(8th February 2011)

ISPC Commentary on the revised proposal for CRP 7: Climate Change Agriculture and Food Security

Background

The Independent Science & Partnership Council (ISPC) reviewed the revised proposal for CRP7 in early February 2011 without further external peer review. The review benefited from contributions of new IPSC members who had not been involved in earlier reviews. This review comes at a time when a recently published foresight report[1] underlines the 'unprecedented confluence of pressures over the next 40 years' on the global food system. Climate change is one of the critical overlays on a range of challenges to agricultural production and food security.

The ISPC understands there is an urgent need for co-ordination of research on climate change and food security so as to deliver real impact, and that the CGIAR is uniquely placed to make a major contribution in this area. The present proposal represents substantial progress in building a highly ambitious and comprehensive response to one of the biggest challenges facing humanity today. The proponents have done a good job of pulling together a consortium of leading players in a very short period of time.

The previous ISPC comments on the original proposal strongly supported the overarching objectives. The ISPC has further comments on some points of strategy and on the ambition of the time frames suggested. These areas are expanded below to help guide development of robust workplans and program implementation in the first years of this CRP. The ISPC considers that adaptation, adjustment and learning during this early phase will be the main determinants of the ultimate impact of the program. For example, the number of suppliers of climate change agricultural research is increasing rapidly and the resources being deployed are many times greater than those of the CGIAR. It will therefore be essential for the CRP to constantly monitor the research landscape and adjust its portfolio of activities to ensure it is adding unique CGIAR value in addressing this global challenge.

General comments

The revised program proposal has in large part addressed the comments raised by the Fund Council and the interim ISPC. Particularly useful and commendable areas of the revised CCAFS proposal include: the ambition to set quantifiable targets for impacts related to poverty, nutrition and environment; the 'communication and early wins' section; capacity building components with clear targets (e.g. pp. 29-30); intermediate performance indicators in year 3 and examples of impact pathways with the critical elements (key outputs, with whom, how, critical actors, development outcomes, expected outcomes), e.g., Figs. 9 and 10. Some issues remain and the Fund Council should consider the degree of independence that it

[1] by the UK Government on The Future of Food and Farming

expects of the Program's Independent Scientific Panel (ISP), and the realism of the time frame for expected outputs given the geographic spread of place-based research involving a large network of participating Centres and partners. An additional concern raised by the new ISPC, and not indicated in earlier commentary, is the lack of emphasis on the food security component of the program within the well-developed components on adaptation and mitigation to climate risks. Finally, despite improvement in the description of the co-financing of activities with other CRPs, the outputs, outcomes and target impacts of CRP-7 sometimes overlap with those of the entire CGIAR portfolio and could be better distinguished.

Despite these continuing challenges, the ISPC believes the program is ready to begin implementation and that many of the issues we mention below will benefit from learning and refinement during its initial phase. We strongly endorse the concept of exploiting smart learning loops to fine tune delivery mechanisms towards addressing these issues.

Comments with respect to the common criteria.

1. Strategic coherence and clarity of Program objectives.

Addressing food security: it is noted at several places that food production must increase by about 70% by 2050 to meet projected food demand of 9 billion people. It is therefore surprising to find that none of the research or outcomes in this CRP explicitly addresses the challenge of increasing food production capacity under changing climates (despite the title of the CRP). Meeting food demand by expansion of crop agriculture into carbon-rich and biodiverse natural ecosystems should be avoided. The "climate-smart" solution is to increase yields on existing farmland, but performance indicators for objectives 1.1, 1.2, and 1.3 only specify such things as maintaining production, improving adaptation, increasing tolerance, etc. without regard to raising yields of crops, livestock, and fish. In fact, the entire CCAFS could achieve all its existing performance indicators without contributing to increased food production. Although one outcome for objective 1.1 (i.e. *key development and funding agencies promote enhanced agricultural and food security strategies*) mentions enhanced productivity, there is little detail on impact pathways and indicators for performance evaluation on the food security front. By default, it is implied that food production-specific activities are to be met primarily through other CRPs. However, if this is the intention, the title of the CCAFS-CRP is misleading. The ISPC believes that further explanation of the role of this CRP in relation to the commodity crop CRPs is needed, not just in co-financing activities but in the relative deliverables. We expect this issue to be addressed as the program establishes its workplan alongside others under Consortium guidance.

The CRP must carefully focus on areas of research in the climate change science universe for which the CGIAR Centres have a comparative advantage (only noted on pp. 6 and 25 in current version of the proposal), and this must guide development of research plans and partnerships. What defines the CGIAR comparative advantage is the science and expertise required to assess the impact of climate change on food production, and vice-versa, and in finding solutions that contribute to reduction of poverty and hunger while reducing GHG emissions in developing countries. Focusing on these issues provides the foundation to achieve the CRP vision of '*being the foremost global source of relevant research results that*

lead to options and strategies for tackling food insecurity in the face of climate change', and the potential for influencing research and policy approaches.

The criteria for selecting regions for place-based research (pp. 15, 16) rest heavily on prevalent poverty and vulnerability. But agricultural research may not be the best approach for helping populations in areas with widespread poverty because, in many cases, these areas are likely to already be marginal with regard to climate and soils. Developing analytical tools to identify where climate change is predicted to increase vulnerability, as well as the conditions supportive of agriculture, would be an important public good from this program.

Rationale for crop forecasting: The proposed "place-based" research under Theme 1 objectives 1.1 and 1.3 depends on development of new crop and soil management practices, crop cultivars, and identification of more diverse cropping systems and under-utilized species that will be adapted to a location- or region-specific hypothetical future climate. But "climate" is more than just temperature or rainfall. The determinants of climate include maximum and minimum daily temperature and its variability, rainfall and its temporal distribution and variability, solar radiation, humidity, and wind speed. Unfortunately it is beyond the capability of current climate models to predict future trends in all of these factors for a given region with any certainty. It is therefore highly unlikely that the technologies selected as "best bets" for adaptation to a *hypothetical* future climate in a given region are those that will actually work in the *actual* future climate at that location. Likewise, it is impossible to conduct field research that tests mitigation strategies to hypothetical future climate except in artificial growth systems because results from such artificial growth systems have limited value for making recommendations for adoption of new technologies by farmers. Instead, it is more appropriate to identify areas where current climate poses significant constraints to food production and production stability, and focus research on generic principles and approaches that confer adaptation in terms of yield and yield stability.

Moreover, it is likely that every agriculturally relevant climate of the future currently exists somewhere on earth today in a region with some form of agriculture. At issue here is why humans have not already explored available diversity of crops, wild plants and livestock to exploit these areas? The number of wild plant species that have been domesticated into a staple food crop in the past 2000 years is small. Most of these successes were for crops that grow in harsh environments (e.g. white lupin, safflower, proso millet). But none of these is a major crop. Therefore, what is the rationale to expect success in developing a successful new food crop from among under-utilized crops or wild plant species for today's climate, let alone for a hypothetical climate of highly uncertain character? Such work would seem to have a low probability of success and should only be minor part of the program's portfolio.

In contrast, the definition of agriculture on p5 (*agriculture is used inclusively to capture the wide range of productive uses of extensive and intensive farmland, rangelands, fisheries and aquaculture and their wider landscapes*) appears to exclude landless livestock and forestry production systems. There is ample scope of reducing GHG emissions from intensive livestock and their feed input systems, as well as in forestry systems, and the ISPC suggests

that the CRP ensure that these areas receive adequate emphasis as the mitigation aspects of the program are developed.

While the ISPC strongly supports going forward with this proposal, we expect the CRP management to consider the balance of priorities and critical strategic issues raised here.

2. Delivery focus and plausibility of impact

The ISPC assumes that the highly ambitious targets for alleviating poverty and hunger are intended to be understood as aspirational and are a response to the quite unrealistic requirements of donors to quantify impacts in this way. The section (pp 8-12) does not provide linkages between outputs and outcomes leading to specific changes in poverty (reduced by 10%), hunger (reduced numbers of undernourished by 25%) and emissions (reduced CO2 by 1000Mt below business as usual) by 2020. What the section does provide is a theory of change, and we suggest the title of this section be changed to reflect a more program-theory type of analysis.

Similarly, Annex 2 provides interesting data on poverty in SSA but there is nothing in the analysis showing the links between CRP 7 outputs and the 295 million rural poor who are the likely beneficiaries via direct effects and the 146 million urban poor and 115 million poorest of the poor who are the likely beneficiaries via indirect effects. In fact, much the same could be said about the potential for almost any other investment in agricultural R&D in the region.

The proposal rightly recognizes (p12) the crucial importance of key upstream and downstream partners and stakeholders and their ownership as prerequisites for achieving CRP goals. However, having a significant influence on global and regional policy processes is not a trivial matter and does not follow directly from research expertise and products. The proposal seems to depend mainly on assertions at this stage about the importance of partnerships and capacity building – without convincingly describing how this leads to outcomes and impacts on policies. This is an intangible element and will need to be kept constantly under review and fine tuned as the program develops over the longer term.

Proposed plans to expand in eight regions in the first three years seem unrealistically ambitious. We encourage the CRP to proceed at a pace that ensures programs are well-grounded in tested partnerships. It will be a major challenge to manage the many activities proposed within a large network of collaborating Centres and partners. This will require changes in activities and behaviour of many collaborating partners, which takes time.

3. Quality of science

The program depends upon innovation in science practice (i.e. multidisciplinarity) to deliver relevant outputs. In accordance with previous remarks, Theme 1 still seems driven by traditional CGIAR research, rather than starting from the challenge and working back to what research would address it. Theme 2 is more innovative and targeted at addressing the stated challenge through research - and hence is more compelling. Theme 3 the objectives and the emphasis on trade-offs makes sense, but finding 'mitigation strategies that reduce poverty' is a tall order. Theme 4 has the potential to be innovative and exciting in terms of achieving impact. The monitoring and evaluation for this theme is likely to need a different approach

than for the other themes. Indeed, Theme four will be most challenged by the need to rapidly select and operate a number of regional sites in ways that can establish cross-site monitoring and learning for the program as whole.

4. Quality of research and development partners and partnership management

There are a tremendous number of partners. Effectively managing these partnerships will be critical to success, but the section entitled 'partnership strategy' remains generic. Frequent reference to '*CRP7 will'* gives no indication as to who would be expected to take action. Mention was made of involving policy colleagues in research design. As the Program starts, the ISPC urges the program leadership to develop greater clarity through development of a business plan for program implementation.

5. Appropriateness and efficiency of Program management

This is a complex program to manage because of the multi-dimensional collaborations, and it is difficult to foresee how component parts will operate and interact. The CRP7-ISP must therefore play a critical role in guiding initial program development and in laying the foundation for success. But the ISP is only an advisory body; it does not make decisions, establish priorities, or allocate resources (p. 25, the ISP will... "provide the needed advice to the Centre Board"). If the ISP is to be co-selected by the CGIAR and ESSP, we would suggest that the Consortium Board (on behalf of the CGIAR) select the ISP, rather than the lead Centre. The fact that the ISP members have contracts with the CIAT Board also has the potential for a conflict of interest. Avoiding conflict of interest would be assisted by making public the terms of reference for the ISP, including how the potential for conflicts of interest will be dealt with. Terms of Reference which clarify where the role of the Program Management Committee stops and where the role of the ISP begins are also important. Both the independence of the program ISP and effective management of co-financed activities for delivering desired outputs and outcomes will need to be closely monitored - and refinements made as needed - to avert any perception of conflict of interest.

6. Clear accountability and financial soundness, and efficiency of governance

The revised proposal has expanded the explanation of co-financing arrangements expected between CRP7 and other programs. Gender and the links to forestry appear to have been addressed well in the revision although addressing the latter appears to be dependent on additional funding. Here again, as described above, the issue of the independence of the ISP does not seem to be addressed adequately. The ISPC therefore strongly endorses the requirement to have a review of the governance and program management arrangements 18 months after implementation of the program.