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President's report on a proposed grant under the global/regional grants window to a CGIAR-supported international centre

Executive Board — Ninety-ninth Session Rome, 21-22 April 2010

For: **Approval** 

#### **Note to Executive Board members**

This document is submitted for approval by the Executive Board.

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International Center for Agricultural Research in the Dry Areas
(ICARDA): Improving the Livelihoods of Rural Communities in the Dry
Areas – Sustainable Crop and Livestock Management

# **Abbreviations and acronyms**

CGIAR Consultative Group on International Agricultural Research

COSOP country strategic opportunities programme

ICARDA International Center for Agricultural Research in the Dry Areas

NARS national agricultural research systems

# **Recommendation for approval**

The Executive Board is invited to approve the recommendation for a grant under the global/regional grants window to a CGIAR-supported international centre as contained in paragraph 7.

# President's report on a proposed grant under the global/regional grants window to a CGIAR-supported international centre

I submit the following report and recommendation on a proposed grant for agricultural research and training to a Consultative Group on International Agricultural Research (CGIAR)-supported international centre in the amount of US\$1.0 million.

#### Part I – Introduction

- 1. This report recommends the provision of IFAD support to the research and training programme of the following CGIAR-supported international centre: International Center for Agricultural Research in the Dry Areas (ICARDA).
- 2. The document of the grant for approval by the Executive Board is contained in the annex to this report:

International Center for Agricultural Research in the Dry Areas (ICARDA): Improving the Livelihoods of Rural Communities in the Dry Areas – Sustainable Crop and Livestock Management

- 3. The objectives and content of this applied research programme are in line with the evolving strategic objectives of IFAD and the Fund's policy for grant financing.
- 4. The overarching strategic goal that drives the Revised IFAD Policy for Grant Financing, which was approved by the Executive Board in December 2009, is to promote successful and/or innovative approaches and technologies, together with enabling policies and institutions, that will support agricultural and rural development, empowering poor rural women and men in developing countries to achieve higher incomes and improved food security.
- 5. The policy aims to achieve the following outputs: (a) innovative activities promoted and innovative technologies and approaches developed in support of IFAD's target group; (b) awareness, advocacy and policy dialogue on issues of importance to poor rural people promoted by, and on behalf of, this target group; (c) capacity of partner institutions strengthened to deliver a range of services in support of poor rural people; and (d) lesson learning, knowledge management and dissemination of information on issues related to rural poverty reduction promoted among stakeholders within and across regions.
- 6. The proposed programme is in line with the goal of the revised IFAD grant policy. The programme will maximize synergies between IFAD's loan and grant programmes by supporting results-based research that will contribute to IFAD's results-based country strategic opportunities programmes (COSOPs). It will also provide needed support to pro-poor research on innovative technologies and approaches that can be adopted and scaled up by future investment programmes.

#### Part II - Recommendation

7. I recommend that the Executive Board approve the proposed grant in terms of the following resolution:

RESOLVED: that the Fund, in order to finance, in part, the programme for Improving the Livelihoods of Rural Communities in the Dry Areas – Sustainable Crop and Livestock Management, shall make a grant not exceeding one million United States dollars (US\$1,000,000) to the International Center for Agricultural Research in the Dry Areas for a three-year programme upon such terms and conditions as shall be substantially in accordance with the terms and conditions presented to the Executive Board herein.

Kanayo F. Nwanze President

# International Center for Agricultural Research in the Dry Areas (ICARDA): Improving the Livelihoods of Rural Communities in the Dry Areas – Sustainable Crop and Livestock Management

#### I. Background

- 1. The recent report of the Intergovernmental Panel on Climate Change suggests that climate change impacts will be felt globally, but the dry areas will be particularly affected. The first impacts are already being felt: scarce natural resources are being further depleted; temperature extremes are affecting crop and livestock productivity; and periodic droughts have become more common. Crop varieties grown today may not produce sufficient yields in the changed climate of tomorrow; better adapted, more stress-tolerant varieties, and new crops and cropping patterns will be needed. Moreover, climate models predict that the total area of cultivable land in the dry areas will decrease. Together, these factors will exacerbate food security problems in most developing countries.
- 2. ICARDA's geographic mandate focuses on the non-tropical dry areas (hereafter referred to as the dry areas) of the developing world, encompassing North and sub-Saharan Africa; Central, West and South Asia and China; and Latin America. These dry areas account for about 3 billion hectares (41 per cent of the Earth's surface) and are home to more than 1.7 billion people or 25 per cent of the global population.
- 3. In most countries of the dry areas, the agricultural sector, which will be directly affected by climate change, plays a central role in the economic and social life of rural communities. The area suitable for agriculture, the length of growing seasons and yield potential, particularly along the margins of semi-arid and arid areas, are expected to decrease. Egypt, Eritrea, Ethiopia, the Sudan and Yemen share similar agroecologies and similar agriculture-associated problems. Recent reports by international agencies suggest that about 30 per cent of the rural population in Egypt, and 45 per cent in Ethiopia and Yemen, is poor. The problem is far worse in Eritrea and the Sudan, where 64 and 85 per cent of the rural population, respectively, lives below the poverty line. In the Sudan, about 20 million people live on less than a dollar a day.

#### II. Rationale and relevance to IFAD

- 4. Most developing countries of the dry areas face the challenge of achieving sustainable growth, a challenge made more complex by the constraints facing the agricultural sector. Renewable water resources are limited. Rainfall is unpredictable and highly variable, and this short-term variability is likely to be exacerbated by longer-term climate changes.
- 5. ICARDA and its partners are developing crop varieties and production technologies specifically to cope with drought, heat stress and other climate change implications, as well as low-cost, appropriate methods to improve water productivity, halt land degradation and combat desertification. Most of the work in this programme will be conducted in the five countries of Egypt, Eritrea, Ethiopia, the Sudan and Yemen, but successful results will be taken up for dissemination in other countries with similar agroecologies, especially in the regions of North and sub-Saharan Africa; Central, West and South Asia and China; and Latin America.
- 6. The proposed programme responds to IFAD's goal of empowering poor rural people in developing countries to achieve higher incomes and improved food security. This will be attained by making improved agricultural technologies and natural resource

management practices available to farmers – which is itself a primary IFAD objective. The programme will also contribute to implementation of IFAD's specific country strategies for poverty reduction in the Near East and North Africa, and to the thematic priorities for eastern and southern Africa, including agricultural productivity and competitiveness.

7. The proposed programme maximizes synergies between IFAD's loan and grant programmes by supporting results-based research that will contribute to IFAD's results-based COSOPs. It will also provide needed support to pro-poor research on innovative technologies and approaches that can be adopted and scaled up by future investment programmes.

#### III. The proposed programme

- 8. The overall goal of the programme is to enhance the food security, livelihoods and adaptive capacity of resource-poor farmers to cope with climate variability and change in the dry areas worldwide, that is, in the regions of North and sub-Saharan Africa; Central, West and South Asia and China; and Latin America. The programme's objectives are to identify, adapt and evaluate technical, institutional and policy options for integrated crop and livestock management by farming communities, with a view towards sustainable increases in productivity and rural incomes and reduced vulnerability to climate change.
- 9. The target group consists of resource-poor farmers and agropastoralists, and communities in the dry areas that depend on agriculture and related activities for their livelihoods. Some 1,800 farming households will be direct beneficiaries, including:
  - Irrigated 'benchmark sites' in Egypt (Beni Suef and Menoufia Governorates) and the Sudan (Abdel Hakam and Wad Medani communities within the Sudan's Gezira Scheme): three communities will be involved in programme activities at each benchmark site. The average number of farming households in targeted communities will range from 65 to 75.
  - Rainfed 'benchmark sites' will cover two small communities in Eritrea of 20 families each (Central Highlands), five small communities in Ethiopia of about 200 families each (upper catchments of the Blue Nile in the Amhara Region), and one community in Yemen of 150 families (Dhamar Governorate).
  - The 'satellite sites' in each of the countries involved (for irrigated agriculture in Egypt and the Sudan, and for rainfed agriculture in Eritrea, Ethiopia and Yemen) will cover 20-30 farming households.
- 10. The number of communities and farmers benefiting will increase substantially once the improved programme options are disseminated through IFAD development projects and other national initiatives.
- 11. The programme will have three innovative dimensions:
  - **Risk management.** Climate variability and change are considered risk multipliers, as they increase the likelihood of crop failure. For the first time, this programme will be using risk management criteria as the selection criteria for programme interventions.
  - **Linkages with development projects.** Negotiated action plans will be introduced as a new means of partnership, in order to develop and approve all proposed programme interventions jointly with IFAD development project teams and beneficiaries. This will further strengthen linkages between research and development.

• **Policy influence.** Most governments involved deal with climate change issues at the level of emergency assistance/relief action. The programme's interventions will aim to influence national policies at the moment of formulating long-term climate-change adaptation strategies to sustain the livelihoods dimension.

- 12. All results of the proposed programme will be 'international public goods', which will be made available to other similar agroecologies through linking with IFAD projects and with other development partners.
- 13. The three-year programme will have four main components:
  - Identifying specific interventions for both irrigated and rainfed agriculture;
  - Identifying and implementing approaches to the dissemination and scaling up of specific interventions;
  - Disseminating existing and newly generated knowledge to specific user groups; and
  - Enhancing the capacity of national researchers, farmers and service providers.

#### IV. Expected outputs and benefits

- 14. The expected outputs and benefits are the following:
  - Specific interventions identified to assist farming communities in coping with and adapting to risks from climate change, leading to:
    - increased productivity of the irrigated agricultural systems by 20 per cent, and of the rainfed systems by 100 per cent in the programme target areas
    - increased incomes by at least 10 per cent of farm households using improved varieties and technologies
    - increased water savings by 25 per cent and reduced inorganic fertilizer application by 30 per cent on farmers' fields within the target areas
    - reduced soil erosion by 50 per cent on farmers' fields within the target areas
    - increased availability and nutritional value of animal feed by 20 and 10 per cent, respectively, for farm households within the target areas.

The anticipated increases are based on ICARDA's previous research on farmers' fields in different agroecological zones of the dry areas, including the targeted countries.

- Identified approaches to the dissemination and scaling up of specific interventions to reduce the risks associated with climate change, resulting in:
  - adoption of improved varieties and technologies by at least 40 per cent of the farm units benefiting from programme interventions
  - a portfolio of policy options developed and delivered to national decision makers for wider dissemination in the dry areas.

 Networks and a knowledge- and information-sharing system to capture processes and disseminate existing and newly generated knowledge to specific user groups.

• Enhanced capacity of national researchers, farmers and service providers, resulting in improved skills for 75 scientists, 50 extensionists and 2,500 farmers.

#### V. Implementation arrangements

- 15. In order to ensure complementarities among the five countries, reduce duplication of effort and maximize results from available resources, the programme will use a 'benchmark site' approach, in which one benchmark site will be established in each country. Where appropriate, the programme will link with existing sites within the target areas of ongoing IFAD development projects. It is expected that it will also benefit from the results of studies and surveys conducted in IFAD's ongoing or recently completed development projects.
- 16. Vulnerability analyses will be conducted at the outset to identify the most vulnerable groups and major risk factors associated with climate variability and change. All proposed programme interventions will be interpreted from the point of view of their feasibility under conditions of climate variability and change. Appropriate technologies will be tested, verified, demonstrated and disseminated to farm units in a participatory process, with the full involvement of local communities, relevant national and local institutions, and IFAD development projects operating in the programme areas. Six inception workshops (one in each participating country and one regional workshop) will be convened to deliberate and agree on the proposed interventions in order to ensure complementarity in the approach.
- 17. Benchmark sites and the interventions to be tested will be selected according to the following criteria: (i) representativeness of the sites with respect to major production systems and rural livelihoods; (ii) interventions that directly target poverty reduction by reducing vulnerability to climate change; (iii) the comparative advantage of each country's national programme; (iv) the international 'public good nature' of the interventions and their replicability in similar agroecologies and socioeconomic contexts; and (v) interventions that do not require major investments.
- 18. The main partners are the national agricultural research systems (NARS) and extension systems in the five countries of the Nile Valley and sub-Saharan Africa:

**Egypt** Ministry of Agriculture and Land Reclamation; and Agricultural Research Center (ARC)

**Eritrea** Ministry of Agriculture; National Agricultural Research Institute (NARI); and Hamelmalo College of Agriculture

**Ethiopia** Ministry of Agriculture and Rural Development; Ethiopian Institute of Agricultural Research (EIAR); and Amhara Regional Agricultural Research Institute (ARARI)

**Sudan** Ministry of Agriculture and Forestry; and Agricultural Research Corporation (ARC)

**Yemen** Ministry of Agriculture and Irrigation; and Agricultural Research and Extension Authority (AREA)

- 19. Partnerships will not be limited to these six focal institutions. To ensure that results are rapidly and effectively disseminated and adopted, the programme will link directly with the implementation units of IFAD development projects, as well as with other national research and development institutions, civil society organizations, NGOs, farm communities, policymakers and other stakeholders.
- 20. ICARDA will be responsible for overall programme management, and for financial and technical reporting to IFAD, and will coordinate programme activities through

its regional office in Cairo. A national coordinator will be responsible for implementation of the programme in each country, within the approved annual workplans and budgets. ICARDA will provide technical assistance, capacity-building and research material. A synthesis of results will be facilitated by exchange visits, workshops and regional networks already established by the Nile Valley and Sub-Saharan Africa Regional Program (NVSSARP).

- 21. A regional inception workshop will be held at start-up to establish implementation arrangements and agree on the first year's workplan, with clear deliverables, a time line and budget. Several focused country workshops will also be organized with the participation of teams of IFAD development project staff and most proactive farmers to incorporate stakeholders' feedback and interests and to develop negotiated action plans.
- 22. A steering committee will be established, composed of the national coordinators and representatives of IFAD and ICARDA. It will oversee the programme, review results and approve the annual workplans and budgets. Institutions already involved in the implementation of IFAD's country development projects will also participate. By linking closely with these projects, the programme can take advantage of existing infrastructural and institutional arrangements, reducing costs and duplication of efforts and ensuring that it responds to IFAD's overall development objectives in the target areas.
- 23. The results of the programme will have important implications for three critical challenges facing the dry areas worldwide: water scarcity, land degradation and low rainfed-agriculture productivity. The water savings achieved in irrigated sites in Egypt and the Sudan and a diversified production system in rainfed sites in Eritrea, Ethiopia and Yemen will contribute greatly to optimizing the use of water resources, increasing productivity and improving rural livelihoods in other countries with similar agroecological conditions.
- 24. Workplans will be developed in close coordination with IFAD country offices and ongoing development projects to ensure that the interventions support results-based COSOPs and provide technical assistance through pro-poor research on innovative technologies and approaches.
- 25. Existing and functional networks already established by ICARDA will be involved and linked with IFAD ongoing initiatives. These IFAD projects are at diverse stages of implementation, so the extent and level of interventions will be variable. This makes the programme dynamic in nature the interventions selected will be matched to the level of development and will build on the progress made. This challenge may also be considered an advantage: it will facilitate better interaction among development projects.
- 26. ICARDA has a long and successful history of working within the same programme with national partners from various countries, with different technical capabilities and capacity levels. This history has been ensured by proper planning and the involvement of NARS from the very beginning. In this particular case, NARS of the targeted countries are the owners of the programme. This is confirmed by their participation in the development of the proposal and commitment letters.
- 27. It is expected that IFAD will undertake a review mission at programme completion to evaluate the results. If recommended by the evaluation, a second phase may be considered.

# VI. Indicative programme costs and financing

Summary of budget and financing plan (in United States dollars)

Number	Type of expenditure	IFAD	Cofinancing from other donors and NARS
1	Personnel	210 000	728 000
2	Operational expenditures	520 000	885 000
3	Meetings and workshops	80 000	135 000
4	Training	60 000	200 000
5	Indirect costs	130 000	195 000
	Total	1 000 000	2 143 000

An in-kind contribution from NARS has been secured. Other cofinancing includes: African Development Bank (US\$0.45 million), OPEC Fund for International Development (US\$0.25 million), and Arab Fund for Economic and Social Development (US\$0.8 million).

# Results-based logical framework

	<b>Objectives-hierarchy</b>	Objectively verifiable indicators	Means of verification	Assumptions
Goal	Enhanced food security, livelihoods and adaptive capacity of resource poor farmers to cope with climate variability and change in the dry areas	Improved awareness of and preparedness to climate variability and change     Increased agricultural production     Improved farm household incomes	National and international statistics     Development programme reports	
Objectives	To identify, adapt and evaluate technical, institutional and policy options for integrated crop and livestock management by farming communities for sustainable increases in productivity and rural incomes and reduced vulnerability to climate change	<ul> <li>Improved varieties and technologies adopted by at least 40% of the farm units benefiting from programme interventions</li> <li>Productivity of the irrigated agricultural systems increased by 20%, rainfed – by 100% in the programme target area</li> <li>Incomes of farm households using improved varieties and technologies increased by at least 10%</li> <li>Portfolio of policy options delivered to national decision makers</li> </ul>	<ul> <li>Programme completion report</li> <li>Supervision reviews</li> <li>Impact assessment reports</li> <li>Programme monitoring and progress reports</li> <li>National program plans</li> </ul>	<ul> <li>Enabling national development strategies and policy environment</li> <li>Stable political situation</li> <li>Continued national commitment</li> <li>Farming communities participate in the programme activities</li> </ul>
Outputs	Specific technological interventions and policy options identified     Approaches identified for the dissemination and scaling up of specific interventions     Networks and knowledge and information sharing system established and functional     Enhanced capacity of national researchers, farmers and service providers	<ul> <li>Vulnerability analyses completed and appropriate interventions identified</li> <li>Five benchmark and five satellite sites established</li> <li>Water saving increased by 25% and inorganic fertilizer application reduced by 30% at farmers' fields within the target area</li> <li>Soil erosion reduced by 50% at farmers' fields within the target areas</li> <li>Availability of animal feed and its nutrition value increased by 20% and 10%, respectively at farm household within the target areas</li> <li>Networks established and functional</li> <li>Improved skills of 75 scientists, 50</li> </ul>	<ul> <li>Programme reports and documents</li> <li>Workshop proceedings</li> <li>Database and field records</li> <li>Geographic information system maps and surveys</li> <li>Policy options reports and workshops proceedings</li> <li>Programme website</li> <li>National programme plans and annual reports</li> </ul>	<ul> <li>Political situation remains stable and climate change is on the governments agenda</li> <li>Computer capabilities of some national programs to have relevant websites</li> </ul>
activities identification of appropriate intervention	Vulnerability studies, benchmark selection and identification of appropriate interventions     Review of policies, adoption constraints and	extensionists and 2,500 farmers     At least 10 improved crops tested and verified     No. of technologies tested and those	Programme reports and documents     Benchmark study and	Farming communities and other stakeholders participate in the
	2. Review of policies, adoption constraints and development of appropriate recommendations 3. Activating existing/setting up new networks 4. Conducting training and demonstrations for national scientists, farmers and extensionists	<ul> <li>No. of users participating in networking activities</li> <li>Constraints to adoption identified and portfolio of enabling options developed</li> </ul>	<ul> <li>socioeconomic surveys</li> <li>Published success stories</li> <li>Field records, cost-benefit analysis, evaluation reports</li> <li>Adoption and impact assessment reports</li> </ul>	programme activities