

## EVALUATION BRIEF

# CGIAR Research Program on Roots, Tubers, and Bananas (RTB) March 2016



Independent  
Evaluation  
Arrangement

## Background and Context

The CGIAR Research Program (CRP) on Roots, Tubers and Bananas (RTB) is led by the International Potato Center (CIP) and brings together the RTB crop-related work of CIP, Bioversity International, the International Center for Tropical Agriculture (CIAT), the International Institute of Tropical Agriculture (IITA) and the French agricultural research and international cooperation organization, CIRAD, as well as about 300 partners.

The aim of RTB is to more fully realize the potential of RTB crops (banana/plantain, cassava, potato, sweetpotato, yams, and other tropical and Andean root and tuber crops—sometimes termed ‘vegetatively propagated staple crops’) for improving nutrition, income generation, and food security—especially among some of the world’s poorest and most vulnerable populations.

In the first three years of operation, 2012-2014, the program’s accumulated funding was USD 199 million, of which nearly 42% was from Windows 1 and 2.

## Evaluation methodology

The Evaluation Team developed evaluation questions at two levels: questions in connection with the key evaluation criteria of relevance, quality of science, efficiency, effectiveness, impact and sustainability; and overarching questions of the strategically most important issues identified during the evaluation inception phase.

The main impetus to bring research on root and tuber crops and bananas together in a single program was to capture synergies due to commonality of the crops and their value chains and potential efficiency gains. The Evaluation therefore focused on three main research areas where there is greatest potential for integration of research across crops. These areas were: the breeding pipeline; high quality planting material; and post-harvest management, value chains and marketing. Other aspects, such as cropping systems and disease and pest management were also covered but with less depth.

The Evaluation drew information from over 300 interviews with RTB policy makers, researchers, donors and stakeholders, as well as field visits to 10 countries. Additional sources of information for the Evaluation included: case studies, document review, RTB researcher survey, in-depth analysis of 79 journal articles and impact narratives, as well as bibliometric and H-index analysis.

## Main findings and conclusions

Overall, Evaluation Team concluded that in spite of the complexities and challenges of successfully implementing a multi-crop and multi-partner CRP, RTB has made notable progress in the past four



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years and is already delivering results. RTB is successfully delivering added value across centers and crops in several areas mainly through strategically important complementary projects that are funded from Windows 1 and 2 (W1/W2). The overall conclusion was that RTB strongly warrants being continued as CRP beyond the current extension period. Overall, RTB is a strong program that is addressing appropriate research issues for meeting the challenges to increasing food and nutrition security, poverty reduction and gender and social equity.

The Evaluation, however, stated the need for RTB to assess its role and priorities in the light of the growing strengths of some National Agricultural Research Systems (NARS) and increasing involvement and interest of the private sector in RTB crops, particularly for basic seed production and processing.

The program's effectiveness can be further improved through closer collaboration among breeders; strengthening CRP expertise in seed systems; improved integration of crop improvement and management (agronomy and soil fertility management) technologies; and enhanced focus of post-harvest research on the crop-specific aspects of value chain improvements that deliver added value.

### Relevance, Effectiveness and Quality of Science

RTB's research is strategically relevant to addressing the CGIAR's objectives. Lessons learnt from the initial RTB program structure have been useful in informing the design of the new structure, which will potentially improve coherence and effectiveness. However, RTB needs to make further efforts to enhance integration beyond individual time-bound projects. In particular, further value would be gained by fully integrating the IITA and CIAT cassava breeding programs and all RTB research on banana and plantain by IITA and Bioversity.

RTB was found to have a strong global comparative advantage as a main supplier of RTB research outputs relevant and useful for small holders in Sub-Saharan Africa (SSA), Asia and Latin America. This comparative advantage has been strengthened by selected partnerships with Advanced Research Institutes (ARIs) with complementary skills and strong partnerships with NARS whose research has been developed by RTB centers. However, RTB needs to carefully consider alternative research suppliers in future assessment of its comparative advantage.

The quality of science was found to be generally good, both from the centers themselves, and through partnerships with noted ARIs. The incorporation of skills and expertise from ARIs has enhanced the quality of the outputs produced. The addition of CIRAD as a collaborating center has brought new intellectual energy to post-harvest work, generating high quality efforts and publications. Research on quality planting material is producing useful outputs for the development of economically sustainable seed systems for major RTB crops and has provided opportunities for developing cross-center and cross-crop partnerships and cross-crop learning.

RTB has published some excellent research papers in high impact journals. At the same time, the percentage of publications in non-IF journals is disturbingly high – 39 percent. RTB should endeavor to produce higher quality science in order to publish in higher quality journals for greater international impact. Furthermore, in future, the Management Committee (MC) and Independent Steering Committee (ISC) should play a more active role in monitoring the quality of science produced by RTB.

The Evaluation Team identified a number of areas where RTB could improve its effectiveness. These include the need for improved understanding of both the capabilities of NARS for breeding RTB crops and of end-user needs for specific products to better direct the focus – hence effectiveness – of RTB breeding efforts. Furthermore, the team has also recommended a number of ways in which RTB's breeders could work more effectively together through a community of practice.

RTB has achieved a notable level of programmatic integration and captured synergies and taken advantage of complementarities which would not have been possible before the creation of RTB, in spite of budget cuts. RTB has also been successful in addressing the difficult challenge in integrating research on five different crops conducted by four independent centers. The program has made progress due to excellent leadership and by creating governance and management structures and processes that allow new ways of working to promote inter-dependence of partners.

Improvements are needed for RTB to further add value as a program and contribute more effectively to its objectives. Several of these are addressed in the recommendations below.

### Summary of Recommendations

The Evaluation recommended several areas where RTB could strengthen its relevance and effectiveness to better realize its ambition. The recommendations are summarized below:

- 1** Make further efforts to **enhance integration beyond individual time-bound projects**, further value would be gained by fully integrating the IITA and CIAT cassava breeding programs.
- 2** Restructuring of the program into inter-disciplinary and integrated FPs adds coherence to RTB compared to the Theme-based structure, however RTB should **review and revise the clusters for improved congruence** with the FP problem definition
- 3** In the current environment of decreasing W1/W2 funds, RTB should **ensure that W1/W2 funds are directed at the highest program priorities** as informed by priority assessment and performance evaluation
- 4** Use **priority assessment results for setting program priorities** and in program planning, including fundraising
- 5** Endeavour to assure that its science quality is consistently high in order to target and publish in **higher quality journals** for greater international impact
- 6** Management Committee (MC) in consultation with the Flagship Leaders should **play a more active role in monitoring the quality of science produced by RTB with oversight by the ISC**. Reviving Commissioned External Evaluations at CRP-level would be of greatest value.
- 7** Need to further **modernize and strengthen its breeding programs**
- 8** **Better target client needs by delivering only two to three achievable product profiles for each mandate crop per country or region** and placing even greater emphasis on farmer and consumer needs
- 9** **Develop a community of practice of researchers across all crop breeding** undertakings for enhancing effectiveness through better synergy
- 10** Priority should be given to **assessing demand for clean high quality planting material throughout the seed value chain**; on understanding the incentives for small holders to purchase

quality planting material; as well as mechanisms for strengthening the supply chain with links to marketing and processing

- 11** Need to **better integrate research on crop improvement and crop management** which have been implemented in different Themes to date and will be implemented in different FPs in the new program structure
- 12** **Focus post-harvest research on the crop-specific aspects of value chain improvements** that can deliver added value, as these are most likely to generate global public goods
- 13** Ensure that **adequate resources** are made available to develop and implement the needed strategy for **communication and knowledge management**
- 14** Need a **clear strategy of how priority and impact assessments will be linked over time**, and how the results from ex-post assessments, complementing ex-ante assessment, will inform program planning
- 15** **Bring clarity to the respective roles, relationships and accountabilities** of FP leaders, cluster leaders and bilateral project leaders **within the management structures of RTB** and the centers.
- 16** RTB partners should **develop and agree on an alliance compact building on the progress already made in inter-center collaboration**

### Management Response

The CRP RTB management provided a response to the evaluation, stating its appreciation for the very well-crafted and thorough review, which was found, overall, to be fair and balanced. CRP management indicated appreciation for the close interaction the Evaluation had with the RTB team and for handling the evaluation process in an inclusive way.

CRP management was pleased with the main findings, and that the program's progress was clearly recognized. Of the 15 recommendations, CRP management fully accepted nine recommendations, and partially accepted the remaining seven. In the response, CRP management stated that "RTB breeding programs have made good progress in introducing modern breeding approaches and this has been a central thrust of complementary funding. Therefore, recommendation #7 was found to be misleading in this regard, and does not capture the good progress already made". It also references the current decreasing levels of W1&2 funding, which will make it difficult to implement several of the recommendations listed, such as recommendation #1.

A detailed CRP management response for each recommendation was provided, along with proposed actions, responsibility, and timeframe for completion.

### Further Information

Visit the IEA website for evaluation outputs and information (team profiles, TORs, Inception Report, Final Evaluation Report, and Annexes) and the CRP Management Response:

<http://iea.cgiar.org/evaluation/crp-evaluation-roots-tubers-and-bananas-rtb>

