

ASTI/IFPRI–FARA Conference
Agricultural R&D: Investing in Africa’s Future.
Analyzing Trends, Challenges, and Opportunities
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**Theme 3: Measuring and Improving
the Effectiveness of Agricultural R&D Systems**

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1. INTRODUCTION

A couple of concepts and their measures arose in this session, as well as from the past two days: (1) efficiency, which is primarily related to the unit cost of providing a service; and (2) effectiveness, which has more to do with achieving some specific outcome. The four papers deal with these two concepts and their measures to different extents, focusing on different details. The discussion here focuses on a couple of issues around the “measuring” and “improving” aspects implied in the title of the session—measuring and improving the effectiveness of agricultural research and development (R&D) systems—which implicitly includes “efficiency.” These are critical to the way forward in monitoring and evaluation (M&E) for transforming African agriculture through agricultural R&D (advisory services, education, and training) and specifically through Pillar IV of the Comprehensive Africa Agriculture Development Programme (CAADP).

A first, fundamental question is, “Why do we want to measure the efficiency and effectiveness of agricultural R&D?” Basically, we want to understand how the different governmental and nongovernmental components and functions of agricultural R&D systems—that is, individuals, institutions, networks, and so on—are performing in terms of inputs, outputs, outcomes, challenges, which can help us determine how to improve the systems. “Measuring,” has both supply- and demand-side dimensions, and the demand-side, to be discussed later, also touches on the “improving” aspect implied in the title of the session.

2. SUPPLY-SIDE DIMENSIONS

The preceding presentations and discussions gave rise to specific strategic questions, which provide guidance on what to measure, including:

- *Productivity of scientists.* What sort of capacities do we need in order to raise productivity to a certain level? Capacities can be captured through different dimensions, including degree qualifications, gender, and areas of specialization.

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- *Brain drain.* How can we improve scientist incentives in order to maintain and increase the number of scientists in an organization?
- *Investments.* Why do governments invest or underinvest in agricultural R&D?

This requires a framework for data collection, management, analysis, reporting, and so on, that assists ASTI in its activities—which are constrained for a variety of reasons, including funding. ASTI has actually gone further than reporting on the classic indicators, and more of that can be done. The framework should be continuously updated to improve upon the measurements recorded and address key strategic questions.

This means that ASTI’s work has to be pushed further, extending the indicators of productivity and pushing the analytical frontier, including determinants of investments, and relating outcomes to investments, which can be done in partnership with others. Some of the papers presented at this conference are moves in this direction (for example, those by Alene et al. and Ragasa et al.), but there is more to do, and it needs frameworks to guide the process.

Few new studies have focused on the efficiency and effectiveness of agricultural R&D investments (for example, Alene and Coulibaly 2009) since the works of Evenson and others, whose results are captured in the meta analysis by Alston et al. (2000). Many more studies in different countries are needed to demonstrate impact and eliminate skepticism derived from the wide range of negative to positive rates of return agricultural research and extension (Alston et al. 2000). As such it is important to include more new countries to discover how they are doing, instead of always studying the same countries. Similarly, more and regular public agricultural expenditure reviews are needed that include the dimensions of efficiency and effectiveness rather than just traditional trends and composition analysis.

In line with the above, the discussion should not simply be focusing on “another round” of ASTI activities, because these activities should be standard; the issues for discussion should instead be focusing on what topics and additional countries should be covered in progressive years.

3. DEMAND-SIDE DIMENSIONS

The demand-side dimensions derive from efforts to determining how to improve agricultural R&D systems. This is linked to both raising the awareness of decisionmakers on the need to invest in agricultural R&D, as well as strengthening the capacity of decisionmakers to ask questions about the efficiency and effectiveness of agricultural R&D. This is what raises the relevance and usefulness of the information being generated. We can think of this broadly, in terms of the following:

1. *Institutionalization.* In one of the discussion sessions, an ASTI collaborator talked about having been involved in ASTI work for some time, but only recently having begun to use ASTI data at his institution and in research findings derived from that work. This illustrates the need for greater institutionalization of ASTI activities.
2. *Empowering constituencies.* Those of us attending this conference understand what we are talking about, but it seemingly is not having the intended impact. We need to empower the stakeholders (that is, farmers, civil society organizations, and so on) to ask the necessary questions on the efficiency and effectiveness of agricultural R&D of their leaders.

3. *Forging partnerships.* It is obvious that in undertaking studies to answer questions about the efficiency and effectiveness of agricultural R&D, partnerships will be needed, for example, with donors to provide funds and researchers to collect and analyze information. Yet the results of activities associated with such partnerships often tend only to benefit a subset of actors for whom the results could potentially be beneficial. Consequently, what is needed are partnerships that promote activities that generate results that are relevant and useful to all stakeholders, including farmers, researchers, policymakers, donors, development professionals, and so on, in both the government and nongovernment sectors.

4. CONCLUSION

In conclusion, I would like to challenge the presenters of the papers in this session a bit and also introduce some cross-cutting issues. While the work by Ackelo and Mburu has several useful aspects to think about in terms of improving agricultural R&D institutions, the findings are based on a lot of assumptions. How do you test these assumptions, and how realistic are they? Take, for example, the assumption that national agricultural research institutes will be 100 percent effective post-reform. How can 100 percent effectiveness be achieved? Thus it will be useful to push further to understand how this will come about. The paper by Ragasa et al., for example, showed a lot of indicators on performance. Exploring indicators along these lines is one way to push further on how effectiveness in the post-reform period can be improved. Regarding the paper by Oruko and Elliott, it would be good to expand on a conceptual framework on the key agricultural R&D questions and the types of information needed to answer those questions. This can be taken up by ASTI to inform its data collection and analytical agenda. On the work by Alene et al., giving public access to data and information as they have indicated is very important. The work ReSAKSS does, for example, very much relies on publicly available information.

References

- Alene, A. D., and O. Coulibaly. 2009. The Impact of Agricultural Research on Productivity and Poverty in Sub-Saharan Africa. *Food Policy* 34 (2): 198–209.
- Alston, J. M., C. Chan-Kang, M. C. Mara, P. G. Pardey, and TJ Wyatt. 2000. *A Meta Analysis of the Rates of Return to Agricultural R&D: Ex Pede Herculeum?* IFPRI Research Report 113. Washington, DC: International Food Policy Research Institute.