI when it became part of PIM, and the effective costs for entering or remaining in CAPRI have been raised considerably with the creation of PIM.

There has been very little collaboration between IFPRI and the other Centers in Flagship 4 on policy and public expenditures, notwithstanding the important national policy and international trade issues that should be of interest to the commodity Centers. *PIM should explore the extent to which other Centers or CRPs have unmet needs for trade analysis that PIM could provide through different types of collaboration. PIM should also seek opportunities for other Centers or CRPs to benefit from PIM's trade analysis work either by taking on tailored scenarios or by providing tailored reports of common analyses.*

Although there has been no centralized mechanism to facilitate inter-CRP collaboration, three-quarters of the CGIAR staff who allocate their time to PIM also allocate some of their time to research funded by other CRPs, and almost two-thirds of PIM-supported projects report some collaboration with other CRPs, including technical support to and from other CRPs, research collaboration, and co-funding by other CRPs. Indeed, there were more PIM projects co-funded by two or more CRPs than there were multi-Center projects during PIM's first three years. *PIM and its flagships should adopt a more strategic approach to collaborating with other CRPs, including co-funding joint activities, that draws upon the strengths of PIM and the other CRPs to contribute to their respective IDOs.*

Gender

Gender mainstreaming in PIM is clearly benefiting from the strong reputation that IFPRI has built up over the years in addressing gender issues. The evaluation estimates that about 30 percent of the PIM-supported portfolio is addressing gender issues, based on the portfolio analysis of 74 projects, and that more than half the activities are collecting and analyzing sex-disaggregated data. Flagship 7 on natural resource property regimes has had the greatest emphasis on gender and Flagships 1 and 4 have had the least, generally because they are conducting policy research at the more aggregate

(national and global) levels. Nonetheless, some of the latter activities are finding ways to address gender issues. *Flagships 1 and 4 should increase their level of attention to gender issues by building upon these innovative approaches, by links with other modeling approaches, and by greater sharing of existing methodologies and data among Centers and flagships.*

The Gender, Agriculture and Assets Project (GAAP) and the Women's Empowerment in Agriculture Index have produced positive outcomes adopted their public and private development partners. GAAP partners, such as Land O' Lakes, have taken lessons learned from GAAP to inform the development of their gender strategies. In terms of indicators for measuring women's empowerment, there is growing interest in developing a streamlined version of the WEAI at both the population-based survey level and the project level (to facilitate project-level monitoring). USAID has been working with IFPRI to develop a core-WEAI for use in population-based surveys, and there is interest from the Gates Foundation as well as civil society implementers to adopt the WEAI for project use. IFPRI's partnership with FAO researchers in relation to the GAAP, the WEAI and the Sex-Disaggregated Data initiative has much potential for influencing how sex-disaggregated data are collected and reported in the design and implementation of agricultural policies, since FAO can directly influence its member countries' data collection efforts.

Notwithstanding these achievements, putting in place an effective system to monitor the progress of PIM's own activities with respect to gender is still a work in progress, and the Consortium has not yet provided sufficient guidance on methodologies to capture the level of attention given to gender issues. *PIM should complete its plans to put in place a monitoring system to track the level of attention to gender issues and to validate the claims that the activity proposals and progress reports make in relation to gender.*

Quality of Science

The quality of science in PIM is highly variable. The program is doing well on the relevance of scientific topics and quality assurance mechanisms. It is doing less well in relation to minimum standards of scientific productivity and impact.

The participating Centers' quality assurance mechanisms are generally working well, particularly at IFPRI, which is helping to raise the standards at the other Centers. PIM has a number of extremely productive investigators: 24 out of the 136 principal investigators produced five or more peer-reviewed publications in 2013 and 2014, and were collectively responsible for 63 percent of all PIM publications during this period. At the other end of the performance spectrum, almost half of PIM's principal investigators did not produce any peer-reviewed publications during this two-year period. Researchers from non-IFPRI Centers are over-represented among these.

PIM is supporting researchers who are choosing relevant research topics that represent knowledge needed by policy actors. PIM has been less successful in supporting larger research programs that

involve many disciplines and longer-term data collection efforts. *PIM should support more opportunities for intellectual exchange and a greater diversity of scholarly disciplines to expand the choice of research topics, designs, and methods towards longer-term, multi-locational data collection and analysis that can help answer fundamental scientific questions in relation to poverty reduction, food security, and sustainable natural resource management.*

Researchers associated with PIM published a total of 370 publications during the first three years, of which more than half were published in peer-reviewed outlets. This work has been well-placed in some of the best journals that deal with development. While there are some excellent examples of PIM-supported work making waves in the scientific community, and attracting large numbers of citations, these are mostly exceptional cases. When compared to papers published in the same outlets where the PIM research appeared, 58 percent of the PIM papers were cited less than the average frequency for that journal. This is not alarming, but PIM could elevate its minimum standards when it comes to both productivity and impact. Better use of social media could be one avenue to improve the visibility of PIM research, like the value chains knowledge clearinghouse is currently doing.

Partnerships and Impacts

Given the increased focus on impacts and results in the CGIAR Reform, PIM adopted an approach to identifying and fostering partners that is based on the most effective partners for the impact pathways associated with the different kinds of research. However, the evaluation did not find such a strong association yet between the types of research being conducted in each flagship, their stated impact pathways, and the partners identified in the projects' progress reports.

PIM-supported research activities are pursuing outcomes from the global to the local level. The foresight activities in Flagship 1 cannot yet demonstrate many outcomes because the foresight team has been undertaking, based on an earlier review, a thorough restructuring and enhancing of the IMPACT model, which forms the anchor for this work. The direct outputs of these activities are also large data sets which need carefully designed dissemination activities to become useful for informing policy and public expenditure decisions on agricultural research. Outcomes are also not easy to attribute since many are joint with other contributors, visible over the long term, and global or regional in scope.

The international trade and country-level CGE modeling teams have shown more outcomes. The MIRAGE-Biofuels work has taken the lead in understanding the trade-offs between renewable fuels, indirect land use changes, and greenhouse gas emissions and has produced a renewable fuels baseline for the European Union that is informing the debate on its biofuels policy. The country-level CGE modeling teams have made many contributions to improving national agricultural policy formation in a number of African countries in the context of the African Union's Comprehensive Africa Agricultural Development Program.

The technology adoption, value chain, and natural resource property activities have resulted in variety of outcomes at the national and local levels in terms of improving the volunteer farmer trainers approach to agricultural extension, upgrading value chains for less well known commodities produced by low-income rural households, and improving the management of community-held natural resources. These outcomes tend to be more micro-institutional in nature with local but significant impacts on the welfare of the involved beneficiaries.

IFPRI's Country Strategy Support Programs in Bangladesh and Ethiopia have been instrumental in contributing to government policy uptake of research arising from PIM activities such as the GAAP and the WEAI activities in Bangladesh and from the Productive Safety Net Programme and the CGE modeling activities in Ethiopia. The CSSPs can also help translate country-level research results into global public knowledge of benefit to other countries facing similar challenges. But what is really important are research projects motivated by a broad theoretical puzzle that is readily applicable across specific contexts, whether located in CSSP countries or not.

PIM researchers view capacity strengthening as very important both for their impact pathways and for sustaining the outcomes arising from their activities. CGIAR partners also appreciate these capacity strengthening activities. *However, PIM should formulate an explicit capacity strengthening strategy to be implemented in conjunction with its Lead Center, IFPRI, including expanding research on capacity strengthening and putting in place a better tracking system for its capacity strengthening work.* Things already seem to moving in this direction with the establishment of a capacity strengthening task force in IFPRI which includes representation from the PIM Management Unit.

Organizational Performance

PIM does not have a CRP governing body that exercises strategic direction and oversight of the program. It does have a Science and Policy Advisory Committee that has exercised some strategic direction in an advisory capacity, but little or no oversight. Consequently, the PIM Director has been allowed to exercise a great deal of autonomy and discretion in consultation with the structures that advise and report to her, and to establish new processes and procedures without getting them approved by a higher authority.

The evaluation found general dissatisfaction with the processes and procedures that PIM has used to allocate the program's W1-2 resources. Three-quarters of the respondents to the staff survey were dissatisfied with the transparency, and two-thirds with the fairness in the allocation of these resources. That so many are so dissatisfied has undermined the legitimacy of PIM and limited the sense of ownership among CGIAR scientists involved in the program.

PIM management relies on principal investigators and their research teams outside its direct line of authority to deliver the research that the program funds. For this organizational structure to work effectively, CGIAR scientists must have an individual sense of mutual accountability and shared commitment to the program. It is not possible for PIM management to effectively supervise the research that is taking place, particularly in the non-IFPRI Centers, in a purely contractual way through the Program Participant Agreements between IFPRI and the other Centers. Notwithstanding the efforts of PIM management, this evaluation concludes that a sufficient sense of mutual accountability and shared commitment is not likely to happen under the current governance and management arrangements.

PIM should put in place an Independent Steering Committee in accordance with the recent (January 2015) agreement between the Fund Council and the Consortium regarding CRP governance structures for the next generation of CRPs. Making this new structure work will, however, require due attention to the composition of the Steering Committee and a greater appreciation of the distinction between programmatic and fiduciary management and oversight.

Recognizing the bilateral resources that each Center brings to PIM, PIM should consider having representatives of the participating Centers on the Steering Committee as well as independent

members that would have greater than their numerical say in the allocation of W1-2 resources. The IFPRI Board of Trustees should delegate programmatic responsibility to the Steering Committee while retaining the fiduciary responsibility for ensuring that the W1-2 funds are used for their intended purposes. And the IFPRI Board of Trustees should put in place a conflict of interest policy to identify and manage transparently the institutional conflicts of interest that arise from the multiple roles that IFPRI plays in PIM.

The CGIAR Reform process has moved the System in the opposite direction from that, for example, recommended by the 2009 Stripe Review of Social Sciences. Now that core-type funding is being channeled through the CRPs like PIM, the Centers are even more reliant on short-term project funding and subject to the associated pressure to generate on-the-ground development results. This is making it more challenging for the Centers to sustain their research infrastructures and other research support over time, based on project-by-project funding alone. That some CGIAR donors are reneging on their commitments to full cost recovery for all sources of financing (including W3 and bilateral) that are supporting the SRF is also an accountability issue. The Centers cannot be run like for-profit research consultancies; they require reliable long-term funding to sustain their research infrastructures and other research support, including their top-level research personnel. *The Fund Council and the Consortium should jointly commission a study of the problems that the Centers are facing in sustaining their research infrastructures under the CGIAR Reform.*

Recommendations

The evaluation makes the following recommendations involving stakeholders at different levels of the program.

Constitutional-Level Recommendations

The implementation of the following four recommendations would require the involvement of the IFPRI Board of Trustees, the Consortium, and the Fund Council:

1. A CGIAR Research Program like PIM on policies, institutions and markets should continue in the second round of CRPs, starting in 2017.
2. IFPRI should continue to host the management unit of PIM, and the IFPRI Board of Trustees should put in place a conflict of interest policy to identify and manage transparently the institutional conflicts of interest that arise from the multiple roles that IFPRI plays in PIM.
3. PIM should put in place an Independent Steering Committee in accordance with the recent (January 2015) agreement between the Fund Council and the Consortium regarding CRP governance structures for the next generation of CRPs. PIM should consider having representatives of the participating Centers on the Steering Committee as well as independent members that would have greater than their numerical say in the allocation of

W1-2 resources. The IFPRI Board of Trustees should delegate programmatic responsibility to the Steering Committee while retaining the fiduciary responsibility for ensuring that the W1-2 funds are used for their intended purposes.

4. The Fund Council and the Consortium should jointly commission a study on the problems that the Centers are facing in sustaining their research infrastructures and other research support under the CGIAR Reform.

Strategic-Level Recommendations

The implementation of the following six recommendations should involve the Independent Steering Committee:

5. The PIM Management Unit should put in place a consolidated, programmatic perspective of PIM activities to improve program management, monitoring, reporting, and oversight, as opposed to the current financial management perspective in which a single research activity supported by more than one donor, or one donor over several years, shows up as several different activities. This should also contain information on all the sources of funds that are supporting each activity.
6. PIM should continue to accommodate both upstream, discovery-type research and downstream, delivery-type research in a complementary fashion, without applying processes or criteria that unfairly disadvantage either type of research in the allocation of W1-2 resources. This would also involve better information on the types of research being proposed at the project approval stage.
7. PIM should support a vibrant and innovative research program on the interface between science and policy that explores the conditions under which moving from scientific evidence to policy implementation becomes plausible. This would likely be a set of cross-cutting activities.
8. PIM should support more opportunities for intellectual exchange and a greater diversity of scholarly disciplines to expand the choice of research topics, designs, and methods towards longer-term, multi-locational data collection and analysis that can help answer fundamental scientific questions in relation to poverty reduction, food security, and sustainable natural resource management.
9. PIM and its flagships should adopt a more strategic approach to collaborating with other CRPs, including co-funding joint activities, that draws upon the strengths of PIM and the other CRPs to contribute to their respective IDOs.
10. PIM should formulate an explicit capacity strengthening strategy to be implemented in conjunction with its Lead Center, IFPRI, including expanding research on capacity

strengthening and putting in place a better tracking system for its capacity strengthening work.

Operational-Level Recommendations

The implementation of the following five recommendations would involve the PIM Management Unit, Flagship Leaders, Focal Points, and principal investigators:

- 11.** The leaders of the three major modeling teams in IFPRI should explore possible synergies in their work and broaden their communities of practice to engage their clients and other modelers in reviews of model analyses.
- 12.** PIM should strongly support the new regional hubs on value chains that are being pilot-tested during the extension phase to facilitate more engagement with local partners and provide a forum for bi-directional knowledge and information sharing.
- 13.** PIM should explore the extent to which other Centers or CRPs have unmet needs for trade analysis that PIM could provide through different types of collaboration. PIM should also seek opportunities for other Centers or CRPs to benefit from PIM's trade analysis work either by taking on tailored scenarios or by providing tailored reports of common analyses.
- 14.** Flagships 1 and 4 should increase their attention to gender issues, by building on the innovative ways in which some of their activities are already addressing gender issues, by links with other modeling approaches, and by greater sharing of existing methodologies and data among Centers and flagships.
- 15.** PIM should complete its plans to put in place a monitoring system to track the level of attention to gender issues and to validate the claims that the activity proposals and annual progress reports make in relation to gender.

References

- Al-Riffai, P., B. Dimaranan and D. Laborde. 2010a. Global Trade and Environmental Impact Study of the EU Biofuels Mandate. Final Report for the Directorate General for Trade of the European Commission, International Food Policy Research Institute.
- Al-Riffai, P., B. Dimaranan and D. Laborde. 2010b. European Union and United States Biofuel Mandates: Impacts on World Markets. Inter-American Development Bank, Technical Notes No. IDB-TN-191, December.
- Anderson, K., ed. 2009. Distortions to Agricultural Incentives: A Global Perspective, 1955–2007, London: Palgrave Macmillan and Washington DC: World Bank.
- Babcock, B.A. and A. Carriquiry. 2010. An Exploration of Certain Aspects of CARB's Approach to Modeling Indirect Land Use from Expanded Biodiesel Production. Staff Report 10-SR 105, Center for Agricultural and Rural Development.
- Badiane, O., S. Odjo, and S. Jemaneh. 2013. More Resilient Domestic Food Markets Through Regional Trade. Chapter 4 in ReSAKSS Annual Trends and Outlook Report, Promoting Agricultural Trade to Enhance Resilience in Africa.O. Badiane, T. Makombe and G. Bahiigwa, editors; pp. 38–53.
- Banse, M., H. van Meijl, A. Tabeau and G. Woltjer. 2008. Will EU biofuel policies affect global agricultural markets? European Review of Agricultural Economics, 35(2), 117.
- Barr, K., B. Babcock, M. Carriquiry, A. Nasser, and L Harfuch. 2010. Agricultural Land Elasticities in the United States and Brazil, Food and Agricultural Policy Research Institute (FAPRI) Publications, Food and Agricultural Policy Research Institute (FAPRI) at Iowa State University.
- Barrett, C. B. et al. 2009 "Stripe Review of Social Sciences in the CGIAR," Science Council Brief Number 33, p. 1.
- Barrett, C. B., A. Agrawal, O. T. Coomes, and J. P. Platteau. 2009. Stripe Review of Social Sciences in the CGIAR. Available at SSRN 1844803.
- Benin et al. 2013. "Revisiting Agricultural Input and Farm Support Subsidies in Africa , The Case of Ghana's Mechanization, Fertilizer, Block Farms, and Marketing Programs", [IFPRI Discussion Paper 01300](#), November.
- Birner, R. et al. 2006. "From 'Best Practice' to 'Best Fit': A Framework for Analyzing Pluralistic Agricultural Advisory Services Worldwide," DSGD Discussion Paper No. 37, IFPRI Washington, DC, at <http://www.ifpri.org/DIVS/DSGD/dp/dsgdp37.asp> .

- Boeters, S., P. Veenendaal, N. van Leeuwen, and H. Rojas-Romagoza. 2008. "The Potential for Biofuels Along-side the EU-ETS," CPB Netherlands Bureau for Economic Analysis. Paper presented at the GRAP Conference in Helsinki, June 2008. See:
<https://www.gtap.agecon.purdue.edu/resources/download/3871.pdf>
- Böttcher, H., Gusti, M., Mosnier, A., Havlik, P., & Obersteiner, M. 2012, April. Global forestry emission projections and abatement costs. In EGU General Assembly Conference Abstracts (Vol. 14, April).
- Bouët, A. and D. Laborde. 2010. "Eight years of Doha trade talks: where do we stand?" *Estey Centre Journal of International Law and Trade Policy*, 11(2):349–370.
- Bouët, A., and D. L. Debucquet. 2012. Food crisis and export taxation: the cost of non-cooperative trade policies. *Review of World Economics*, 148(1), 209–233.
- Bouët, A., B. Dimaranan and H. Valin. 2010. Modeling Global Trade and Environmental Impacts of Biofuel, IFPRI. International Food Policy Institute. Discussion Paper 01018.
- Bouët, A., C. Estades, and D. Laborde. 2012. Household heterogeneity in a global CGE model: An illustration with MIRAGE-HH model, IFPRI Discussion Paper
- Bouët, A., D. Laborde, and L. Deason. 2013. Global trade patterns, competitiveness and growth outlook. Chapter 2 in ReSAKSS Annual Trends and Outlook Report, Promoting Agricultural Trade to Enhance Resilience in Africa, O. Badiane, T. Makombe and G. Bahiigwa, editors;pp. 4 – 18.
- Bouët, A., E. Dienesch, D. Laborde, and E. Kimberly. 2010. The costs and benefits of duty-free, quota-free market access for poor countries. Working Paper 206, The Center for Globalization and Development.
- Bouët, A., V. Berisha-Krasniqi, C. Estrades, and D. Laborde. 2012. Trade and investment in Latin America and Asia: Perspectives from further integration. *Journal of Policy Modeling*, 34(2), 193–210.
- Bourguignon F., A. A. Robilliard, and S. Robinson. 2004. Representative versus real households in the macro-economic modelling of inequality. In J. Kehoe, T. N. Srinivasan and J. Whalley (Eds.): *Frontiers in Applied General Equilibrium Modeling: In Honor of Herbert Scarf*, Cambridge University Press, Cambridge, pp. 219–251.
- Britz, W. and Witzke H.P. 2012. CAPRI model documentation 2012.
- Britz, W. and T. Hertel. 2011. Impacts of EU biofuels directives on global markets and EU environmental quality: An integrated PE, global CGE analysis. *Agriculture, Ecosystems & Environment*, 142(1–2), 102–109.

- Britz, W., & Heckelei, T. 2008, January. Recent developments in EU policies—challenges for partial equilibrium models. In 107th EAAE Seminar Modeling of Agricultural and Rural Development Policies
- Britz, W., & Schmidhuber, J. 2002. The Impacts of OECD Policy Reform on International Agricultural Commodity Markets: First Results of a Quantitative Assessment Based on the@ 2030 Model.
- Brockmeier, M., F. Isermeyer, and S. Von Cramon-Taubadel, Liberalisierung des Weltagrarhandels-Strategien und Konsequenzen. *Schriften der Gesellschaft für Wirtschafts-und Sozialwissenschaften des Landbaues e. V*, 37, 95–104.
- Cash, D. W., W. C. Clark, F. Alcock, N. M. Dickson, N. Eckley, D. H. Guston, and R. B. Mitchell. 2003. Knowledge systems for sustainable development. *Proceedings of the National Academy of Sciences*, 100(14), 8086-8091.
- Changing, A. and S. Robinson. 2010. Review of the IFPRI IMPACT Model.
- Clark, W. C., T. P. Tomich, M. van Noordwijk, D. Guston, D. Catacutan, D., N. M. Dickson, and E. McNie, E. 2011. Boundary work for sustainable development: Natural resource management at the Consultative Group on International Agricultural Research (CGIAR). *Proceedings of the National Academy of Sciences*, 200900231.
- David, A. and M.A. Marouani. 2013. The Impact of Labor Mobility on Unemployment: A Comparison between Jordan and Tunisia. *ERF Working Paper N823*.
- Deason, L., D. Laborde, N. Minot, S. Rashid, and M. Torero. 2013. Food Price Volatility: Effects and Response Mechanisms in Africa' Chapter 3 in ReSAKSS Annual Trends and Outlook Report, "Promoting Agricultural Trade to Enhance Resilience in Africa," O. Badiane, T. Makombe and G. Bahiigwa, editors. Pp. 18–37.
- Decreux, Y. and H. Valin. 2007. MIRAGE, updated version of the model for trade policy analysis: focus on agriculture and dynamics. *CEPII Document de travail*, (15).
- Devaux, A., M. Ordinola and D. Horton (eds.). 2011. Innovation for development: The Papa Andina experience. International Potato Center, Lima, Peru, pp. 431.
- Devaux, A., M. Ordinola, S. Mayanja, D. Campilan and D. Horton. 2013. The Participatory Market Chain Approach (PMCA): from the Andes to Africa and Asia. *Papa Andina Innovation Brief 1*.
- Diao X. and J. Thurlow. 2012. A recursive dynamic computable general equilibrium model. In: Xinshen, D., Thurlow, J. and Benin S., and F. Shenggen. (Eds.). *Strategy and Priorities for African Agriculture: Economywide Perspectives from Country Studies*. Washington, DC: International Food Policy Research Institute.
- Diao X., A. Kennedy, A. Mabiso, and A Pradesha. 2013. Economywide impact of maize export bans on agricultural growth and household welfare in Tanzania: A Dynamic Computable General

Equilibrium Model Analysis. IFPRI discussion papers 1287, International Food Policy Research Institute.

Diao, X. 2014. Flagship 4: Policy and Public Expenditures 2012 – 2014 Achievements, PIM Extended Team Meeting, November 4–5, IFPRI Washington DC.

Diao, Xinshen et al. 2012. Strategies and Priorities for African Agriculture: Economywide Perspectives from Country Studies.

Dixon, P. B., S. Osborne & M. T. Rimmer. 2007. The Economy-wide Effects in the United States of Replacing Crude Petroleum with Biomass. *Energy and Environment* 18(6) 709–722.

Domínguez, I. P., W. Britz, and B. N. Gopalakrishnan. 2012. Post-model Analysis in large-scale models: the examples of AGLINK-COSIMO, CAPRI and GTAP. Paper presented at the 15th Annual Conference on Global Economic Analysis "New Challenges for Global Trade and Sustainable Development",
<https://www.gtap.agecon.purdue.edu/resources/download/5864.pdf>

Donovan, J. and D. Stoian. 2012. 5Capitals: A Tool for Assessing the Poverty Impacts of Value Chain Development. Technical Series 55, Rural Enterprise Development Coalition 7, Turrialba, CR, CATIE.

Donovan, J. and N. Poole. 2013. Building in Response to Value Chain Development: Lessons from Taro Producers in Nicaragua. *International Journal of Agricultural Sustainability* 11(1): 23–37.

Ecker, O. and C. Breisinger. 2012. The Food Security System: A New Conceptual Framework, IFPRI Discussion Paper 01166, International Food Policy Research Institute.

FAO (Food and Agriculture Organization of the United Nations). 2011. The State of Food and Agriculture 2010–11, Women and Agriculture: Closing the Gender Gap for Development.

FAO and IFPRI. 2014. Gender in Agriculture: Closing the Knowledge Gap by A. Quisumbing, R. Meinzen-Dick, T.L. Raney, A. Croppenstedt, J.A. Behrman, & A. Peterman. Springer, FAO and IFPRI.

Foundjem-Tita, D, A. Degrande, M. D'Haese, P. Van Damme, Z. Tchounddjeu, A. Gyau, C. Facheux and C. Mbosso. 2012. Building Long-Term Relationships between Producers and Trader Groups in the Non Timber Forest Product Sector in Cameroon. *African Journal of Agricultural Research*. 7(2): 230–239.

Foundjem-Tita, D, Z. Tchounddjeu, S. Speelman, M. D'Haese, A. Degrande, E. Asaah, G. van Huylensbroek, P. van Damme, and O. Ndoye. 2012. Policy and Legal Frameworks Agricultural Market Chain Innovation: Experience with the PMCA in Uganda. *Journal of International Development* 22: 367–389.

Hanney S. R., and M. A. Gonzalez-Block. 2009. "Evidence-informed health policy: are we beginning to get there at last?" *Health Res Policy Syst* 7:30

Harrison, G. W., T. F. Rutherford and D. G. Tarr. 1997. Quantifying the Uruguay Round, *Economic Journal*, 107(444), 1405–1430.

Havlík, P., H. Valin, H., A. Mosnier, M. Obersteiner, J. S. Baker, M. Herrero, and E. Schmid. 2013. Crop productivity and the global livestock sector: Implications for land use change and greenhouse gas emissions. *American Journal of Agricultural Economics*, 95(2), 442–448.

Hertel, T., D. Hummels, M. Ivanic, and R. Keeney. 2007. How confident can we be of CGE based assessments of free trade agreements? *Economic Modeling*, 24(4).611 – 635.

Hirsch, J. E. 2005. An index to quantify an individual's scientific research output. *Proceedings of the National academy of Sciences of the United States of America*, 102(46), 16569-16572.

Horton, D., B. Akello, L. Aliguma, T. Bernet, A. Devaux, B. Lemaga, D. Magala, S. Mayanja, I. Sekitto, G. Thiele and C. Velasco. 2010. Developing Capacity for

Horton, D., D. Campilan, B. Prasetya, H. Gami, Mimin R. Pakih and Kusmana. 2013. The PMCA, business development services and farmer business schools in Indonesia. Papa Andina Innovation Brief 5.

Horton, D., G. Prain and G. Thiele. 2009. Perspectives on partnership: A literature review. International Potato Center (CIP), Lima, Peru. Working paper 2009-3, pp. 111.

Horton, D., G. Prain and G. Thiele. 2009. Perspectives on Partnership: A Literature Review. Social Science Working Paper 2009-3. CIP, Lima Peru, pp. 111.

Horton, D., Oros, R., Paz Ybarnegaray, R., Lopez, G., Velasco, C., Rodriguez, F., et al. 2011. The participatory market chain approach: Experiences and results in four Andean cases. Lima: International Potato Center. <http://cipotato.org/resources/publications/journal/the-participatory-market-chain-approach-pmca-from-the-andes-to-africa-and-asia> <http://cipotato.org/resources/publications/journal/the-pmca-business-development-services-and-farmer-business-schools-in-indonesia>

Horton, Douglas and Katia Samanamud (2013). Native potato revolution. Papa Andina Innovation Brief 2. <http://cipotato.org/resources/publications/journal/peru2019s-native-potato-revolution>

Houssou, N., X. Diao, F. Cossar, S. Kolavalli, K. Jimah, and P. Ohene Aboagye. 2013. Agricultural Mechanization in Ghana: Is Specialized Agricultural Mechanization Service Provision a Viable Business Model? *American Journal of Agricultural Economics*, Agricultural and Applied Economics Association, vol. 95(5), pages 1237–1244.

IEA. 2014a, March. Review of CGIAR Research Programs Governance and Management.

- IEA. 2014b, July. Evaluation of the CGIAR Research Program “Forests, Trees and Agroforestry” (FTA).
- IFPRI. 2014, April. Research Program on Policies, Institutions and Markets: Proposal for Extension Period 2015–2016. Submitted to the CGIAR Consortium Office by the PIM Management Unit.
- IFPRI. 2011. Policies, Institutions and Markets (PIM) Initial Proposal submitted to the CGIAR in 2011. Washington, DC: IFPRI
- ILRI (undated). Agrifood chain toolkit (<https://cgspace.cgiar.org/handle/10568/24754>).
- IEG (Independent Evaluation Group of the World Bank) and OECD/DAC Network on Development Evaluation. 2007. Sourcebook for Evaluating Global and Regional Partnership Programs: Indicative Principles and Standards.
- IEG (Independent Evaluation Group of the World Bank). 2011. The World Bank’s Involvement in Global and Regional Partnership Programs: An Independent Assessment.
- Kretschmer, B., S. Peterson and A. Ignaciuk. 2008. Integrating biofuels into the Dart Model. Kiel Working Paper 1472, Kiel Institute for the World Economy, Kiel, Germany.
- Kuyvenhoven, Arie. 2014, December. Impact Assessment of IFPRI’s Capacity-Strengthening Work, 1985–2010, Independent Impact Assessment Report #38.
- Laborde, D. 2011. Assessing the land use change consequences of European biofuel policies. Final Report for the Directorate General for Trade of the European Commission, International Food Policy Research Institute.
- Laborde, D. 2014b. Implications of the draft market access on tariffs. In Tackling Agriculture in the post-Bali Context ITCST Presentation, Geneva, Switzerland.
- Laborde, D. and H. Valin. 2012. Modeling Land-Use Changes in a Global CGE: Assessing the EU Biofuel Mandates with the MIRAGE-BioF Model. Climate Change Economics, 3(3).
- Laborde, D. and W. Martin. 2012. Agricultural trade: what matters in the Doha Round. Annual Review of Resource Economics. 4: 265–283
- Laborde, D., and H. Valin. 2012. Modeling land-use changes in a global CGE: assessing the EU biofuel mandates with the MIRAGE-BioF model. Climate Change Economics, 3(2) 1–39, 1250017-1.
- Laborde, D., W. Martin and D. van der Mensbrugge. 2012e. Implications of the Doha Market Access Modalities for developing countries. World Trade Review. (3) 1–25.
- Laborde, D., W. Martin and D. van der Mensbrugge. 2011. “Implications of the Doha Market Access Proposals for Developing Countries,” World Bank Policy Research Working Paper 5679.

- Laborde, David. 2014a. Cluster 3.1 National, Regional and Global Trade Policies. PIM Extended Team Meeting November 4–5 IFPRI. Washington, DC
- Laborde, D., and W. Martin. 2014. Formulas for failure; were the Doha tariff formulas too ambitious for success? *World Trade Review*. Forthcoming.
- Lundy, M., Gertjan Becx, Nancy Zamierowski, Alexandra Amrein, Jhon Jairo Hurtado, Erika Eliana Mosquera, Fernando Rodríguez. 2012. LINK methodology: A participatory guide to business models that link smallholders to markets. Centro Internacional de Agricultura Tropical (CIAT). Cali, Colombia, pp. 172.
- MAFAP. "Analysis of price incentives for Maize in Ghana", [Technical notes series](#), MAFAP, FAO, Rome.
- MAFAP. "Analysis of price incentives for Rice in Ghana", [Technical notes series](#), MAFAP, FAO, Rome.
- MAFAP. "Monitoring and analyzing food and agricultural policies in Africa: Synthesis Report 2013", [Technical notes series](#), MAFAP, FAO, Rome
- MAFAP. <http://www.fao.org/in-action/mafap/home/en/>
- Malapit, H. J., K. Sproule, C. Kovarik, R. Meinzen-Dick, A. Quisumbing, F. Ramzan, E. Hogue, S. Alkire. 2014. Measuring Progress Toward Empowerment: Women's Empowerment in Agriculture Index: Baseline Report.
- Matson, P., W. Clark, and K. Andersson. 2015. Pursuing Sustainability: What you need to know to contribute to sustainable development. Princeton, NJ: Princeton University Press.
- Mattoo, A., and W. Martin, eds. 2011. Unfinished Business? The WTOs Doha Development agenda. World Bank, London.
- Mayanja, Sarah, Beatrice Akello, Dan Kisauzi and Damalie Magala. 2013. Building capacity for market-chain innovation in Uganda. Papa Andina Innovation Brief 4 <http://cipotato.org/resources/publications/journal/building-capacity-for-market-chain-innovation-in-uganda>
- M'barek, R., W. Britz, A. Burrell, and J. Delincé. 2012. An integrated Modelling Platform for Agro-economic Commodity and Policy Analysis (iMAP) – a look back and the way forward (No. JRC69667). Institute for Prospective and Technological Studies, Joint Research Centre.
- Myers, R., S. Johnson, M. Helmar and H. Baumes. 2014. Long-run and Short-run Co-movements in Energy Prices and Prices of Agricultural Feedstocks for biofuel, *American Journal of Agricultural Economics*, 96(4) 991–1008.
- OECD. 2001. Market Effects of Crop Support Measures, Paris: OECD.

OECD. 2010. OECD-FAO Agricultural Outlook, 2010–2019. Paris: OECD.

Ordinola, Miguel, Andre Devaux, Thomas Bernet, Kurt Manrique, Gaston Lopez, Christina Fonseca and Douglas Horton. 2014. The PMCA and Potato Market Chain Innovation in Peru. Papa Andina Innovation Brief 3. <http://cipotato.org/resources/publications/book/innovaciones-de-andina-incopa-en-el-peru>.

Padulosi, S., J. Thompson and P. Rudebjer. 2013. Fighting poverty, hunger and malnutrition with neglected and underutilized species (NUS): needs, challenges and the way forward. Bioversity International, Rome.

PIM, "Intermediate Development Outcomes for CRP Policies, Institutions, and Markets," September 2013.

Policies, Institutions, and Markets to Strengthen Food Security and Incomes for the Rural Poor, "A Revised Proposal Submitted to the CGIAR Consortium Board," October 2011, p. 1.

Poulter, Colin et al. 2014, "The Comprehensive Africa Agriculture Development Program (CAADP): Political Incentives, Value Added and Ways Forward."

Renkow, Mitch and Roger Slade. 2013, June. An Assessment of IFPRI'S Work in Ethiopia 1995–2010: Ideology, Influence, and Idiosyncrasy, Impact Assessment Report #36.

Roberts, M. J. and W. Schlenker. 2010. Identifying Supply and Demand Elasticities of Agricultural Commodities: Implications for the US Ethanol Mandate, NBER Working Paper 15921, National Bureau of Economic Research.

Robichaud, V., A. Couleau and S. Tokgoz. 2014. MIRAGRODEP 1.0 Documentation. AGRODEP Technical Note, March, 2014

Rosegrant, M, C. Ringler, S. Msangi, T. Sulser, T. Zhu, and S. Cline. 2008. International Model for Policy Analysis of Agricultural Commodities and Trade (IMPACT): Model Description. International Food Policy Research Institute.

Rosegrant, M. W. and the IMPACT Development Team. 2012. International Model for Policy Analysis of Agricultural Commodities and Trade (IMPACT): Model Description. International Food Policy Research Institute (IFPRI), Washington, D.C.
[\(http://www.ifpri.org/sites/default/files/publications/impactwater2012.pdf\)](http://www.ifpri.org/sites/default/files/publications/impactwater2012.pdf)

Ryan, D. L. and T. J. Wales. 1999. Flexible and semiflexible consumer demands with quadratic Engel curves. Review of Economics and Statistics, 81(2), 277–287.

Ryan, J. G. 2003. Evaluating the impact of agricultural projection modelling using the "IMPACT" framework, Impact Assessment Discussion Paper No. 17, IFPRI, Washington DC.

- Sheck, Ree, Jason Donovan and Dietmar Stoian (eds.). 2013. Assessing the impacts of value chain development on poverty: a case study companion to the 5Capitals tool. Technical Report No. 396, Rural Enterprise Development Collection No. 8. CATIE: ICRAF: Bioversity International, pp. 63.
- Somwaru, Agapi, and Steve Dirkse. 2012, July. Dynamic PEATSIM Model: Documenting Its Use in Analyzing Global Commodity Markets, TB-1933, U.S. Department of Agriculture, Economic Research Service.
- Takeshima, H., A. Nin-Pratt and X. Diao. 2013. Mechanization and Agricultural Technology Evolution, Agricultural Intensification in Sub-Saharan Africa: Typology of Agricultural Mechanization in Nigeria. *American Journal of Agricultural Economics*, Agricultural and Applied Economics Association, vol. 95(5), pages 1230–1236.
- Thiele, G., Quiros, C. A., Ashby, J., Hareau, G., Rotondo, E., & Lopez, G. (eds.). 2011. Me'todos participativos para la inclusio'n de los pequen~os productores rurales en la innovacio'n agropecuaria: Experiencias y alcances en la regio'n andina 2007-2010. Lima, Peru': Programa Alianza Cambio Andino.
- Valin, H., P. Havlik, N. Forsell, S. Frank, A. Mosnier, D. Peters, C. Matthias, and M. van den Berg. 2013. Description of the GLOBIOM (IIASA) and Comparison with the MIRAGE-BioF (IFPRI) Model. ECOFYS E4tech Science for Global Insight, IIASA Working Paper.
- van Kerkhoff, L. and L. Lebel. 2006. "Linking knowledge and action for sustainable development," Annual Review of Environment and Resources 31:445–477.
- von Lampe, Martin. 1999. A Modelling Concept for the Long-Term Projection and Simulation of Agricultural World Market Developments – World Agricultural Trade Simulation Model WATSIM. Shaker, Aachen, 192 pages, PhD Thesis
- Westhoff, P., S. Brown, and C. Hart. 2005, December. When point estimates miss the point: Stochastic modeling of WTO restrictions. In meeting of the International Agricultural Trade Research Consortium, San Diego, CA.
- Witzke, H. P. and W. Britz. 1998. A maximum entropy approach to the calibration of a highly differentiated demand system (pp. 98–06). Capri Working Paper 98–06, University of Bonn.
- World Bank. 2012. World Development Report 2012: Gender Equality and Development. The World Bank, Washington DC.
- Yang J., Z. Huang, X. Zhang, and T. Reardon. 2013. The Rapid Rise of Cross-Regional Agricultural Mechanization Services in China *American Journal of Agricultural Economics*, Agricultural and Applied Economics Association, vol. 95(5), pages 1245–1251.