



Consultative Group on International Agricultural Research (CGIAR)

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STAKEHOLDER MEETING

Agriculture and Combating Desertification

Agenda Item: 6f – Program Initiatives, Agriculture and Combating Desertification

This item is for: Information Discussion Decision

Proposed Action: None

Background: Prepared by ICRISAT and ICARDA, this note describes a proposal to form a “Dialogue Consortium on Agriculture and Combating Desertification” and a potential Challenge Program on this theme.

Comments:

Agriculture and Combating Desertification: A Potential Challenge Program of the CGIAR

Background and Justification

Desertification is a worldwide problem, but is particularly serious in Asia and Africa (UNEP, 1990). The drylands are considered the most threatened by desertification and they cover around 34% of the earth's surface. Over a billion people live in dry areas where desertification is a threat. The majority depends on agriculture for their livelihoods and about 690 million live on less than US\$2.0 per day. A recent global assessment of the extent and forms of soil degradation by UNEP (UNEP, 1997) stated for example, that in just two Asian countries, China and India, about 57% of the total dryland area, or 290 million hectares, is affected by desertification. About 330 million hectares in Africa are likewise affected.

The United Nations Convention to Combat Desertification (UNCCD) recognizes desertification as land degradation in the arid, semi-arid and dry sub-humid areas of the globe resulting from climatic variation and human activities. Desertification is recognized by the UNCCD to be essentially a development problem. Like other forms of land degradation, it can take a long time to be recognized, but once a threshold is breached, the impact on the resilience of rural communities can be devastating. This can even force them to abandon the land and seek employment in the cities. It can even undermine the food security and political stability of countries.

Land degradation mainly occurs via wind and water erosion, loss of soil fertility, salinization, groundwater depletion and loss of vegetation and results in a loss of both economic and environmental potential. In addition to food productivity losses and increasing poverty, dryland degradation results in significant reductions in carbon storage in soils and increased dust in the atmosphere, both of which affect global warming. It also causes losses of biodiversity, including both flora and fauna, affecting the potential for full utilization of crop, livestock, and tree genetic resources in agriculture.

Even when there are technical solutions for mitigating degradation trends or restoring degraded land, bottlenecks for implementation often exist at institutional and policy-making levels. To solve land degradation problems an interdisciplinary and comprehensive approach is needed which addresses the technological, social, economic, policy, and institutional and stakeholder dimensions. Methodologies are required that facilitate the process of up-scaling land use/management recommendations for different biophysical and socioeconomic environments. In addition, better ways of organizing institutions need to be found in order to adopt the inter-sectoral, interdisciplinary and multi-stakeholder approaches that are needed to combat land degradation.

AGENDA 21, the landmark accord reached at the UN Conference on Environment and Development in Rio de Janeiro in June 1992, called for the international research and development community to play a part in the fight to combat desertification, through the

agreement known as the Convention to Combat Desertification (CCD). UNEP was entrusted with the co-ordination of the UN Plan of Action to Combat Desertification. UNEP together with UNDP and FAO also contribute significantly to the work of the CCD Committee on Science and Technology (UNCCD-CST) in furthering the assessment and dissemination of information on desertification. Meanwhile, the Global Environmental Facility (GEF) was established and has been supporting research and development activities on desertification and related issues like climate change and biodiversity. More recently, the UNCCD had formed the Global Mechanism to facilitate resource mobilization for implementation of desertification activities. The CGIAR is represented in the CCD by ICRISAT and on the Facilitation Committee of the Global Mechanism by ICARDA.

The interactions between agriculture and desertification are recognized to be particularly critical. Desertification mainly takes place in land areas where agricultural production is the major source of livelihood, and agricultural practices are often blamed for desertification. Agriculture, however, can play either positive or negative roles in desertification, depending how it is managed. As many aspects of the interactions between agriculture and desertification are complex, viable strategies require both strategic and applied research for which the IARCs involved in agricultural research have comparative advantage. Accordingly, the CGIAR appointed a task force to draft a response to the challenge posed by Agenda 21. The task force recommended that the CGIAR undertake the multi-partner Desert Margins Program (DMP), led by ICRISAT.

ICARDA, ICRISAT, and IPGRI have been actively working with the UNCCD and are involved in the UNCCD Thematic Networks. ICARDA has also been involved in the International Dryland Development Commission which like the DMP in Africa has identified the demands for research on desertification from numerous NARS and other bodies in Central and West Asia. IFPRI, ILRI, and other CG centers have also been carrying out research on the linkages between agriculture and desertification. There is a need now to elevate the scope and breadth of research on the internationally significant issues related to agriculture and desertification.

The CGIAR Challenge Program on Agriculture and Combating Desertification (CP-ACD) would build on these existing efforts, as well as a Desertification Program for Asia that ICRISAT and ICARDA have begun to develop with ICAR and ADB. It would involve both strategic and applied research to unravel the complex causal factors of land degradation, both climatic and human-induced, and formulate and pilot appropriate solutions. It would do this through action-oriented participatory research, methodology development, modeling, technical backstopping, knowledge sharing, and capacity-building activities.

Strategy for developing the CP on Agriculture and Combating Desertification

A simultaneous three-pronged approach is proposed for developing the CP-ACD, combining aspects of the approaches being followed by the Inter-center Working Groups on Climate Change and Water:

1. Develop stakeholder linkages further with existing partners (UNEP, UNDP, UNCCD-CST, etc.) and set up a consortium to extend cooperation and dialogue to environmental groups, relevant governmental agencies, and other stakeholders involved in the international efforts to combat desertification.
2. Form an ICRISAT/ICARDA-led Challenge Program Working Group on Agriculture and Combating Desertification (CPWG-ACD) at AGM2001. Membership in this working group would not be confined to CGIAR centers, but would be open to pertinent external research partners. Its primary mission would be to develop and carry out an agreed upon strategic and applied research agenda. However, it would also be the mechanism to develop and oversee the stakeholder dialogue and funding strategies needed to realize this program. The CPWG would evolve to become the Steering Committee of the CP.
3. Obtain the committed backing of one or more major traditional donors and leverage this support to get other donors, including non-traditional donors to support the CPWG and CP. Candidates for traditional donors include the Global Environmental Facility (GEF), the World Bank (WB), the International Fund for Agricultural Development (IFAD), and the regional banks -- the Asian Development Bank (ADB) and the African Development Bank (AfDB), the Rockefeller Foundation, OPEC, AFSED, the Arab Fund, etc.

Dialogue on Agriculture and Combating Desertification

A “global partnership” would be built between the CGIAR and international agencies active in the UNCCD. The goal would be to promote dialogue between the agricultural and environmental communities akin to the IWMI led effort called the “Dialogue on Water, Food and the Environment.”

In this regard, we propose to form a “Dialogue Consortium on Agriculture and Combating Desertification” with respected development agencies and environmental groups. The Consortium would implement the Dialogue through a Memorandum of Understanding among participating organizations. The following organizations could be among those invited to be members:

- UNCCD Secretariat
- UNCCD Committee on Science and Technology (UNCCD-CST)
- UNCCD Global Mechanism (UNCCD-GM)
- United Nations Environment Programme (UNEP)
- United Nations Development Programme (UNDP)
- United Nations Food and Agriculture Organization (FAO)
- Civil Society organizations (e.g., World Wildlife Fund, WWF; World Conservation Union, IUCN)
- CGIAR centers (represented by ICARDA, ICRISAT, and IFPRI)
- World Meteorological Organization (WMO)

- NARS (e.g., ICAR, CIHAEM, ACSAD, ESCWA)
- FFEM/Agropolis (CIRAD/IRD)
- Sub-regional organizations

Research Approach

The CGIAR CP on Agriculture and Combating Desertification (CP-ACD) would seek to carry out both strategic and applied research on internationally significant issues related to combating desertification throughout Africa and Asia. To be effective, this work can only be carried out collaboratively between national, regional, and international partners. This needs to be enhanced and globally coordinated to realize the full benefits possible from common methodologies, cross-site studies and analyses, coordinated modeling efforts, shared capacity building, and extrapolation of results. The CG has much to offer as part of the "scientific" efforts on strategic desertification issues, but still needs to form a broader partnership than the DMP with research groups external to the CGIAR.

Overall research objective

To prevent and reverse land degradation associated with agriculture in the dry areas via the development of appropriate technology and policy options through a broad understanding of the biophysical and socioeconomic driving forces and constraints.

Specific objectives

1. Share quick wins for impact: assist national and local partners to assess and disseminate the most promising solutions available now (including local knowledge) to mitigate desertification
2. Define more rigorously the problems and their scope: identify indicators of land degradation, biodiversity, climate change, and agro-ecosystem productivity at critical scale levels (household, landscape, region, global) and apply these tools to gain accurate, quantitative assessments of degradation
3. Apply this enhanced understanding to devise additional solutions built on a holistic system analysis and broad participation of communities and nations
4. Enhance national and regional capacities by developing and sharing the knowledge, tools and skills needed to scale-up and reach out: ecosystem models, remote sensing tools, GIS capabilities, sustainable land management paradigms, policy analyses for national decision support, and others

To achieve these objectives three focal areas are proposed that will involve strategic process-based research, applied technology research, policy and socioeconomic research. Details of these will be decided through a consultation process with all stakeholders.

Donor support and funding

Approximate program requirement (see research strategy) is estimated to be US\$ 30 million over 5 years, with US\$ 25 million to be sought from donors, and US\$ 5 million provided from CG core funds.

Non-traditional donors will need to be attracted. The strategy proposed would be to rely on the support of traditional CG donors who have supported work on desertification (GEF, IFAD, IDRC, the regional banks, etc.) to help attract non-traditional donors, including environmental groups and the private sector.

The way forward

- Ensure the continued backing of UNCCD-CST, UNEP, UNDP, Global Mechanism
- Hold international workshop on desertification – assess where we are and remaining knowledge gaps (by March next year)
- Obtain endorsement for an CPWG to include external CG partners (AGM2001)
- Establish CPWG – meet to define and start dialogue and funding strategy, and start proposal development (now through first quarter next year)
- Consolidate and expand donor backing – ADB, France, IFAD, and GEF have expressed interest (start at AGM-2001)
- PDF-B proposal submission by CPWG (before June 2002)

Once we have established the CPWG we will hold an organizational meeting with the research partners, as well as key stakeholders (UNCCD-CST, ADB, UNEP, UNDP) to begin work on the stakeholder involvement/dialogue funding and proposal development strategies to realize this program. Participants to this meeting could also include partners with significant programs on desertification such as Dialogue Consortium members, potential scientific partners from outside the CGIAR including NARS, ARIs, and NGOs, and donor organizations and investors from the private sector.