

Interim Independent Science and Partnership Council

Commentary on the CGIAR Research Program: GRiSP, Global Rice Science Partnership

[30 September 2010]

What follows is the iISPC's commentary on the revised GRiSP proposal submitted to the Fund Council on 17th September 2010. The iISPC provided the FC with initial comments on a version of 9th July, 2010. Subsequently the proposal was substantially revised.

General assessment

The iISPC strongly supports funding of the GRiSP as a CGIAR Research Program (CRP).

GRiSP presents a comprehensive program bringing together three CGIAR Centers and three other main partners that contribute significantly to rice research, including CIRAD (Centre de Coopération Internationale en Recherche Agronomique pour le Développement), IRD (Institut de Recherche pour le Développement) and JIRCAS (Japan International Research Centre for Agricultural Science). GRiSP represents a highly commendable effort to coordinate the previously disparate efforts across the CGIAR and its partners that address global rice productivity and sustainable rice-based farming systems. Through reaching out to partnerships beyond the CGIAR, GRiSP provides enhanced possibilities through the emerging collaboration to bring the best efforts to bear on problems of rice research globally.

The GRiSP proposal has been developed without the finalization of an overarching CGIAR strategy for prioritizing research that would include budget envelopes for each CRP agreed by the Donor Fund (as also emphasized by the Consortium). This matter seriously affects development of CRPs in general. In the absence of the Strategy and Results Framework (SRF), the assessment of GRiSP as a CRP contributing to a portfolio of CGIAR programs is difficult. It is particularly difficult to assess the inter-linkages of GRiSP with other programs (such as those on other cereal systems, climate change and integrated agricultural systems) and the relative prioritization among them. Thus GRiSP has been assessed as a stand-alone program with several observations on how GRiSP would need to adjust its content when the SRF has been finalised and evolve its linkages with other emerging CRPs.

The GRiSP proposal makes a very compelling case for addressing the CGIAR's objectives as defined in the draft SRF through a program on rice and rice systems. Rice is the world's most important food staple of the poor. Enhancing food security in many developing countries through yield increases and more sustainable rice supplies and systems for the poor is central to the CGIAR portfolio.

Nevertheless, the iISPC believes that the separation (and separate genesis) of the three main cereal system programs (rice, wheat and maize systems) misses an opportunity to capitalise on parallel advances in modern plant breeding and biological sciences. The opportunities to increase efficacy across crops and component activities are clearly evident – from the molecular research and bioinformatics systems, to the application of new tools, to the systems in which the crops are grown, and to the seed systems which are often the major local bottle

neck for the dissemination of all crops. The iISPC envisages the CGIAR as an enterprise where some components of the business would be undertaken by the most efficient provider (including, for instance, regional hubs). The iISPC therefore urges that close integration be developed between the three cereal components of the CGIAR research Theme 3 taking account of the Generation Challenge Program (GCP) and the Genomics and Integrated Breeding Services (GIBS—see below). This evolution needs to be closely monitored for greater coherence, synergy and complementarity.

The iISPC is cognizant of the lack of flexibility for GRiSP to reallocate funds in the short term, due to the high level of restricted funding (about 80%) supporting current work. Building on the current comprehensive exercise in *ex ante* strategic assessment, the GRiSP should identify, more explicitly than does the current proposal, that GRiSP aims to develop a long-term strategy for the program beyond current funding commitments, and this may result in significant shifts in priorities. Given major uncertainties about many features of future global supply and demand (e.g., climate change, consumption trends, etc.), the strategic assessment should include development of multiple scenarios to guide rice research planning. It should also recognize the rapidly changing context for rice research, such as rapid urbanization and declining poverty in much of Asia. Finally it will need to include a strategic analysis of the institutional landscape in order to strengthen existing partnerships, or form new ones, to serve the Program's needs and devolve work where appropriate.

The proposal identifies the need for capacity strengthening (mainly as a component of the research activities) in order to enhance outcomes. Yet the funding requested for a major effort in capacity strengthening is inadequate. If human and institutional capacity are the major constraints in some of the partner countries to the ultimate achievement of outcomes and impact (and the iISPC believes that this is the case; see below) then there is a need for realigning funding so as to alleviate these constraints to achieving the expected outcomes of the program.

Overall, the iISPC considers that it is highly desirable to fund GRiSP fully (scenario 3) through the Fund. The current committed restricted funds that account for about 80% of the immediate research to be done in GRiSP should be subsumed in the Fund. A continuing dichotomy between Fund-dependent research and research dependent on restricted grants would endanger the objectives of the CGIAR change. It is essential that the Fund eventually will be able to cover a large majority of the portfolio that is judged most relevant for implementation of the final, agreed SRF.

The comments below are intended to highlight areas, judged against the common assessment criteria¹, where the Council considers GRiSP should evolve.

Assessment of GRiSP proposal by core criteria

Strategic coherence and clarity of Program objectives

GRiSP is compelling in terms of the global research context. It addresses a high priority strategic research area and provides convincing evidence of the global importance of rice, with clear developmental benefits deriving from rice research. Overall, the proposal explicitly links rice research to the CGIAR's objectives in the draft SRF of poverty, hunger and

¹ Common Criteria for CGIAR Mega Program Design and Assessment, August 30, 2010

sustainability specifically through the entry point of increasing productivity. The underlying modelling effort is commendable and the overall results - such as an expected 0.35% productivity growth rate - are consistent with the results in the draft SRF. However, all model assumptions should be made available to both donors and other CRPs through a web-based background paper.

The revisions in the proposal² show intention towards greater focus and synergy through reduction of Product Lines from 32 to 26 (compared with the initial proposal). Nevertheless, GRiSP presents a compilation of the ongoing programs of the three CGIAR Centers and there has not yet been a rationalisation and prioritisation among the main ecosystems and regions. The results from a major priority setting activity taking place in parallel are not yet available for prioritization within GRiSP. The completion of the current comprehensive priority setting exercise will be critical to guide the relative prioritization and amalgamation at regional and ecosystem level. This exercise provides an important opportunity to analyze strategic questions; such as the role of global productivity growth in reducing poverty and hunger through lower consumer prices *versus* the specific targeting of major ecosystems where poor rice farmers are concentrated. This would also provide the analytical basis for setting research priorities and budgetary allocations to those ecosystems deriving from such prioritization. Such an exercise will also need to recognize different ways of achieving resilience and ecological sustainability through the different avenues of breeding, systems management, capacity building and institutions.

In general, iISPC agrees that the great bulk of the GRiSP relates to areas where the CGIAR and its partners have a comparative advantage. However, further rigorous screening against explicit comparative advantage criteria and potential alternative suppliers would likely eliminate some product lines. For example, product line 5.3 to develop a real time rice monitoring and forecasting system seems hard to justify given the knowledge, skills and mandate of the CGIAR, and a number of alternative suppliers that should pick up this activity.

Delivery focus and plausibility of impact

The proposal has a strong analytical base in terms of *ex ante* analysis that feeds into a results framework with specific quantified indicators. Specific impact targets are projected and details for these claims are provided. Impact pathways are described in satisfactory detail and examples also include Africa.

The research outputs are targeted at the main problems limiting rice production, especially amongst poor farmers, in each of the main rice production zones. The expected outcomes from *current* projects will need to be mapped and subsequently evaluated. As noted above, the Program should be very transparent about the potential tradeoffs between addressing poor consumers and improving the livelihoods and production environments of poor producers. Systems analysis approaches are encouraged to help identify any potentially negative impacts of the program strategy on groups of producers or environmental sustainability.

The proposal does not adequately address capacity building as a strategic issue which will affect the success of the program in maximising the intended outcomes. The program will develop new, sophisticated products (genes, markers, germplasm, crop management tools and

² The ISPC distinguishes here between the version of GRiSP on which it commented in July 2010 (and to which comments the proponents have attempted to respond) and the revised version of the GRiSP submitted by the Consortium Board for the Consideration of the Fund Council in September 2010 and to which this Commentary refers.

approaches for plant and system health) and its impact depends on incorporation of these products into breeding programs for adaptation and introduction into the local cultivars and cropping systems. To do so will need facilities, reorganization at regional level (regional hubs) and enhanced plant breeding and agronomy capacity at the national level capable of modern marker based breeding and use of informatics and systems analysis tools. GRiSP contains a program of capacity building for breeders, agronomists and extension specialists, but its effects are likely to be slow. A more comprehensive and integrated approach through professional and network capacity building is needed. Similarly, strategic activities for capacity building should have high priority in GRiSP's funding allocation plan.

A good formal gender analysis is lacking but the proposal recognises that greater emphasis is to be given to this in the future. However, already in this proposal it would have been useful to see an attempt to relate gender considerations to specific technologies and the research directions that are discussed for the themes. It is recommended that the ongoing strategic assessment will fully integrate gender elements.

Quality of science

Overall the quality of the proposed biophysical science appears excellent and the research approaches are solid. The molecular science is cutting edge; the research is state of the art in key areas such as genomics, system resilience to pests, yield gap analysis, adaptation to climate variation, and strategic assessment and impact analysis. The program is capable of producing significant breakthroughs in overcoming a number of environmental constraints to rice production, particularly drought, flooding and salinity. It would be wise to put more emphasis also on the relatively routine technique of anther culture to speed up the breeding process. Defining responses to issues such as the allocation of resources across product lines, the likely barriers to uptake, the potential negative impact of various interventions, and the elaboration of targeting environmental and social impacts through research - given the entry point on increasing productivity - will require the strong integration of analytical capabilities in the social and environmental sciences.

One of the main recommendations from the last EPMRs of IRRI and Africa Rice was the need to strengthen the quantitative analysis of genotype x environment and to incorporate early multi-site testing in the breeding programs to capture favourable *GXE* effects. This is particularly important for the variable rainfed systems but increasingly important for the irrigated systems as they too become variable in water supply. The proposal has addressed these recommendations, although a more vigorous, multi-site testing network for analysis of segregating material for the irrigated environment would be desirable. The new area of research on labour-saving technologies in Africa is urgently needed.

The research component on C_4 -rice, building on IRRI's current work, is commendable. GRiSP is in a unique position to facilitate the work of basic research laboratories in this exploratory research on rice, which can potentially have very high impacts on other crops as well as rice. Among others, the work in this area - with potential synergies from research and application to other crops - is an example of potential gains that could be achieved from combining research on the major cereals. The proposal presents some "new frontiers" research which will depend on the availability of funds. The iISPC encourages the Fund to provide the flexibility to explore these new areas of research with high potential impacts in the longer term.

Quality of research and development partners and partnership management

The quality of the GRiSP research partners in advanced institutes is outstanding and the three research partners in GRiSP (CIRAD, IRD and JIRCAS) complement and strengthen the program. GRiSP also has a strong suite of development partners in Asia and among the BRIC countries. The role of other ARI partners could be increased. The description and justification of partners in the institutional sense should be strengthened. Nearly 900 partners have been identified through mapping all existing partnerships and these have been categorised as partners in research and in development, the latter representing mainly the complementary activities required for impacts to accrue. Strategic selection and management of partnerships clearly needs to evolve as the prioritization and consolidation progresses. GRiSP also needs to provide greater clarity regarding the balance of GRiSP funds flowing to the partners and to distinguish this from the co-investment to the Program from partners.

As other CRPs expected to contribute to the portfolio are still at various stages of development, GRiSP understandably does not provide details of links with them. However, the GRiSP leadership and the System should be cognizant of the risk of losing potential synergies among CRPs and maintain flexibility concerning the ultimate location for components of research that are jointly undertaken or overlap between CRPs. This is essential for GRiSP to avoid becoming diffuse. The Cereal Systems Initiative for South Asia is an important follow-up to an earlier initiative and has been included under GRiSP. This is a high priority activity that merits inclusion in the overall SRF portfolio. Including it in GRiSP is one solution, although aspects could also have been included under other embryonic CRPs. Until such programmatic and management arrangements are sorted out, similar work in other CRPs should be included as part of those other relevant proposals, irrespective of the ultimate programmatic locus for the work.

The iISPC considers that maintaining and building on the systemwide activity on genomics, and the development of molecular breeding approaches and partnership established in the GCP, are very important. As emphasised above, greater integration of cereal system research is essential across the new CGIAR. GRiSP participation in and linkages to other commodity CRPs through cross-cutting GIBS is commended.

Appropriateness and efficiency of Program management

The newly added management structures reinforce the observation above that the program proposal at times seems to be a compilation of all existing activities of the three Centres. It is not designed to streamline decision-making at the CGIAR system level. It is essential, as is indicated in the proposal, that the participating Centers will change their research management structures to be fully aligned with GRiSP. The roles and responsibilities of the Program Management Unit in relation to and the administrative and management systems of the participating Centers - and the evolution of this arrangement - all need to be clarified. There are well-developed strategies for intellectual property management and embryonic strategies for communication and risk management. Capacity building is handled well through research but less well at the level of national institutional capacity across the rice sector.

Clear accountability and financial soundness, and efficiency of governance

In the iSPC's view the governance of CGIAR Research Programs is an unresolved issue which needs to be addressed at the System level. In the GRiSP case, the lead Center approach may be justifiable, but this should not be seen as a precedent for other CRPs. With GRiSP it is important that IRRI and Africa Rice will revisit the size and composition of their Boards, as indicated in the proposal.