

Consultative Group on International Agricultural Research

Inter Center Working Group on Climate Change

Challenge Program Proposal

Beating the Heat: Climate Change and Rural Prosperity

Phase 1 (Concept Note) document

1. What are the objectives of the proposed challenge program? How do they relate to the overall goal and mission of the CGIAR?

The Inter Center Working Group on Climate Change (ICWG-CC) proposes an international, collaborative research program to address how agriculture, forestry and fisheries in the developing world will be affected by climate change. The overall objectives of the proposed challenge program are:

- a) Assess vulnerability and forecast the *impact* of climate change on vulnerable people and the systems that they depend upon;
- b) Provide innovative new technologies and guidance to policy makers that can assist the poor to cope with and *adapt* to climate change so as to improve livelihoods and minimize suffering;
- c) Provide new technologies, and advice on policy instruments, that can help *mitigation* measures to be more effective.

These objectives directly address the overall goal of the CGIAR of improving livelihoods and food security of the poor in developing countries in the face of climate change.

2. What are the significant expected outputs and impact of the program?

The Centres and their partners believe that the tools they have developed, and will continue to develop in strengthened collaboration with research partners worldwide, can be used to insure the following outputs:

- Tools and mechanisms to predict how climate change, including climate variability, will affect the agriculturally- forestry- and fishery-based livelihoods of the rural poor
- Options that can be used to adapt major crop and livestock species and agricultural, forest and fisheries production systems to prevent yield and productivity losses due to increasing temperatures and frequency and severity of extreme climate events (drought, heavy rainfall, flooding, increased El Niño-Southern Oscillation events)
- Livelihood strategies and policies minimize adverse effects of climate change
- Options for developing counties that: (i) minimize significant contributions of agriculture to climate forcing and (ii) maximize ways managed production systems sequester carbon to remove carbon dioxide from the atmosphere.

The adverse impacts of climate change will be increasingly felt during the coming decades. By the time that the effects are intensively observed, it will be too late to make effective adaptation. A pro-active research program that achieves solutions to enable the many millions of affected people to begin to adapt to the eventuality of serious climate changes will have enormous economic and social significance.

3. How was the concept generated? To what extent have the potential clients and partners (especially NARS from the South) been involved in developing the concept? (Extent to which a bottom-up approach and participatory process were followed?)

This Challenge Program arises from the Third Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), which leaves no doubt that the Earth's climate is changing. It is not a question of whether or not the climate is changing, but by how much it will change, how soon and where will the damage be greatest. The IPCC concluded that climate change will impact disproportionately on

poorer countries and that the poorest people in those countries will suffer the greatest consequences. It is the poor in the developing world that the CGIAR and its partners champion.

The CDC formed the ICWG-CC at MTM-98 in Brasilia, providing a forum that allowed the CGIAR to identify its role in addressing these problems. Specifically, the ICWG-CC analyzed a series of case studies that focused on what the impact of the green revolution in the last 30 years has saved the conversion of 450 million ha of land to food production.

Building on the core competencies of the CGIAR Centers and their partners the ICWG-CC has focused initially on analyzing the *impacts* that climate change will have, what are the scientific possibilities to *adapt* to it and what possibilities there might be to *mitigate* further climate change. The research themes identified by the ICWG-CC are only indicative to generate discussion with partners and to form the basis for dialogue.

There will be major stakeholder involvement in problem identification with links to bottom-up priority setting mechanisms, including regional priority setting that will involve intensive and active participation of NARS from the South. We plan to hold a major stakeholder meeting in April, 2002 to address priority setting.

4. Who are the potential partners (from the North and South)? What CGIAR Centers, NARS institutions, ARIs/universities, civil society institutions, and private sector research institutions will be involved?

The ICWG-CC consists of representatives from all 16 CGIAR Centers, the Tropical Soil Biology and Fertility (Programme) (TSBF), Alternatives to Slash and Burn (ASB) and Global Environmental Change and Food Security/International Geosphere-Biosphere Programme (GECAFS/IGBP). In the development of the analysis and fulfillment of Phase 1 and Phase 2 criteria of those proposed by the TAC/Interim Science Council of the CGIAR, lead authors from 12 Centres with co-authorship of experts from 15 Centres have been involved. Potential NARS institutions and ARI/university partners were identified for each of the themes that comprised the analysis.

A key element for the success of this challenge programme will be the emphasis placed on building the link between science and policy. The United Nations Environmental Programme (UNEP) will be the key partner in the policy arena to create this link, particularly through regional ministerial processes such as the African Council of Environmental Ministers (AMCEN) and through the consultation processes leading up to the World Summit on Sustainable Development.

The process of developing partnerships for this Challenge Program has begun through a series of presentations to the scientific and policy communities. Representatives of the ICWG-CC made presentations to the scientific community at the Global Change Open Science Conference sponsored by IGBP, International Human Dimensions Programme (IHDP) and World Climate Research Programme (WCRP) in Amsterdam in July 2001, and at a ZEF workshop also sponsored by IGBP, IHDP and WCRP in Bonn in November 2001. A presentation to the international policy community was made at the UNEP expert workshop for "Policy Related to Land and Climate Change" held in Nairobi in June 2001.

The ICWG-CC on behalf of the CGIAR has signed a Memorandum of Understanding with the GECAFS consortium, which is also sponsored by IGBP, IHDP, and World Climate Research Programme. John Ingram of IGBP and GECAFS has been a member of the ICWG-CC since its inception. A memorandum of understanding has also been signed between ICRAF and UNEP to

strengthen collaboration on research and development projects, and capacity building, including cooperation with other national and international institutions. This partnership will be the entry point of the CP for communication with policy-makers in the south.

A number of the ASB collaborators and Brazil's EMBRAPA have already indicated their interest in actively participating in development of the CP. Representatives from IHDP, EMBRAPA and the University of Florida attended the ad hoc meeting of the ICWG-CC on 28 October, 2001 and provided their insights into the process of elaborating a Challenge Program. The potential partners from developing and developed countries identified in the theme descriptions (see the Appendix to the Pre-proposal) runs to six pages.

At its meeting in June 2001, the ICWG-CC, in conjunction with colleagues from the World Bank and UNDP, identified a list of 30 experts in climate change from developing and developed countries. These experts have been invited to indicate their willingness to participate in the activities of the ICWG-CC as it proceeds to develop the full CP proposal.

5. What are the expected annual financial resource requirements of the proposed program? How much additional resources coming from outside the CGIAR are expected to be mobilized by the program?

The annual resources required have not yet been estimated in detail because the ICWG-CC considered that it was premature to advance its proposals to this stage in the absence of clear guidance from the Executive Council to define the mechanisms, and set the timetable for the implementation of the CGIAR decisions. Rough orders of cost indicate \$12 to 15 million annually to permit adequate funding. The ICWG-CC expects one-third might come from the World Bank and that two-thirds might be new funding

6. How will the financial resources be allocated to the different partners involved in the implementation of the program? What percentage of the resources would be allocated to partners outside the CGIAR Centers?

The ICWG-CC considered that it was premature to advance its proposals to this stage in the absence of clear guidance from the Executive Council to define the mechanisms, and set the timetable for the implementation of the CGIAR decisions. Guidance will be sought from the Expert Advisory Panel (EAP, see question 7) in the light of the consultations with stakeholders and partners in the first half of 2002 and taking into account the recommendations of the CDMT.

7. How will the program be coordinated? Describe the proposed governance mechanism.

Governance and coordination have only been discussed in the broadest sense by the ICWG-CC. In the elaboration of the full proposal, an Expert Advisory Panel of eminent scientists and administrators from developing and developed countries, chosen from amongst the global change community, stakeholders, and agricultural, forestry and aquatic science communities, will advise on the appropriate themes and priorities. The Expert Advisory Panel (EAP) will advise on procedures for confirmation of stakeholder institutions, evolution of a business plan, and Program governance.

The ICWG-CC proposes to:

- a) Implement a peer-reviewed global program between CGIAR Centers and non-CGIAR institutions in both developing countries and developed countries. The program will comprise a prioritized series of research themes in a modular structure under the three IPCC topics of *impact*, *adaptation* and *mitigation*.

- b) Implement a system of governance of the program that addresses the issues of climate change influencing food crops, livestock and food production systems, and people's livelihoods, and that ensures world class innovative research in the area of climate change as it affects vulnerable people.

The first priority will be to make sure that the research agenda is relevant to and reflects the concerns of the poor of developing countries who will be affected by climate change. The second step is to identify how this agenda can be executed with the greatest scientific rigor and creativity. This entails identifying which research institutes in the developing and developed countries can best contribute, and to partner with them to develop the research proposals that address the agenda set in the first step. The specific governance mechanisms will be evolved as a result of the foregoing process.

List of Acronyms

AMCEN	African Council of Environmental Ministers
ASB	Alternatives to Slash and Burn
CDC	Center Directors' Committee
CDMT	Change Design and Management Team
CGIAR	Consultative Group on International Agricultural Research
EAP	Expert Advisory Panel
EMBRAPA	Empresa Brasileira de Pesquisa Agricultura
GECAFS	Global Environmental Change and Food Security
ICRAF	International Centre for Research on Agroforestry
ICWG-CC	Inter Center Working Group on Climate Change
IGBP	International Geosphere-Biosphere Programme
IHDP	International Human Dimensions Programme
IPCC	Intergovernmental Panel on Climate Change
MTM	Mid-term Meeting
NARS	National Agricultural Research systems
TAC	Technical Advisory Committee
TSBF	Tropical Soil Biology and Fertility (Programme)
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WCRP	World Climate Research Programme
ZEF	Zentrum für Entwicklungsforschung, Universität Bonn (Center for Development Research, University of Bonn)