Assessment of CRSP Performance and Impacts

George W. Norton
Virginia Tech
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CRSP Evaluations of Performance and Impacts

- Have evolved to meet changing USAID directives and to take advantage of improvements in evaluation methods.
- Many *performance* evaluation methods are common across the CRSPs, *impact* evaluation methods often differ.

Performance Evaluation Occurs at Many Levels

- **Technical performance --** *Historically* assessed annually by a Technical Committee (TC), the Management Entity (ME), (and in some cases by an External Evaluation Panel (EEP). *Now*, ME and committee of investigators monitor performance, including external members.
- **Every five years --** *Historically* EEP and Administrative/Mgt reviews helped USAID decide on renewal of the CRSP. Now, still have administrative/mgt review, but external evaluation run by USAID (not by standing panel). Each CRSP rebids sub-grants and selection made by external panel every 5 years. Whole ME and CRSP rebid every 10 years.

Impact Evaluations are Conducted as Part of the Research Program

- Some CRSPs (Dry Grain Pulses, INTSORMIL, IPM, SANREM, and Peanut CRSP) have dedicated **impact evaluation coordinators** with funds in the sub-grants for impact evaluation. For others, impacts assessed within sub-grants.
- Rigorous impact evaluation establishes an **appropriate counterfactual** and conducts analyses to ensure unbiased results.
- CRSPs use a **variety of methods** to ensure rigor.

Many Factors Influence the Specific Methods Applied

- **Objectives** of the CRSP
- **Scale** of impact measurement
- **Cost** of applying the method
- **Timeframe** of the research being evaluated
- **Viewpoint** --Ex ante, Ex post (or partly each) evaluation
- **Impact pathway** from initial research through diffusion
- **Skills** of the evaluator(s)
- **Units** of quantification desired
- Methods and topic that make good **theses**

Quasi-experimental Methods are Commonly Applied on CRSPs

- **Experimental methods** that involve choosing a large random sample of participants at the start and following them through time are desirable, but difficult to apply in agricultural research evaluation for several reasons.
- **Quasi-experimental methods** may involve an instrumental variables approach or may combine experimental data from randomized and replicated on-farm field experiments with adoption data from surveys that measure or predict future adoption.

Other methods

- **For evaluations of completed research, but diffusion and adoption is just beginning**, adoption projections may consider past adoption of similar interventions or expert opinion, followed by sensitivity analysis. Economic surplus and benefit costs methods are then applied.
- Many CRSPs explore **impact pathways** from initial research through diffusion of the intervention for their projects, although pathways are not always written down. Dry Grain Pulse CRSP explicitly identifies impact pathways for its projects.

Selected Examples of CRSP Impacts

- **Dry Grain Pulse** – Improved varieties and storage methods; $500 million in benefits estimated in three studies; 170 graduate degrees and 60 bachelors degrees
- **INTSORMIL** – 80 sorghum varieties (and 2200 lines) released in 20 countries over 30 years; sorghum yield increases averaged 10% per year; 900+ graduate students over 30 years
- **Peanut CRSP** – Rosette-virus-resistant peanut varieties in Nigeria, Uganda, and Malawi. In Uganda, impacts estimated at $47 million and 1 percent drop in poverty rate where grown. Aflatoxin-binding food additives now used in 50-60% of commercial animal feeds. 87 graduate students in last 10 years.

More Examples of Impacts

- **Basis AMA** – Developed index-based livestock insurance scheme that uses satellite signals to predict livestock mortality. Payoffs based on predicted mortality index. Insured households reduced reliance on costly coping strategies relative to the control group.
- **IPM CRSP** – $500 million in benefits from 10 IPM practices for specific crops and countries. $6 million estimated from pheromone traps for cucurbits in Bangladesh with sales of traps to 50,000 farmers last year. 150+ graduate degrees in the last 10 years. $100 million in losses averted due a parasitoid introduction for papaya mealy bug in India.

Priority Setting on CRSPs uses a Variety of Participatory Methods

- Priorities set by region, country, commodity, discipline, and task
  - **Regional and country** priorities reflect USAID priorities (i.e., Feed the Future).
  - **For commodity** CRSPs, commodities specified by USAID; for Hort and IPM CRSPs, commodities partially prioritized by USAID but also depend on importance within a commodity group.
  - **CRSPs are interdisciplinary** and relative priorities across disciplines depend on the CRSP and the issues identified through participatory process. All CRSPs maintain social science component.
  - **Activities and tasks** prioritized through baseline surveys, participatory appraisals, review and planning meetings between host country and U.S. scientists. Adjustments made annually based on performance, opportunities, and new constraints as they arise.
  - Feedback from impact assessments and **mission priorities** play a role.

Estimated CRSP investment in evaluation

- 5% on performance evaluation
- 3% to 5% on impact evaluation, depending on the CRSP

Conclusions and Recommendations

- **Performance evaluations** that utilize external evaluators, constant vigilance by a management entity, review of work plans and reports by committee of PIs, and oversight by USAID officer makes sense.
  - External evaluation needed early enough before the end of a 5 year phase so as not to delay decision making or disrupt programs that may be renewed.
  - Need Administrative reviews early enough in year 5 that renewal rebidding is not delayed

Conclusions and Recommendations

- **Impact evaluation** itself is research, can be costly if done rigorously, and each CRSP needs a strategy for IA
  - Helpful to have PAs, baseline and follow-up surveys, basic budgeting from field trial data, and per unit evaluation of the impacts of most research activities on the CRSPs
  - Most in-depth impact evaluations use quasi-experimental methods to account for the counterfactual. Useful to have set of rigorous impact case studies going on at all times on each CRSP.
  - Helpful to have a lead impact assessment person(s) and allocate budgets for IA in each regional program.
  - Each CRSP should allocate at least 5% to impact assessment

Capacity Building is Major CRSP Impact

- Long term nature of CRSP programs (and budgets) has facilitated degree training
- Massive leveraging of university faculty time and host country scientist time and facilities.
- Additional evaluation of impacts of CRSP capacity building might be helpful.