

## Comments on CRP3.4 Proposal: Roots, Tubers and Bananas for Food Security and Income

FC Member	Comments
<b>Australia</b>	<p><b>General Comments:</b></p> <p>This CRP has been the subject of previous comments by the Consortium Board (CB) and this version has addressed these comments. As such it is a well prepared and considered proposal which meets the necessary CRP attributes and associated ISPC criteria as specified in the SRF, including governance and management provisions. Accordingly ACIAR supports this version for implementation. The centre partnerships will be further considered as the CRP progresses. In this respect linkages with other cropping CRPs (e.g. maize and wheat) would warrant attention as inter-CRP boundaries are reconciled in the broader reform settings. ACIAR also advocates stronger linkages with AVRDC and CABI as non-CGIAR centres – not because these centres work on tuberous crops, but because of the association of these crops in systems, and the potential for common and complementary issues in the research agendas.</p> <p>The CRP is based on seven themes as pillars of the program:</p> <ul style="list-style-type: none"> <li>• Theme 1: Conserving and accessing genetic resources</li> <li>• Theme 2: Accelerating the development and selection of varieties with higher, more stable yield and added value</li> <li>• Theme 3: Managing priority pests and diseases</li> <li>• Theme 4: Making available low-cost, high quality planting material for farmers</li> <li>• Theme 5: Developing tools for more productive, ecologically robust cropping systems</li> <li>• Theme 6: Promoting postharvest technologies, value chains, and market opportunities</li> <li>• Theme 7: Enhancing impact through partnerships.</li> </ul> <p>These themes are sufficiently wide ranging and focused to cover the key challenges facing roots, tubers and bananas (RTB) from farm level to value chain and market access. Productivity, postharvest development and sustainable systems as a strategic basis for improved incomes and food security are adequately targeted in the identified themes.</p> <p>In the context of food and nutritional security, ACIAR acknowledges that CRP3.4 is an essential component of the CGIAR CRP portfolio. The RTB crops, bananas, plantain, cassava, potato, sweet potato, yams and other tropical and Andean root and tuber crops are linked by common management aspects including seed and postharvest opportunities and challenges. It is estimated that about 200 million poor farmers in developing countries produce RTB crops for food and income. While there is variation between cultures, the role of women and the dietary potential for children from RTB produce is generally very high. This CRP gender strategy very adequately incorporates such considerations.</p> <p>The importance of this CRP in directly improving diet and nutrition is high in many developing countries. The RTB crops often complement cereals in cropping systems and allow for more diversified crop and farming systems to reduce risk of potential</p>

deficiencies. This proposal has clear and identifiable partnership, gender, communications, knowledge sharing and capacity strengthening provisions which are well described. A clearer means of linking with relevant NARES would add to the quality of the proposal, and should be further clarified during the implementation phases. Involvement of NARES and NGOs at all stages of the research program will be necessary to maximize the benefits.

**Specific Comments:**

- As with other CRPs the cross linkages with the wider CRP portfolio will need to be more fully examined as the overall reform process is implemented. In the context of nutritional security, crop diversification and soil management it is envisaged that this CRP would become increasingly synergistic with other crops depending on country and regional characteristics.
- The demonstrable links to NARES, while acknowledged, is still not fully identified. This will be important and Table 4.7.1 (p. 143) is a useful summary which can be built on in the future. In the same context appropriate linkages to relevant regional research bodies will be useful to ensure inclusiveness.
- The authors should be commended for designing the CRP to meet the needs of both farmers and consumers. This 'through chain' approach recognises that (with increasing urbanisation) both rural and urban consumers are key features of the nutritional security challenges. The value chain components of the CRP recognise the current dynamics of systems with movement from subsistence to commercial platforms. It should be recognised however that 'traditional' and informal markets in many developing countries are also changing as part of the wider evolution of markets.
- The coverage of pests and diseases is appropriate and well presented. The role of RTB in future control of wider pest and disease risks through diversified cropping systems is an important area for farmers and communication across CRPs will help to avoid unnecessary duplication in this area of science. The same applies in principle and practice to soil management projects although the emphasis will obviously vary between soil types and countries.
- The financial details in this CRP are noted with updated budget tables which have addressed earlier CB concerns. As with other CRP comments, ACIAR believes that the relative costings of individual CRPs will need to be revisited once all CRPs are approved. The relative costings across CRPs are inconsistent at present, and this will be more relevant if aggregate costings of the new CRP list exceed future revenue streams.
- Clarification is required in all CRPs including CRP 3.4 of the basis for the management, coordination and governance costs being charged in the CRPs. At present there is a wide variance (from 5 to 25%) and the relationship to centre institutional overheads lacks clarity. A comparative analysis managed by the Consortium office/board will be required to ensure transparency, consistency and efficiency across the new CGIAR system.
- The capacity building sections (e.g. p.26) raises the legitimate issue of which end users and next users are the most suitable target partners. This will naturally vary between projects and countries. The vexed question of how far the responsibilities of the RTB CRP should extend is also relevant to other CRPs

<p><b>FAO</b></p>	<p>particularly within the extension continuum. Identification of relative levels of expenditure on research and extension respectively should be an individual CRP decision, but a broader reference framework for the CGIAR could usefully be a matter for future consideration by the Consortium Board and Fund Council. Extension type activities should be an integral part of project design and suitable extension partnership developed early in the research timetables to achieve co-responsibility for generating research outcomes as stipulated in the SRF.</p> <ul style="list-style-type: none"> <li>• It is unlikely that the wide range of subject issues contained in this CRP can be progressed simultaneously and some further indication of short, medium and longer term priorities would be helpful if only indicative at present.</li> </ul> <p>FAO commends the well-written and technically sound proposal. The proposed thematic areas are appropriate. In general, the document addresses the gender aspects in a detailed and comprehensive way, giving it proper attention per each topic.</p> <p>However, linkages between thematic areas and other CRPs needs to be further strengthened, budget allocations for the various areas need to be more balanced, and some gender aspects still need to be addressed.</p> <p>FAO therefore recommends to take the following issues into consideration when revising the proposal:</p> <ul style="list-style-type: none"> <li>• In the impact pathways envisaged for Theme 1 and 2, there is a need to improve nutritional targeting and linkages with nutrition. These thematic areas should provide an opportunity to explore and recognize – the existing biodiversity in Root and Tuber crops and Banana (RTB) and their nutritional composition – the use of nutrient content among the criteria for varietal selection and promotion – the importance of nutritional differences within the species and the micro-nutrient superiority of some lesser-known cultivars/varieties.</li> <li>• The impact pathways envisaged for Theme 4 should include the assessment of the current advanced reproduction technologies for RTB - as well as related protocols and standards - and their contribution in formal quality planting material regulatory systems.</li> <li>• The budget distribution tends to favour the conventional thematic areas 1 and 2. Almost 60 per cent of the total operation budget goes to the development, conservation and distribution of planting material, whereas only about 8 per cent goes to Theme 5, developing tools for more productive, ecologically robust cropping systems. Themes 5 and 6 should be given adequate funding to help meet the challenge of the new millennium – of feeding a rapidly growing world population. To meet this challenge would require adopting: - sustainable crop production intensification and sustainable food loss reduction approaches.</li> <li>• FAO could be considered as a key partner in forging the fundamental changes that are needed in developing countries’ agricultural development policies and</li> </ul>
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<p><b>IDRC</b></p>	<p>institutions in order to support the proposed thematic research areas.</p> <ul style="list-style-type: none"> <li>• Specific comments theme 5: <ul style="list-style-type: none"> <li>– Tools should principally provide information for breeders and further germplasm development, but not <i>per se</i> on managing RTB cropping systems more efficiently. It is not very clear how much resources will actually go into developing management options with farmers. Given the little budget allocation one could conclude that not much can be done, but that this work should come from links with system oriented CRP’s, which in the case of RTB crops concerns mainly CRP 1.2, Integrated Systems for the Humid Tropics, and from linking up with other institutes specialized on integrated soil fertility management. These important links are mentioned, but no additional details on how this type of collaboration will impact on germplasm development are given.</li> <li>– Genotype x environment x management interactions although well known for RTB crops, have often been neglected in the past. For example, cassava varieties may react negatively in terms of root yield to fertilizer application, or specific varieties might be required for intercropping than compared to monocropping. Regarding tool or model development, no mention is made of a cassava model for intercrops. Yet such a model would ensure the identification of important gaps, direct the breeders in their efforts and should therefore be considered.</li> </ul> </li> <li>• Specific comments to gender aspects <ul style="list-style-type: none"> <li>– Participatory value chains: it would be necessary to better explain what is meant by this expression and if “participation” also refers to women who are often excluded from value chains. The role of women as producers of food products is now widely recognized, but little emphasis is still given to their involvement in marketing these products, often the exclusive domain of men.</li> <li>– Women’s participation in the value chains should be considered as a good indicator for gender equality. Such participation aims at developing income generation activities for the empowerment of women. This will result indirectly in improved living conditions and livelihoods for women and their families.</li> <li>– Finally, more attention should be paid to the issue of institutions, with regard to gender strategy. Gender analysis should specifically address the role that institutions play in determining the processes of inclusion/exclusion of women from economic activities, as well as the role that they can play in closing the gender gap.</li> </ul> </li> </ul> <p><b>Strengths:</b>  The focus on the specific crops identified is a research area where the centers have a clear comparative advantage in the international agricultural research community. The program is intrinsically linked to women’s economic opportunities as women are the primary growers of root, tubers and bananas (RTBs). The strong focus on breeding improved varieties for yield and pest management is important as there has been little work done in these areas compared to cereal crops and the potential</p>
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for significant results within a defined time frame is high. These crops provide important sources of nutrition in various parts of the world, not just in increasing calories consumed but in micro-nutrients as well.

**Weaknesses:**

- There is no mention of collaboration or coordination of CRP activities with those of CORAF, ASARECA, or other African agricultural research institutions
- The mechanisms by which the CRP will liaise with NARS are not specific enough to determine whether or not the outputs listed in Figure 2.1 can be achieved.
- Climate change issues are not well accounted for in the CRP. Given that poor production practices can increase deforestation, these issues could be better explored.
- The focus on GM technologies is potentially problematic given that many nations have not yet formed a policy with regards to usage of these technologies. The proposal does not address how the CRP will address the situation and ensure that participating organizations do not violate national regulations. As well, the potential for anti-GMO sentiments to arise must be addressed.
- CIP works on potatoes and sweet potatoes exclusively among the partners listed. It is unclear what value-added CIP provides its identified partners and vice versa.
- Integrated pest management (IPM) is a potentially powerful tool to combat pests but this approach is not developed in the proposal, in favor of breeding for disease resistance approaches. Given the potential for short term impact at relatively low cost of IPM, this could be revisited.
- Taro and other minor RTBs are mentioned in the proposal but the specifics of program priorities that incorporate work on these crops is underdeveloped.
- The proposal introduction does a great job of describing a variety of factors that impede RTB production, from variety development to marketing to cropping systems. However, the proposal rests almost entirely on breeding activities and genetic stock management. Storage, transportation, processing, and market development (for example) are mentioned but, very broadly, describing only how these issues will affect or inform breeding activities. Each of these activities is worthy of a research agenda that is better developed.

**Other comments**

It is unclear from reading the summary of activities under Theme 1 which of these activities fall under the Gene Banks umbrella (funded separately through a FC decision at the April meeting), and which are intrinsic to the CRP. Clarification is needed here to avoid double-funding gene bank activities.

**Summary**

This proposal draws on the strengths of CIP and other centers comparative advantage in variety development for RTB crops. These aspects of the proposal are well developed. The proposal misses an opportunity to develop alternative streams of research in farming systems, economics and other social sciences that would diversify the research agenda and provide relatively quick results to assist in addressing food security issues.

<p><b>World Bank-ARD</b></p>	<p><b>Overall Assessment and Comments:</b></p> <p>The proposal is well thought out and written. It is clear that the proposers have a sound grasp of the issues associated with the selected crops. In general terms, the centers proposed to lead this CRP have an evident comparative advantage on this topic considering their respective historical experience. The gender and capacity building strategies are well developed and mainstreamed across research themes.</p> <p>On development impact, the proposal does not fully describe nor use the analysis of past successes and failures and lessons learned in seed systems. Seed systems and the provision of improved and healthy planting material is key for RTBs . The proposal rightfully acknowledges the challenges associated with mass propagation, rapid pathogen detection, standards for seed certification and the necessary capacity in some developing countries, but it does not clearly develop how it intends to engage in the formal and informal seed production sectors.</p> <p>This proposal would benefit from a clear description of the total investments (human, logistical and financial resources) needed to deliver planned outputs. A partitioning of these investments between key partners (CGIAR centers, strategic partners and national systems) would also be helpful.</p> <p><b>Recommendation: Approval of the proposal subject to the following substantial revisions:</b></p> <ol style="list-style-type: none"> <li>1. Presently the proposal comes across as a proposal of four centers bringing their existing research programs and partners together, but identification of major constraints and priorities comprising a major global CRP on these crops is unclear and needs to be re-visited and revised.</li> <li>2. The CRP-RTB proposes “new ways of doing business”, but all the features describing these new ways are process rather than content oriented. The proposers need to spell out the areas that would be targeted (research investments) for innovations and scientific breakthroughs. This will help articulate a clear strategy for innovation and identify key actionable items for the CRP.</li> <li>3. The proposers need to re-consider the strengths the consortium has in themes 5, 6, and 7, (ecologically robust cropping systems, postharvest, impact through partnerships). Some of the included product lines could be better addressed through stronger partnership with institutions where this knowledge and capacity already exist (e.g. soil fertility, nutrient and water management; postharvest and storage; and policy research, biosafety regulations, Intellectual Property Rights).</li> <li>4. Despite the potential synergies between the centers, sustainable partnerships have been a challenge in the past. This learning could be better reflected in the proposal. Individual centers come with their network of partners and stakeholders, but it needs to be clearer how these will translate into a functional partnership for this CRP. Moreover, rather than being a specific theme, partnerships should cut across all the themes and be strategically selected.</li> </ol>
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