

# ASSESSING THE IMPACT OF THE BEAN/COWPEA CRSP GRADUATE DEGREE TRAINING

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## BACKGROUND

**About Bean/Cowpea Collaborative Research Support Program (B/C CRSP):** The B/C CRSP is a USAID funded project, established in 1980 to strengthen agricultural research capacity in developing countries through collaborative research and training, focusing on beans and cowpeas sectors.

**CRSP Training Model:** The CRSP represents one of the models of university engagement in donor-funded long term degree training to build institutional capacity. Salient features of this model include:

- The integration of training into research project workplans of both the U.S. and host country partners.
- Direct supervision of degree training at a collaborating university by CRSP Principal Investigators (PIs).
- Trainees conduct thesis research on topical areas of direct relevance to host countries as identified in CRSP project workplans.
- Development of strong mentor-trainee relationship between U.S. PIs and CRSP trainees during the degree training phase leads to CRSP trainees' continued collaboration with U.S. PIs after completing degrees .

## STUDY OBJECTIVES

1. To document the outputs and outcomes of CRSP investments in graduate degree training at U.S. universities from 1980-2005.
2. To evaluate the CRSP training model from the perspective of U.S. PIs.
3. To evaluate the impacts of CRSP degree training investments on trainees and host country institutional capacity.

## APPROACH

**Analytical Framework:** The study adopted the modified Kirkpatrick framework (Figure 1) as a guide in evaluating training impacts from four different perspectives—Reaction, Learning, Performance, and Results.

Figure 1: Training evaluation framework



**Surveys:** 1) **Survey of former trainees:** One hundred and twenty six trainees (from U.S. and host countries that completed graduate degrees from a U.S. university) with valid e-mail addresses were sent survey questionnaires to solicit information to assess the impact of CRSP-supported degree training on their personal and professional lives (Reaction and Learning) and on the institutions where they were working (Performance and Results). 2) **Survey of current/former US Principal Investigators:** Thirty-one U.S. PIs who served as a major professor, thesis/dissertation advisor, or as a member of thesis committee were surveyed to validate and supplement trainees' responses to questions on Learning, Performance and Results.

**Case Studies:** Institutional case studies were conducted of two host countries—Tanzania and Honduras—to document the capacity-building impacts of B/C CRSP supported training and research activities.

## RESULTS

**Outputs:** Since 1980, the Bean/Cowpea Collaborative Research Support Program (B/C CRSP) has supported 187 students for M.S. and Ph.D. degree training at U.S. universities in agricultural fields critical to developing bean/cowpea research capacity in Latin America, Sub-Saharan Africa, and the U.S. The profile of these CRSP trainees is as follows:

- 30% of trainees were from Latin America, 23% from Africa and 48% from the U.S.
- 66% were trained in Plant Sciences, 21% in Food Science and 13% in social sciences.
- 51% trained for Ph.D. degree, 49% for M.S. degree.
- 58% male and 42% female.

**Survey Responses:** Seventy-six trainees responded to the e-mail survey (60% response rate) and 28 U.S. PIs returned their survey questionnaire (90% response rate). Trainee Respondents' Profile:

- 65% HC – 45% US
- 61% Plant Science; 17% Food Science; 22% Social Science
- 76% PhD – 24% MS
- 46% Full Funding – 39% Partial
- 66% Male – 34% Female

### Major Findings from US PI Survey:

PIs attributed the following strengths to the CRSP training model: a) long-term commitment to research programs, which attracts quality students; b) opportunity for continued collaborations post-training; and c) opportunity for trainees to work on real problems and research topics relevant to the needs of the host country.

### Major Findings from Case Studies:

**Tanzania (Sokoine University of Agriculture—SUA):** 10 of 11 trainees returned home -- most still work at SUA, where they are CRSP collaborators. The CRSP played a major role in developing SUA's research/teaching program. Trainees had significant impacts through teaching and obtaining external funds to enhance CRSP research projects.

**Honduras (Escuela Agrícola Panamericana—EAP):** Through CRSP support, EAP has created a strong regional research program. EAP and CRSP graduates hold key research positions in national programs; By enhancing the capacity of EAP and other regional bean programs, the CRSP has had a major impact on increasing bean production in Central America.

### Major Findings from Trainee Survey:

- **Factors influencing decision to pursue CRSP-supported degree training:** Opportunity to: a) advance professionally, b) gain international perspective; c) study at a specific university; and d) collaborate with specific scientists.
- **Learning impacts:** a) Opportunity to participate in CRSP research project was highly relevant to trainees' current work/job responsibility (83%). b) Trainees considered the ability to "design/conduct/analyze scientific research" as the most important knowledge, skills, and attitudes (KSAs) acquired from their graduate training. c) Trainees shared their acquired KSAs through publications (66%), seminar/conference (70%), and research supervision of students (66%).
- **Return rate:** 86% of host country respondents returned to a developing country (79% returned immediately to their home institution). Majority of returnees: earned a PhD degree (86%); specialized in Plant Sciences (69%); worked in bean/cowpea-related field (72%).
- **Post-training collaborations:** Almost 40% of the trainees reported collaborating with their U.S. professors since completing their degree. A majority of these trainees: from Host Countries (83%), earned a PhD degree (86%), specialized in Plant Sciences (76%), and worked in bean/cowpea-related field (86%).

## CONCLUSIONS

- This study documents the important role played by the B/C CRSP in strengthening teaching and research capacity in beans and cowpeas both in the U.S. and in host countries.
- Trainees reported professional/personal benefits from studying in the U.S. -- including releasing varieties, awards/recognition, publications, and positions held.
- The benefits documented by this study justify continued donor investment in graduate degree training of host country trainees.
- However, further research is needed to document the costs of degree training in the U.S. and evaluate the cost-effectiveness of different models of graduate degree training programs.