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Conference on Impacts of International Agricultural Research

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CGIAR Independent Science and Partnership Council

CGIAR RESEARCH PROGRAM ON Policies, Institutions, and Markets

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BACKGROUND

The ISPC's Standing Panel on Impact Assessment (SPIA) and the CGIAR Research Program on Policies, Institutions, and Markets (PIM) jointly organized a conference on assessing the impacts of agricultural research in July 2017. For SPIA, the conference was an opportunity to present results from its five-year research and capacity development program – 'Strengthening Impact Assessment in CGIAR (SIAC).' For PIM, it was the first annual CGIAR social science meeting it has planned for in its second phase.

Day One of the conference focused on technology adoption. Day Two presented evidence on the impact of CGIAR innovations on development goals of reduced poverty, improved food and nutrition security, and improved natural resources and ecosystem services. Throughout the conference, there were sessions and discussion on enhancing the demand for and use of impact evidence by various stakeholders, and on strengthening the quality of social science in CGIAR. Attention was paid to the methodological challenges of assessing impacts of research and to the political challenges of using evidence in decision making.

There were 180 conference participants, roughly half from CGIAR. Almost half the participants were from Africa. Slightly more than one-third of participants were women.

This brief summarizes the key messages and outcomes of the event. It is does not summarize specific results since those will be presented in upcoming briefs. More details about the conference, including the presentations, can be found on the conference event page.[1]

TECHNOLOGY ADOPTION

Tracking and understanding the adoption of technologies, practices, and other research innovations have always been the core business of CGIAR social scientists. Recently, the focus has been on methods for improving the scale and accuracy of adoption estimates, and on understanding why innovations

[1] http://ispc.cgiar.org/meetings-and-events/conference-impacts-international-agricultural-research-rigorous-evidence-policy

are, or are not, taken up. Results in both these areas were presented.

A substantial body of work on alternative approaches for collecting adoption data was conducted under SIAC. In the area of crop varietal improvement, the message from a large number of pilots conducted in different crop-country contexts is that different methods can give widely divergent results. The conference sessions included lively, though not entirely settled, debates on the interpretation of such results and on the lessons regarding optimal methods. In some cases, DNA fingerprinting may be the only way to get accurate information on which varieties farmers are growing. Defining and implementing a cost-effective strategy for tracking varietal adoption at scale is an urgent task for CGIAR that will require System-wide collaboration between geneticists and social scientists to ensure consistency with data-quality standards across disciplines.

According to results presented, technologies like remote sensing have the potential to estimate adoption of some natural resource management (NRM) and farm management practices at scale. A range of methods and approaches were used in SIAC to document adoption of high-priority NRM innovations such as conservation agriculture, alternate wetting and drying, agroforestry, and integrated soil fertility management. In most cases, claims of large-scale adoption were not borne out by the data. These results raise the question of whether the theories of change underlying these research investments need to be revisited and again show how important adoption data are for shaping our understanding of CGIAR effectiveness. Resolving these issues is important for CGIAR to achieve and document its targets related to System-Level Outcome 3 (SLO3, **Improve natural resource systems and ecosystem services.**)

One reason for low adoption may be that extension was ineffective or lacking altogether. The importance of extension and farmer learning for uptake and productive use of technologies was an issue that came up throughout the conference in different sessions. Results of a session on innovations to promote scaling up of technology showed that while it is methodologically feasible to rigorously compare alternative approaches, ensuring a flow of quality information to a large number of men and women farmers remains a challenge.

Another reason for lack of adoption or dis-adoption is that the innovations are not appropriate for the populations to which they are targeted. Profitability on farm has not been rigorously established for many innovations; detailed analysis reveals that adoption may not leave adopters meaningfully and unambiguously better off in economic or other terms. Even where there are documented benefits over a longer period, there may be trade-offs in the short term, and these need to be carefully considered by potential adopters as well as by the agencies promoting such innovations. Better understanding of the benefits and costs associated with adoption, including how they are distributed across different types of households and individuals within households and over time, could improve the design and targeting of innovations. In some cases, changing the way researchers evaluate promising technologies and practices could increase the likelihood that they will be appropriate for and adopted by intended users.

"CGIAR has both the potential and responsibility to bring in new methods and to think really carefully about how to change the practice of impact assessment, and how to do impact assessment so that we are not ignoring the questions that need to be answered in pursuit of the things we know how to answer." — Doug Gollin, Oxford University & Chair, SPIA

CONTRIBUTION OF AGRICULTURAL RESEARCH TO DEVELOPMENT OUTCOMES

New results on the impacts of past investments in crop improvement on poverty, nutrition, and health outcomes were presented. The results came from small-scale studies such as randomized control trials that documented specific pathways, as well as from long-term, large-scale studies that convincingly linked adoption of improved varieties to increases in per capita GDP, and reductions in poverty, population growth, and infant mortality. The studies illustrate the synergistic effects of agricultural productivity, economic growth, and human welfare.

While participants appreciated the importance of these methods and findings, they expressed a strong demand for the impact assessment community to move beyond looking at the impacts of individual technologies, especially improved varieties. Many participants, especially in CGIAR management, called for impact assessment to focus on how technology, policy, and other factors combine to create synergies and how such 'enabling environments' can be supported under today's—and tomorrow's—conditions to contribute to agricultural and rural transformation. As part of a System-level response to this challenge, SPIA's contribution is to clarify how *ex-post* impact assessments can contribute, and to help prioritize a portfolio of adoption and impact studies—which topics, methods, and outcomes—that can provide relevant, credible evidence.

The impact of CGIAR research on policy was not a major theme of the conference but was raised in a number of presentations. Evidence is one of many factors that decision makers consider. Building capacity and awareness, and strengthening institutional connections between the generators and the users of data and evidence can help increase its use. What role CGIAR can and should play in this process is not always clear and will vary by context. There is no doubt that CGIAR does policy-relevant research that has influenced policy, however its importance is not easily discernable in complex policymaking decision processes. The extent to which CGIAR can and should claim credit for such influence was questioned by some participants.

THE QUALITY AND USE OF (IMPACT) EVIDENCE

During the past decade, there has been a rigor revolution in impact evaluation, largely related to development interventions, but with important implications for Agricultural Research for Development (AR4D). Greater attention to the accuracy and validity of outcome measurement, to causal inference, and to scale and representativeness of results can improve the credibility of findings. The need for careful research design applies to all evaluation questions and methods, qualitative and quantitative.

While the rigor and credibility of individual impact studies has improved, it is important to have realistic expectations about the extent to which narrow scientific advances can lead to transformational social change. Long and complex causal chains are easily broken, and results from small-scale studies can often be highly context specific. The Impact Assessment (IA) community is often far too accepting of applying findings from one context to another, without proper analysis of the contextual factors that can help explain why certain innovations did or did not have an impact. This reinforces the call for methodological pluralism in impact assessments.

"…Even if you are doing the best, most rigorous kind of impact evaluations that you can practically do, you should expect failure much of the time. You are going to get wrong results and, also, even though you trying to be rigorous, there will be big gaps. Rather than putting our heads in the sand… we have to learn to manage it." — Nancy Cartwright, Prof. of Philosophy, Durham University

Many donors recognize the importance of rigorous evidence, particularly in justifying spending decisions, and invest in generating it. However, there is often a contradiction between donor demand for rigorous evidence and for evidence of impact at scale, especially in the short term. Rhetorical commitment of donors to evidence-based decision making is not always consistent with the political economy of development assistance. Past efforts to understand donors' demand for evidence have not been conclusive, and donors were not well represented at the conference. Strengthening communication between the impact assessment and donor communities should be a priority for CGIAR.

Participants also highlighted the challenge of pulling together the results of a large numbers of impact studies, which are often context specific, to identify the larger messages and lessons. One way the IA community can enhance the usefulness of IA results is by working harder to aggregate (where possible) and synthesize findings across diverse studies, and communicate messages in ways that are both credible and compelling. Identifying the implications of *ex-post* impact assessment for *ex-ante* impact analysis and priority setting in research presents additional challenges. The importance of doing this better was

one of the strongest messages to emerge from the conference; however, there are methodological and institutional challenges.

"We (as the ISPC) are being asked to help with priority setting by looking into the future. And to be objective about that, from my perspective, we have to look at the past and learn lessons." — Maggie Gill, Chair, ISPC

SOCIAL SCIENCE AND IMPACT ASSESSMENT CAPACITY

On the final day of the conference, PIM held a workshop on social science capacity in CGIAR. Many of the issues raised in the 2009 Social Science Stripe Review[2] were mentioned. Whether they are the result of weak capacity or other institutional factors that affect the incentives and performance of social scientists in CGIAR is not clear and could benefit from further analysis.

Some suggested that the CGIAR reform and the development of the CGIAR Strategy and Results Framework[3] could ultimately increase the value of social science, but that is not automatic and may require different sets of skills in both research and research management. The ISPC-led work on a frame of reference for quality of AR4D, and the System Management Office-led work on performance-based management are designed to support this, but they are still at an early stage of implementation.

The CGIAR Research Programs and Communities of Practice were identified as useful mechanisms for encouraging collaboration across centers and external experts. Building links between CGIAR programs and social scientists in other institutes is seen as important for improving quality in all its dimensions and ensuring that appropriate social science expertise is leveraged. Links to external institutions was a key part of SIAC, and was an explicit objective of the conference. Further efforts will be needed to broaden the disciplinary and regional diversity of participants.

KEY FOLLOW-UP ACTIONS

The future work program of SPIA needs to build on the lessons and momentum of SIAC, while at the same time addressing key challenges identified at this conference to support both the accountability and learning agendas, especially relating to how CGIAR research can best contribute to the rural transformation agenda. Some planned and proposed follow-up actions include:

- The results of individual SIAC studies and synthesis pieces will be made available in coming months on the ISPC website.
- A workshop on DNA fingerprinting, co-hosted by SPIA and the Excellence in Breeding Platform, will be held in late 2017 to agree on methods and begin to develop the strategy for tracking varietal adoption at scale
- A workshop with NRM researchers will be held in 2018 to reflect on the results of the NRM adoption studies and implications for research and impact assessment agendas.
- PIM's 2018 Social Science conference is tentatively scheduled for July-August in Vancouver, Canada alongside the International Association of Agricultural Economists meeting.
- A proposed assessment of CGIAR social-science capacity, including benchmarking against comparable organizations, will be conducted and, ideally, reported on in Vancouver.
- ISPC's 2018 Science Forum will focus on synergies and trade-offs among the SLOs and will be a good opportunity to help to define the research and impact assessment agenda in this area.

[2] http://www.ispc.cgiar.org/publication/stripe-review-social-sciences-cgiar

[3] http://library.cgiar.org/bitstream/handle/10947/4069/CGIAR%20SRF%20Overview%20WEB.pdf?sequence=10

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