



RESEARCH
PROGRAM ON
Policies,
Institutions,
and Markets

Led by IFPRI

2017 Annual Report



The CGIAR Research Program on Policies, Institutions, and Markets (PIM) leads action-oriented research for a food-secure present and future. Our research provides support for policies that help poor farmers, both men and women, improve their lives; produce nutritious and affordable foods; and protect the soil, water, and biodiversity in rural landscapes. PIM is led by the International Food Policy Research Institute (IFPRI), and brings together 15 CGIAR Centers and many international, regional, and national partners. www.pim.cgiar.org



TABLE OF CONTENTS

1. Key Results	1
1.1 CRP Progress Towards Intermediate Outcomes and SLOs	1
1.2 Progress by CRP Flagships	2
1.3 Cross-Cutting Dimensions (at CRP level)	6
1.3.1 Gender	6
1.3.2 Youth	7
1.3.3 Other Aspects of Equity / “Leaving No-one Behind”	7
1.3.4 Capacity Development	8
1.3.5 Open Data	9
1.3.6 Intellectual Assets	9
2. CRP Effectiveness and Efficiency	9
2.1 Variance from Planned Program	9
2.2 Use of W1-2 Funding	10
2.3 Key External Partnerships	10
2.4 Cross-CGIAR Partnerships (Other CRPs and Platforms)	10
2.5 Monitoring, Evaluation, Impact Assessment and Learning	11
2.6 Improving Efficiency	12
3. CRP Management	12
3.1 CRP Management and Governance	12
3.2 Management of Risks	12
3.3 Financial Summary	13
Table A: Evidence on Progress towards SLOs	15
Table A-1: Evidence on Progress towards SLOs (Sphere of Interest)	15
Table A-2: List of Outcome Case Studies (Sphere of Influence)	18
Table B: Status of Planned Milestones	21
Table C: Cross-cutting Aspect of Outputs	33
Table D: Common Results Reporting Indicators	34
Table D-1: Key CRP Results, in Numbers	35
Table D-2: List of CRP Innovations	37
Table E: Intellectual Assets	41
Table F: Main Areas of W1-2 Expenditure	42
Table G: List of Key External Partnerships	43
Table H: Status of CGIAR Collaborations (Other CRPs and Platforms)	48
Table I: Monitoring, Evaluation, Impact Assessment and Learning	50
Table I-1: Status of Evaluations, Impact Assessments and Learning Exercises	50
Table I-2: Actions Taken in Response to Relevant Evaluations	51
Table J: CRP Financial Report	55
Annex 1: List of Policies and Investments Informed by PIM’s Research in 2017	56
Annex 2: PIM 2017 Peer-reviewed Articles, Books/book chapters, and Key Datasets	60
PIM 2017 Peer-reviewed Articles	60
PIM 2017 Books and Book Chapters	70
PIM 2017 Key Datasets	72

1. Key Results

1.1 CRP Progress Towards Intermediate Outcomes and SLOs

Events of 2017 confirm the relevance of PIM's research agenda. Real food prices remain well above the levels of the 1980s and 1990s, slowing progress on poverty reduction ([FAO food price index](#)). Crises due to conflict and adverse weather in 2017 put 815 million people at risk of hunger (IFPRI's 2018 [Global Food Policy Report](#)), reversing the prior downward trend, and straining social protection and emergency relief programs. Tensions that surfaced in the international trading system seeded steps toward protectionism in agricultural markets, with negative implications for growth and food security. The US withdrawal from global commitments on climate change and reversal of regulations for environmental protection will slow attainment of global objectives. Young migrants flowing into Europe from countries with lagging job creation triggered renewed attention to agriculture's contributions to job security as well as food security. Slow progress toward gender equality in developing countries led to increased emphasis on gender research in key development agencies and foundations in 2017. These critical issues are all germane to CGIAR's System Level Outcomes (SLOs), and research on them from PIM's six flagships informs the global discourse and provides diagnostic and evaluative evidence to decision makers (see [Table A-1](#) for evidence of PIM's contributions to the SLOs).

In Section 1 we are asked to focus on outcomes, and indicate how PIM's research was used for practical applications in 2017. A highly selective list follows (also see [Table A-2](#)):

- [Flagship 1](#) on technological innovation and sustainable intensification [analyzed](#) tradeoffs in investment in agricultural research, water management, and infrastructure, and their implications for poverty reduction, natural resources, and emissions. The work is used to inform investment decisions of agencies such as USAID and design of a new World Bank USD 295M investment in agricultural research and technology in West Africa to be launched in 2018.
- The work of [Flagship 2](#) on structural transformation and agriculture's contribution to growth and poverty reduction in late transforming countries received [recognition](#) and informed programs of AGRA, DFID, and the United Nations Economic Commission for Africa.
- Work in [Flagship 3](#) (value chains) yielded a timely [book](#) on the contributions of international trade to food security over the past decade and a half, and practical advice on trade agreements between the European Union (EU) and the Southern African Development Community (SADC) and between the EU and West Africa.
- Findings from the work in [Flagship 4](#) (social protection) contributed to review of social protection programs in Mali and Egypt, and to dialogue with a major funding organization on the contribution of social protection to reduction of intimate partner violence.
- Work in [Flagship 5](#) (governance of natural resources) jointly with the African Land Policy Centre contributed to measuring progress in reforms in land administration in 12 countries.
- In [Flagship 6](#) (gender), continued development of the Women's Empowerment in Agriculture Index resulted in the Comprehensive Africa Agriculture Development Program integrating the index into its set of indicators. In addition, the [CGIAR Collaborative Platform for Gender Research](#) was successfully launched.

Further detail on the specific contributions of each flagship can be seen in Sections [1.2](#) and [1.3](#) of this report, in the outcome stories (see [Table A-2](#)), and in the appended list of deliverables ([Annex 2](#)).

1.2 Progress by CRP Flagships

In [Flagship 1 on Technological Innovation and Sustainable Intensification](#), the foresight modeling team analyzed the costs of alternative investment options for meeting the SDGs and the [System Level Outcomes of CGIAR](#). The resulting [report](#) is under discussion within USAID and will be shared with other agencies. The same team examined [impacts of climate change](#) and the [adoption of climate smart agriculture in Africa](#) for the [ReSAKSS Annual Trends and Outlook report](#), and collaborated with Oxford University to [explore](#) the mitigation potential and global health impacts of emissions pricing of food commodities. Work of the foresight modeling and Agricultural Science and Technology Indicators (ASTI) teams informed design of The World Bank's [West African Agricultural Transformation Project](#) in the amount of USD 295M. The commissioned [background paper](#) argues that ongoing reforms in the organization of agricultural research in the region should be deepened and complemented by an increase in investment on the order of USD 500M per year.

ASTI continued to maintain the time series of public investments in agricultural research in the developing world, and issued a [report](#) tracking key trends and challenges based on 2016 data. ASTI is transitioning to a new partnership model in which the regional and sub-regional research organizations assume responsibility for data collection and the ASTI team provides technical backstopping and training. Under a [new joint project](#) with the Asia-Pacific Association of Agricultural Research Institutions (APAARI), ASTI will support APAARI to collect, analyze, and disseminate data on agricultural research in Southeast Asia and the Pacific.

The teams working on extension investigated the use of information and communication technologies (ICTs) and community based approaches in several countries where governments are actively exploring reforms of extension. ICT-enabled extension approaches are being rolled out for evaluation in Cambodia, [Ethiopia](#), India, and Uganda, while assessments of the Volunteer Farmer Trainers (VFT) approach in East Africa have been completed. The work on VFTs [finds](#) that VFTs provide services well after completion of external project support, but that specific measures are required to assure adequate training of the volunteers. The teams working on seed systems and [research](#) on seed markets provided new metrics and recommendations to accelerate the adoption of new varieties and longer-term varietal turnover, with applications for cereal crops in Africa south of the Sahara and South Asia. The results have been used to inform national dialogues on seed strategies in the two regions, as well as by several major donor and government initiatives for seed system improvement.

Work under [Flagship 2](#) (Economywide Factors Affecting Agricultural Growth and Rural Transformation) included [research](#), [south-south learning](#), and [policy engagement](#) to support the revision of mechanization strategies in Ethiopia, Ghana, and Nigeria. Researchers produced a [study](#) on Nepal's Federal Transition and engaged with senior policy makers in support of the Ministry of Agricultural Development's accommodation to the new constitution. IFPRI's [Statistics on Public Expenditures for Economic Development \(SPEED\)](#) database continued to be used by [The World Bank](#) and other development agencies for policy dialogue on national budgets. Collaboration between IFPRI and the International Fund for Agricultural Development (IFAD) yielded a new modeling framework called the [Rural Investment and Policy Analysis \(RIAPA\) model](#), which in turn uses the PIM-funded social accounting matrices. RIAPA shows that alternative emphasis on different commodities in a portfolio of agricultural investments yields different outcomes in terms of income growth, poverty reduction, nutrition, and job creation. RIAPA is being used by IFAD to design the [Country Strategic Opportunities Programs](#) and by national governments in [Malawi](#) and Kenya. PIM-supported research on [structural transformation](#), featured in a 2017 [book](#), continues to engage policy makers, academics, and international development agencies such as [AfDB](#), [AGRA](#), [DFID](#), [IMF](#), and

[ODI](#), and was cited in The Economist in an article titled [Why Africa's development model puzzles economists](#) (August 2017). A team of researchers from IFPRI and Michigan State University received the American Agricultural Economics Association's Bruce Gardner Memorial [Prize](#) for Applied Policy Analysis for their work on the impacts of subsidies in Africa.

[Research](#) supported by PIM shows a rise of medium scale farms in Africa since 2000, and [finds](#) that these farms generate spillover benefits for neighboring small farms. Flagship 2's gender [research](#) on governance of the informal food sector in Africa argues for a reevaluation of policies toward vendors, many of whom are women, and identification of public investments and services to address vendors' working conditions and food safety issues. [Research](#) on Zambia's economic recovery in the 2000s found that young people did not benefit proportionately, and that youth unemployment rates remained high and rose faster than those for older adults during the period of growth and expansion. Further [research](#) found that African youth have been especially attracted to populist politicians because of their campaign pledges to create more jobs. The [book](#) "Agriculture and the Rural Economy in Pakistan" was launched, with assessment of the contributions of agriculture to Pakistan's efforts to reduce poverty.

In [Flagship 3](#) on Inclusive and Efficient Value Chains, the Ag-Incentives Consortium's [website](#) was publicly [launched](#) at the Organization for Economic Co-operation and Development (OECD) in Paris. The website is a user-friendly online database facilitated by IFPRI that aggregates agricultural policy data across countries to show the extent to which public policies and investment gaps convey direct or implicit taxes or subsidies, and hence influence the behavior of producers (including incentives to adopt new technologies) and consumers.

A very timely book, ["Agriculture, Development, and the Global Trading System: 2000-2015"](#), examines the recent contribution of global trade to food security, and argues that more, rather than less, trade integration facilitates reduction of poverty and hunger. The work on trade is directly relevant to policy dialogue in countries in which CGIAR and partners are active. For example, in 2017 [research](#) undertaken by IFPRI contributed to the decision of the Malawian government to [remove](#) an export ban on maize (although the ban was reinstated in February 2018 in response to an army worm infestation). IFPRI researchers [modeled](#) the impact of trade agreements between the European Union (EU) and the Southern African Development Community (SADC) and between the EU and West Africa. In each case, the analysis was noted in official impact assessment studies developed by the European Commission and provided to the European and national parliaments in Europe and Africa.

Work on postharvest losses produced new methods to measure physical and economic losses. The methods are shared with the community of practice through the [Technical Platform on the Measurement and Reduction of Food Losses and Waste](#) under the FAO. [Early findings](#) for staple foods indicate that losses at the farm and intermediate nodes of the value chain (that is, prior to retail and consumption) are in the range of 8-26%; this is significant, but lower than the very high figures often reported. When deterioration in quality (a dimension not usually included in measured food loss) is added, the loss increases substantially.

In 2017, the Flagship 3 team also expanded work on traceability, certification, and quality assessment. A [study](#) found that Ethiopian wheat growers changed their marketing behavior after participating in a short video-based training course on assessment of product quality. Other research on quality certification is ongoing in the cocoa, coffee, and dairy sectors. A 2017 [paper](#) finds that improved management methods and the proliferation of wet mills in rural Ethiopia in the past ten years have raised the quality and prices of coffee, but that lack of vertical coordination and traceability systems continues to impede development of the sector. A [study](#) carried out in Senegal found that lump sum cash grants combined with intensive advisory assistance led to increased farmer investments in commercial value chains, while the advisory assistance alone did not. A recent [paper](#) provides an overview of value chain interventions, and notes that although poor households benefit from integration in value chains, the gains from lower food prices (due to efficiencies along value chains) and increased demand for wage labor often exceed the gains from farming.

Interest from the development community in PIM's [Flagship 4](#) (Social Protection for Agriculture and Resilience) increased in 2017, reflecting the rising numbers of vulnerable people due to conflict and natural catastrophes. IFPRI's work on social protection since 2012 has [influenced](#) programs reaching an estimated 8 million beneficiaries in Ethiopia, more than one million beneficiaries in Bangladesh, and more than one million beneficiaries in Tanzania. In 2017 the International Potato Center (CIP) joined the research effort, as did new external partners. Work proceeded in thirteen countries (Armenia, Bangladesh, Egypt, Ethiopia, India, Indonesia, Kenya, Malawi, Mali, Pakistan, Peru, Uruguay, and Yemen).

A 2017 [paper](#) drawing on an evaluation of the Transfer Modality Research Initiative ([TMRI](#)) in Bangladesh showed that inclusion of behavior change communication (BCC) with transfer payments led to sustained improvements in feeding practices even 6-10 months after the program ended, with spillover effects of the BCC to the knowledge and feeding practices of neighboring nonparticipating mothers. An [IFPRI discussion paper](#) showed that women who received a combination of transfers and BCC experienced a 26% reduction in physical intimate partner violence (IPV). The [IPV findings](#) were presented at several events in Bangladesh and internationally.

Research on Egypt's national social protection program, the Takaful (Solidarity) and Karama (Dignity) [program](#), found that it increased the value of household consumption, improved diets through higher spending on fruit and animal source foods, increased spending on education, and reduced the likelihood of poverty among beneficiary households. In Ethiopia, previous research contributed to the government's decision to integrate the Productive Safety Net Program (PSNP) with the Community Based Health Insurance scheme to provide more effective services to the poor. New work included analysis on the seasonality of malnutrition, collaboration with IDS on the evaluation of UNICEF's effort to strengthen the nutrition impacts of the PSNP4, and work with [World Vision International's enhanced graduation model](#) program to improve livelihoods, nutrition, and women's empowerment.

Work in Mali assessed the effects of humanitarian interventions by the World Food Programme (WFP) on child malnutrition in places affected by conflict. A [paper](#) on the effects of food assistance during conflict is forthcoming in World Development. In India, [research](#) found that implementation challenges in the MGNREGA program depressed demand for work and exposed the targeting of beneficiaries to potential political bias. The book titled "[The 1.5 Billion People Question: Food, Vouchers, or Cash Transfers?](#)" was [launched](#) in November 2017. It applies a political economy and historical perspective to the analysis of the transition from food programs to cash programs, and finds that crises in the funding or performance of programs offer opportunities for reform of traditional in-kind assistance, but that countries do not exit completely from food transfers.

Ongoing [work on picture-based insurance](#) (PBI) confirms its feasibility as a means to strengthen index-based insurance. Paying farmers for visible damage on insured plots, assessed through georeferenced pictures that document crop conditions from sowing to harvest, helps reduce basis risk and improves demand without inducing adverse selection or moral hazard. Based on the study findings, [HDFC ERGO General Insurance, Ltd.](#) (one of India's major insurance companies) has determined that it can offer PBI products at lower rates than previously planned. The company intends to add PBI to its commercial offerings.

In PIM's [Flagship 5](#) on Governance of Natural Resources, teams from ICRISAT and IFPRI continued to test [experimental games](#) to improve skills of community members to manage groundwater and related water infrastructure in India. Games were carried out together with [Foundation for Ecological Security](#) (FES) and in coordination with the respective Panchayats and watershed committees. FES is including the games among their methods for working with communities, and communities have expressed intent to incorporate the games into regular Panchayat functions.

In 2017 PIM researchers worked with the [African Land Policy Centre](#) to develop a framework for the [Monitoring and Evaluation for Land in Africa \(MELA\)](#) project to assess progress on land

governance. The MELA framework is being piloted by 12 countries to track progress on commitments made under the African Union Declaration on Land Governance in Africa. The [Collaborating for Resilience](#) approach, developed by WorldFish in PIM's Phase 1 (2012-2016), provides a structured framework for understanding how groups interact and organize for change. [International Land Coalition](#) is applying it to increase the effectiveness of their National Engagement Strategies, which form coalitions of civil society and government agencies to work for pro-poor land governance in 22 countries. Work on community management of forests continued, with CIFOR's research showing that unless farmers and communities have [secure rights to forests](#), they are unlikely to invest in restoration. [CIFOR's research in Nepal](#) in partnership with [ForestAction](#) demonstrated that devolving selected rights to communities contributes to increased investment in sustainable value addition for forest products. CIFOR's [research](#) in Guatemala, Mexico, Namibia, and Nepal showed that communities with secure tenure were able to attract private investment in activities that created local jobs and incomes.

Issues of rights to rangelands are of high and growing importance (see, for example the 2016 multi-agency report [Confronting Drought in Africa's Drylands](#) to which PIM contributed). In 2017, research teams supported by PIM worked on rangeland issues in Tunisia and Tanzania. In Tunisia, the work is contributing to development of a new national rangeland code. In Tanzania, work on [participatory rangeland mapping](#) (drawing on lessons from Ethiopia) and issuance of certificates of customary rights of occupancy to Livestock Keepers Associations in which members share grazing areas and water is [documenting key processes and impact](#), assessing cost-effective approaches to scaling, and developing training materials.

The team of [Flagship 6](#) (Cross-cutting Gender Research and Coordination) continued to develop the body of work employing the Women's Empowerment in Agriculture Index (WEAI), with new resources and publications placed in the [WEAI Resource Center](#). The [Abbreviated-WEAI](#) developed in 2017 is a simpler tool designed for use on a wider scale than the WEAI. Researchers used a combination of methods to quantify joint spousal decision making, cooperation, and bargaining. A [review](#) of existing literature, conducted jointly with Flagship 5 using the Gender, Agriculture and Assets Project (GAAP) [conceptual framework](#), identified pathways through which women's land rights could reduce poverty and increase the well-being of women and of their households. An intrahousehold [analysis](#) in four Asian countries analyzed the gender gaps in landholdings across and within households, highlighting the need to strengthen women's land rights within marriage and to protect them should the marriage dissolve. [Research](#) in Nepal looked at how property rights affect women's empowerment at different stages in life, showing the importance of looking beyond formal ownership to social relations and how assets are used for livelihoods and empowerment. A pair of studies looked at the impact of joint decision making by wives and husbands on ownership of assets and on [women's well-being](#), [autonomy](#), and empowerment. [Work from Bangladesh](#) showed that reduced gender disparities as measured by the WEAI are associated with higher technical efficiency in farming, while complementary [work from Senegal](#) showed that low levels of spousal cooperation measured by lab-in-the-field games result in productive inefficiencies in dairy farming. This work contributes to validation of the ability of both the WEAI and games to predict productivity, and highlights the importance of gender equity for productivity.

In 2017 the [CGIAR Collaborative Platform for Gender Research](#) hosted by PIM was successfully launched. One of the key platform's activities was the convening of an annual scientific conference and capacity development [workshop](#) (see the platform's [website](#) for a full record of the platform's activities).

As shown in [Table B](#), almost all the 2017 milestones toward the program's 2022 outcomes were completed in 2017.

See also [Table D-2](#) for a list of innovations produced by the flagships.

1.3 Cross-Cutting Dimensions (at CRP level)

1.3.1 Gender

About 27% of the PIM outputs produced in 2017 have a focus on gender ([Table C](#)). Selected findings and tools from PIM's gender research are listed here:

- In 2017 ASTI launched a [portal](#) on women in agricultural science in Africa.
- CIFOR developed a [tool](#) that helps ensure that women and men at all levels have equal voice in designing Forest Landscape Restoration (FLR) initiatives, increasing the likelihood of substantive equality in outcomes.
- The WEAI Resource Center features [new tools and training materials](#). The index has been integrated into the set of indicators used by the Comprehensive Africa Agricultural Development Programme, bringing to about 50 the number of countries using the index to develop data on changes in empowerment over time and the factors that affect it.
- A [study](#) of the governance of the informal food sector in Africa, a sector in which many women are active, argues for new approaches to regulation and service provision.
- A [study](#) using longitudinal data to evaluate gender patterns in Ghana over the last 20 years finds that in general gender gaps are either holding steady or declining, with significant variation across regions.
- A [review](#) of the literature on women's land rights and poverty reduction done jointly by Flagships 5 and 6 finds compelling evidence that stronger land rights increase women's bargaining power and decision making on consumption, human capital investment, and intergenerational transfers. There is also high agreement, albeit less evidence, on the relationship between women's land rights and natural resource management, government services and institutions, empowerment and domestic violence, resilience and HIV risk, and consumption and food security. Evidence is insufficient to support a finding of association between women's land rights and other livelihoods. Association is often assumed between women's land rights and credit, technology adoption, and agricultural productivity, but the available evidence on these linkages is surprisingly weak.
- [PIM research in Nigeria](#) finds that parcel-based land registration is more likely than household-based land titling to secure rights for women and to protect them from intra-household power asymmetries.
- [PIM research in Tanzania](#) shows that women who have access to a trained voluntary paralegal expert are better able to understand decisions related to land and to identify their interests, but that the increased knowledge has little impact on their attitudes or local land practices.
- A [study](#) of forest tenure reforms in Indonesia shows that, when women participate little in rule making, they and other vulnerable groups benefit little from rights granted to the collective.
- [PIM research in Malawi](#) finds that advice on nutrition provided to men and women jointly at the household and community levels is more effective than advice targeted solely to women.
- [Research](#) on intimate partner violence in Bangladesh, Ecuador, and Mali finds that social protection transfers to households can significantly reduce intimate partner violence, depending on context and program features.

- Work on [gender and seed systems](#) was commissioned through the CGIAR Collaborative Platform for Gender Research and awarded to five teams in collaboration with other CRPs.

1.3.2 Youth

About 8% of the PIM outputs produced in 2017 have a focus on youth ([Table C](#)). Selected findings and tools from PIM's youth research are listed here:

- A [study](#) on the political economy of Zambia's economic recovery in the 2000s found that young people did not benefit proportionately during the period of growth, and that youth unemployment rates remained very high and rose faster than those for older adults.
- A [study](#) in Ghana found that rural youth-headed households are significantly more likely to leave agriculture than are households headed by older adults, especially if these households live close to larger cities.
- [Research in Ethiopia](#) found a strong relationship between expected land inheritance and young people's (ages 15-34) likelihood of migrating.
- A [PIM study](#) documented employment trends in nine African countries and found that higher agricultural productivity led to faster reduction in the share of employment in farming.
- A forthcoming book on youth and jobs in rural Africa identifies a series of stylized facts:
 - ✓ Governments (and many donors) focus on supply-side concerns about workers (skills, etc.), when the greater problem is demand for labor. Underemployment is significant.
 - ✓ Many young people seek rural-rural, rather than rural-urban, migration opportunities to diversify incomes. Active rural nonfarm economies are thus important.
 - ✓ Much of the rural nonfarm work is informal.
 - ✓ Nonfarm rural jobs often require few skills, and hence do not match the aspirations of better educated young people.

1.3.3 Other Aspects of Equity / "Leaving No-one Behind"

- PIM researchers associated with Ethiopia's Productive Safety Net Program are engaged to study the effects of Direct Support payments, which are targeted at households with disabled or elderly breadwinners who cannot supply labor for the Public Works part of the program.
- A [study](#) in Bangladesh on women in extremely poor rural households found evidence that, 6-10 months post-program, IPV was lower among those that had received a combination of transfers and behavior change communication (BCC); one plausible reason for this was that the intervention sustainably increased social capital and social status among previously isolated and stigmatized women.
- [Research](#) to assess interest and participation in [picture-based insurance](#) in India found lower participation rates among lower-caste groups, for which access to technology may have been a constraint.
- In Ethiopia and [Tanzania](#), [action research](#) is identifying ways to include pastoralists in local and regional land use planning processes and to create options for collective certification of pastoral lands, so that land registration processes do not further marginalize pastoralists.
- Research on the effects of devolving forest rights to communities in Guatemala and Nepal found that new local enterprises backed by outside investors were more likely

to succeed where historically marginalized communities benefitted financially from the new business activity.

- As part of the Monitoring Land Policy in Africa project with the [African Land Policy Centre](#), research teams developed indicators related to the access of marginalized groups to land.

1.3.4 Capacity Development

PIM supports capacity development along three broad areas: training of researchers; engagement with developing-country implementation partners to strengthen their capacities; and production of methods, tools, and datasets.

5,740 individuals were trained in 2017 ([Table D-1](#)).

Examples of such trainings are given below:

- 15 individuals (including 12 women) were [trained](#) in the use of the IMPACT model for quantitative foresight at the Chinese Academy of Agricultural Sciences.
- Three STAARS fellows (two from Malawi and one from Ethiopia) benefited from training and mentoring at Cornell University and presented their research on agricultural transformation at the [STAARS workshop](#) in Abidjan.
- Three graduate students from Wageningen University and Research began their thesis research with guidance from senior members of PIM's value chains team.
- Trainings on trade policy and economic development were given in Rabat and Kigali.
- The CGIAR Collaborative Platform for Gender Research convened a scientific conference and capacity development [workshop](#). A [workshop](#) on innovations in gender-responsive breeding was led by RTB with support from the Gender Platform.
- PIM and SPIA co-organized the first CGIAR Social Science Research [conference](#), on impact assessment of agricultural research.
- The first series of the PIM [webinars](#), aimed at communicating some of the key findings of the program to donors, development organizations, and researchers, attracted a total of 220 participants, and the recorded versions were viewed online by about 1,000 people.

Strengthening of developing-country institutions' capacity included the following:

- The Program for Biosafety Systems worked with analysts and government agencies in several Asian and African countries and trained more than 500 individuals.
- Over 600 Volunteer Farmer Trainers working with major dairy producer organizations in Eastern Uganda received training led by ICRAF.
- A [workshop](#) was hosted by IFPRI and CIMMYT in Addis Ababa for south-south sharing of lessons on agricultural mechanization, with 99 participants from Africa and Asia.
- A CIP-led [workshop](#) on social protection programs and economic inclusion interventions in rural areas of Peru was attended by 45 officials and technical staff.
- International Land Coalition continued to use the Collaborating for Resilience approach for its National Engagement Strategies in 22 countries ([workshop](#) in Ecuador for the LAC region).
- IFPRI and ICRISAT developed guidelines for the use of experimental games to stimulate social learning for resource management. A "[practitioners' lab](#)" was held at the International Association for the Study of the Commons, and several NGOs (e.g. [FES](#)) in India were trained on these methods.

- CIFOR and ILRI held masterclasses for policy makers and practitioners at The World Bank's [Land and Poverty Conference](#), on the implementation of land tenure reforms and on issues related to pastoral land.
- A [third annual dialogue](#) was convened by ICRAF with local governments of the Kenya and Somalia border to discuss options for strengthening cross-border management of natural resources.
- ICARDA and FAO led a [workshop](#) with 30 policy makers to discuss policy options on the topic of women, decent work, and empowerment in rural Egypt.

The following [tools and methods](#) were produced, among others:

- Updated Social Accounting Matrices were developed for Ethiopia, Kenya, Malawi, Mozambique, Tanzania, and Uganda (see the [Tanzania](#) example).
- The value chains team continued to add tools and methods to the Tools4valuechains [website](#), and produced an [overview of tools](#) (blog and video) to help users navigate the website.
- A new [methodology](#) for assessing postharvest physical and economic losses was written up and is being disseminated to other organizations.
- Experimental [games](#) were developed as interventions to help communities strengthen their management of common pools of resources.
- The Abbreviated WEAI ([A-WEAI](#)) was developed and presented at seminars/webinars.

About 25% of the PIM outputs produced in 2017 have a focus on capacity building ([Table C](#)).

1.3.5 Open Data

Through the MARLO management information system and beginning with the 2017 annual reporting, PIM tracks findability, accessibility, interoperability, and reproducibility of deliverables. Among the 121 peer-reviewed publications generated in 2017, one third are open access ([Table D-1](#)). In addition, 130 discussion/working papers were produced, all of which are freely available on IFPRI's and other centers' websites. Most datasets developed with support from PIM are accessible through Dataverse once they have been checked for accuracy and formatted to address privacy concerns; 13 datasets were made available on Dataverse in 2017.

1.3.6 Intellectual Assets

All PIM outputs are publicly available, although not all are open access (see [Section 1.3.5](#)). Adequate management of privacy issues in IFPRI's household survey data prior to their release for general access through Dataverse is encouraged through training of relevant individuals.

2. CRP Effectiveness and Efficiency

2.1 Variance from Planned Program

No significant variance from the program outlined in the 2017 POWB occurred. As shown in [Table J](#), the POWB presented a planned budget of USD 19.5M. Considering the uncertainty about the realization of the Financing Plan, flagship teams were advised to program 80% of the planned funds. The uncertainty was resolved only at the end of the calendar year. Actual expenditures were on the order of 80%-85% of planned except for Flagship 1, which was authorized to spend more to cover legacy commitments to co-financing. The incremental funds for Flagship 1 came from underspending in the "CRP management" category.

2.2 Use of W1-2 Funding

W1-2 funds facilitate integration across the flagships and across the CGIAR portfolio, support development and updating of tools and methods, allow introduction of new work in preparation for future W3 or bilateral funds, and cover program management. Most areas of the PIM program benefit from W1-2, and 2017 achievements from use of W1-2 funding are described in [Section 1.2](#). A few specific topics and achievements are noted here:

- Foresight community of practice collaborating on a journal's special issue.
- New collaborative work on seed policies with several centers and CRPs.
- New social accounting matrices for seven countries.
- Investment in the MARLO system, which enhances the structural coherence of the program and facilitates timely reporting.
- Organization of the CGIAR Social Science Research Conference, and convening of and participation in outreach events.

Also see [Table F](#) for a more detailed account of the W1-2 expenditures in 2017.

2.3 Key External Partnerships

PIM researchers are engaged with many research and implementation partners ([Table G](#)). Among research partners, Michigan State University and Wageningen University and Research fulfill dual roles, leading several studies and co-leading PIM flagships on agricultural growth and rural transformation (Flagship 2) and value chains (Flagship 3), respectively. Other research partners include Oxford University on gender and foresight, Paris School of Economics on extension methods, Cornell University and Institute of Development Studies on social protection, and Penn State University on gender capacity development. In addition, many PIM researchers collaborate with national universities or research institutes such as Makerere University in Uganda, the Cambodia Development Research Institute, the Economic and Social Research Foundation in Tanzania, and the Ethiopian Development Research Institute. APAARI works with the ASTI team to collect agricultural science and technology indicators for member countries. Major international finance and development organizations such as FAO, IFAD, and The World Bank continue to be important partners in co-developing databases, tools and knowledge and disseminating them through their institutions, operations, and networks.

PIM forges close partnerships with implementation partners, including governments. Relationships are particularly strong with governments and civil society partners in countries where IFPRI has a country program office, as well as in others such as Mali on social protection and Rwanda on agricultural investment and trade. Key development partners include World Vision International (work in fragile states), Digital Green (extension methods), CABI (testing insurance and advisory service products for farmers), International Land Coalition (land governance), and Foundation for Ecological Security (enhancing landscape restoration). Finally, PIM collaborates with private sector companies to test innovations in the areas of insurance, seed and inputs, contract farming, and other value chain innovations (e.g. Kakira Sugar (Uganda), HDFC ERGO General Insurance (India)).

2.4 Cross-CGIAR Partnerships (Other CRPs and Platforms)

- Collaboration with CCAFS on integrating the latest climate change and variability predictions into the foresight models continues. Collaboration with other CRPs on foresight is growing, and plans for increased co-investment in 2018 were made.
- Collaboration was initiated with RTB and FTA on seed system policies for vegetatively propagated crops; relatedly, the Gender Platform collaborates with GLDC, Livestock, PIM, RICE, and RTB on [gender dynamics in seed systems](#).

- PIM's public expenditure research team collaborates with MAIZE researchers on a detailed analysis of the effects of public investments in agricultural research and other areas on agricultural performance in the maize sector.
- PIM's value chain team continues its partnership with several CRPs (FTA, Livestock, RTB) on the development and dissemination of value chain tools, and works with MAIZE and RTB to test interventions to reduce postharvest losses.
- A partnership with RTB was initiated to examine the role of social protection for agriculture in potato growing households in the Andes.
- PIM participates in the CCAFS learning platform on insurance and co-invests with the Big Data Platform in research on smart phone applications for insurance.
- In 2017 the PIM-WLE partnership on games for enhancing collective action in natural resource governance expanded to look at a larger range of resources.
- CCAFS and PIM collaborate on a study of joint decision making in Latin American households, and a workshop was held to explore further collaborative gender research between A4NH, CCAFS, GLDC, and PIM.
- The CGIAR Collaborative Platform for Gender Research works with all CRPs. More than 40 gender researchers from CGIAR (plus an equal number from outside the system) attended the platform's scientific conference and capacity development workshop.

[Table H](#) contains additional information about collaboration between PIM and other CRPs and platforms.

2.5 Monitoring, Evaluation, Impact Assessment and Learning

The following studies were undertaken in 2017 and will be finalized in 2018:

- A three-component study assesses the outcomes and impacts of the IFPRI country programs. The first component examines the extent to which research influenced policy outcomes, while the second component focuses on country case studies with interviews of key stakeholders. The third component measures quantitatively the impact of the country programs over the period 1981-2014 using data on IFPRI's presence in countries, numerous development and policy outcome variables, and control variables. In addition to empirical findings, this study will provide insights on methods for assessing policy outcomes and impacts.
- External consultants were engaged to collect information on the use of the Agricultural Science and Technology Indicators and of the Statistics on Public Expenditures for Economic Development data, and to assess the corresponding outcomes.

In addition, PIM launched the MARLO system, undertook an *ex post* analysis of the reported gender dimensions of selected 2016 deliverables, held a reflective workshop on the future of the value chain hubs, and engaged with donors and other stakeholders for guidance on how to communicate on the PIM outcomes.

Additional information on monitoring, evaluation, and impact assessment is reported in [Table I-1](#).

Other forms of learning include actions taken in response to suggestions from the evaluation of the program by the IEA in 2015 and by PIM's former Science and Policy Advisory Panel in 2016 ([Table I-2](#)).

2.6 Improving Efficiency

- Joining forces with SPIA to organize the first CGIAR Social Science Research [Conference](#) allowed combining of efforts on a topic of shared interest. We were thus able to include more external speakers and to bring in more social scientists from across the system while remaining within budget.
- Combining the meetings of the Independent Steering Committee (ISC) and of the PIM management team saves time and money. However, feedback from ISC members after the November 2017 joint meeting indicates that they would prefer a different format allowing them to focus more on research and spend less time on administrative matters.
- The use of MARLO made the process of drawing the contractual agreements with the 15 centers participating in PIM less time-consuming, as the list of deliverables under the responsibility of each center was extracted from MARLO. MARLO also improves the efficiency of the planning and reporting processes as well as information sharing between the members of the PIM teams.
- Formal processes for mapping bilateral/W3 grants to PIM were developed and implemented to help ensure the coherence of the portfolio and consistency between the records of the different partners (centers, CRPs...).
- Small investments in PIM's presence on social media proved effective to enhance the program's outreach. Since the launch of PIM's Facebook [page](#) beginning of 2017, the number of followers of the page has grown to 1,050 as of June 2017. In 2017, PIM's [Twitter](#) audience grew by 60% to reach 1,114 followers in December 2017.

3. CRP Management

3.1 CRP Management and Governance

- The ISC was appointed in mid-2017. Nominations for the ISC members were sought from the PIM Management Committee, keeping in mind a desired mix of disciplinary focus and diversity in gender and region. The roster of candidates was approved by the IFPRI Board of Trustees. The composition of the ISC can be seen [here](#).
- A search was launched to fill the PIM Director position following the retirement of the current director scheduled for mid-2018. The newly selected PIM Director will start on August 1, 2018.
- The role of flagship managers was introduced in 2017 to assist the flagship leaders and research teams with reporting and implementation of the MARLO MIS. MARLO was launched during the second half of 2017.
- The program management unit (PMU) devoted significant managerial attention to the CGIAR Collaborative Platform for Gender Research to assure its successful launch (oversight of the appointment of the platform's advisory committee, regular interactions with KIT on the Platform's newsletter and media campaigns, etc.).

3.2 Management of Risks

The following programmatic risks required attention in 2017:

- **Quality assurance for PIM-branded products:** Quality assurance is the responsibility of centers. Centers that have a critical mass of social science researchers generally manage quality assurance for PIM satisfactorily. Other centers

face challenges, and at times deliver products that appear not to have been reviewed adequately.

Mitigating measure: PIM encourages researchers to publish in ISI journals, and thereby to avail of the additional layer of quality assurance inherent to peer review processes. Products that are not suitable for publication in ISI outlets should show compelling outcome stories that emphasize the quality and relevance of the work. When the quality of a deliverable appears questionable, the PIM Director and Senior Research Fellow in the PMU provide a preliminary review, and ask flagship and cluster leaders to do the same. Comments and suggestions for improvement are then sent back to the researchers.

- **Tracking impact, and establishing indicators and targets for results:** Establishing targets and collecting evidence to document progress are inherently challenging for policy-oriented research.

Mitigating measure: In 2017, PIM's Senior Research Fellow in the PMU oversaw several commissioned studies to gather evidence on the use of PIM products and databases (see [Section 2.5](#)). PIM management encourages the collection of evidence showing that PIM's work has been used in policy processes. The Senior Research Fellow in the PMU worked closely with flagship teams to refine the outcome stories submitted in preparation of this annual report. The introduction of MARLO has facilitated the reporting.

In 2017 PIM management addressed the following contextual risks:

- **Budgetary uncertainty:** Uncertainty in 2017 was higher than in the past due to a freeze in funds from a major donor and late notification (in December) of funds from another major donor. The PMU has consistently managed funds conservatively to ensure that financial commitments to participating centers would be met. Consequently, 2017 closed with a reserve of approximately \$4M unallocated, which poses a risk that PIM is judged unable to absorb funds in the amount of the full Financing Plan.

Mitigating measure: Considering the reserve from 2017, for 2018 the PMU authorized allocation of 90% of the 2018 Financing Plan, and mid 2018 decided to release an additional \$2M as an advance on the 2019 program.

- **Shift to earmarking of funds at the flagship level:** Several donors earmarked funds to specific flagships in 2017. The operational implications of these requests have not been clarified. Earmarking at the flagship level thus carries a risk of mismatch between the expectations of the donors and those of CRP management.

Mitigating measure: The PMU has been in regular contact with donors to clarify expectations and keep them informed of progress in the flagships of interest.

PIM faced the following institutional risk in 2017:

- **Knowledge of budget execution on the part of participating centers:** As noted in prior years, CRP management does not have access to real-time data on burn rates and deliverables. Budget tightening at several participating centers has increased the risk that funds allocated by PIM may be re-assigned for purposes other than those approved in the PIM Program Participant Agreements.

Mitigating measure: PIM management works closely with IFPRI's Finance unit to monitor the use of the IFPRI funds, and interacts with the other participating centers to obtain estimates of spending at several points during the year.

3.3 Financial Summary

The 2017 Financing Plan W1-2 amount for PIM was USD 18.3 million. PIM management retained unspent funds from 2016 in the amount of USD 1.2 million to cover multi-year commitments, resulting in a total planned budget of USD 19.5 million. The actual amount

received was USD 17 million. Research teams were initially instructed to program 80% of the allocation, and then to accelerate spending toward the end of the year based on updated information from donors. Financial records show W1-2 expenditure of USD 16.6 million, i.e. 91% of the realized Financing Plan amount. Planned Window 3 and bilateral expenditures reflected firm or likely commitments at the time of the POWB. Actuals are USD 15 million higher than planned, indicating active resource mobilization efforts. Management of the PIM budget has been consistently conservative, and all financial commitments to participating partners have been met. See [Table J](#) for information about budgets and expenditures by flagship.

TABLES

Table A: Evidence on Progress towards SLOs

Table A-1: Evidence on Progress towards SLOs (Sphere of Interest)

SLO Target (2022)	Brief summary of new evidence of CGIAR contribution to relevant targets for this CRP	Expected additional contribution before end of 2022 (if not already fully covered)
1.1. 100 million more farm households have adopted improved varieties, breeds, trees, and/or management practices	No new evidence.	Results from testing of new dissemination methods and new approaches to graduation from social protection will be available in 2018.
1.2. 30 million people, of which 50% are women, assisted to exit poverty	Nelson et al. (2015) showed substantial contribution of IFPRI/PIM's social protection research to strengthening social protection programs globally (e.g. WFP) and in several countries, such as Ethiopia and Bangladesh. These programs include large numbers of poor participants (e.g. 8 million in Ethiopia). Other studies have found benefits of social protection programs on food intake and investment in agriculture (e.g. Berhane et al. 2014 for Ethiopia). A new report estimates that Egypt's Takaful and Karama program reduced the poverty rate among households with children by 0.4-0.7 percentage points from a rate of 41.6%. This means that 325,000 to 570,000 individuals were removed from poverty in the first two years of the program (Breisinger et al. 2018).	Ongoing evaluations of social protection programs will provide more evidence of how social protection, alone or associated with complementary interventions, contributes to poverty reduction.
2.1. Improve the rate of yield increase for major food staples from current <1% to 1.2-1.5% per year	No new evidence.	The results of a study on the effects of policy engagement on land and labor productivity in agriculture in selected African and Asian countries will be available in 2018.

SLO Target (2022)	Brief summary of new evidence of CGIAR contribution to relevant targets for this CRP	Expected additional contribution before end of 2022 (if not already fully covered)
2.2. 30 million more people, of which 50% are women, meeting minimum dietary energy requirements	No new evidence.	For Ethiopia evidence will be available in the coming years from the UNICEF Integrated Nutrition and Social Cash Transfer project and the Productive Safety Net Programme (PSNP4).
2.3. 150 million more people, of which 50% are women, without deficiencies in one or more essential micronutrients	A study by Berhane et al. (2017) found that the PSNP program in Ethiopia did not lead to improvements in child nutritional status over the period 2008-2012; therefore, adjustments have been made to the program. Integrating training on nutrition and sanitation with cash or food transfers helped improve knowledge on child nutrition and associated practices in Bangladesh (Hoddinott et al 2018); nutrition training is being incorporated into Bangladesh's Vulnerable Group Development program, which provides transfers to rural women.	A publication on how a World Food Programme school meals program reduced anemia prevalence in Uganda is expected for 2018.
3.1. 5% increase in water and nutrient efficiency in agroecosystems	No new evidence.	
3.2. Reduction in 'agriculturally'-related greenhouse gas emissions by 5%	No new evidence.	
3.3. 55 M ha degraded land area restored	No new evidence.	PIM plans an assessment of its research on governance of natural resources, including outcomes achieved, for 2018.
3.4. 2.5 M ha forest saved from deforestation	No new evidence.	

References

- Berhane, G., Gilligan, D., Hoddinott, J., Kumar, N. and A. Taffesse. 2014. [Can Social Protection Work in Africa? The Impact of Ethiopia's Productive Safety Net Programme](#). Economic Development and Cultural Change 63, no. 1 (October 2014): 1-26.
- Berhane, G., Hoddinott, J. and N. Kumar. 2017. [The Impact of Ethiopia's Productive Safety Net Programme on the Nutritional Status of Children, 2008-2012](#). IFPRI Discussion Paper 01604, International Food Policy Research Institute, Washington, D.C.
- Breisinger et al. 2018. Impact Evaluation Study for the Takaful & Karama Cash Transfer Program: Quantitative Report. International Food Policy Research Institute, Cairo, Egypt.
- Hoddinott, J., Ahmed, A. and S. Roy. 2018. [Randomized control trials demonstrate that nutrition-sensitive social protection interventions increase the use of multiple-micronutrient powders and iron supplements in rural pre-school Bangladeshi children](#), Public Health Nutrition, 21 (9): 1753-1761.
- Nelson, S., Frankenberger, T., Brown, V., Presnall, C. and J. Downen. 2015. [Ex post Impact Assessment Review of IFPRI's Research Program on Social Protection, 2000-2012](#), Independent Impact Assessment Report 40, International Food Policy Research Institute, Washington, D.C.

Table A-2: List of Outcome Case Studies (Sphere of Influence)

Flagship	Title of outcome case study	Sub-IDO	Links to evidence	Space for additional, very brief details, including on cross-cutting issues
FP1	ASTI data inform policies to improve agricultural research capacity, efficiency, and output delivery in Swaziland.	CC3.1.2	https://marlo.cgiar.org/projects/PI/M/studySummary.do?studyID=2095&cycle=Reporting&year=2017	ASTI data informed a policy that prioritized higher education training for agricultural researchers in Swaziland, and was used in presentations, posters, and meeting communications to advocate for a reform of the national agricultural research system.
FP1	Foresight research informs USAID investments in agricultural research and development.	CC1.1.3	Cannot be shared at the time of finalization of this report.	The foresight research team published a study/report on the use of quantitative foresight modeling to inform the CGIAR Research Portfolio, commissioned and funded by the United States Agency for International Development (USAID). USAID took steps to make sure that the results were shared widely within the Bureau of Food Security, and requested additional analysis from the research team in 2018.
FP2	PIM's research contributes to new investments by Agricultural Mechanization Services Enterprise Centers to meet needs of smallholders in Ghana.	1.3.4	https://marlo.cgiar.org/projects/PI/M/studySummary.do?studyID=2189&cycle=Reporting&year=2017	Based on research findings, tractor spare parts and attachments are now imported into Ghana, and tractor buyers are now trained on the proper use of tractors. This new investment by the Agricultural Mechanization Services Enterprise Centers addresses the difficulties of access to mechanization services previously encountered by smallholders and evidenced by the research findings.
FP2	Policy makers, development agencies, and academics use PIM's research on structural transformation to develop their strategies.	CC3.1.3	https://marlo.cgiar.org/projects/PI/M/studySummary.do?studyID=2193&cycle=Reporting&year=2017	Research on structural transformation has had a significant global influence with policy makers, development agencies and academics. PIM's work has appeared in a DFID Economic Development Strategy, in AGRA's 2017 Africa Agriculture Status Report, in a series of UNECA country profiles, and in the Economist and Monthly Digest of the National Bureau of Economic Research. At the request of DFID, the work was assessed by ODI, and was found to have had significant policy impact.
FP2	PIM's research informs Nepal's federal transition on the devolution of the agricultural sector.	CC3.1.3	https://marlo.cgiar.org/projects/PI/M/studySummary.do?studyID=2191&cycle=Reporting&year=2017	A study requested by Nepal's Ministry of Agricultural Development (MoAD) analyzed devolution concerns in Nepal and experiences elsewhere. Through repeated engagement with high-level policy makers, MoAD adopted some of the study's suggestions on food technology and quality control and on the structure of agricultural training centers. Moreover, MoAD accepted Kenya as a model for devolution and undertook a study tour there.

Flagship	Title of outcome case study	Sub-IDO	Links to evidence	Space for additional, very brief details, including on cross-cutting issues
FP3	PIM's research informs trade negotiations between the European Union and two African Regional Economic Communities.	CC3.1.3	https://marlo.cgiar.org/projects/PI M/studySummary.do?studyID=2199 &cycle=Reporting&year=2017	PIM's modeling capacity was mobilized by the European Commission to provide independent quantifications of the partnership agreements. The research outputs have been at the center of the official impact assessment to inform policy makers. The current policy outcomes are consistent with the results provided.
FP4	The evaluation of Egypt's cash transfers program contributed to the decision to continue the program and influenced approaches to targeting.	CC3.1.4	Cannot be shared at the time of finalization of this report.	The research findings contributed to the policy dialogue about the Takaful and Karama program between the Ministry of Social Solidarity (MOSS), the Ministry of Finance, the President's office, and The World Bank. The Government of Egypt and The World Bank decided to continue to fund the program, and staff from the MOSS indicated that the study's findings would be used to improve targeting.
FP4	PIM's research contributes to more inclusive and integrated insurance and safety net programs in Ethiopia.	1.1.1	https://marlo.cgiar.org/projects/PI M/studySummary.do?studyID=2198 &cycle=Reporting&year=2017	Research conducted under the Ethiopia Strategy Support Program found that many Productive Safety Net Program (PSNP) beneficiaries were not enrolled in the Community Based Health Insurance (CBHI), and that beneficiaries that were enrolled in the CBHI did not receive a premium waiver. The Ethiopian Government and development agencies used these findings to move toward the development of more inclusive and integrated programs around the PSNP and CBHI.
FP5	The Monitoring and Evaluation for Land in Africa (MELA) framework is applied in 12 African Countries.	1.4.5	https://marlo.cgiar.org/projects/PI M/studySummary.do?studyID=2015 &cycle=Reporting&year=2017	PIM worked with the African Land Policy Centre to develop a Monitoring and Evaluation framework for assessing progress on land governance in Africa, which allows tracking of progress on commitments made under the AU Declaration on Land Governance in Africa, including commitments to land rights for women and pastoralists. The MELA framework is being piloted by 12 countries.
FP5	The Collaborating for Resilience approach is used by International Land Coalition's National Engagement Strategies in 5 countries to build effective coalitions of civil society and government agencies for pro-poor land governance.	CC4.1.4	https://marlo.cgiar.org/projects/PI M/studySummary.do?studyID=2203 &cycle=Reporting&year=2017	The Collaborating for Resilience approach provides a structured framework for understanding stakeholder interactions and organizing for social and institutional change. International Land Coalition is applying this framework to increase the effectiveness of their National Engagement Strategies, which are coalitions of civil society and government agencies for pro-poor land governance.

Flagship	Title of outcome case study	Sub-IDO	Links to evidence	Space for additional, very brief details, including on cross-cutting issues
FP5	The Joint Village Land Use Planning methodology secures tenure for pastoralists in Tanzania.	3.2.1	https://marlo.cgiar.org/projects/PI/M/studySummary.do?studyID=2033&cycle=Reporting&year=2017	The Sustainable Rangelands Management Project developed a joint village land use planning methodology to secure resources across village boundaries and group Certificates of Customary Right of Occupancy – an institutional innovation to provide pastoralists with secure and documented land rights. This led to certification of 12,187 ha of shared grazing area, benefitting over 3,000 pastoralists.
FP6	The Women's Empowerment in Agriculture Index is used by the Africa Union's Comprehensive Africa Agriculture Development Programme monitoring framework.	CC2.1.1	https://marlo.cgiar.org/projects/PI/M/studySummary.do?studyID=2008&cycle=Reporting&year=2017	The African Union's Malabo/CAADP biennial reporting framework and guidelines recommended the use of the WEAI. Indicator 4.4, "Proportion of rural women that are empowered in agriculture", was calculated using the WEAI's five domains of empowerment (5DE) method.

Table B: Status of Planned Milestones

Flagship 1: Technological Innovation and Sustainable Intensification

Mapped and contributing to Sub-IDO	2022 CRP outcome (from proposal)	2017 milestone	2017 milestone status	Provide evidence for completed milestones or explanation for extended or cancelled
CC1.1.3 Improved forecasting of impacts of climate change and targeted technology development	Foresight models and results are used by 12 regional and national research organizations or government agencies in Africa, Asia and Latin America and global development organizations as inputs to their priority-setting (includes capacity development)	Updated foresight modeling data, tools and analyses are used by CRPs and CGIAR centers	Complete	Improved and updated IMPACT model code, data and analyses were shared with CGIAR centers as part of the Global Futures network. The reported deliverables based on <i>ex ante</i> analysis in 2017 show that a growing community of practitioners can interpret and utilize the outputs in combination with complementary analysis.
CC3.1.3 Conducive agricultural policy environment	Studies on policies, regulations, and investment in support of agricultural science, technology, and innovation are used by key government entities in 3 countries of collaboration (includes capacity development)	Advancement of biosafety regulatory frameworks at national level	Complete	Work in 2017 directly contributed to Uganda passing a biosafety bill at the beginning of 2018.
CC4.1.1 Enhanced institutional capacity of partner research organizations				
CC3.1.2 Increased capacity of partner organizations as evidenced by rates of investment in agricultural research	Budget allocations for agricultural research exceed projections of the 2012-2016 trend in 5 CGIAR countries of collaboration (includes capacity development)	Data and analyses of agricultural R&D are used in strategies and programming decisions in national agricultural research organizations	Complete	Disseminating evidence on the impact of investments in agricultural R&D on agricultural development led to changes in the organizational aspects of agricultural research systems in Ethiopia, Kenya, and Swaziland, among other countries (Lowder, 2018).
CC3.1.3 Conducive agricultural policy environment				

Mapped and contributing to Sub-IDO	2022 CRP outcome (from proposal)	2017 milestone	2017 milestone status	Provide evidence for completed milestones or explanation for extended or cancelled
1.4.2 Closed yield gaps	In 3 countries of collaboration, adoption of selected promising technologies and management practices is 20% above counterfactual without supportive technology dissemination innovations and policies (includes capacity development)	Implementation partners use research results on innovative dissemination methods for agricultural technology	Complete	Innovative extension models have been designed, promoted, and evaluated in several countries. The scale of operations and partnerships varies across countries, but generally falls between the piloting and scale-up levels. In Cambodia, IFPRI is testing direct phone calls with messaging. In Ethiopia, IFPRI is evaluating a video-based extension approach. In Ghana, IFPRI is evaluating a training-of-trainers approach to strengthening extension services. In Uganda, ICRAF is working with a volunteer farmer-trainer approach, and IFPRI is testing a video-based extension approach complemented by an interactive voice response service.
1.4.4 Increased conservation and use of genetic resources				
CC2.1.2 Technologies that reduce women's labor and energy expenditure developed and disseminated				

Flagship 2: Economywide Factors Affecting Agricultural Growth and Rural Transformation

Mapped and contributing to Sub-IDO	2022 CRP outcome (from proposal)	2017 milestone	2017 milestone status	Provide evidence for completed milestones or explanation for extended or cancelled
CC3.1.3 Conducive agricultural policy environment	Governments in at least 3 countries use tools and evidence on the economy-wide factors affecting rural transformation to develop policies that are better targeted towards raising agricultural growth and rural incomes (includes capacity development)	Evidence on the constraints and opportunities for raising agricultural growth and rural incomes considered by governments via policy fora in 2 countries	Complete	<p>In September 2017, evidence on the impact of Ghana's agricultural devolution reforms on agricultural service delivery was shared with the Ministry of Food and Agriculture, other government actors, donors, and civil society at the second annual policy dialogues hosted by IFPRI's Ghana Strategy Support Program. The presentations drew on survey data collected from 80 District Directors of Agriculture and 960 households, and the findings were summarized in a brief. The aim was to show how the lack of expenditure autonomy for local governments undermines incentives to invest in agricultural services versus more visible goods and services, such as schools and health clinics.</p> <p>Discussion paper Policy note</p> <p>In January 2017, another presentation was made for government and donor stakeholders on the impacts of Nepal's transition from a unitary to a federal country and how restructuring of the Ministry of Agricultural Development would affect the delivery of agricultural extension services. The findings were based on a survey of 100 district agricultural and livestock officers and 1,100 rural households, as well as comparative cases from other developing countries. In the recommendations for reorganization, attention was given to five objectives: clear authority for specific agricultural functions that constitutionally belong to local governments, sufficient subnational autonomy, direct lines of accountability, performance incentives for staff, and coordination across different tiers of government.</p> <p>Discussion paper Policy note</p>

Mapped and contributing to Sub-IDO	2022 CRP outcome (from proposal)	2017 milestone	2017 milestone status	Provide evidence for completed milestones or explanation for extended or cancelled
CC4.1.1 Enhanced institutional capacity of partner research organizations	Governments in at least 3 countries use tools and evidence on the economy-wide factors affecting rural transformation to develop policies that are better targeted towards raising agricultural growth and rural incomes (includes capacity development)	Government policy analysis units in 2 countries receive training on data and tools to evaluate the economywide factors affecting agricultural and rural policies	Extended	<p>Training on constructing and using social accounting matrices for policy analysis was provided to staff from Egypt's Central Agency for Public Mobilisation and Statistics (CAPMAS); this was delayed until January 2018.</p> <p>Training on economywide modeling of agricultural and rural policies was provided to researchers and government analysts in Ethiopia; this was delayed until April 2018.</p> <p>Training was provided to policy analysts at IFAD and FAO on how to use PIM data and tools to inform agricultural investment projects and national agricultural investment plans, respectively (IFAD: May 9-17, 2017; FAO: July 11-12, 2017).</p>
CC3.1.3 Conducive agricultural policy environment	Governments in at least 3 countries use empirical evidence and quantitative methods to modify their allocation of public resource towards better targeted investments favoring inclusive agricultural growth and rural transformation (includes capacity development)	Evidence on the ways that alternative (agricultural and non-agricultural) public expenditures and public services contribute to agricultural development and rural welfare considered by governments and civil society via policy fora in 1 country	Complete	<p>Two presentations were made in 2017 on the factors that influence effective public investments for agricultural development in Nigeria. One was to government policy makers and civil society organisations in Abuja, and a second at Nigeria's leading socioeconomic research institute, NISER (Nigerian Institute for Social and Economic Research) in Ibadan. NISER created a summary report based on the study, and presented it to their policy maker counterparts at the Ministry of Budget and Planning. This report was used by the ministry to develop a brief that was presented to the Budget and Planning Minister (email communication confirming this is available upon request).</p> <p>Presentation (1) Presentation (2) Blog post Working paper (1) Working paper (2)</p> <p>In five late-transforming countries (Ethiopia, Ghana, Kenya, Malawi, Myanmar), the impact of policy reforms and investment priorities on inclusive agricultural transformation was examined. Opportunities in different value chains were</p>

				<p>assessed based on their potential contributions to growth and employment in agricultural food systems, and to reducing poverty and improving diets in rural areas. Findings from Ethiopia and Myanmar were published via discussion papers and disseminated via IFPRI and IFAD channels. In Malawi, the study was presented to the Director of Planning within the Ministry of Agriculture, and to his broader team responsible for developing the National Agricultural Investment Plan (NAIP) (workshop organized by New Alliance Policy Acceleration Support, February 9, 2017). The study's findings appear in the final NAIP document (not published yet, but final draft available). In Ghana, the findings were presented at a national research and policy forum (ISSER's State of the Ghanaian Economy, October 11, 2017). In Kenya, the findings were supplied to the Alliance for a Green Revolution in Africa (AGRA), who is using the results in the NAIP which is being prepared on behalf of the Ministry of Agriculture. Presentation to the Ministry of Agriculture, Malawi</p>
--	--	--	--	---

Flagship 3: Efficient and Inclusive Value chains

Mapped and contributing to Sub-IDO	2022 CRP outcome (from proposal)	2017 milestone	2017 milestone status	Provide evidence for completed milestones or explanation for extended or cancelled
CC3.1.3 Conducive agricultural policy environment	Evidence is used to support changes in trade policy and/or regulations with global and regional implications in 3 instances (includes capacity development)	Evidence is used to support changes in trade policy and/or regulations with global and regional implications in 1 instance	Complete	PIM tools have been used by policy makers to inform the negotiation process and contribute to final decision making related to two Economic Partnership Agreements, one between the EU and SADC and the other between the EU and West Africa. Discussion paper Journal article EU report (EU-SADC) EU report (EU-West Africa)
1.4.1 Reduced pre- and post-harvest losses	Research and development organizations use PIM tools to address postharvest losses in 10 countries, including 5 CGIAR countries of collaboration (includes capacity development)	Postharvest losses by source are quantified, leading to prioritization of actions in priority value chains in CGIAR countries of collaboration	Complete	During the first phase of PIM a methodology to estimate food losses of selected crops (beans, maize, potatoes, teff, and wheat) in developing countries was developed based on data collected in China, Ecuador, Ethiopia, Guatemala, Honduras, and Peru. Food losses are measured across different nodes of the chains (i.e., farmers, middlemen, and processors). In addition to quantitative losses, the methodology allows to determine the economic value of losses from crop quality deterioration. Discussion paper Webinar Based on these results, alternative interventions to reduce the extent of food losses are being tested during the second phase of PIM. The interventions tested include institutional (i.e., effect of market-based contractual agreements among bean farmers in Guatemala and Honduras), technological (i.e., triple sealed hermetic storage bags among maize farmers in Ethiopia), and extension-based (i.e., agricultural practices based on rules of thumb among potato farmers in Ecuador) innovations.

Mapped and contributing to Sub-IDO	2022 CRP outcome (from proposal)	2017 milestone	2017 milestone status	Provide evidence for completed milestones or explanation for extended or cancelled
1.2.2 Reduced market barriers	Research and development organizations use PIM tools for value chain analysis and development in 20 instances in 6 CGIAR countries of collaboration (includes capacity development)	The main distortions in international and national markets and priority interventions for major 5 value chains in CGIAR countries of collaboration are identified	Complete	The results on distortions and inefficiencies across and within three value chains (rapeseed, groundnut, and ethanol-molasses-sugar-sugarcane biofuel chains) in India and two value chains in East Africa (livestock in Ethiopia and groundnut in Tanzania) have started to be disseminated to a wide audience. The next step is designing interventions to correct these through policy dialogues.

Flagship 4: Social Protection for Agriculture and Resilience

Mapped and contributing to Sub-IDO	2022 CRP outcome (from proposal)	2017 milestone	2017 milestone status	Provide evidence for completed milestones or explanation for extended or cancelled
CC3.1.4 Conducive environment for managing shocks and vulnerability	National social protection programs and policies are modified based on evidence in 4 countries, (includes capacity development)	Evidence is used in policy discussions of national social protection programs and policies in 2 countries	Complete	<p>Mali: Findings from IFPRI's midline study on the impact of Mali's Jigisemejiri cash transfer program were presented to the Mali government, The World Bank, and other high-level national stakeholders, and contributed to discussions on extending the program (financing for its next round) and modifying its design features (including changing the frequency of transfers).</p> <p>Egypt: Senior officials in the Ministry of Social Solidarity indicated that the recommendations from the impact evaluation of the Takaful and Karama program on eligibility criteria and promoting women's empowerment would be taken up. These statements were made to IFPRI staff in a meeting; no documentation is available.</p>
1.1.1 Increased capacity of households to cope with shocks	New insurance products are being used by smallholder farmers in 3 countries, including 2 CGIAR countries of collaboration (includes capacity development)	New insurance products are tested at scale with implementation partners in 1 CGIAR country of collaboration	Complete	<p>India: Low-cost insurance products that assess crop damage using pictures taken by farmers through inexpensive smartphone cameras are being developed and tested by an IFPRI-led consortium of partners.</p>

Mapped and contributing to Sub-IDO	2022 CRP outcome (from proposal)	2017 milestone	2017 milestone status	Provide evidence for completed milestones or explanation for extended or cancelled
1.5.2 Increased access to diverse nutrient rich foods	Improved social protection innovations provide food and nutrition benefits to poor households in 3 countries (includes capacity development)	New social protection implementation mechanisms are tested in 2 countries	Complete	<p>Mali: The Jigisemejiri program's cash transfers and accompanying measures led to significant improvements in household food security (38% increase in the proportion of households classified as food secure), significant reductions in hunger (7 percentage-point decrease in the proportion of households classified as having moderate hunger), and significant improvements in household dietary diversity (7% increase in the Dietary Diversity Index and 6% increase in the Food Consumption Score, including a 23% increase in the consumption of fruits).</p> <p>Mali: Cash transfers targeted primarily to men reduce intimate partner violence against women in polygamous marriages, through reducing poverty-related stress, anxiety, and disputes within the household. Webinar</p> <p>Egypt: the Takaful and Karama program increased household consumption of beneficiaries by 7.3 percentage points, making it easier for them to insure against shocks. The program also increased consumption of animal source foods.</p>

Flagship 5: Governance of Natural Resources

Mapped and contributing to Sub-IDO	2022 CRP outcome (from proposal)	2017 milestone	2017 milestone status	Provide evidence for completed milestones or explanation for extended or cancelled
CC4.1.2 Enhanced individual capacity in partner research organizations	Evidence informs natural resource governance and tenure policy processes/implementation in 12 countries (includes capacity development)	The toolbox of methods for tenure research is used by researchers	Complete	Use of games for strengthening management of collective resources by NGOs. Collaborating organizations use methods to assess women's land rights in pastoral systems.
CC3.1.3 Conducive agricultural policy environment	Evidence informs natural resource governance and tenure policy processes/implementation in 12 countries (includes capacity development)	An M&E system to track progress towards tenure security policy reforms is operationalized in 3 African countries	Complete	Through partnership with the African Land Policy Centre, a framework for the Monitoring and Evaluation of Land in Africa project has been accepted by 12 countries and implemented in Madagascar , Malawi, and Tanzania.
1.4.5 Increased access to productive assets including natural resources	Tenure security is improved for beneficiaries in 6 countries, with detailed documentation for 2 (includes capacity development)	In collaboration with policy makers, innovative tenure security-enhancing innovations are tested across relevant contexts in 2 countries	Complete	<p>The joint land use planning and certification process developed by ILRI is used by the Government of Tanzania to secure tenure for pastoralists in Tanzania. Journal article (1) Journal article (2)</p> <p>Procedures for granting collective titles to forests in Peru will be streamlined. Journal article</p> <p>New forest regulations in Nepal will reduce barriers to investment in forest-based enterprises. ForestNews article</p>
3.2.1 More productive and equitable management of natural resources	Improved landscape-level governance arrangements are implemented in 6 countries, with more productive and equitable management in at least 2 (includes capacity development)	Opportunities for landscape governance work across CRPs are agreed upon and initiated	Extended	A workshop on land restoration with FTA and WLE is planned for August 2018.

Flagship 6: Cross-cutting Gender Research and Coordination

Mapped and contributing to Sub-IDO	2022 CRP outcome (from proposal)	2017 milestone	2017 milestone status	Provide evidence for completed milestones or explanation for extended or cancelled
CC4.1.2 Enhanced individual capacity in partner research organizations	National researchers use improved gender research methods in 5 countries (includes capacity development)	PIM gender research methods and guidelines are used by CGIAR researchers and partner research organizations in 3 countries	Complete	<p>PIM researchers piloted the Abbreviated Women's Empowerment in Agriculture Index (A-WEAI) in Bangladesh and Uganda.</p> <p>Principal investigators of the Collaborative Platform for Gender Research's grants on gender dynamics in seed systems convened at the platform's workshop in December 2017 to explore common ground between gender work in Ethiopia, India, Kenya, Tanzania, and Uganda and initiate a CGIAR framework for gender research.</p>
CC2.1.1 Gender equitable control of productive assets and resources	Gender dimensions of policies are strengthened in 4 countries (includes capacity development)	Gender equity enhancing recommendations from case studies are synthesized and discussed with policy makers in 2 countries	Complete	<p>A PIM team initiated a policy dialogue on how to achieve increased women's empowerment at a workshop that included 30 Egyptian policy makers and other government officials. Recommendations were formulated to improve women's working conditions through the four existing decent work pillars: Employment Creation and Enterprise Development, Social Protection, Standards and Rights at Work, and Governance and Social Dialogue.</p> <p>BBC news article ICARDA-FAO press release</p> <p>Several policy makers involved in the provision of foreign aid (including Melle Leenstra (Dutch Ministry of Foreign Affairs) and Ria Ketting (European Commission)) participated in the Gender Platform's annual scientific conference and capacity development workshop in December 2017.</p> <p>A brown bag seminar on the WEAI was hosted by the US Agency for International Development (USAID) Bureau of Food Security in Washington, DC. The seminar was attended by 27 participants, including Farzana Ramzan, M&E Specialist, and Krista Jacobs, Gender Advisor, both from the Bureau for Food Security at USAID.</p>

Mapped and contributing to Sub-IDO	2022 CRP outcome (from proposal)	2017 milestone	2017 milestone status	Provide evidence for completed milestones or explanation for extended or cancelled
CC2.1.1 Gender equitable control of productive assets and resources	Women's empowerment in agriculture increases in 3 CGIAR countries (includes capacity development)	Research on effective interventions for empowering women in agriculture is used by 2 implementation partners	Complete	<p>In 2017, PIM researchers worked with two implementation partners in rural Uganda and convinced them to participate in the same randomized control trial.</p> <p>The first partner, Kakira Sugar Company, is a private sector sugar processing company that partnered with PIM to pilot a program that encourages the registration of sugar contracts in women's names to increase women's participation in the sugarcane value chain. Through qualitative work, PIM researchers identified a series of cumbersome procedures that were creating barriers for women to contribute to sugarcane production. In response, Kakira Sugar Company altered many of their practices, which led to an increase in the number and share of their women clients.</p> <p>The second partner is Tropical Bank, a private sector bank that partnered with PIM to provide bank accounts for contracted sugarcane producers – a requirement of some sugarcane processing companies including Kakira Sugar Company. Through qualitative work, PIM researchers identified a series of barriers that made it difficult for women to open their own accounts. In response, Tropical Bank adjusted their account-opening policies to facilitate account openings by women, which led to an increase in the number and share of their women clients.</p>

Table C: Cross-cutting Aspect of Outputs*

Cross-cutting	Number (%) scored 2 (principal)	Number (%) scored 1 (significant)	Number (%) scored 0 (not targeted)	Total number of outputs
Gender	32 (8%)	81 (19%)	304 (73%)	417
Youth	8 (2%)	26 (6%)	383 (92%)	
Capacity development	40 (10%)	61 (15%)	316 (75%)	

*Scoring according to the OECD Development Assistance Committee (DAC) methodology

Table D: Common Results Reporting Indicators

Note on the correspondence between outcomes (Table A-2), innovations (Indicator C1 in [Table D-1](#), and [Table D-2](#)), and policy influence (Indicator I3 in Table D-1, and [Annex 1](#)).

Following the guidelines given to CRPs for their annual reports, all policies, strategies, and investments at stage 2 (enacted/implemented) counted as part of indicator I3 have a corresponding outcome case study template filled in and uploaded into MARLO. In addition, most strategies, policies, and investments at stage 1 (research taken up) counted as part of indicator I3 also have outcome templates uploaded into MARLO. See [Annex 1](#) for details about these policies, strategies and investments.

While we have also endeavored to follow the instruction that innovations in stage 4 (use) reported in Table D-2 should have an outcome case study, this has not been done in a systematic way. For some innovations, evidence of the use is not yet available; outcome cases for these innovations will be included in future PIM reports when this evidence has been collected.

Finally, while most of the outcomes reported in Table A-2 can be connected to innovations in Table D-2, there are some outcomes which are not associated with a 2017 innovation, since there is not a one-to-one correspondence between policy outcomes and innovations.

Table D-1: Key CRP Results, in Numbers

Sphere	Indicators	Data	Comments
Influence	I1/I2. Projected uptake/hectares from current CRP investments		This indicator will be introduced as of the 2018 reporting.
	I3. Number of policies /investments (etc) modified in 2017, informed by CGIAR research	13 national policies or investments 11 international, regional, or donor organization strategies 5 strategies of NGOs and private sector companies 4 major investments by NARS and private sector companies	For descriptions, please see Annex 1 .
Control	C1. Number of innovations by phase - new in 2017	8 innovations at proof of concept stage (stage 1) 13 innovations piloted successfully (stage 2) 25 innovations available for uptake (includes policy recommendations) (stage 3) 10 taken up by next users (includes policy changes), see Table D-2 for descriptions (stage 4)	Due to the broad spectrum of what can be considered as an innovation, the information on innovations at stages 1 and 2 is not comprehensive.
	C2. Number of formal partnerships in 2017, by purpose (ongoing + new)	125 research partnerships, 18 policy partnerships, and 97 delivery partnerships – of which 11 partnerships are with private sector companies	Partnerships data are from MARLO, and not strictly limited to partners with signed agreements since we expect the majority of PIM's implementation partners to bring their own resources. In the case of PIM, the distinction between policy and other types of partnerships is often blurred; for example, of the 47 government agencies that PIM researchers collaborate with, most are reported by researchers as being delivery partners, while policy engagement often occurs with these partners as well. See Table G for a list of key partnerships.
	C3. Participants in CGIAR activities 2017	44,335 “end-users” (48% women) in on-farm trials, farmer field days and similar activities	Most of the individuals counted here are survey respondents. The percentage of women is based on the cases when gender-disaggregated information was available (about 75%).
	C4. People trained in 2017	Long-term (new + ongoing): 9 (44% women) Short-term: 5,740 (40% women)	Long term includes 3 each from the STAARS initiative, Wageningen University and Research, and Georgetown University, all fully supported by W1-2 funding. Figures for short-term trainings do not include the thousands of farmers who have been trained as part of randomized controlled trials and other evaluations.
	C5. Number of peer-reviewed publications	121, of which 41 (34%) are open access	
	C6. Altmetrics	1,836	See note below.

Note on indicator C6 (Altmetrics):

Altmetrics scores were collected by the IFPRI Knowledge Management team for 106 publications out of the 121 peer-reviewed articles produced by PIM in 2017. Scores are as of June 29, 2018. Selected highlights are presented below.

[Aspirations and the Role of Social Protection: Evidence from a Natural Disaster in Rural Pakistan](#) (*World Development*), reached [368](#) on Altmetrics and was picked up by [40 news outlets](#) including The Washington Post and multiple stations of National Public Radio (NPR). The attention to the study was triggered by Harvey, the first major hurricane of the extremely active 2017 Atlantic hurricane season that hit the Caribbean and Texas. Evidence from Pakistan, discussed in the news with the study authors, supports the main idea that “hurricanes and floods don't just wash away crops and livestock and businesses” but also take away the “sense that you can plan for the future”. It also shows that government social protection programs (such as cash transfers) can significantly blunt negative impacts on people’s aspirations.

[Linking regional stakeholder scenarios and shared socioeconomic pathways: Quantified West African food and climate futures in a global context](#) published in *Global Environmental Change* reached the total score of [126](#) and was cited in 13 news stories from 12 outlets.

The study [Women in agriculture: Four myths](#) attracted [attention](#) from Twitter users (94 tweets from 86 users). The actual reach of this study is wider, since the paper was promoted via a [PIM webinar in April 2018](#) (190 views of the recording on YouTube, 241 podcast downloads, 618 views of the presentation on SlideShare) – information not captured by Altmetrics.

The top-scoring paper for [incorporation into policy documents](#) is [Mechanization outsourcing clusters and division of labor in Chinese agriculture](#) (*China Economic Review*), cited by FAO in their flagship report [The State of Food and Agriculture 2017](#) (in 6 languages).

Among books, the top score ([95](#)) was registered for [“The 1.5 Billion People Question: Food, Vouchers, or Cash Transfers?”](#), published by the World Bank. Note that the reach as captured by Altmetrics is underestimated, as it does not include the [blog](#), the book [launch event](#), and all supportive tweets and Facebook posts by IFPRI (in which the wrong non-DOI link was used).

Table D-2: List of CRP Innovations

Title of innovation	Stage	Contribution of CRP (sole, lead, contributor)	Geographic scope: for innovations in stages 3 or 4 only
Flagship 1: Technological Innovation and Sustainable Intensification			
WorldFish-ANU fish sector model: New fish sector model (a modified version of the AsiaFish model) at national and sub-national level, aimed at reducing the data input requirements to suit the African context	1 – Proof of concept	Lead	Global and regional (ASEAN and Africa)
Data Africa (http://dataafrica.io): Award-winning open agriculture, climate, poverty, and health data visualization engine	4 – Use	Contributor	Regional (13 countries in SSA) Sub-national (Admin Level-1)
bECON for Africa: Database of the economics literature on the impact of Genetically Modified Crops in Africa	2 – Pilot	Lead	Africa
DREAMpy Dynamic Research Evaluation for Management: Computer program for the economic assessment of technologies and returns to R&D investments. This is an updated version (in Python) of the DREAM tool developed by IFPRI.	2 – Pilot	Sole	Global
REEAP – Rapid Economic Assessment Platform: Tools and methods for evaluation of the economic impact of agricultural biotechnologies	2 – Pilot	Lead	Multinational; case studies in Ethiopia, Ghana, Nigeria, Tanzania, and Uganda
Women in African Agricultural Research Data Portal	3 – Available for Uptake	Lead	Africa
Volunteer Farmer Trainers (VFTs): Innovations on incentives and training to strengthen the performance of VFTs	4 – Use	Lead	Kenya, Rwanda, Uganda
Video-based agricultural extension: Integration of videos to create awareness among farmers as part of an extension approach	2 – Pilot	Lead	Ethiopia
Video mediated and phone messaging extension approach	1 – Proof of concept	Lead	Uganda
Flagship 2: Economywide Factors Affecting Agricultural Growth and Rural Transformation			
Statistics on Public Expenditures for Economic Development (SPEED): Data on public expenditures in 147 countries from 1980 to 2012 in ten sectors	4 – Use	Sole	Global
Updated Social Accounting Matrices for Policy Analysis in six countries	3 – Available for uptake	Sole	National: Ethiopia, Kenya, Malawi, Mozambique, Tanzania and Uganda

Title of innovation	Stage	Contribution of CRP (sole, lead, contributor)	Geographic scope: for innovations in stages 3 or 4 only
Public spending quantification template	3 – Available for uptake	Sole	National: Malawi
Index to measure aspirations of the rural poor	3 – Available for uptake	Sole	Global
Measurement tool for evaluating civil servant performance along dimensions that matter for outcomes	2 – Pilot	Sole	Global
Two measurement methods for quantifying the public service orientation of public servants	2 – Pilot	Sole	Global
The Kaleidoscope Model (KM) of Food Security Policy Change: Applied framework to analyze the drivers of change in the food security arena and to identify barriers to policy reform and implementation	3 – Available for uptake	Lead	Global
Rural Investment and Policy Analysis (RIAPA) model: Economywide model that evaluates alternative policy and investment options based on their impacts on economic growth, job creation, poverty reduction, and dietary change	3 – Available for uptake	Lead	Multi-National: Egypt, Ethiopia, Ghana, Kenya, Malawi, Myanmar, Tanzania
Method for assessing the effectiveness of public extension systems	3 – Available for uptake	Sole	Malawi
South-South knowledge sharing on agricultural mechanization: This network brings together national and international researchers, policy makers, donors and implementers to exchange experiences and promote cross-country learning on agricultural mechanization	4 – Use	Sole	Africa and Asia
Flagship 3: Efficient and Inclusive Value chains			
Methodological toolbox for evaluation of the level of trade integration within Africa	3 – Available for uptake	Sole	Africa
Improved methodology to aggregate trade distortion measures across commodities within countries	3 – Available for uptake	Sole	Global
Agricultural Incentives Database for Measuring the Policy Environment for Agriculture	3 – Available for Uptake	Contributor	Global
Hand-Held Decision Support Tool for Late Blight Integrated Management (HH-DST) to reduce food losses in the potato value chain in Ecuador	2 – Pilot	Sole	Latin America and the Caribbean
Methodology to measure distortions to agricultural incentives along a value chain	2 – Pilot	Sole	Global
Methodology for assessing physical and economic loss in the value chain	3 – Available for uptake	Lead	Global
Check off system for milk producers to finance inputs	2 – Pilot	Contributor	Kenya

Title of innovation	Stage	Contribution of CRP (sole, lead, contributor)	Geographic scope: for innovations in stages 3 or 4 only
Flagship 4: Social Protection for Agriculture and Resilience			
Innovative strategies to improve resilience for the poor in fragile and low-income settings	1 – Proof of concept	Lead	Global
Approaches to screen and treat maternal depression through group therapy to improve newborn child outcomes in Ethiopia	1 – Proof of concept	Lead	Global
New lessons on design of social protection programming to reduce intimate partner violence	2 - Pilot	Lead	Global
Smartphone technology to introduce affordable high-quality crop insurance	2 – Pilot	Lead	Global
Business models to combine agro-advisory services and insurance	1 – Proof of concept	Lead	Global
Measuring farmer preferences on risk and ambiguity using direct elicitation and behavioral games in a large sample to explore effects on agricultural technology adoption	2 – Pilot	Lead	Global
Risk contingent credit insurance in which the loan amount is insured by an additional loan premium	1 – Proof of Concept	Lead	Kenya
Flagship 5: Governance of Natural Resources			
Collaborating for Resilience: Approach to multistakeholder platforms to address the roots of environmental resource conflict and build capacity to adapt to changing environments and increase social and economic equity	4 – Use	Contributor	Global; national (Albania, Cameroon, India, Malawi, Nepal, Nicaragua, Tanzania) Plans to scale up to 22 countries
Woreda (district) participatory land use planning approach to secure pastoralists' rights to rangelands	3 – Available for uptake	Contributor	National (Ethiopia)
Joint Village Land Use Planning Tool to secure rights for pastoralists, farmers, and other land users	4 – Use	Contributor	National (Tanzania)
Monitoring and Evaluation of Land in Africa (MELA) framework: This framework contains a set of indicators for countries to track their progress towards meeting the objectives of the African Heads of State declaration on land issues.	4 – Use	Lead (with African Land Policy Centre)	Regional (Sub-Saharan Africa); national (Cote d'Ivoire, DRC, Ethiopia, Kenya, Madagascar, Malawi, Nigeria, Rwanda, Tanzania, Uganda, Zambia)
Collective action games for communities to strengthen resource governance	4 – Use	Lead	Global; national (India)

Title of innovation	Stage	Contribution of CRP (sole, lead, contributor)	Geographic scope: for innovations in stages 3 or 4 only
Cross-border biodiversity protocols: integrated landscape management approach and creation of a cross-border multistakeholder platform to improve the governance of the Tana-Kipini-Badana bushland and seascapes of Kenya and Somalia	2 – Pilot	Lead	Multinational, transboundary region (Kenya, Somalia)
Options for rangelands management reform	3 – Available for uptake	Contributor	National (Tunisia)
Realist synthesis methodology, applied to 31 case studies on governance of community fisheries	3 – Available for uptake	Sole	Global
Options for integrating assessments of forest tenure security into the planning and design of forest landscape restoration initiatives	4 – Use	Lead	Global; national (to be applied by GIZ in Ethiopia and Madagascar)
Flagship 6: Cross-cutting Gender Research and Coordination			
Methodology to analyze the extent of agreement or disagreement between spouses about who make decisions	3 – Available for uptake	Sole	Global
Contract innovations to increase participation of women producers in value chains	1 – Proof of concept	Sole	Uganda
Conceptual framework to analyze the relationships between women's land rights and poverty reduction	3 – Available for uptake	Sole	Global
Dispelling of gender myths on land ownership, agricultural production, farm labor, and environmental stewardship	3 – Available for uptake	Sole	Global
Best practices for collecting individual-level data on the ownership and control of assets in household and farm survey	3 – Available for uptake	Sole	Global
Methodology for measuring time use in development settings	3 – Available for uptake	Sole	Global
Abbreviated WEAI (A-WEAI)	4 – Use	Sole	Global
Vignettes for measuring typologies in household decision making	3 – Available for uptake	Sole	Global

Table E: Intellectual Assets

As explained in [Section 1.3.6](#), this table is not relevant for PIM.

Year reported	Applicant(s) / owner(s) (Center or partner)	Patent or PVP Title	Additional information	Link or PDF of published application/ registration	Public communication relevant to the application/registration

Table F: Main Areas of W1-2 Expenditure

Expenditure area	Estimated percentage of total W1-2 funding in 2017*	Comments
Planned research: principal or sole funding source	59%	Primary activities of Flagships 1-5. Gender work embedded in these flagships is included here, <u>and</u> counted under the Gender area below. Flagship 6 is excluded for assignment to the Gender area below. Work undertaken through co-investment with other CRPs is excluded, and assigned to the Partnership area below.
Planned research: Leveraging W3/bilateral funding	8%	This category supports client-responsive country and regional engagement. Main expenses are covered by W3-bilateral; complementary W1-2 funding supports the production of public goods and additional surveys as well as cross-country comparisons.
Catalyzing new research areas	3%	New program on fragility developed jointly with World Vision International; new work on certification within value chains; new work on regulatory issues associated with innovative agricultural technologies.
Gender	27%	Estimated from Table C using the OECD's Development Assistance Committee (DAC) methodology; corresponds to outputs scored 1 and 2 for gender.
Youth	8%	Estimated from Table C using the DAC methodology; corresponds to outputs scored 1 and 2 for youth.
Capacity development	25%	Estimated from Table C using the DAC methodology; corresponds to outputs scored 1 and 2 for capacity development.
Start-up or maintenance of partnerships (internal or external)	16%	Contracts with Michigan State University, Wageningen University and Research, and KIT; co-funding of W3 project on value chains with Catholic University of Leuven; co-investment with other CRPs on foresight modeling.
Monitoring, evaluation, learning and self-evaluation	3%	Contribution to the improvements and maintenance of MARLO by CIAT; study on IFPRI country programs' policy successes; quantitative assessment of IFPRI country programs; analyses of outcomes from the use of ASTI and SPEED outputs; analysis of selected PIM 2016 gender deliverables; workshop on lessons learned from the value chain hubs; portion of salary of PIM's Senior Research Fellow.
TOTAL FUNDING (AMOUNT)	16,606,245	

*Totals sum to greater than 100% due to application of the DAC methodology to gender, youth, and capacity development.

Table G: List of Key External Partnerships

Partners involved in the same activity's partnership are grouped, for example as 1a, 1b, and 1c.

#	Phase of research	Name of partner	Partner type	Main area of partnership
Flagship 1: Technological Innovation and Sustainable Intensification				
1	Phase 1 - Discovery/Proof of concept	Oxford University	Academic and research	Foresight modeling: Expertise on nutrition and health modeling links in the IMPACT model.
2	Phase 1 - Discovery/Proof of concept Phase 2 - Piloting Phase 3 - Scaling up/out	APAARI	Development organization	ASTI: Leading capacity strengthening and data collection on agricultural R&D indicators in Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Papua New Guinea, Philippines, Thailand, Timor Leste, and Vietnam.
3a	Phase 2 - Piloting	Cambodia Development Research Institute	Academic and research	Evaluation of IFAD ASPIRE program in Cambodia: research and field support.
3b	Phase 2 - Piloting	Ministry of Agriculture, Forestry, and Fisheries (Cambodia)	Government	Evaluation of IFAD ASPIRE program in Cambodia: Developed extension messages and direct called farmers with those messages; taking up the results.
3c	Phase 2 - Piloting	Viamo Mobile	Private sector	Evaluation of IFAD ASPIRE program in Cambodia. Developed extension messages and direct called farmers with those messages; project support.
4a	Phase 2 - Piloting	Paris School of Economics	Academic and research	Randomized controlled trial on voluntary farmer trainers in Uganda: leading quantitative data collection.
4b	Phase 2 - Piloting	Makerere University, Uganda	Academic and research	Randomized controlled trial on voluntary farmer trainers in Uganda: leading qualitative data collection.
4c	Phase 2 - Piloting	Heifer International	Development organization	Randomized controlled trial on voluntary farmer trainers in Uganda: leading the East African Dairy Development Project.
4d	Phase 2 - Piloting	Namwendwa, Buvende, Kagulu and Balawoli Dairy Cooperative Societies	Community based organization	Randomized controlled trial on voluntary farmer trainers in Uganda: supervising volunteer farmer trainers.
5a	Phase 2 - Piloting Phase 3 - Scaling up and scaling out	Digital Green	Development organization	Evaluation of video-based extension in Ethiopia: provider of video-based extension and partner in the evaluation.
5b	Phase 3 - Scaling up/out	Ethiopian Ministry of Agriculture and Natural Resources	Government	Evaluation of video-based extension in Ethiopia: scaling up the method and partner in the evaluation.

#	Phase of research	Name of partner	Partner type	Main area of partnership
Flagship 2: Economywide Factors Affecting Agricultural Growth and Rural Transformation				
1	Phase 2 - Piloting	Food and Agriculture Organization	Multilateral	FAO's MAFAP is a partner in a series of policy-oriented research studies, and FAO's Special Program on Youth Employment in Africa team collaborates with PIM on the forthcoming book "Youth and Jobs in Rural Africa".
2	Phase 3 - Scaling up/out	Michigan State University	Academic and research	Co-leader of Flagship 2; key research partner; co-responsible for many outputs on land dynamics and political economy.
3	Phase 3 - Scaling up/out	International Fund for Agricultural Development	Multilateral	Development and use of the Rural Investment and Policy Analysis (RIAPA) tool.
4a	Phase 3 - Scaling up/out	Agricultural Engineering Services Directorate, Ministry of Food and Agriculture, Ghana	Government	Facilitates policy dialogues and dissemination of research findings on mechanization in Ghana. Staff from the ministry served as panelist at the South-South knowledge sharing event on agricultural mechanization.
4b	Phase 3 - Scaling up/out	Engineering and Mechanization Division, Federal Ministry of Agriculture and Rural Development, Nigeria	Government	Facilitates policy dialogues and dissemination of research findings on mechanization in Nigeria. Staff from the ministry served as panelist at the South-South knowledge sharing event on agricultural mechanization.
5a	Phase 2 - Piloting	Economic and Social Research Foundation, Tanzania	Development organization	International Growth Center (IGC) project in Tanzania: Co-PI.
5b	Phase 2 - Piloting	Small Industries Development Organization Tanzania	Development organization	IGC project in Tanzania: Implementation partner (providing support on the survey design and sampling for the MSME survey).
5c	Phase 2 - Piloting	National Microfinance Bank, Tanzania	Foundations and financial institutions	IGC project in Tanzania: Implementation partner (implementing the proposed loan product).
Flagship 3: Efficient and Inclusive Value chains				
1a	Phase 2 - Piloting	Food and Agriculture Organization	Development organization	Each international organization involved in the Ag-incentives Consortium provides data and contributes to developing a joint methodology to produce key distortion indicators, disseminated through the Consortium's website.

#	Phase of research	Name of partner	Partner type	Main area of partnership
1b	Phase 2 - Piloting	Inter-American Development Bank	Development organization	Each international organization involved in the Ag-incentives Consortium provides data and contributes to developing a joint methodology to produce key distortion indicators, disseminated through the Consortium's website.
1c	Phase 2 - Piloting	OECD	Development organization	Each international organization involved in the Ag-incentives Consortium provides data and contributes to developing a joint methodology to produce key distortion indicators, disseminated through the Consortium's website.
1d	Phase 2 - Piloting	The World Bank	Development organization	Each international organization involved in the Ag-incentives Consortium provides data and contributes to developing a joint methodology to produce key distortion indicators, disseminated through the Consortium's website.
2	Phase 2 - Piloting	Comité permanent inter-Etats de lutte contre la sécheresse dans le Sahel (CILSS)	Development organization	Collects data on formal and informal trade in West Africa. IFPRI-PIM partners with CILSS on data analysis and research, and assist with extending official government use of CILSS data.
3	Phase 3 - Scaling up/out	Swisscontact	Development organization	User of the LINK methodology, especially to incorporate enhanced attention to women's empowerment in operations.
4	Phase 1 - Discovery/Proof of concept	Wageningen University and Research	Academic and research	Co-leader of Flagship 3 and implementer of three studies on innovations to strengthen value chains.
5	Phase 3 - Scaling up/out	Groupe de Recherche d'Echanges Technologiques (GRET), Federation de ONG de Senegal (FONGS), National Smallholder Farmer Association of Malawi (NASFAM)	Development organizations	Partnership on scaling the Brazilian Fomento model and effects of cash transfers on crop production in Malawi and Senegal. GRET helped to design the extension materials, while FONGS and NASFAM were local implementing partners who managed the extension interventions.
Flagship 4: Social Protection for Agriculture and Resilience				
1	Phase 1 - Discovery/Proof of concept	Institute of Development Studies	Academic and research	Research partner on mixed methods evaluations of the PSNP4 and UNICEF Integrated Nutrition and Social Cash Transfer projects in Ethiopia. For each project, IDS led the qualitative assessment and IFPRI led the quantitative component of the impact evaluation.

#	Phase of research	Name of partner	Partner type	Main area of partnership
2	Phase 1 - Discovery/Proof of concept	Cornell University	Academic and research	IFPRI maintains an active academic partnership with Cornell University on research related to the Transfer Modality Research Initiative (TMRI) in Bangladesh. Researchers from both organizations co-authored several papers in 2017, and will continue to jointly develop new research in coming years.
3	Phase 1 - Discovery/Proof of concept	Government of Mali	Government	The Government of Mali has designed its national cash transfer program in collaboration with IFPRI, drawing on IFPRI's guidance for the location and timing of the various program components' roll-out.
4	Phase 1 - Discovery/Proof of concept	Government of Egypt	Government	IFPRI is conducting an impact evaluation of Egypt's Takaful and Karama cash transfer program. The Government of Egypt will use the findings to improve the scaling up of the program.
5a	Phase 2 - Piloting	HDFC ERGO General Insurance, Ltd.	Private sector	IFPRI is developing, testing, and evaluating picture-based insurance products together with HDFC. HDFC advises on product development and offers insurance policies as part of the pilot.
5b	Phase 2 - Piloting	CABI	Development organization	Collaboration to test for potential business model integration of two smart phone applications, on insurance (IFPRI-led) and advisory services (CABI-led).
Flagship 5: Governance of Natural Resources				
1	Phase 3 - Scaling up/out	International Land Coalition	Development organization	Scales up the use of Collaborating for Resilience approaches through 22 National Engagement Strategies.
2	Phase 2 - Piloting	International Fund for Agricultural Development	Multilateral	Joint projects with ILRI on rangeland tenure in Tanzania and Ethiopia. Research in 6 countries on forest rights devolution under the Global Comparative Study on Tenure. Collaboration on Tunisian rangelands.
3	Phase 3 - Scaling up/out	African Land Policy Centre	Multilateral	Uses PIM's tenure research to develop a framework for the Monitoring and Evaluation of Land in Africa (MELA) project.
4	Phase 2 - Piloting	Foundation for Ecological Security	Development organization	Pilots collective action games as an intervention to strengthen collective governance of surface water, groundwater, and forests (with ICRISAT and IFPRI). Applies principles of Collaborating for Resilience (with WorldFish). Applies Netmapping tools to polycentric governance of the commons.

#	Phase of research	Name of partner	Partner type	Main area of partnership
5	Phase 1 - Discovery/Proof of concept	National Council for Protected Areas, Guatemala	Government	Provision of science-based evidence (Bioversity/CIFOR) for government deliberation on renewal of community concession contracts.
Flagship 6: Cross-cutting Gender Research and Coordination				
1	Phase 2 - Piloting	The World Bank	Multilateral	Research collaborator on various activities, e.g. on developing methods for collecting time allocation data.
2a	Phase 2 - Piloting	Kakira Sugar Company	Private sector	Main implementing partner for the Farm and Family Balance project. One of the goals of this project is to increase female involvement among Kakira Sugar Company's outgrowers.
2b	Phase 2 - Piloting	Tropical Bank	Private sector	Tropical Bank is providing the required bank accounts for the women outgrowers involved in the Farm and Family Balance project.
3	Phase 3 - Scaling up/out	KIT	Academic and research	Serves as coordinator for the CGIAR Collaborative Platform for Gender Research.
4	Phase 3 - Scaling up/out	Pennsylvania State University	Academic and research	Leader of the Post-Doc Fellow capacity development activities under the Gender Platform.

Table H: Status of CGIAR Collaborations (Other CRPs and Platforms)

Name of CRP or Platform	Brief description of collaboration (give and take among CRPs) and value added	Flagship
CCAFS	Funding from CCAFS under the Global-Futures and Foresight Program has complemented efforts from PIM to enhance the IMPACT suite of models towards improved analysis of climate-change impacts, in combination with more targeted policy-engagement	1
FISH, FTA, GLDC, Livestock, MAIZE, RICE, RTB, WHEAT	Collaboration/co-investment for production of foresight research outputs.	1
Gender Platform, RTB, FTA	Collaboration on seed systems for vegetatively propagated crops. PIM leads studies on policy and regulatory issues. RTB leads studies on successful models for seed systems. FTA leads a study on the potential for improving input supply for fodder trees in milk value chains in Kenya. PIM also participates in one of the studies on gender dynamics in seed systems coordinated by the Gender Platform.	1
MAIZE, WHEAT	Research on policy and regulatory implications of new technology prospects in maize and wheat is a co-investment of PIM, MAIZE, and WHEAT.	1
MAIZE	PIM and MAIZE have joined forces to conduct cross-country research on the impact of public investments in agricultural research and other areas on agricultural performance in the maize sector. Both CRPs have committed staff time to this work. Each team brings to bear their unique expertise and comparative advantage, PIM on the impacts of public investments in agriculture, and MAIZE on the maize sector.	FP2
CCAFS, FTA, Livestock, RTB	PIM researchers coordinate the work on value chains tools; CCAFS, FTA, Livestock, and RTB co-invest in tool improvement (e.g., enriching gender dimensions). A joint initiative between PIM and FTA on developing and field testing a methodology for gender-responsive value chain development (5-Capitals-G) gained traction. Data were collected in several countries (Guatemala, India, Mali, Peru), and Bioversity International and ICRAF co-organized a session on the methodology at Tropentag (Bonn, September, 2017). FTA brought expertise for case studies focused on forests and forest products. PIM will incorporate the methodology on the Tools4valuechains website. Co-funding enables the validation of the methodology in a larger number of case studies. RTB and PIM collaborated on 6 case studies from Uganda: the study analyzed the design and implementation of inclusive value chains, considering bottlenecks, gaps, and challenges faced in facilitating the process with smallholders; in addition, a gender-sensitive M&E tool for the Participatory Market Chain Approach was developed.	FP3
Livestock	PIM researchers working on the East and Southern Africa value chains hub partnered with Livestock to evaluate the effectiveness of ICT tools for farmers in Uganda.	FP3
CCAFS, FTA	PIM collaborates with CCAFS and FTA for the work on certification of the cocoa and coffee value chains in Central America.	FP3
MAIZE, RTB	PIM's work on postharvest losses is done in collaboration with MAIZE and RTB.	FP3

Name of CRP or Platform	Brief description of collaboration (give and take among CRPs) and value added	Flagship
RTB	The PIM team worked closely with researchers from RTB based at CIP to explore the potential for a study on social protection and agriculture among potato growing households in the Andes. These discussions culminated in December 2017 in a design workshop involving government officials.	FP4
CCAFS	The Learning Platform on index insurance is a joint initiative from CCAFS and PIM.	FP4
Big Data Platform	PIM and the Big Data Platform co-invest in smart phone picture-based insurance development.	FP4
WLE	PIM's Flagship 5 and WLE collaborate on governance of water resources. The use of collective action games by IFPRI and ICRISAT to improve collective water management was piloted under WLE, and has been expanded under PIM to cover other types of resources (e.g. forest management) and create an online resource center . In addition to expanding the reach of games as an intervention, PIM is examining ways of measuring the social learning effect of games.	FP5
All	The Gender Platform works with the gender teams in all CRPs. Quarterly and <i>ad hoc</i> meetings are held with the Gender Research Coordinators for each CRP and gender representatives from each center. At the platform's first annual scientific conference and capacity development workshop, over 45 CGIAR gender scientists presented their research on gender and agricultural/natural resource management. The CGIAR gender community also worked to strengthen conceptual and thematic connections across the system.	FP6
Big Data Platform	The Gender Platform was represented at the Big Data Platform's conference and is a member of the gender working group under the Big Data Platform.	FP6
GLDC, Livestock, PIM, RICE, RTB	The Gender Platform is working closely with the five recipient teams of the 2017-2019 grants on gender dynamics in seed systems .	FP6
CCAFS	CCAFS and PIM co-invest for implementing the study entitled "A Mixed-Methods Approach to Unpacking Joint Decisions about Agricultural Production in Nicaragua and Colombia."	FP6
A4NH, CCAFS, GLDC	PIM's Flagship 6 team held a meeting to share research results and to explore further linkages with A4NH, CCAFS and GLDC.	FP6

Table I: Monitoring, Evaluation, Impact Assessment and Learning

Table I-1: Status of Evaluations, Impact Assessments and Learning Exercises

Studies/learning exercises in 2017 (from POWB)	Status	Comments
Launch of the MARLO MIS	Completed	Throughout 2017 as in 2016, the PIM Program Management Unit actively participated in the MARLO group. MARLO has been in use since the PIM 2017 planning cycle. Feedback is collected from users, and lessons learned are shared with the MARLO group for improvement of the tool.
Evaluation of IFPRI country programs	To be completed in 2018	A three-component study assesses the outcomes and impacts of the IFPRI country programs. The first component examines the extent to which research influenced policy outcomes, while the second component focuses on country case studies, with interviews of key stakeholders. The third component measures quantitatively the impact of the country programs over the period 1981-2014. As of June 2018, the results of the first two components have been combined into a draft paper, while the results of the third component were presented at the PIM/SPIA conference in Nairobi in July 2017 and included in a paper accepted for publication in an IFPRI impact assessment series.
Assessment of uses of Agricultural Science and Technology Indicators (ASTI) outputs	Draft completed	An external consultant was hired to follow up with users of the ASTI outputs to determine the extent to which they have influenced decision making. The report is being finalized in June 2018.
Assessment of uses of Statistics on Public Expenditure for Economic Development (SPEED) outputs	Draft completed	An external consultant was hired to follow up with users of the SPEED outputs to determine the extent to which they have influenced decision making. The report is being finalized in July 2018.
Session on outcomes at the 2017 PIM management team meeting	Completed	A half day was devoted to presentations on outcomes from each of the flagships and feedback from participants, including the Independent Steering Committee members. In addition, a representative from DFID served as a guest speaker and provided inputs on DFID's expectations about outcomes and the extent to which the PIM outcome notes match DFID's interests.
Sessions at the PIM/SPIA conference on assessing the impacts of agricultural research in Nairobi, July 2017	Completed	PIM provided support to many scientists to participate in the conference and learn new impact assessment methods. In addition, PIM convened a day-long capacity and knowledge exchange session which included a presentation on the CGIAR performance management system and a networking session on scaling up methods that the CRPs are using or testing.

Table I-2: Actions Taken in Response to Relevant Evaluations

Name of the evaluation	Recommendation	Management response and status
2016 Science Policy Advisory Panel (SPAP) meeting	The Panel noted a need for tightening of focus and greater selectivity, and that PIM should work across multiple countries and commodities and improve the justification/motivation of location choices.	Similar lines of work have been grouped into broader and more coherent projects. Multi-country work has been enhanced (e.g. seed systems in Flagship 1). Choices of locations are only partly at discretion of management, and often reflect requests from partners and/or donors.
2016 Science Policy Advisory Panel (SPAP) meeting	PIM management should reflect on how to use inputs of the future ISC, and whether the role should include review of methods or quality assessment of outputs.	The role of the new ISC was discussed at the November 2017 meeting of the PIM management team and ISC. The ISC requested advance access to key research products so that the discussion during the meetings can be more substantive. Selective review of methods and quality is feasible and welcome; comprehensive review of research outputs would require a level of engagement much higher than is feasible for the ISC members, and would duplicate quality assurance procedures of the centers.
2016 Science Policy Advisory Panel (SPAP) meeting	PIM should leverage IFPRI country offices and other Centers' research stations in target countries.	IFPRI's country programs were fully integrated into PIM's Flagship 2 in 2017. A session was held at the November 2017 management team meeting on linkages between PIM and the country programs using the example of Ethiopia.
2016 Science Policy Advisory Panel (SPAP) meeting	PIM should preserve the "long-term view" despite constraints of short-run funding.	PIM continues to invest in both short-term and long-term research. Among the long-term research outputs are tools such as models for foresight and global trade, the ASTI and SPEED databases, and the country SAMs. Where funding of long-term research outputs is at risk (e.g., foresight modeling and ASTI), PIM management works with the teams to explore different models of operation to maintain a sufficient level of investment.
2016 Science Policy Advisory Panel (SPAP) meeting	Criteria need to be set to measure quality of science and research. The IFPRI quality assurance framework should be used as a basis for discussion.	Quality assurance procedures are the responsibility of centers. The role of CRPs is to assure that such procedures are in place and functional in the participating centers. Where quality of delivery of a participating center appears questionable, the PIM Director approaches the center's DDG Research to discuss options for improvement. CGIAR-wide indicators to measure quality of research have not yet been released.
2016 Science Policy Advisory Panel (SPAP) meeting	A review by IRBs for approval of research involving human subjects is required at IFPRI but not necessarily at all the other centers. We think it should be.	PIM has adopted a policy on ethical review by Institutional Review Boards.

Name of the evaluation	Recommendation	Management response and status
2016 Science Policy Advisory Panel (SPAP) meeting	With respect to thematic issues, inequality in income distribution could be brought out more explicitly throughout the program.	As of the 2017 reporting, a section on inequality (“Leaving no-one behind”) has been added to the CRP annual reporting template. In this section PIM has reported several studies with a focus on marginalized groups (in social protection research, Flagship 4) and pastoralists (on land tenure research, Flagship 5). PIM does not have a significant body of work on income distribution. The CGIAR Strategy and Results Framework directs work toward poverty reduction. Whether and how to address income inequality may become a topic for discussion in the design of the next CRP portfolio.
2016 Science Policy Advisory Panel (SPAP) meeting	More attention [should be given] to capacity strengthening through work with young scientists at institutions in the global South.	PIM continues to work with young scientists in the global South, and many PIM publications are jointly authored with them. PIM supports young scientists in graduate programs at Wageningen University and Research and Catholic University of Leuven, and through collaboration with the STAARS program (Cornell University) that brings early career scientists from Africa for a period of residency and research collaboration.
PIM Evaluation (Independent Evaluation Arrangement, 2015)	PIM should put in place an Independent Steering Committee.	The new ISC was constituted in the third quarter of 2017.
PIM Evaluation (Independent Evaluation Arrangement, 2015)	The PIM Management Unit should put in place a consolidated, programmatic perspective of PIM activities to improve program management.	The structure of the program was improved starting in 2015-2016, and the new structure built around a limited number of projects per flagship was formalized in MARLO in 2017.
PIM Evaluation (Independent Evaluation Arrangement, 2015)	PIM should continue to accommodate both upstream, discovery-type research and downstream, delivery-type research in a complementary fashion.	PIM continues to support both types of research, and has elevated the attention to outcomes for each of these.
PIM Evaluation (Independent Evaluation Arrangement, 2015)	PIM should support a vibrant and innovative research program on the interface between science and policy.	Work on the political economy of the policy process was expanded in 2017 (Flagship 2).

Name of the evaluation	Recommendation	Management response and status
PIM Evaluation (Independent Evaluation Arrangement, 2015)	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.	In 2017 PIM organized a successful Social Science Conference in collaboration with SPIA and a successful scientific conference on gender through the CGIAR Collaborative Platform for Gender Research. Several flagship/research teams held meetings focused on methods. The PIM's ISC membership displays a diversity of scholarly disciplines (anthropologist and specialist in natural resource management in addition to economists).
PIM Evaluation (Independent Evaluation Arrangement, 2015)	PIM and its flagships should adopt a more strategic approach to collaborating with other CRPs.	Collaboration with other CRPs has deepened since this recommendation was put forward. Collaboration is a topic of the annual meeting of Science Leaders, and an item for annual reporting (see Table H).
PIM Evaluation (Independent Evaluation Arrangement, 2015)	PIM should formulate an explicit capacity strengthening strategy to be implemented in conjunction with its Lead Center, IFPRI.	PIM continues to build capacity in three areas: training of researchers; engagement with developing-country implementation partners to strengthen their capacities; and production of methods, tools, and datasets (see Section 1.3.4).
PIM Evaluation (Independent Evaluation Arrangement, 2015)	The leaders of the three major modeling teams in IFPRI should explore possible synergies in their work and broaden their communities of practice.	In 2017 the level of interactions increased between the teams working on partial equilibrium modeling (IMPACT model), global computable general equilibrium modeling of trade, and country-level computable general equilibrium and SAMs for country-level analysis to explore consistency and complementarity of results.
PIM Evaluation (Independent Evaluation Arrangement, 2015)	PIM should strongly support the new regional hubs on value chains that are being pilot-tested during the extension phase.	A period of several years of piloting showed that the hubs struggled to fulfill their originally intended mandate of outreach to implementation partners. After internal review and discussion with the hubs' partners, it was agreed that the concept should be rethought. The PIM value chains team will seek stronger linkages with implementation partners through strengthened collaboration with other CRPs. This revised approach of outreach on value chains methods and applications is under implementation in 2018.
PIM Evaluation (Independent Evaluation Arrangement, 2015)	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 stands ready to assist CRPs and centers on trade issues. At this point, no request for assistance has been received and no evidence of unmet needs has been reported.

Name of the evaluation	Recommendation	Management response and status
PIM Evaluation (Independent Evaluation Arrangement, 2015)	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.	Gender work in Flagship 4 (social protection) has historically been strong, and remains so. Flagship 1 includes work on gender and extension and on gender and seed systems. Inclusion of gender in the foresight modeling effort has also been considered; the next step is development of a set of scenarios in which gender issues come to the fore.
PIM Evaluation (Independent Evaluation Arrangement, 2015)	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.	Such a system has been in place since 2016. For 2017 deliverables have been scored 0 (not targeted), 1 (significant) or 2 (principal) for gender at the planning stage, and this information is recorded in the POWB. Following completion of the reporting cycle, PIM's gender team undertakes an annual <i>ex post</i> review to validate the consistency of the scores between planning and reporting and share lessons learned with the broad PIM team. The 2016 review (completed in 2017) found that overall the quality of PIM's gender deliverables is high. The review surfaced issues related to the consistency of tagging and lack of easy access to some deliverables, which are being addressed.

Table J: CRP Financial Report

	Planned budget 2017*			Actual expenditure 2017**			Difference (Planned – Actual)		
	W1-2	W3/bilateral	Total	W1-2	W3/bilateral	Total	W1-2	W3/bilateral	Total
FP1: Technological Innovation and Sustainable Intensification	4,287	8,287	12,574	4,721	13,794	18,515	-434	-5,507	-5,941
FP2: Economywide Factors Affecting Agricultural Growth and Rural Transformation	3,060	10,066	13,126	2,440	21,479	23,919	620	-11,412	-10,792
FP3: Inclusive and Efficient Value Chains	3,510	4,085	7,595	2,860	5,324	8,185	650	-1,239	-590
FP4: Social Protection for Agriculture and Resilience	1,611	4,318	5,930	1,431	3,256	4,687	180	1,063	1,243
FP5: Governance of Natural Resources	2,330	3,620	5,950	1,972	2,085	4,057	358	1,534	1,893
FP6: Cross-cutting Gender Research and Coordination	1,100	1,368	2,468	985	920	1,905	115	448	563
Strategic Competitive Research grant	-	-	-	-	-	-	-	-	-
CRP Management & Support Cost	3,563	-	3,563	2,197	-	2,197	1,366	-	1,366
CRP Total	19,461	31,744	51,206	16,606	46,857	63,464	2,855	-15,113	-12,258

*Source: PIM Plan of Work and Budget 2017. Planned Window 3 and bilateral expenditures reflected firm or likely commitments at the time of the POWB. Actuals exceeded planned due to active resource mobilization.

**Source: PIM annual financial report submitted to the SMO on May 25, 2018.

Annex 1: List of Policies and Investments Informed by PIM's Research in 2017

This table contains a description of the policies, strategies, and investments that were informed by PIM's research in 2017 and that were counted under indicator I3 ([Table D-1](#)).

FP	Description	Sub-IDO	MARLO Link, if available	Organization type	Type	Location	Stage	Gender Focus	Youth Focus
FP1	ASTI data contributed to justify the need for the merger of several institutions to form the Kenya Agriculture and Livestock Research Organization (KALRO), for improved capacity and performance.	CC3.1.2	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2096&projectId=660&edit=true&phaseID=12	NARS	Investment	Kenya	1 (research taken up)	0	0
FP1	ASTI data contributed to a policy that prioritized higher education training for agricultural researchers in Swaziland, and was used in presentations, posters, and meeting communications to advocate for a reform of the national agricultural research system.	CC3.1.2	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2095&projectId=660&edit=true&phaseID=12	NARS	Investment	Swaziland	1 (research taken up)	0	0
FP2	AGRA used the results of PIM's research on agricultural transformation to inform its strategy.	CC3.1.3	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2193&projectId=666&edit=true&phaseID=12	Development organization	Strategy	Sub-Saharan Africa	1 (research taken up)	0	0
FP2	IFAD used the Rural Investment and Policy Analysis (RIAPA) model to help inform investment priorities.	1.3.2	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2193&projectId=666&edit=true&phaseID=12	IFI	Investment	Egypt, Ethiopia, Ghana, Kenya, Malawi, Myanmar, Tanzania	1 (research taken up)	0	0
FP2	SPEED data was used to inform World Bank loans and government investments in Burkina Faso, Malawi, Mali, Nigeria, Togo, and Zambia.	CC3.1.3	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2192&projectId=669&edit=true&phaseID=12	IFI, Governments (6 cases)	Investment	Burkina Faso, Malawi, Mali, Nigeria, Togo, Zambia	1 (research taken up)	0	0

FP	Description	Sub-IDO	MARLO Link, if available	Organization type	Type	Location	Stage	Gender Focus	Youth Focus
FP2	Investment by Brazil and Ghana in the new phase of Agricultural Mechanization Services Enterprise Centers in Ghana were based on recommendations from PIM's research on mechanization.	1.3.4	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2189&projectId=665&edit=true&phaseID=12	Government	Investment	Brazil, Ghana	2 (policy enacted)	0	0
FP2	The Nepal Ministry of Agricultural Development took up suggestions on food technology and quality control and the structure of agricultural training centers.	CC3.1.3	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2192&projectId=669&edit=true&phaseID=12	Government	Policy	Nepal	1 (research taken up)	0	0
FP2	Contributions from the Nigeria Strategy Support Program to the Agricultural Sector Food Security and Nutrition Strategy (2016-2025) were acknowledged by the Federal Ministry of Agriculture and Rural Development.	CC3.1.3	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2190&projectId=578&edit=true&phaseID=12	Government	Policy	Nigeria	1 (research taken up)	0	0
FP2	PIM's research on structural transformation contributed to the 2017 DFID Economic Development Strategy.	CC3.1.3	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2193&projectId=666&edit=true&phaseID=12	Donor	Strategy	Global	1 (research taken up)	0	0
FP3	PIM research was used extensively in an EU report evaluating different effects of alternative agreements to support trade negotiations between the European Union and two African Regional Economic Communities.	CC3.1.3	https://marlo.cgiar.org/projects/PIM/study.do?edit=true&expectedID=2199&phaseID=12&crp=PIM	Government	Strategy	European Union, West Africa, Southern Africa	1 (research taken up)	0	0
FP3	The Ag-incentive consortium (FAO, IFPRI, Inter-American Development Bank, OECD, World Bank) implemented the strategy to harmonize data on agricultural distortions and publish these data.	CC3.1.3	https://marlo.cgiar.org/projects/PIM/study.do?edit=true&expectedID=2201&phaseID=12&crp=PIM	IFI (4 cases)	Strategy	Global	1 (research taken up)	0	0
FP3	PIM's research informed Metkei Cooperative's decision about the frequency of milk payments to dairy farmers.	1.2.2	https://www.ifpri.org/blog/world-milk-day-how-kenyan-dairy-farmers-manage-their-money	Private sector	Strategy	Kenya	1 (research taken up)	1	0

FP	Description	Sub-IDO	MARLO Link, if available	Organization type	Type	Location	Stage	Gender Focus	Youth Focus
FP4	Research on Ethiopia's health insurance and safety net programs informed the decision by the government to closely integrate two programs (PNSP and CBHI).	CC3.1.4	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2198&projectId=688&edit=true&phaseID=12	Government	Policy	Ethiopia	1 (research taken up)	0	0
FP4	Based on PIM's research, BKC WeatherSys augmented their advisory application with a feature allowing farmers to take smartphone pictures to collect additional training data for picture-based advisory/insurance services.	1.1.1	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2173&projectId=689&edit=true&phaseID=12	Private sector	Investment	India	1 (research taken up)	0	1
FP4	HDFC, an Indian insurance company, is investing staff time and resources towards developing and testing picture-based insurance products as part of the partnership with IFPRI.	1.1.1	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2173&projectId=689&edit=true&phaseID=12	Private sector	Investment	India	1 (research taken up)	0	1
FP4	Egypt's Ministry of Social Solidarity (MOSS) used results of the impact evaluation of the Takaful and Karama program to inform changes in the eligibility criteria for the program and the decision to add messages promoting women's empowerment.	2.1.2	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2171&projectId=688&edit=true&phaseID=12	Government	Policy	Egypt	1 (research taken up)	2	0
FP4	Discussions on extending the Mali government's Jigisemejiri cash transfer program and modifying the frequency of cash transfer distribution were informed by IFPRI's impact evaluation.	2.1.2	Midline report and discussions with government not publicly available.	Government	Policy	Mali	1 (research taken up)	1	0
FP5	The African Land Policy Centre approved the Monitoring and Evaluation for Land in Africa (MELA) framework for dissemination in 12 African Countries.	1.4.5	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2015&projectId=663&edit=true&phaseID=12	Multilateral	Strategy	Africa	1 (research taken up)	1	0
FP5	The Collaborating for Resilience approach was used by International Land Coalition's National Engagement Strategy (NES).	3.2.1	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2203&projectId=662&edit=true&phaseID=12	Development organization	Strategy	Global	1 (research taken up)	0	0

FP	Description	Sub-IDO	MARLO Link, if available	Organization type	Type	Location	Stage	Gender Focus	Youth Focus
FP5	Joint Village Land Use Planning methodology was used by the government to increase tenure for pastoralists in Tanzania.	3.2.1	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2033&projectId=663&edit=true&phaseID=12	Government	Policy	Tanzania	2 (policy enacted)	1	1
FP5	GIZ used research results to include tenure into future land restoration programs.	3.2.1	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2036&projectId=663&edit=true&phaseID=12	Donor	Strategy	Ethiopia, Madagascar	1 (research taken up)	0	0
FP6	The African Union's Comprehensive Africa Agriculture Development Programme (CAADP) biennial reporting framework and guidelines in 2017 recommended the use of the WEAI.	CC2.1.1	https://marlo.cgiar.org/projects/PIM/study.do?expectedID=2008&projectId=675&edit=true&phaseID=12	Government	Strategy	Africa	1 (research taken up)	2	0
FP6	Kakira Sugar Limited implemented modified procedures designed to facilitate the registration of outgrower contracts for women.	CC2.1.1	Evidence not publicly available.	Private sector	Strategy	Uganda	1 (research taken up)	2	0
FP6	Tropical Bank implemented modified procedures designed to facilitate the opening of bank accounts by women.	CC2.1.1	Evidence not publicly available.	Private sector	Strategy	Uganda	1 (research taken up)	2	0

Annex 2: PIM 2017 Peer-reviewed Articles, Books/book chapters, and Key Datasets

PIM 2017 Peer-reviewed Articles

#	Full citation	Flagships
1	Abay, Kibrom A.; Berhane, Guush; Taffesse, Alemayehu Seyoum; Abay, Kibrewossen; and Koru, Bethlehem. Estimating input complementarities with unobserved heterogeneity: Evidence from Ethiopia. Journal of Agricultural Economics. First published online on September 21, 2017. https://doi.org/10.1111/1477-9552.12244	FP1, FP2
2	Abay, Kibrom A.; Blalock, Garrick; and Berhane, Guush. 2017. Locus of control and technology adoption in developing country agriculture: Evidence from Ethiopia. Journal of Economic Behavior & Organization 143(November 2017): 98-115. https://doi.org/10.1016/j.jebo.2017.09.012	FP1, FP2
3	Abay, Kibrom A.; Kahsay, Goytom A.; and Berhane, Guush. Social networks and factor markets: Panel data evidence from Ethiopia. The Journal of Development Studies 54(1): 174-190. http://dx.doi.org/10.1080/00220388.2017.1288224	FP2
4	Akerele, D.; Sanusi, Rasaki A.; Fadare, Olusegun; and Ashaolu, O.F. 2017. Factors influencing nutritional adequacy among rural households in Nigeria: How does dietary diversity stand among influencers? Ecology of Food and Nutrition 56 (2): 187-203. https://doi.org/10.1080/03670244.2017.1281127	FP2
5	Ambler, Kate; de Brauw, Alan; and Godlonton, Susan. Measuring postharvest losses at the farm level in Malawi. Australian Journal of Agricultural and Resource Economics 62(1): 139-160. First published online on October 11, 2017. https://doi.org/10.1111/1467-8489.12237	FP3
6	Bachewe, Fantu Nisrane; Berhane, Guush; Minten, Bart; and Taffesse, Alemayehu Seyoum. Agricultural Transformation in Africa? Assessing the Evidence in Ethiopia. World Development. First published online on June 3, 2017: https://doi.org/10.1016/j.worlddev.2017.05.041	FP2
7	Battese, George E.; Nazli, Hina; Smale, Melinda. 2017. Factors influencing the productivity and efficiency of wheat farmers in Punjab, Pakistan. Journal of Agribusiness in Developing and Emerging Economies 7(2): 82-98. https://doi.org/10.1108/JADEE-12-2013-0042	FP2
8	Beintema, Nienke M. 2017. An assessment of the gender gap in African agricultural research capacities. Agri-Gender 2(1): 1-13. https://doi.org/10.19268/JGAFS.212017.1	FP1
9	Benson, Todd. 2017. Agricultural correlates of aggregate nutritional outcomes in Malawi: District-level rank analysis. Outlook on Agriculture 46(4): 279-288. https://doi.org/10.1177/0030727017744940	FP2
10	Bernard, Tanguy; de Janvry, Alain; Mbaye, Samba; and Sadoulet, Elisabeth. 2017. Expected product market reforms and technology adoption by Senegalese onion producers. American Journal of Agricultural Economics 99(4): 1096–1115. https://doi.org/10.1093/ajae/aax033	FP3
11	Billah, Masum; Saha, Kuntal Kumar; Khan, Abdullah Nurus Salam; Chowdhury, Ashfaquul Haq; Garnett, Sarah P.; Arifeen, S. E.; and Menon, Purnima. 2017. Quality of nutrition services in primary health care facilities: Implications for integrating nutrition into the health system in Bangladesh. PLoS One 12(5): e0178121: https://doi.org/10.1371/journal.pone.0178121	FP2

#	Full citation	Flagships
12	Binam, Joachim N.; Place, Frank M.; Djalal, Arinloye A.; and Kalinganire, Antoine. 2017. Effects of local institutions on the adoption of agroforestry innovations: evidence of farmer managed natural regeneration and its implications for rural livelihoods in the Sahel. <i>Agricultural and Food Economics</i> 5(2). https://doi.org/10.1186/s40100-017-0072-2	FP5
13	Birthal, Pratap Singh; Chand, Ramesh; Joshi, Pramod Kumar; Saxena, Raka; Rajkhowa, Pallavi; Khan, Md. Tajuddin; Khan, Arshad; Chaudhary, Khyali R. 2017. Formal versus informal: Efficiency, inclusiveness and financing of dairy value chains in Indian Punjab. <i>Journal of Rural Studies</i> 54(August 2017): 288-303. https://doi.org/10.1016/j.jrurstud.2017.06.009	FP3
14	Blare, Trent; Donovan, Jason; del Pozo, Cesar. Estimates of the willingness to pay for locally grown tree fruits in Cusco, Peru. <i>Renewable Agriculture and Food Systems</i> . First published online on June 21, 2017. https://doi.org/10.1017/S1742170517000333	FP3
15	Bouët, Antoine; Cosnard, Lionel; and Laborde Debucquet, David. 2017. Measuring trade integration in Africa. <i>Journal of Economic Integration</i> 32(4): 937-977. https://doi.org/10.11130/jei.2017.32.4.937	FP3
16	Bouët, Antoine; Laborde Debucquet, David; and Traoré, Fousseini. 2018. The European Union–West Africa Economic Partnership Agreement: Small impact and new questions. <i>The Journal of International Trade & Economic Development</i> 27(1): 25-53. Published online: 20 Jun 2017. http://dx.doi.org/10.1080/09638199.2017.1337803	FP3
17	Brown, Molly E.; Carr, Edward R.; Grace, Kathryn L.; Wiebe, Keith D.; Funk, Christopher C.; Attavanich, Witsanu; Backlund, Peter; Buja, Lawrence. 2017. Do markets and trade help or hurt the global food system adapt to climate change? <i>Food Policy</i> 68 (April 2017): 154–159. http://dx.doi.org/10.1016/j.foodpol.2017.02.004	FP1
18	Callo-Concha, Daniel; Denich, Manfred; Ul Hassan, Muhammad Mehmood; Place, Frank M.; Wardell, D. Andrew. 2017. Lessons for research, capacity development and policy in agroforestry for development. <i>Agroforestry Systems</i> 91(5): 795-798. http://dx.doi.org/10.1007/s10457-017-0085-6	FP1
19	Cipollina, Maria; Laborde Debucquet, David; and Salvatici, Luca. 2017. The tide that does not raise all boats: An assessment of EU preferential trade policies. <i>Review of World Economics</i> 153(1): 199-231. https://doi.org/10.1007/s10290-016-0270-0	FP3
20	de Brauw, Alan. 2017. Does immigration reduce wages? <i>Cato Journal</i> 37(3): 473-480. https://www.cato.org/cato-journal/fall-2017/does-immigration-reduce-wages	FP2
21	de Brauw, Alan; and Giles, John. 2017. Migrant opportunity and the educational attainment of youth in rural China. <i>Journal of Human Resources</i> 52(1): 272-311. https://doi.org/10.3368/jhr.52.1.0813-5900R	FP2
22	de Brauw, Alan; Mueller, Valerie; and Woldehanna, Tassew. Does internal migration improve overall well-being in Ethiopia? <i>Journal of African Economies</i> . First published online on December 5, 2017. https://doi.org/10.1093/jae/ejx026	FP2
23	Diao, Xinshen and McMillan, Margaret S. Toward an understanding of economic growth in Africa: A reinterpretation of the Lewis model. <i>World Development</i> . Available online 26 January 2017. https://doi.org/10.1016/j.worlddev.2016.12.008	FP2
24	Diao, Xinshen; Harttgen, Kenneth; and McMillan, Margaret S. 2017. The changing structure of Africa's economies. <i>The World Bank Economic Review</i> 31(2): 412-433. https://doi.org/10.1093/wber/lhw070	FP2
25	Dongol, Prabin; Thapa, Ganesh; and Kumar, Anjani. 2017. Adoption of milk safety measures and its impact on milk acceptance by buyers in Nepal. <i>Agricultural Economics Research Review</i> 30(1): 93-103. https://doi.org/10.5958/0974-0279.2017.00008.8	FP3

#	Full citation	Flagships
26	Donovan, Jason; Stoian, Dietmar; and Poe, Keith. 2017. Value chain development in Nicaragua: prevailing approaches and tools used for design and implementation. <i>Enterprise Development and Microfinance</i> 28(1-2): 10-27. https://doi.org/10.3362/1755-1986.16-00035	FP3
27	Doss, Cheryl; Meinzen-Dick, Ruth Suseela; Quisumbing, Agnes R.; and Theis, Sophie. 2018. Women in agriculture: Four myths. <i>Global Food Security</i> 16(March 2018): 69-74. Available online 6 November 2017. https://doi.org/10.1016/j.gfs.2017.10.001	FP6
28	Ebata, Ayako; and Hernandez, Manuel A. 2017. Linking smallholder farmers to markets on extensive and intensive margins: Evidence from Nicaragua. <i>Food Policy</i> 73(2017): 34-44. https://doi.org/10.1016/j.foodpol.2017.09.003	FP3
29	EIDidi, Hagar; and Corbera, Esteve. 2017. A moral economy of water: Charity wells in Egypt's Nile delta. <i>Development and Change</i> 48 (1): 121-145. https://doi.org/10.1111/dech.12286	FP2
30	Evans, David K.; Holtemeyer, Brian; and Kosec, Katrina. Cash transfers and health: Evidence from Tanzania. <i>World Bank Economic Review</i> . First published online April 6, 2017. https://doi.org/10.1093/wber/lhx001	FP2, FP4
31	Gelli, Aulo; Aberman, Noora-Lisa; Margolies, Amy; Santacroce, Marco; Baulch, Bob; and Chirwa, Ephraim. 2017. Lean-season food transfers affect children's diets and household food security: Evidence from a quasi-experiment in Malawi. <i>Journal of Nutrition</i> 147(5): 869-878. https://dx.doi.org/10.3945/jn.116.246652	FP2, FP4
32	Getnet, Kindie; Mekuria, Wolde; Langan, Simon; Rivington, Mike; Novo, Paula; and Black, Helaina. 2017. Ecosystem-based interventions and farm household welfare in degraded areas: Comparative evidence from Ethiopia. <i>Agricultural Systems</i> 154 (June 2017): 53–62. http://dx.doi.org/10.1016/j.agsy.2017.03.001	FP2
33	Ghebru, Hosaena; and Lambrecht, Isabel. 2017. Drivers of perceived land tenure (in)security: Empirical evidence from Ghana. <i>Land Use Policy</i> . 66(July 2017): 293-303. https://doi.org/10.1016/j.landusepol.2017.04.042	FP5
34	Gumma, Murali K.; Mohammad, Irshad; Nedumaran, Swamikannu; Whitbread, Anthony; Lagerkvist, Carl J. 2017. Urban Sprawl and Adverse Impacts on Agricultural Land: A Case Study on Hyderabad, India. <i>Remote Sens.</i> 9, no. 11: 1136. https://doi.org/10.3390/rs9111136	FP1
35	Gupta, Sunipa Das; Minten, Bart; Rao, N. Chandrasekhara; and Reardon, Thomas. The rapid diffusion of herbicides in farming in India: Patterns, determinants, and effects on labor productivity. <i>European Journal of Development Research</i> 29(3): 596-613. https://doi.org/10.1057/s41287-017-0091-6	FP2
36	Haggblade, Steven; Minten, Bart; Pray, Carl E.; Reardon, Thomas; and Zilberman, David. 2017. The Herbicide Revolution in Developing Countries: Patterns, Causes, and Implications. <i>European Journal of Development Research</i> 29(3): 533–559. https://doi.org/10.1057/s41287-017-0090-7	FP2
37	Harou, Aurélie P.; Liu, Yanyan; Barrett, Christopher B.; You, Liangzhi. 2017. Variable returns to fertiliser use and the geography of poverty: Experimental and simulation evidence from Malawi. <i>Journal of African Economies</i> : 1-30. https://doi.org/10.1093/jae/ejx002	FP2
38	Hatzenbuehler, Patrick L; Abbott, Philip C.; Abdoulaye, Tahirou. 2017. Evaluation of Nigerian agricultural production data. <i>African Journal of Agricultural and Resource Economics</i> 12 (2): 125-141: https://www.cabdirect.org/cabdirect/abstract/20173231971	FP2

#	Full citation	Flagships
39	Healy, Andrew; Kosec, Katrina; and Mo, Cecilia Hyunjung. 2017. Economic development, mobility, and political discontent: An experimental test of Tocqueville's thesis in Pakistan. <i>American Political Science Review</i> 111(3): 605-621. https://doi.org/10.1017/S000305541700017X	FP2
40	Henriksson, Patrik John Gustav; Tran, Nhung; Mohan, Chadag Vishnumurthy; Chan, Chin Yee; Rodriguez, U.-Primo; Mateos, Lara Dominguez; Utomo, Nur Bambang Priyo; and Hall, Stephen. Indonesian aquaculture futures – Evaluating environmental and socioeconomic potentials and limitations. <i>Journal of Cleaner Production</i> . First published online on June 16, 2017. https://doi.org/10.1016/j.jclepro.2017.06.133	FP1
41	Hernandez, Manuel A.; Rashid, Shahidur; Lemma, Solomon; and Kuma, Tadesse. 2017. Market institutions and price relationships: The case of coffee in the Ethiopian Commodity Exchange. <i>American Journal of Agricultural Economics</i> 99(3): 683-704. https://doi.org/10.1093/ajae/aaw101	FP2, FP3
42	Hirvonen, Kalle and Hoddinott, John F. 2017. Agricultural production and children's diets: evidence from rural Ethiopia. <i>Agricultural Economics</i> 48(4): 469-480. https://doi.org/10.1111/agec.12348	FP2
43	Hirvonen, Kalle; Hoddinott, John F.; Minten, Bart; and Stifel, David. 2017. Children's diets, nutrition knowledge, and access to markets. <i>World Development</i> 95(July 2017): 303-315. http://dx.doi.org/10.1016/j.worlddev.2017.02.031	FP2, FP3
44	Hoddinott, John F.; Ahmed, Akhter; Karachiwalla, Naureen; and Roy, Shalini. 2018. Nutrition behaviour change communication causes sustained effects on IYCN knowledge in two cluster-randomised trials in Bangladesh. <i>Maternal & Child Nutrition</i> 14(1): e12498. First published: 07 August 2017 https://doi.org/10.1111/mcn.12498	FP4
45	Hoddinott, John F.; Ahmed, I.; Ahmed, Akhter; Roy, Shalini; and Roy, Shalini. Behavior change communication activities improve infant and young child nutrition knowledge and practice of neighboring non-participants in a cluster-randomized trial in rural Bangladesh. <i>PLoS ONE</i> 12(6): e0179866. http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0179866	FP4
46	Houssou, Nazaïre; Diao, Xinshen; Asante-Addo, Collins; and Kolavalli, Shashidhara;. 2017. Development of the capital service market in agriculture: The emergence of tractor-hire services in Ghana. <i>The Journal of Developing Areas</i> 55(1): 241-257. Project MUSE. https://doi.org/10.1353/jda.2017.0014	FP2
47	Hu, Chaoran; Zhang, Xiaobo; Reardon, Thomas; and Hernandez, Ricardo. 2017. Value-chain clusters and aquaculture innovation in Bangladesh. <i>Food Policy</i> . https://doi.org/10.1016/j.foodpol.2017.07.009	FP3
48	Hua, Chunlin; Woodward, Richard T.; and You, Liangzhi. 2017. An ex-post evaluation of agricultural extension programs for reducing fertilizer input in Shaanxi, China. <i>Sustainability</i> 9(4): 566. http://dx.doi.org/10.3390/su9040566	FP1
49	Janssens, Wendy; Kramer, Berber N.; and Swart, Lisette. Be patient when measuring hyperbolic discounting: Stationarity, time consistency and time invariance in a field experiment. <i>Journal of Development Economics</i> 126 (May 2017): 77-90. http://dx.doi.org/10.1016/j.jdeveco.2016.12.011	FP4
50	Johnson, Michael E.; and Dorosh, Paul A. 2017. Tariffs, smuggling and economic welfare: A spatial analysis of Nigerian rice policy options. <i>Journal of African Economies</i> 26(4): 516-538. https://doi.org/10.1093/jae/ejx008	FP2
51	Karachiwalla, Naureen and Park, Albert. 2017. Promotion incentives in the public sector: Evidence from Chinese schools. <i>Journal of Public Economics</i> 146 (February 2017): 109–128. https://doi.org/10.1016/j.jpubeco.2016.12.004	FP2, FP4
52	Kassie, Girma T.; Abdulai, Awudu; Greene, William H.; Shiferaw, Bekele; Abate, Tsedeke; Tarekegne, Amsal; and Sutcliffe, Chloe. 2017. Modeling preference and willingness to pay for drought tolerance (DT) in maize in rural Zimbabwe. <i>World Development</i> 94: 465-477. http://dx.doi.org/10.1016/j.worlddev.2017.02.008	FP1

#	Full citation	Flagships
53	Khan, Hassaan F.; Yang, Y. C. Ethan; Ringler, Claudia; Wi, Sungwook; Cheema, Muhammad Jehanzeb Masud; and Basharat, Muhammad. 2017. Guiding groundwater policy in the Indus Basin of Pakistan using a physically based groundwater model. <i>Journal of Water Resources Planning and Management</i> 143(3): 05016014. http://dx.doi.org/10.1061/(ASCE)WR.1943-5452.0000733	FP1, FP2
54	Kieran, Caitlin; Sproule, Kathryn; Quisumbing, Agnes R.; and Doss, Cheryl R. 2017. Gender gaps in landownership across and within households in four Asian countries. <i>Land Economics</i> 93 (2): 342-370. https://doi.org/10.3368/le.93.2.342	FP6
55	Komarek, Adam M.; Drogue, Sophie; Chenoune, Roza; Hawkins, James; Msangi, Siwa; Belhouchette, Hatem; and Flichman, Guillermo. 2017. Agricultural household effects of fertilizer price changes for smallholder farmers in central Malawi. <i>Agricultural Systems</i> 154(June 2017): 168-178. https://doi.org/10.1016/j.agsy.2017.03.016	FP2
56	Komarek, Adam M.; Spoor, Max; Feng, Shuyi; and Shi, Xiaoping. 2017. Income implications of political capital and agricultural land use in western China. <i>China Agricultural Economic Review</i> 9 (1): 93 - 110. http://dx.doi.org/10.1108/CAER-03-2015-0030	FP2
57	Kondylis, Florence; Mueller, Valerie; and Zhu, Siyao Jessica. 2017. Seeing is believing? Evidence from an extension network experiment. <i>Journal of Development Economics</i> 125(March 2017): 1-20. http://dx.doi.org/10.1016/j.jdeveco.2016.10.004	FP1, FP2
58	Kosec, Katrina; Ghebru, Hosaena; Holtemeyer, Brian; Mueller, Valerie; Schmidt, Emily. 2018. The effect of land access on youth employment and migration decisions: Evidence from rural Ethiopia. <i>American Journal of Agricultural Economics</i> 100(3): 931-954. Published online: 28 December 2017. https://doi.org/10.1093/ajae/aax087	FP2
59	Kosec, Katrina; and Mo, Cecilia Hyunjung. 2017. Aspirations and the role of social protection: evidence from a natural disaster in rural Pakistan. <i>World Development</i> 97(September 2017): 49-66. https://doi.org/10.1016/j.worlddev.2017.03.039	FP2, FP4
60	Krause, Marlen S.; Nkonya, Ephraim M.; and Griess, Verena C. 2017. An economic valuation of ecosystem services based on perceptions of rural Ethiopian communities. <i>Ecosystem Services</i> 26 (A): 37-44. https://doi.org/10.1016/j.ecoser.2017.06.002	FP5
61	Kristjanson, Patricia; Bryan, Elizabeth; Bernier, Quinn; Twyman, Jennifer; Meinzen-Dick, Ruth Suseela; Kieran, Caitlin; Ringler, Claudia; Jost, Christine; and Doss, Cheryl. 2017. Addressing gender in agricultural research for development in the face of a changing climate: Where are we and where should we be going? <i>International Journal of Agricultural Sustainability</i> 15(5): 482-500. http://www.tandfonline.com/doi/full/10.1080/14735903.2017.1336411	FP6
62	Kumar, Anjani; Kumar, Praduman; and Joshi, Pramod Kumar. 2017. Food consumption pattern and dietary diversity in Nepal: Implications for nutrition security. <i>Indian Journal of Human Development</i> 10(3): 1-17: http://journals.sagepub.com/doi/full/10.1177/0973703017698899	FP2
63	Kumar, Anjani; Parappurathu, Shinoj; Babu Suresh Chandra; and Joshi, Pramod Kumar. 2017. Can better governance improve food security? An assessment of the public food distribution system in Odisha, India. <i>Food Security</i> 9(6): 1433-1445. https://doi.org/10.1007/s12571-017-0736-5	FP4
64	Kumar, Anjani; Thapa, Ganesh; Roy, Devesh; and Joshi, Pramod Kumar. 2017. Adoption of food safety measures on milk production in Nepal: Impact on smallholders' farm-gate prices and profitability. <i>Food Policy</i> 70: 13-26: http://www.sciencedirect.com/science/article/pii/S0306919216302792	FP3

#	Full citation	Flagships
65	Laborde Debucquet, David; Martin, Will; and van der Mensbrugghe, Dominique. 2017. Measuring the impacts of global trade reform with optimal aggregators of distortions. Review of International Economics 25 (2) pp. 403-425: https://dx.doi.org/10.1111/roie.12271	FP3
66	Le Port, Agnès; Bernard, Tanguy; Hidrobo, Melissa; Birba, Ousmane; Rawat, Rahul; and Ruel, Marie T. 2017. Delivery of iron-fortified yoghurt, through a dairy value chain program, increases hemoglobin concentration among children 24 to 59 months old in northern Senegal: A cluster-randomized control trial. PLoS One 12(2): e0172198. http://dx.doi.org/10.1371/journal.pone.0172198	FP3
67	Li, Lihua; Varua, Maria Estela; Komarek, Adam M.; Shankar, Sriram; and Bellotti, William D. 2017. The interplay of production commercialisation and specialization: An empirical study on Chinese smallholders. China Agricultural Economic Review 9(4): 504-521. https://doi.org/10.1108/CAER-08-2016-0122	FP2
68	Li, Man; Xu, Wenchao; and Rosegrant, Mark W. Irrigation, risk aversion, and water right priority under water supply uncertainty. 2017. Water Resources Research 53(9): 7885-7903. http://dx.doi.org/10.1002/2016WR019779	FP5
69	Li, Tao; Angeles, Olivyn; Marcaida, Manuel; Manalo, Emmali; Manalili, Mervin Pogs; Radanielson, Ando; and Mohanty, Samarendu. 2017. From ORYZA2000 to ORYZA (v3): An improved simulation model for rice in drought and nitrogen-deficient environments. Agricultural and Forest Meteorology 237 (2017): 246-256. http://dx.doi.org/10.1016/j.agrformet.2017.02.025	FP1
70	Lu, Miao; Wu, Wenbin; You, Liangzhi; Chen, Di; Zhang, Li; Yang, Peng; and Tang, Huajun. 2017. A synergy cropland of China by fusing multiple existing maps and statistics. Sensors 17(7): 1613. http://dx.doi.org/10.3390/s17071613	FP1
71	Malapit, Hazel Jean L.; Sproule, Kathryn; and Kovarik, Chiara. 2017. Using cognitive interviewing to improve the Women's Empowerment in Agriculture Index survey instruments: Evidence from Bangladesh and Uganda. Agri-Gender 2(2): 1-22. https://doi.org/10.19268/JGAFS.222017.1	FP6
72	McLain, Rebecca; Lawry, Steven; and Ojanen, Maria. 2018. Fisheries' property regimes and environmental outcomes: A realist synthesis review. World Development 102(2018): 213-227. Available online 5 November 2017. https://doi.org/10.1016/j.worlddev.2017.09.016	FP5
73	Meinzen-Dick, Ruth Suseela; Quisumbing, Agnes R.; Doss, Cheryl; and Theis, Sophie. Women's land rights as a pathway to poverty reduction: Framework and review of available evidence. Agricultural Systems. First published online on November 8, 2017. https://doi.org/10.1016/j.agsy.2017.10.009	FP5, FP6
74	Minten, Bart; Assefa, Thomas Woldu; and Hirvonen, Kalle. Can Agricultural Traders be Trusted? Evidence from Coffee in Ethiopia. World Development 90(February 2017): 77 - 88. http://dx.doi.org/10.1016/j.worlddev.2016.08.018	FP2, FP3
75	Minten, Bart; Dereje, Mekdim; Engida, Ermias; and Kuma, Tadesse. Coffee value chains on the move: Evidence in Ethiopia. Food Policy. First published online on August 5, 2017: https://doi.org/10.1016/j.foodpol.2017.07.012	FP3
76	Mogues, Tewodaj; and Anson, Richard. 2018. How comparable are cross-country data on agricultural public expenditures? Global Food Security 16(March 2018): 46-53. Available online 22 September 2017 https://doi.org/10.1016/j.gfs.2017.09.001	FP2
77	Mtimet, Nadhem; Baker, Derek; Ouma, Emily. Analysing pig traders in Uganda: sampling issues, marketing activities, and constraint analysis. Development in Practice. First available October 23, 2017. https://doi.org/10.1080/09614524.2017.1363873	FP3

#	Full citation	Flagships
78	Mueller, Valerie; Billings, Lucy; Mogues, Tewodaj; Peterman, Amber; Wineman, Ayala. Filling the legal void? Impacts of a community-based legal aid program on women's land-related knowledge, attitudes, and practices. Oxford Development Studies. Published online: 19 Dec 2017 https://doi.org/10.1080/13600818.2017.1414174	FP2
79	Mwabutwa, Chance; and Pauw, Karl. 2017. Tracking agricultural spending when government structures and accounting systems change: The case of Malawi. African Journal of Agricultural and Resource Economics 12(2): 111-124. http://www.afjare.org/resources/issues/vol_12_no2/2.%20Mwabutwa%20Pauw.pdf	FP2
80	Narayanan, Sudha; Das, Upasak; Liu, Yanyan; and Barrett, Christopher B. 2017. The "Discouraged Worker Effect" in public works programs: Evidence from the MGNREGA in India. World Development 100(December 2017): 31-44. https://doi.org/10.1016/j.worlddev.2017.07.024	FP4
81	Naziri, Diego; Mayanja, Sarah; Ssemwanga, James; and Donovan, Jason. 2017. Approaches and tools for inclusive value chain development: lessons from Uganda for improved impact. Enterprise Development and Microfinance 28(4): 323-341. https://doi.org/10.3362/1755-1986.00036	FP3
82	Oduol, Judith; Mithöfer, Dagmar; Place, Frank M.; Nang'ole, Eddah; Olwande, John; Kirimi, Lilian; Mathenge, Mary. 2017. Women's participation in high value agricultural commodity chains in Kenya: Strategies for closing the gender gap. Journal of Rural Studies 50(February 2017): 228-239. https://doi.org/10.1016/j.jrurstud.2017.01.005	FP3
83	Ogunniyi, Adebayo; Oluseyi, Olagunju Kehinde; Adeyemi, Ogundipe; Kabir, Salman K.; and Phillips, Francis. 2017. Scaling up agricultural innovation for inclusive livelihood and productivity outcomes in sub-Saharan Africa: The case of Nigeria. African Development Review 29(S2): 121-134. https://doi.org/10.1111/1467-8268.12267	FP2
84	Palazzo, Amanda; Vervoort, Joost M.; Mason-D'Croz, Daniel; Rutting, Lucas; Havlík, Petr; Islam, Shahnila; Bayala, Jules; Valin, Hugo; Kadi Kadi, Hame; Thornton, Philip; and Zougmore, Robert. 2017. Linking regional stakeholder scenarios and shared socioeconomic pathways: Quantified West African food and climate futures in a global context. Global Environmental Change 45(July 2017): 227-242. http://dx.doi.org/10.1016/j.gloenvcha.2016.12.002	FP1
85	Palloni, Giordano. 2017. Childhood health and the wantedness of male and female children. Journal of Development Economics 126(May 2017): 19 - 32. http://dx.doi.org/10.1016/j.jdeveco.2016.11.005	FP4
86	Ragasa, Catherine; and Chapoto, Anthony. 2017. Limits to green revolution in rice in Africa: The case of Ghana. Land Use Policy 66: 304-321. https://doi.org/10.1016/j.landusepol.2017.04.052	FP1, FP2
87	Ragasa, Catherine; and Chapoto, Antony. 2017. Moving in the right direction? The role of price subsidies in fertilizer use and maize productivity in Ghana. Food Security 9(2): 329 – 353. https://doi.org/10.1007/s12571-017-0661-7	FP2
88	Raghunathan, Kalyani; Chakrabarti, Suman; Menon, Purnima; and Alderman, Harold. 2017. Deploying the power of social protection to improve nutrition. What Will It Take? Economic and Political Weekly 52(46): 90-98. http://www.epw.in/system/files/pdf/2017_52/46/SA_VII_46_181117_Kalyani%20Raghunathan_etal.pdf	FP4
89	Ratner, Blake D.; So, Sovannarith; Mam, Koshal; Oeur, Il; and Kim, Sour. 2017. Conflict and collective action in Tonle Sap fisheries: Adapting governance to support community livelihoods. Natural Resources Forum. http://dx.doi.org/10.1111/1477-8947.12120	FP5

#	Full citation	Flagships
90	Ratner, Blake D; Burnley, Clementine; Mugisha, Samuel; Madzudzo, Elias; Oeur, Il; Mam, Kosal; Rüttinger, Lukas; Chilufya, Loziwe Njobvu; and Adriázola, Paola. 2017. Facilitating multi-stakeholder dialogue to manage natural resource competition: A synthesis of lessons from Uganda, Zambia, and Cambodia. <i>International Journal of the Commons</i> 11(2): 733–753. https://doi.org/10.18352/ijc.748	FP5
91	Ratner, Blake D; Meinzen-Dick, Ruth Suseela; Hellin, Jon; Mapedza, Everisto; Unruh, Jon D.; Veening, Wouter; Haglund, Eric; May, Candace; and Bruch, Carl. 2017. Addressing conflict through collective action in natural resource management. <i>International Journal of the Commons</i> 11(2): 877-906. http://doi.org/10.18352/ijc.768	FP5
92	Raymundo, Rubí; Asseng, Senthold; Robertson, Richard D.; Petsakos, Athanasios; Hoogenboom, Gerrit; Quiroz, Roberto; Hareau, Guy; and Wolf, Joost. Climate change impact on global potato production. <i>European Journal of Agronomy</i> . First published online on December 1, 2017. https://doi.org/10.1016/j.eja.2017.11.008	FP1
93	Resnick, Danielle. 2017. Democracy, decentralization, and district proliferation: The case of Ghana. <i>Political Geography</i> 59 (July 2017): 47-60. http://dx.doi.org/10.1016/j.polgeo.2017.02.011	FP2
94	Roza, Chenoune; Allen, Thomas; Komarek, Adam M.; Sergio, Gomez y Paloma; Guillermo, Flichman; Alain, Capillon; and Hatem, Belhouchette. Assessing consumption-production-resources nexus decisions for rice-focused agricultural households in Sierra Leone. <i>Land Use Policy</i> 67(September 2017): 597-607: https://doi.org/10.1016/j.landusepol.2017.06.014	FP2
95	Savary, S.; Bregaglio, S.; Willocquet, L.; Gustafson, David; Mason d'Croz, Daniel; Sparks, A.; Castilla, N.; Djurle, A.; Allinne, C.; Sharma, Mamta; Rossi, V.; Amorim, L.; Bergamin, A.; Yuen, J.; Esker, P.; McRoberts, Neil; Avelino, J.; Duveiller, Etienne; Koo, Jawoo; Garrett, K. 2017. Crop health and its global impacts on the components of food security. <i>Food Security</i> 9(2): 311-327. https://doi.org/10.1007/s12571-017-0659-1	FP1
96	Seymour, Gregory. 2017. Women's empowerment in agriculture: Implications for technical efficiency in rural Bangladesh. <i>Agricultural Economics</i> 48(4): 513–522. https://doi.org/10.1111/agec.12352	FP6
97	Sharma, Ramesh; Kumar, Anjani; and Joshi, Pramod Kumar. 2017. Nepal-India agricultural trade: Trends, issues and prospects. <i>Agricultural Economics Research Review</i> 30(2): 245-263. http://dx.doi.org/10.5958/0974-0279.2017.00046.5	FP3
98	Singh, Piara; Boote, K.J.; Kadiyala, M.D.M.; Nedumaran, S.; Gupta, S.K.; Srinivas, K.; and Bantilan, M.C.S. 2017. An assessment of yield gains under climate change due to genetic modification of pearl millet. <i>Science of the Total Environment</i> 601–602 (2017): 1226-1237. https://doi.org/10.1016/j.scitotenv.2017.06.002	FP1
99	Spielman, David J.; Zaidi, Fatima; Zambrano, Patricia; Khan, Asif Ali; Ali, Shaukat; Cheema, Masooma Naseer; Nazli, Hina; Khan, Sohail Ahmad; Iqbal, Arshad; Zia, Muhammad Amir; and Ali, Ghulam Muhammad. 2017. What are farmers really planting? Measuring the presence and effectiveness of Bt cotton in Pakistan. <i>PLoS ONE</i> 12(5): e0176592. https://doi.org/10.1371/journal.pone.0176592	FP1
100	Stifel, David; and Minten, Bart. 2017. Market access, well-being, and nutrition: Evidence from Ethiopia. <i>World Development</i> 90(February 2017): 229 - 241. http://dx.doi.org/10.1016/j.worlddev.2016.09.009	FP2, FP3
101	Taffesse, Alemayehu Seyoum and Tadesse, Fanaye. 2017. Pathways Less Explored—Locus of Control and Technology Adoption. <i>Journal of African Economies</i> 26(Supplement 1): i36-i72. on July 4, 2017: https://doi.org/10.1093/jae/ejx013	FP1, FP2
102	Takeshima, Hiroyuki; Adhikari, Rajendra Prasad; Shivakoti, Sabnam; Kaphle, Basu Dev; and Kumar, Anjani. 2017. Heterogeneous returns to chemical fertilizer at the intensive margins: Insights from Nepal. <i>Food Policy</i> 69 (May 2017): 97-109. http://dx.doi.org/10.1016/j.foodpol.2017.03.007	FP2

#	Full citation	Flagships
103	Tamru, Seneshaw; Minten, Bart; Alemu, Dawit; and Bachewe, Fantu Nisrane. 2017. The Rapid Expansion of Herbicide Use in Smallholder Agriculture in Ethiopia: Patterns, Drivers, and Implications. <i>European Journal of Development Research</i> 29(3): 628–647. https://doi.org/10.1057/s41287-017-0076-5	FP2
104	Téno, Gabriel; and Cadilhon, Jean-Joseph. 2017. Capturing the impacts of agricultural innovation platforms: An empirical evaluation of village crop-livestock development platforms in Burkina Faso. <i>Livestock Research for Rural Development</i> 29(9). http://lrrd.cipav.org.co/lrrd29/9/jo.c29169.html	FP3
105	Tesfaye, Kindie; Kruseman, Gideon; Cairns, Jill E.; Zaman-Allah, Mainassara; and Wegary, Dagne; et al. Potential benefits of drought and heat tolerance for adapting maize to climate change in tropical environments. <i>Climate Risk Management</i> . First published online on October 16, 2017. https://doi.org/10.1016/j.crm.2017.10.001	FP1
106	Toth, Gregory G.; Nair, P. K. Ramachandran; Duffy, Colm P.; and Franzel, Steven C. Constraints to the adoption of fodder tree technology in Malawi. <i>Sustainability Science</i> . First published online on August 4, 2017. https://doi.org/10.1007/s11625-017-0460-2	FP1
107	Tran, Nhung; Rodriguez, U.-Primo; Chan, Chin Yee; Philips, Michael John; Mohan, Chadag Vishnumurthy; Henriksson, Patrik John Gustav; Koeshendrajana, Sonny; Suri, Sharon; and Hall, Stephen. 2017. Indonesian aquaculture futures: An analysis of fish supply and demand in Indonesia to 2030 and role of aquaculture using the AsiaFish model. <i>Marine Policy</i> 79: pp. 25-32: http://www.sciencedirect.com/science/article/pii/S0308597X16307205	FP1
108	Vandecasteele, Joachim; Beyene, Seneshaw Tamru; Minten, Bart; and Swinnen, Johan. 2018. Cities and agricultural transformation in Africa: Evidence from Ethiopia. <i>World Development</i> 105 (May): 383-399. Available online 16 December 2017. https://doi.org/10.1016/j.worlddev.2017.10.032	FP2
109	Wang, Guiling; Ahmed, Kazi Farzan; You, Liangzhi; Yu, Miao; Pal, Jeremy; and Ji, Zhenming. 2017. Projecting regional climate and cropland changes using a linked biogeophysical-socioeconomic modeling framework: 1. Model description and an equilibrium application over West Africa. <i>Journal of Advances in Modeling Earth Systems</i> 9(1): 377-388. https://doi.org/10.1002/2016MS000721	FP1
110	Wei, Shang-Jin; Xie, Zhuan; and Zhang, Xiaobo. 2017. From "Made in China" to "Innovated in China": Necessity, prospect, and challenges. <i>Journal of Economic Perspectives</i> 31(1): 49-70. http://dx.doi.org/10.1257/jep.31.1.49	FP2
111	Wei, Shang-Jin; Zhang, Xiaobo; and Liu, Yin. 2017. Home ownership as status competition: Some theory and evidence. <i>Journal of Development Economics</i> 127(July 2017): 169-186. https://doi.org/10.1016/j.jdeveco.2016.12.001	FP2
112	Wineman, Ayala; Jayne, Thomas S. <i>Land Prices Heading Skyward? An Analysis of Farmland Values across Tanzania, Applied Economic Perspectives and Policy, Volume 40, Issue 2, 1 June 2018, Pages 187–214. Published online: 16 October 2017.</i> https://doi.org/10.1093/aepp/ppx038	FP2
113	Worku, Ibrahim Hassen; Dereje, Mekdim; Minten, Bart; and Hirvonen, Kalle. 2017. Diet transformation in Africa: The case of Ethiopia. <i>Agricultural Economics</i> 48(S1): 73-86. https://doi.org/10.1111/agec.12387	FP2
114	Xie, Hua; You, Liangzhi [游良志]; and Takeshima, Hiroyuki. 2017. Invest in small-scale irrigated agriculture: A national assessment on potential to expand small-scale irrigation in Nigeria. <i>Agricultural Water Management</i> 193(November 2017): 251-264. https://doi.org/10.1016/j.agwat.2017.08.020	FP1

#	Full citation	Flagships
115	Yang Jin, and Chen Zhigang. 2017. Effects of Labor Price Hike and Population Ageing on Rural Land Lease in China. China Economist. 12(2): 66-80. http://www.chinaeconomist.com/index.php/2017/05/24/effects-of-labor-price-hike-and-population-ageing-on-rural-land-lease-in-china/	FP2
116	Yeboah, Felix Kwame; Jayne, Thomas S. Africa's evolving employment trends: implications for economic transformation. AfricaGrowth Agenda, Volume 2017 Number 1, Jan 2017, p. 18 – 22 http://hdl.handle.net/10520/EJC-67c8c52c3	FP2
117	Yu, Qiangyi; Wu, Wenbin; You, Liangzhi; Zhu, Tingju; van Vliet, Jasper; Verburg, Peter H.; Liu, Zhenhuan; Li, Zhengguo; Yang, Peng; Zhou, Qingbo; and Tang, Huajun. 2017. Assessing the harvested area gap in China. Agricultural Systems 153 (May 2017): 212–220. http://dx.doi.org/10.1016/j.agsy.2017.02.003	FP1
118	Zhang, Xiaobo; Yang, Jin; and Thomas, Reardon. 2017. Mechanization outsourcing clusters and division of labor in Chinese agriculture. China Economic Review 43(April 2017): 184-195. http://dx.doi.org/10.1016/j.chieco.2017.01.012	FP2
119	Zhang, Xin; Zhang, Xiaobo; and Chen, Xi. 2017. Happiness in the air: How does a dirty sky affect mental health and subjective well-being? Journal of Environmental Economics and Management 85(September 2017): 81-94. https://doi.org/10.1016/j.jeem.2017.04.001	FP2, FP5
120	Zhang, Xin; Zhang, Xiaobo; and Chen, Xi. 2017. Valuing air quality using happiness data: The case of China. Ecological Economics 137 (2017): 29-36. http://dx.doi.org/10.1016/j.ecolecon.2017.02.020	FP2
121	Zhang, Yumei; Filipski, Mateusz J.; and Chen, Kevin Z. 2017. Health insurance and medical impoverishment in rural China: Evidence from Guizhou province. The Singapore Economic Review 62(1). http://dx.doi.org/10.1142/S021759081650017X	FP2, FP4

PIM 2017 Books and Book Chapters

#	Type	Full citation	Flagship
1	Book	Alderman, Harold; Gentilini, Ugo; and Yemtsov, Ruslan, eds. 2017. The 1.5 billion people question: Food, vouchers, or cash transfers? Washington, D.C.: The World Bank. https://doi.org/10.1596/978-1-4648-1087-9	FP4
2	Book	Bouët, Antoine, ed.; and Laborde Debucquet, David, ed. 2017. Agriculture, development, and the global trading system: 2000 – 2015. Washington, D.C.: International Food Policy Research Institute (IFPRI). https://doi.org/10.2499/9780896292499	FP3
3	Book	Kolavalli, Shashidhara; and Vigneri, Marcella. 2017. The cocoa coast: The board-managed cocoa sector in Ghana. Washington, D.C.: International Food Policy Research Institute (IFPRI). https://doi.org/10.2499/9780896292680	FP2
4	Book	Mandal, M. A. Sattar, ed.; Biggs, Stephen D., ed.; Justice, Scott E., ed. 2017. Rural mechanisation: A driver in agricultural change and rural development. Dhaka, Bangladesh: Institute for Inclusive Finance and Development (InM). http://inm.org.bd/inm-published-a-new-book-on-rural-mechanisation/	FP2
5	Book	Mani, Gyanendra; Joshi, Pramod Kumar; and Ashok, M.V., eds. 2017. Financing agriculture value chains in India: Challenges and opportunities. Singapore: Springer. https://doi.org/10.1007/978-981-10-5957-5	FP3
6	Book	McMillan, Margaret S., ed.; Rodrik, Dani, ed.; and Sepúlveda, Claudia, ed. 2017. Structural change, fundamentals, and growth: A framework and case studies: Synopsis. Washington, D.C.: International Food Policy Research Institute (IFPRI). http://dx.doi.org/10.2499/9780896292147	FP2
7	Book	Piñeiro, Valeria, ed.; and Piñeiro, Martín, ed. 2017. Agricultural trade interests and challenges at the WTO Ministerial Conference in Buenos Aires: A Southern Cone perspective. International Food Policy Research Institute (IFPRI); Inter-American Institute for Cooperation on Agriculture (IICA) et al.: San Jose, Costa Rica. http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/131545	FP3
8	Book chapter	Ahmed, Akhter U. 2017. Patterns of Farm Mechanisation in Bangladesh. In Rural mechanisation: A driver in agricultural change and rural development. Mandal, M. A. Sattar; Biggs, Stephen D.; and Justice, Scott E. (Eds.) Chapter 5. Pp. 119-134. Dhaka, Bangladesh: Institute for Inclusive Finance and Development (InM).	FP2
9	Book chapter	Anderson, Kym; Martin, Will; Ivanic, Maros. 2017. Food price changes, domestic price insulation, and poverty (when all policymakers want to be above average). In Agriculture and Rural Development in a Globalizing World: Challenges and Opportunities. Part Two: Political economy of agricultural policies. Chapter 9, pp. 181-192. Pingali, Prabhu and Feder, Gershon (Eds.). New York, NY: Routledge Earthscan.	FP3

#	Type	Full citation	Flagship
10	Book Chapter	Benin, Samuel. 2017. Agricultural public spending in Africa is low and inefficient. In Reaping Richer Returns: Public Spending Priorities for African Agriculture Productivity Growth. Africa Development Forum series. eds. Aparajita Goyal and John Nash. Chapter 2. Pp. 59-123. Washington, D.C.: World Bank. https://doi.org/10.1596/978-1-4648-0937-8_ch2	FP2
11	Book chapter	Brooks, Karen; and Place, Frank M. 2018. Global interlinkage of national agricultural and rural policies: Technical change, trade, and the environment. In Handbook of International Food and Agricultural Policies, eds. W. Meyers and T. Johnson. Volume I: Policies for Agricultural Markets and Rural Economic Activity, Chapter 22, pp. 483-504. World Scientific: Singapore. https://doi.org/10.1142/9789813226463_0022	FP2
12	Book chapter	Diao, Xinshen. 2017. The role of foreign aid in the fast-growing Rwandan economy: Assessing growth alternatives. In Foreign Capital Flows and Economic Development in Africa, eds. Evelyn Wamboye and Esubalew Alehegn Tiruneh. New York, NY: Palgrave Macmillan US. Part VI: Pp 351-373. https://doi.org/10.1057/978-1-137-53496-5_16	FP2
13	Book chapter	Resnick, Danielle. 2017. Populism in Africa. In The Oxford Handbook of Populism, eds. Cristóbal Rovira Kaltwasser, Paul Taggart, Paulina Ochoa Espejo, and Pierre Ostiguy. Part Two: Regions, Chapter 4. Oxford, UK: Oxford University Press. http://dx.doi.org/10.1093/oxfordhb/9780198803560.013.4	FP2
14	Book chapter	Rosegrant, Mark W.; Li, Man; and Xu, Wenchao. 2017. Beyond water markets: second-best water allocation policy. In Agriculture and Rural Development in a Globalizing World: Challenges and Opportunities. Part Three: Community and rural institutions, Chapter 12, pp. 227-250. Pingali, Prabhu and Feder, Gershon (Eds.). New York, NY: Routledge Earthscan. http://ebrary.ifpri.org/cdm/ref/collection/p15738coll5/id/5825	FP5
15	Book chapter	Smith, Vincent H.; and Glauber, Joseph W. 2017. U.S. Agricultural Policy: Impacts on domestic and international food security. In World Agricultural Resources and Food Security (Frontiers of Economics and Globalization, Volume 17), eds. Andrew Schmitz , P. Lynn Kennedy, and Troy G. Schmitz. Chapter 8, pp 125-141. http://www.emeraldinsight.com/doi/abs/10.1108/S1574-871520170000017009	FP3
16	Book chapter	Walque, Damien de; Fernald, Lia; Gertler, Paul; and Hidrobo, Melissa. 2017. Cash transfers and child and adolescent development. In Child and adolescent health and development, eds. Donald A. P. Bundy, Nilanthi de Silva, Susan Horton, Dean T. Jamison, and George C. Patton. Part Four: Packages and platforms to promote child and adolescent development, Chapter 23, pp. 325-342. http://dcp-3.org/chapter/2472/cash-transfers-and-child-and-adolescent-development	FP4
17	Book chapter	Woodard, Josh; Andriessen, Mechteld; Cohen, Courtney; Cox, Cindy M.; Fritz, Steffen; Johnson, Drew; Koo, Jawoo; McLean, Morven; See, Linda; Speck, Tara; and Sturn, Tobias. 2017. Using ICT for remote sensing, crowdsourcing, and big data to unlock the potential of agricultural data. In ICT in Agriculture (Updated Edition) : Connecting Smallholders to Knowledge, Networks, and Institutions, World Bank. Section 4: Improving Public Service Provision, Module 15, pp. 401-431. Washington, DC: World Bank. http://hdl.handle.net/10986/27526	FP1

PIM 2017 Key Datasets

Title	Flagship	Link
Bangladesh Integrated Household Survey Harmonized Dataset*	FP2	https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/PUK1P7
Data Africa Visualization Tool	FP1	http://dataafrica.io/
IMPACT Projections of Change in Total Aggregate Cereal Demand, 2010-2050: Extended Country-level Results for 2017 GFPR Annex IMPACT Trend 2	FP1	https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/JFB15H
IMPACT Projections of Demand for Agricultural Products: Extended Country-level Results for 2017 GFPR Annex IMPACT Trend 1	FP1	https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/BKMBNU
IMPACT Projections of Food Production, Consumption, and Hunger to 2050, With and Without Climate Change: Extended Country-level Results for 2017 GFPR Annex Table 6	FP1	https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/R9H6QI
IMPACT Projections of Food Production, Consumption, and Net Trade to 2050, With and Without Climate Change: Extended Country-level Results for 2017 GFPR Annex Table 7	FP1	https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/8GYEHI
IMPACT Projections of Share of Population at Risk of Hunger: Extended Country-level Results for 2017 GFPR Annex IMPACT Trend 3	FP1	https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/SMOGPK
Spatial Data for Development Domain Analysis in East and Central Africa	FP1	https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/FB6ZHC
Updated database of the Ag-Incentives Consortium including 2015 and 2016 NRP data	FP3	http://ag-incentives.org/
Updated fish model for IMPACT	FP1	http://pubs.iclarm.net/resource_centre/2017-01.pdf
Updated IMPACT model database	FP1	http://impact-model.ifpri.org/
Updated SAM for Ethiopia	FP2	https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/G84XIB
Updated SAM for Kenya	FP2	https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/KYIRMV
Updated SAM for Malawi	FP2	https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/REUCQR
Updated SAM for Mozambique	FP2	https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/BAMNFN
Updated SAM for Tanzania	FP2	https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/PPXXD9
Updated SAM for Uganda	FP2	https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/XDNIGO

* The Bangladesh Integrated Household Survey 2015 was funded by the US Agency for International Development (USAID) through the Policy Research and Strategy Support Program (PRSSP) implemented by IFPRI in Bangladesh under USAID Grant Number EEM-G-00-04-00013-00.