

## **Response to CRP5 “MUST HAVES”**

### **Introduction**

We thank the ISPC and Fund Council members for your valuable comments. We have incorporated many of your comments and suggestions into the revised text. The new version of the proposal is more focused, has a better integrating framework and proposes a set of clear targets and deliverables.

As noted by the Chair of the Fund Council, CRP5 tackles a very complex and difficult set of natural resource management and environmental issues, which are fundamental to the sustainable intensification of agriculture. It is possible to increase food production to feed 2 billion more people by 2050, but we must do this in harmony with the environment while maintaining key ecosystem services.

The complexity and diversity of natural resource management and environmental issues related to sustainable agriculture are such that building a successful program is harder than dealing with individual crops or regional cropping systems. In CRP5, we are bringing together water, soil and ecosystem services work across the CGIAR and its partners, in a more ambitious way than attempted before. This requires much patience in linking scientific paradigms and institutional cultures, stakeholder expectations and working in an area where there is no one clear market. To this end, some of the questions posed by the ISPC and donors can be answered only partially in the revision. However, where additional information, particularly on the development of specific partnerships is required this will be focused on in the inception phase of the project.

The answers to the “Must Haves” given below are relatively brief and simply indicate what we have done or will do re the specified issues. Full details are in the resubmitted proposal.

Finally, we assure the FC and ISPC that the process of revising the document has greatly enhanced cooperation between the major partners in the CGIAR and we genuinely have developed common intent and focus. We are looking forward with excitement to putting CRP5 into practice.

*Colin Chartres (on behalf of all CRP5 partners)*

*September 22, 2011*

### **ISPC Must Haves**

1. Develop a framework to establish research priorities and a SRP portfolio to address them based on formulation of hypotheses about the causes of constraints and their potential solutions. In developing hypotheses, objective evaluation is preferred to one that accepts assumptions underpinning current activities.

**We have also provided additional literature review in Chapter 1 and in several Appendices that support our selection of specific natural resource management issues for inclusion in CRP5. Our**

prioritizing framework is explained more clearly- in Chapter 2. It is based on- global visioning of the key issues (water scarcity, land degradation and ecosystem decline) surrounding agricultural intensification (Chapter 1) and their environmental impacts. To define researchable problems that can be dealt with in the 5-10 year period available, we have used an approach that accounts for regional consultations and strategic reasoning to define solutions to the key global problems. More emphasis has been placed on how solutions can be developed to deal with the natural resource and ecosystem services constraints on sustainable intensification of agriculture and a number of major “problem sets” have been defined based on theories of change and research questions (hypotheses). These problem sets are based on an objective assessment of the major challenges at global and regional levels. In our view they present a compelling set of challenges for the program and for agriculture in the developing world.

We have also specified that a prioritization process will be developed by the Steering Committee to guide selection of future problem sets (Chapter 3).

2. Narrow the focus and improve the clarity and plausibility of SRP research outputs and outcomes, and the descriptions of the impact pathways; carefully consider the time and skills needed to achieve the expected outcomes.

This has been done via the development of the specific problem sets to be tackled predominantly in the first 5 years. The problem sets are defined via an analysis of previous work in the area, the specification of theories of change, research hypotheses to be tested, partnership strategies and outputs, outcomes and contributions to the SLOs of the CGIAR Strategy and Results Framework. Annual work plans will keep the work focused and on track with respect to time.

3. Clearly identify what is new and the value added contained in the SRPs compared with existing Centre and Challenge Program work, and provide an appropriate plan for phase-in of new and phase-out of current activities.

We have focused almost entirely on new work in terms of both innovative approaches and integration between centers and partners. Overall, the proposal builds on center and CPWF work.

It addresses the critical question of whether or not we can- intensify and expand agriculture without significant environmental consequences, which is a new focus for the CGIAR. It links soil and water better than before in the CGIAR, aims to develop a significant information program on natural resources and environment and looks at emerging business opportunities in resource recovery and reuse. The program also provides a single point of access for all CGIAR water, land, soil, ecosystem and environmental information, which in combination with the FAO, will enhance our capability to deliver authoritative global and regional resource and environmental assessments related to the impacts of agriculture.

The program builds on IWMI and CPWF work on river basin management, and will integrate soil and water information in a manner not yet attempted in the CGIAR. The program introduces the concept of using ecosystem services to monitor agricultural impacts. The program intends to build on successful initiatives in World Agroforestry and CIAT such as the African Soil Information System, IWMI’s water productivity and drought assessment work, ICRISAT’s watershed studies and ICARDA’s

water harvesting work and to use this information to develop new initiatives for improving water harvesting, water storage and supplementary irrigation and improved land and water access policies. We will build on the upstream-downstream impacts and ecosystem services work in CPWF to improve policy dialogues with key land and water managers in selected regions/basins. The key issue is that much of the existing work has been done in single centers. The CRP5 management committee will focus on integrating this work in new projects to deliver much greater value.

An appendix (3) has been added on integration of CPWF. Clearly, there is still legacy work that must be completed to fulfill contractual requirements, but where possible this will be integrated into the SRPs and phased out over the next 12-18 months. A plan to do this will be completed in the inception phase, based on principles identified in the Work Plan (Appendix 4).

4. Develop a more coherent and systematic organizing structure to achieve better integration across Basin, Irrigation, Rainfed and Groundwater SRPs. Consider a “nested” SRP structure with Basins as the highest order, with Irrigation and Groundwater (merged) and Rainfed and Pastoral Systems (merged) underneath. SRPs on Information and Resource Recovery and Re-use might stand alone or their components could be integrated into the other SRPs.

Our integrating framework has been more clearly defined. It hinges on how external drivers affect agricultural production and how responses impact the environment. Understanding these impacts allows for the development of changes in policies and management practices that are more sustainable. We agree with the nested approach and have elaborated on this in the redraft in the Conceptual Framework. Our nested approach considers the effects of external drivers on rainfed and irrigated systems and how policy and management responses in these systems affect ecosystem services, such as water flow, water quality and biodiversity. We use river basins, complemented by landscapes, in some cases, to integrate these changes across regions and look at upstream-downstream relationships. We use the Resource Recovery and Reuse SRP to offer a potential solution to both declining soil fertility levels and water pollution which are, themselves, drivers of land and water degradation. Finally we have a strong Information Systems portfolio which will provide integrative information to policy makers, land and water managers, and other stakeholders.

5. Mainstream the ecosystem services perspective across all SRPs; give greater attention to better understanding trade-offs between productivity and other environmental services.

We emphasize this issue throughout the new version of the proposal. Ecosystem Services have been mainstreamed and specific goals built into many of the problem sets. We demonstrate through diagrams how the different SRPs will contribute to the SLOs of environmental sustainability, livelihoods and food security. The River Basins SRP will look specifically at these trade offs from the point of view of the water-agriculture-environment-energy nexus with specific foci in the Mekong region and Central Asia.

6. Clarify the value added of research activities in the Rainfed SRP, including much stronger linkages between research outputs and production of IPGs. Because SRP- Rainfed represents 27% of the total CRP5 budget, the IPSC suggests substantial scaling back and tighter focus of proposed activities under this SRP.

We have developed 5 key problem sets for the combined rainfed and pastoral SRP that provide specific focus. These 5 problem sets are focused on high level problems that will generate methods and techniques as IPGs that can be used in different regions. The high proportion of funding in this SRP is an artifact of current levels of restricted funding in this area and the amalgamation of the Pasture SRP into the Rainfed SRP. This existing, predominantly restricted, funding had to be included in our analysis based on CB instructions. This may well continue, but we have proposed a prioritization process led by the Steering Committee which will reprioritize focus and funding as current projects are completed.

7. Explicit linkages are needed between the Pastoral SRP and other CRPs with livestock systems research components.

These have always been intended and are emphasized in the revised proposal. Key linkages are defined in Section 5.7. More specific interaction will be planned during the inception phase as plans of other CRPs become clearer. The fact that ILRI will be a major contributor to the Rainfed SLP problem set on pastures will enhance these relationships.

8. Coherence and coordination are needed across CGIAR and CRP sentinel research sites to ensure the best underpinning science is used for effective and efficient metrics and monitoring of current status and trends in water, soils, and biodiversity resources as affected by agriculture.

As discussed in the Washington FC meeting, this coordination is highly desirable. We are engaged via World Agroforestry in discussions with other CRPs to ensure that this happens. We will also be guided by the outcomes of the ISPC Natural Resources Workshop taking place in Beijing this October, in terms of methods and monitoring opportunities for NRM. However, some degree of leadership and facilitation of these cross cutting activities would be appreciated from the Consortium Board and Office.

9. A vision for irrigated agriculture to support agricultural development in SSA, and how CRP5 can facilitate it, is needed in a revised proposal.

This was mentioned in the previous proposal. However, it has now been included in the revised Irrigated Systems SRP as a problem set (Table 4.2).

10. Proposed research and development partnerships should be better justified and integrated into the narratives, including defining a modus operandi and comparative advantage.

We have focused our partnership strategy around the concept of having core research partners, implementing partners and outreach partners. Each SRP lists existing and potential partners by region. The Irrigation, Resource Recovery and Reuse, Basins, and Information SRPs include specific examples of how our partnerships will work in terms of roles and responsibilities. However, given the fact that CRP5 is developing solutions for 14 new problem sets, more details on these will not be finally available until the inception phase, to give local stakeholder platforms the required attention. The fact that the CGIAR partners of this CRP already distribute approximately 30% of their funding to partners demonstrates that partnerships are taken very seriously. CRP 5 provides further opportunity to focus on innovative concepts of multi-stakeholder learning alliances and quality partnerships.

11. Program management and governance should give greater emphasis to management effectiveness rather than cost. Proponents might consider merging the Scientific and Impact Advisory Committee with the Steering Committee. Explicit procedures are needed for monitoring performance and supporting the SRP and Regional Site Managers positions. An independent oversight body should be incorporated into the governance and management structure.

We have always been concerned with effectiveness and cost. We agree that the original advisory and steering committees should be amalgamated. We now have a Steering Committee that combines internal and external membership (based on good practices developed under the CPWF) and have put in place dispute resolution processes that will ensure fairness. Explicit procedures with respect to M&E are described in the relevant M&E chapter.

**From FC Members:**

12. Present a more coherent program and not simply a set of eight strategic research portfolios built around existing research activities. It should capture some fairly obvious synergies between, for example, the rainfed research portfolio and the basins research portfolio.

We have attempted to describe how the conceptual framework links drivers and responses together and how basins and landscapes are the integrators of these changes in terms of impacts on ecosystem services. This was not clear enough in the original proposal. We have also indicated that we do not expect any SRPs to function as silos and that interaction across SRPs and CRPs has to be evident.

13. Proposal should focus on the potential for new and innovative research and not too much on the *status quo*.

The revised proposal has been redesigned in terms of research issues and hypotheses. From these, we have developed an initial group of problem sets that can be tackled in the 5-10 year time frame.

14. Improve the justification and include (1) a summary of the main literature (with key references) on the current status of the three critical issues of water scarcity, land degradation and ecosystem services, (2) the previous and on-going research in the CGIAR system, and (3) clear rationale for the comparative advantage of the proposed CGIAR centers to conduct this research.

We have tried to make this clearer in both the introductory chapters and in each of the SRPs. Additional background literature has been included as appendices (Appendix 1a-1c). We have also specifically indicated where the CGIAR can add value to NRM research (Section 1.6) and we have added further material in the sections entitled A Compelling Role for the CGIAR in each of the SRP Chapters. We describe our perspective regarding the comparative advantage of the CGIAR in several places in the document.

15. Improve the Conceptual Framework by clearly outlining the rationale for the selected framework, defining the key terms and their relationship to each other and using the terms consistently throughout the document.

This has been done as indicated under point 4 in this response. A box has been added to describe the key terms used.

16. An *ex ante* impact assessment and a systematic priority assessment exercise should accompany the proposed SRP planning exercise.

We agree with this suggestion. Initially we have considered the potential beneficiaries and included these in Chapter 2. We also intend to further these analyses via more specific *ex ante* impact assessment studies that will be commissioned during the inception phase.

17. Narrow the program agenda to make it more tractable from a governance, management and accountability perspective.

Our new focus on problem sets will enable this to happen. Each problem set will have specific deliverables that will be built into the agreements between the lead center and partners and will also be the focus of program monitoring and evaluation processes.

18. The importance of institutions and governance for integrated management of natural resources should be further explained.

We have given this more attention in terms of the theories of change in Chapters 4-8. In addition, we describe the key institutional and governance levers of change and impact pathways in each problem set.

19. Firmly establish the comparative advantages of the CGIAR to lead the two SRP on resource recovery and reuse, and ecosystems compared to other suppliers.

With respect to Resource Recovery and Reuse, -we focus on the existing “market” gap with respect to turning smaller sources of urban waste into potential fertilizer. Many researchers in national and academic centers are examining mostly technical aspects of resource recovery and reuse (e.g. ecosan), focusing largely on household or community based applications, while seldom moving in low-income countries, beyond a subsidized pilot phase. These approaches are in most cases supply driven, initiated by the sanitation sector. Demand driven, larger-scale questions involving market-based approaches to the delivery of sanitation services and the development of business models in resource recovery and agricultural reuse are receiving less attention. The CGIAR is well placed to bring together national and international researchers, entrepreneurs, business schools and other specialists across technical and policy disciplines, to conduct innovative research on resource recovery and reuse, building on a solid agricultural research foundation. IWMI, the WHO, and FAO have developed a significant expertise in the areas of waste reuse, food production and positive public and environmental health outcomes in several countries. This SRP will build on this expertise.

With respect to Ecosystem Services, our approach is to use these as a “bellwethers” with respect to the impact of agriculture on the environment. There is significant capacity in CIAT, Bioversity and IWMI with respect to soil health, agro-biodiversity and water quality/environmental flow issues, which we intend to build on in collaboration with key partners. Our aim is to use partnerships with the environmental science groups and NGOs working on environmental issues to better link environmental outcomes with better agricultural management, rather than do new research in to specific aspects of biodiversity and ecosystems. This is a very important niche for the CGIAR that has few competitors in developing countries.

20. Address the following weaknesses in the following aspects of the proposal: identifying some key soil-related constraints, treatment of drip and sprinkler irrigation, potential of land use planning, and explaining how the rural poor may potentially benefit as suppliers of ecosystem services. Treatment of groundwater should also consider availability and issues of sustainable supply in addition to policies and institutions.

In developing the research questions and problem sets, we have attempted to be much more specific with regard to defined issues. The soil constraints have been better defined in the literature review sections and in the rainfed SRP. High efficiency irrigation technology will be a focus of the partnership with Jain Irrigation, and sustainable yields will be the focus of our work on groundwater development and use. The information products that will be delivered by the Information SRP will be important inputs into land use planning.

21. State explicitly if the research portfolio on Basins will build on the existing Challenge Program on Water and Food (CPWF) and explain how this CP will be integrated into the CRP.

The Basins SRP aims to develop new approaches to basin management based on IWMI and CPWF findings to date. The integration of CPWF is described in Appendix 3.

22. Monitoring and evaluation (M&E) processes should be indicated with more specificity from the start.

The relevant Chapter (12) has been revised to cover these issues.

23. Include a diagram to clearly lay out the impact pathways to explicitly link a cluster of outputs to outcomes, impacts and to SRF system level outcomes.

This has been done in two ways. In Chapter 2, the relevance to SLOs has been diagrammatically shown. Secondly, each problem set defines the linkages between outputs, outcomes and impacts.

24. While gender is essential as a cross-cutting theme, specific gender issues could be highlighted (where relevant) in the different strategic research portfolios and across CRP5 objectives and outputs.

We have indicated specifically in the SRPs where gender issues are important. During the implementation phase, we will define specific gender related research activities based on the criteria in Chapter 9..

25. Clearly define partnership strategy and the roles of each partner by including a paragraph to describe the framework of selecting external and center partners, their respective research activities, how these activities collectively contribute to proposed eight sub-programs.

Please see our response to Item No. 10. A specific example is given in the Resource Recovery and Reuse Chapter (6.5.2). For some of the SRPs and problem sets, further elaboration is required during the inception phase.

26. Revise the Governance and Management section to clearly define the management structure and the committees/board within the structure. This includes a clear role of the DG for the lead center in the management structure to ensure there is no conflict of interest. If the management and governance structure is meant to be a matrix system then it is even more critical to (1) clearly define roles and responsibilities for each committee, particularly their reporting relationship, and to (2) ensure a program integration body that has the authority to provide oversight to the implementation organizations, and not the other way around.

(1) This has been elaborated on in the revised chapter on Governance and management. The respective roles of Lead center Board, DG, the Steering Committee and Program Management are tabulated.

(2) The Steering Committee has been given the roles of prioritization and oversight that will ensure strong CRP focus and direction.

27. Clarify coordination, governance and management overheads proposed in the budgets.

As stated in the budget narrative, the average overhead rate is about 15% of the total direct costs and includes costs associated with participating center operations. These overhead costs exclude the cost of Governance, Co-ordination and management, which have been worked out in detail considering the staff, travel and related requirements to manage CRP5. The Governance, management & coordination cost assumes that part of the costs of management committee members would be covered in their respective center overheads. As a result, minimum costs are assumed to manage the program. As stated in the donor (Australia) response, these are lower than those anticipated in some other CRPs. It should also be noted that other CRPs have charged overhead on pass through funds to participating centers. However, no such charges are budgeted in CRP5.