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Enabling the rural poor
to overcome poverty

**President's report on proposed
grants under the global/regional
grants window to
CGIAR-supported international centres**

Executive Board — Eighty-ninth Session
Rome, 12-14 December

For: **Approval**

Note to Executive Board Directors

This document is submitted for approval by the Executive Board.

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Abbreviations and acronyms

CIMMYT	International Maize and Wheat Improvement Center
IPGRI	Bioversity International
NARES	national agricultural research and extension systems
NUS	neglected and underutilized species

Recommendation for approval

The Executive Board is invited to approve the recommendations for grants under the global/regional grants window to CGIAR-supported international centres as contained in paragraph 9.

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

I submit the following report and recommendation on two proposed grants for agricultural research and training to CGIAR-supported international centres in the amount of US\$2.9 million.

Part I – Introduction

1. This report recommends the provision of IFAD support to the research and training programmes of the following CGIAR-supported international centres: the International Maize and Wheat Improvement Center (CIMMYT) and Bioversity International (IPGRI).¹
2. The documents of the grants for approval by the Executive Board are contained in the annexes to this report:
 - I. International Maize and Wheat Improvement Center (CIMMYT): Programme for Facilitating the Adoption of Conservation Agriculture by Resource-Poor Smallholder Farmers in Southern Africa
 - II. Bioversity International (IPGRI): Programme for Empowering the Rural Poor by Strengthening their Identity, Income Opportunities and Nutritional Security through the Improved Use and Marketing of Neglected and Underutilized Species
3. The objectives and content of these applied research programmes are in line with the evolving strategic objectives of IFAD and the policy and criteria of IFAD's grant programme.
4. The overarching strategic objectives that drive IFAD's Policy for Grant Financing approved by the Executive Board in December 2003 are:
 - (a) promoting pro-poor research on innovative approaches and technological options to enhance field-level impacts; and/or
 - (b) building pro-poor capacities of partner institutions, including community-based organizations and NGOs.
5. Deriving from these core objectives, the specific aims of IFAD's grant support relate to: (a) the Fund's target groups and their household food-security strategies, specifically in remote and marginalized agroecological areas; (b) technologies that build on traditional local/indigenous knowledge systems, are gender-responsive and enhance and diversify the productive potential of resource-poor farming systems by improving productivity and addressing production bottlenecks; (c) access to productive assets (land and water, financial services, labour and technology) and the sustainable and productive management of such resources; (d) a policy framework that provides the rural poor with an incentive to reach higher levels of productivity, thereby reducing their dependence on transfers; and (e) access to input/product markets and an institutional framework within which formal and informal, public and private sector, local and national institutions can provide services to the economically vulnerable, according to their comparative advantage. Within this framework, IFAD also intends to develop commodity-based approaches to the rural poor. Finally, the establishment of a consolidated network for

¹ Formerly the International Plant Genetic Resources Institute, as at 1 December 2006, this institute will be known as Bioversity International. The changes in form and operational content proposed for adoption by IPGRI will render it more responsive to the specific emphases of the proposed programme.

knowledge gathering and dissemination will enhance the Fund's capacity to establish long-term strategic linkages with its development partners and to multiply the effect of its agricultural research and training programme.

6. The grants proposed in this document respond to the foregoing strategic objectives.
7. The Programme for Facilitating the Adoption of Conservation Agriculture by Resource-Poor Smallholder Farmers in Southern Africa will promote pro-poor research on innovative approaches and technological options to enhance field-level impact. It will also strengthen the capacities of partner institutions and farmer organizations in Eastern and Southern Africa by introducing conservation agriculture techniques developed and adopted on a wide scale by small farmers in other parts of the world. Therefore, the programme corresponds to both objectives (a) and (b) of the grant policy outlined in paragraph 4.
8. The Programme for Empowering the Rural Poor by Strengthening their Identity, Income Opportunities and Nutritional Security through the Improved Use and Marketing of Neglected and Underutilized Species corresponds to both of IFAD's strategic objectives. It relates to strengthening the capacity of rural poor communities to make better use of the crops and commodities they produce and consume through better post-harvest value-addition opportunities and increased access to markets.

Part II – Recommendation

9. I recommend that the Executive Board approve the proposed grants in terms of the following resolutions:

RESOLVED: that the Fund, in order to finance, in part, the Programme for Facilitating the Adoption of Conservation Agriculture by Resource-Poor Smallholder Farmers in Southern Africa, shall make a grant not exceeding one million five hundred thousand United States dollars (US\$1,500,000) to the International Maize and Wheat Improvement Center (CIMMYT) 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.

FURTHER RESOLVED: that the Fund, in order to finance, in part, the Programme for Empowering the Rural Poor by Strengthening their Identity, Income Opportunities and Nutritional Security through the Improved Use and Marketing of Neglected and Underutilized Species, shall make a grant not exceeding one million four hundred thousand United States dollars (US\$1,400,000) to Bioversity International (IPGRI) 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.

Lennart Båge
President

International Maize and Wheat Improvement Center (CIMMYT): Programme for Facilitating the Adoption of Conservation Agriculture by Resource-Poor Smallholder Farmers in Southern Africa

I. Background

1. Smallholder farmers in southern Africa are experiencing declining crop yields. This is linked to repeated ploughing and overgrazing, which have depleted soil organic matter (SOM), eroded soil structure and reduced its ability to retain water, resulting in vulnerability to drought. Unless the decline in SOM can be reversed, the livelihoods of small farmers – especially maize growers – are at risk. Two avenues are available for farmers to halt SOM decline and improve soil fertility: the application of organic fertilizer (e.g. manure), or the adoption of conservation agriculture. However, manure is generally in short supply, and to maintain SOM at optimum levels, an annual application of at least 20 tonnes per hectare is needed (equal to the annual manure output of 20 cattle). Conservation agriculture, on the other hand, is a viable and proven alternative, which requires farmers to refrain from ploughing, which disturbs the soil so as to encourage the accumulation of crop residue on the surface. This protects soil from the baking effects of the sun, enhances the penetration of rainfall, and reduces evaporation, run-off and soil erosion. Conservation agriculture also fosters soil fauna and flora, which contribute to increased levels of SOM and improve soil fertility and crop yields.
2. Conservation agriculture is not new to southern Africa. Large-scale commercial farmers in a number of countries have successfully managed such systems for some time. However, even though research has shown the benefits of this system under smallholder conditions, there has been little participatory research to tailor the principles of conservation agriculture to the needs and production scale of smallholders. Encouraging the adoption of conservation agriculture by small farmers requires intensive efforts to adapt the system to their circumstances. One major problem among farmers, researchers and extension workers alike, is the “ploughing and clean fields” mindset. It is difficult to convince African farmers that tilling the soil is unnecessary, yet small farmers in Brazil, Ghana, India and Pakistan were quick to change once they realized the economic and livelihood benefits. Adopting conservation agriculture saved both time and effort (which farm households could deploy for other activities), and also reduced vulnerability to drought. Encouraging the accumulation of crop residue at the soil surface is key to successful conservation agriculture, however in southern Africa the mixed crop/livestock farming systems rely on crop residue for animal feed. There is a need to develop strategies whereby these farmers incrementally incorporate conservation agriculture practices into their farming system, allowing some of the crop residue to be left in the fields as a mulch and some to be removed for animal feed.
3. In other countries where conservation agriculture is flourishing, its adoption was fostered by the emergence of functional, multi-agent networks focused on this system of agriculture. These networks did not evolve spontaneously but required the efforts of catalysing agents – “conservation agriculture champions” – who encouraged applied research and advisory services and the development of the modified farm equipment that conservation agriculture needs. The proposed programme will have a catalytic role, developing similar innovative systems involving multiple partners who will bring their specific expertise to bear on overcoming the problems encountered by innovative farmers.

II. Rationale and relevance for IFAD

4. The livelihoods of poor farm households in southern Africa are heavily reliant on subsistence farming, with their staple crop of maize accounting for 50-90 per cent of calorific intake – especially among the very poor. Off-farm income-generating opportunities draw many men away from the farms, leaving women, children and the elderly to cope with all farm operations, even the most arduous, such as hoeing. This trend is also influenced by the high incidence of HIV/AIDS, which is resulting in increasing numbers of women- and children-headed households. The introduction of conservation agriculture into small farming communities can reduce this drudgery, allowing more time to care for the sick, attend school and take advantage of other income-generating opportunities. These are all important considerations for IFAD operations in sub-Saharan Africa. The conservation agriculture-based technologies and the promising validation methodologies that effectively enhance adoption of conservation agriculture will form key elements of IFAD's future operations in the region.

III. The proposed programme

5. The programme will apply the principles of conservation agriculture within selected communities in Malawi, Mozambique, Zambia and Zimbabwe to develop a cadre of farmers, researchers and extension agents who understand the system and can become "conservation agriculture champions". The national agricultural research and extension systems (NARES) of the focus countries, together with several NGOs, will be involved in the programme. The programme will build upon the ongoing project financed by the Federal Ministry for Economic Cooperation and Development of Germany, which is called Facilitating the Widespread Adoption of Conservation Agriculture in Maize-Based Systems in Eastern and Southern Africa and is due to end in mid-2007. Work is ongoing in eleven communities in Malawi, Zambia and Zimbabwe, which represent a range of biophysical and socio-economic conditions, making the experience highly relevant to IFAD-financed loan project beneficiaries/target groups, particularly women-headed households.
6. **Target group.** Smallholder maize farmers in eastern and southern Africa are the target group. The programme will mainly focus on subsistence communities that receive limited extension services.
7. **Goal.** The programme aims to increase the food security of smallholder farm households in southern Africa and enhance their livelihoods while conserving and improving the natural resources used for agriculture.
8. **Objectives.** The programme's objectives are to (i) enable the adoption of conservation agriculture practices tailored to the circumstances of resource-poor small farmers in southern Africa through participatory technology adaptation; (ii) assess farmers' acceptance of conservation agriculture technologies and the impact on household livelihoods, food security, soil quality and crop productivity; (iii) assess the impact of market linkages on the adoption of conservation agriculture practices and of improved linkages and production practices on farm intensification and diversification; and (iv) establish, document and scale up methods for expanding the use of methodologies and technologies that have proved successful.
9. Key programme activities are to:
 - validate by demonstrating best options for conservation agriculture in smallholder farming systems
 - measure effects of conservation agriculture practices on soil quality, crop water balance and soil erosion
 - perform farmer-participatory on-farm trials to jointly solve problems encountered in conservation agriculture demonstration plots (including co-

generation of conservation agriculture knowledge by farmers and researchers)

- assess policies that influence the adoption and implementation of conservation agriculture with farmers and policymakers at the village, district, provincial and national levels
- develop crop and farm budgets under conservation agriculture and measure their impact on household food security
- identify opportunities for system diversification and intensification taking into account changes in labour usage brought about by adopting conservation agriculture
- encourage knowledge-sharing of conservation agriculture principles and practices among farmers, extension agents, researchers and other stakeholders through field days, discussion groups, short courses, study tours, information bulletins and other media
- demonstrate and evaluate existing equipment (e.g. seed drills) and adapt it to local conditions and to the requirements of conservation agricultural systems. Catalyse, support and monitor local manufacture of conservation agriculture equipment
- establish annual participatory evaluation procedures and organize meetings to evaluate results and develop workplans
- produce technical bulletins and decision guides to enhance knowledge of conservation agriculture among change agents
- develop policy briefs for administrators at the local, district, provincial and national levels after discussion with farmers, policymakers and stakeholders
- hold final regional workshop to identify key lessons and to further disseminate information developed by the programme

IV. Expected outputs and benefits

10. **Output 1.** Conservation agriculture techniques, component technologies and systems adapted to the circumstances of resource-poor smallholder farmers managing maize-based systems are evaluated and developed through participatory activities by farmers and other stakeholders.
11. **Output 2.** The actual and potential impact of the conservation agriculture system on the productivity of land, labour and capital; on risk vulnerability; on sustainability; and on the livelihoods of resource-poor smallholder farmers assessed.
12. **Output 3.** Linkages between smallholder farmers in target communities and input and output traders evaluated and strengthened in order to facilitate the adoption of conservation agriculture and the intensification and diversification of the production system.
13. **Output 4.** Strengthened capacity of local partners to conduct participatory research and development on conservation agriculture together with multiple stakeholders in innovation networks focused on the needs of smallholder farmers, and to facilitate and foster farmer-to-farmer exchange.
14. **Output 5.** Programme outcomes and the potential (ex post) impacts of conservation agriculture practices on resource-poor smallholder farmers synthesized, evaluated and communicated to multiple national and international stakeholders to support horizontal and vertical scaling up.

V. Implementation arrangements

15. The CIMMYT, the African Conservation Tillage Network (ACT), the Tropical Soil Biology and Fertility Institute (TSBF) of the International Center for Tropical Agriculture (CIAT), and the NARES of Malawi, Mozambique, Zambia and Zimbabwe, including national and international NGOs (e.g. Development Aid from People to People Zimbabwe and Total Land Care [Malawi] and others, yet to be identified) will collaborate in the implementation of the programme.
16. The CIMMYT will:
 - lead, coordinate, monitor and mentor activities and partners involved in the programme
 - catalyse and support local and regional innovation networks, build the capacity of NARES scientists to lead and participate in applied participatory research and innovation systems in conservation agriculture
 - take a lead role in assessing the impact of conservation agriculture practices on farm household livelihoods and on the environment
 - liaise with important regional organizations including the Forum for Agricultural Research, the Southern African Development Community, Implementation and Coordination of Agricultural Research and Training programme, the World Agroforestry Centre, and the International Crops Research Institute for the Semi-Arid Tropics
17. TSBF/CIAT will monitor soil fertility at the programme sites and will take a lead role in the application of soil/crop simulation models to estimate the effects of conservation agriculture at the watershed, provincial and national levels. The ACT network will synthesize and publicize information on conservation agriculture, in the form of technical advisory notes and technical bulletins. The ACT network will also facilitate linkages with ongoing conservation agriculture activities in the region, including the Conservation Agriculture for Sustainable Agriculture and Rural Development project by the Food and Agriculture Organization of the United Nations and the German Agency for Technical Cooperation in Kenya, Uganda and the United Republic of Tanzania.
18. The NARES (including universities and NGOs) of the four target countries will be involved in the oversight and facilitation of the farmer-managed demonstration plots in the target communities. The NARES will also facilitate and monitor farmers' experiments in conservation agriculture, conduct on-farm research to identify solutions to problems encountered in demonstration plots, and promote farmer-to-farmer exchange on the management of conservation agriculture systems.

Monitoring and Evaluation, and Reporting Arrangements

19. The CIMMYT will be responsible for technical and financial management, and reporting as required by IFAD. At the outset, meetings among farmers will be held in each community to define monitoring and evaluation (M&E) criteria. Farmers' groups, which will include women and young people, will meet monthly to monitor, discuss and assess demonstration plots and farmers' experiments. Their observations will be recorded by NARES facilitators and reported at national annual evaluation and planning meetings of technical personnel. Annual reports will be prepared at the national level, and will then be consolidated into progress reports that include the main results, problems encountered and achievements under the programme.
20. To provide oversight of the programme, a steering committee comprising representatives of the major stakeholders (including NARES, NGOs, participating institutions and donors) will be convened. IFAD will be represented by staff from the Technical Advisory Division (PT) and/or the Eastern and Southern Africa

Division (PF) plus invited observers from development projects in the region. IFAD supervision will be provided through regular participation at the annual steering committee meeting, and additional visits to project sites by PT and/or PF staff and/or consultants, as deemed necessary by IFAD. The costs of IFAD staff or consultants relating to steering committee participation or supervision will not be financed by the grant proceeds.

VI. Indicative programme costs and financing

21. An IFAD grant of US\$1.5 million is requested. The following budget assumes programme start up in mid-2007 and a duration of three years. Financial management will follow the CIMMYT's standard operating procedures, inasmuch as it is a CGIAR centre and conforms to the CGIAR-system-wide guidelines for the procurement of goods and services. Technical and financial reporting will satisfy the requirements of the standard financing agreement between IFAD and international agricultural research centres.

Sources of programme funding

Thousands of United States dollars

<i>Category</i>	<i>IFAD</i>	<i>Other projects²</i>	<i>NARES</i>	<i>CIMMYT</i>	<i>Total</i>
Personnel	600	90	50	52	792
Travel	90	20	20	7	137
Equipment	20	5	10	2	37
Infrastructure	0	0	50	0	50
Field operations and supplies	500	75	0	43	618
Workshop, training and publications	90	25	5	8	128
Administrative overheads	200	54	0	0	254
Total	1 500	269	135	112	2 016

22. Programme governance will be underpinned by the active participation of selected communities and informed by their expressed needs. These elements will feed into a national stakeholder contact group in each country, which will include representatives from related IFAD-supported projects, the national farmers' association, prominent rural development NGOs, and agricultural research and extension organizations.

² CIAT/TSBF projects financed by CGIAR Sub-Saharan Challenge Programme and by the Austrian Government.

Logical Framework

<i>Narrative summary</i>	<i>Objectively verifiable indicators</i>	<i>Means of verification</i>	<i>Assumptions</i>
GOAL			
Goal. To increase the household food security of smallholder farm families in southern Africa and enhance their livelihoods while conserving and improving the natural resources dedicated to agriculture	Reduced number of hungry months for participating households	Impact assessment survey	Absence of severe drought, political or institutional crises
	Participating farmers report initial signs of improvement in their livelihoods	Project reports/evaluation	
	Soil quality has improved on the farms of participating farmers		
PURPOSE			
Purpose. To establish functioning pilot communities practicing conservation agriculture as learning and scaling up nodes for innovation networks and investment projects	Farmers in each of at least 3 communities in each target country practice and understand conservation agriculture, and are adept at explaining conservation agriculture to other farmers	Project reports/evaluation, farmer field days and final surveys	There is institutional support for win-win livelihoods enhancement/ sustainable resource management development options in the target countries
	Technologies and knowledge from the project shared with investment projects in Malawi, Mozambique and Zambia	Grant project and investment project reports	
OBJECTIVES/OUTPUTS			
Objective 1. Enable the adoption of conservation agriculture practices adapted to the circumstances of smallholder, resource-poor farmers, in representative target communities in Malawi, Mozambique, Zambia and Zimbabwe, through participatory technology adaptation	At least 10 farmers in each of at least 3 communities in each target country practicing conservation agriculture by the end of the project	Project reports/evaluation Final surveys in target communities	Farmers in the target communities do not expect major financial support from the project and are willing to dedicate time to participatory technology development and adaptation
	Technologies and techniques for different components of functional conservation agriculture systems being used by at least 10 farmers in each pilot community	Project reports/evaluation	
Output 1. Conservation agriculture techniques, component technologies and systems adapted to the circumstances of resource-poor smallholder farmers managing maize-based systems evaluated and developed through participatory activities of farmers and other stakeholders			
Objective 2. Assess farmer acceptance and the actual and potential impacts of conservation agriculture technologies on farm family livelihoods,	Farmer appreciation of conservation agriculture techniques, benefits, limitations to adoption and experiences with conservation	Annual country reports.	

<i>Narrative summary</i>	<i>Objectively verifiable indicators</i>	<i>Means of verification</i>	<i>Assumptions</i>
food security, soil quality and crop productivity	agriculture technology assessed annually and necessary modifications incorporated into the ongoing research and demonstration plots	Impact assessment survey report	
Output 2. The actual and potential impacts of conservation agriculture systems on the productivity of land, labour and capital; risk; sustainability and the livelihoods of resource-poor smallholder farmers assessed	Productivity of conservation agriculture technologies on livelihoods, food security, soil fertility, and system productivity quantified	Project reports on soil quality, crop and system productivity in demonstration plots and farmer experiments	
Objective 3. Assess the impact of market linkages on the adoption of conservation agriculture practices, and of improved linkages and production practices on farm intensification and diversification	Diversification and intensification of the production system by innovative farmers in the target communities documented, the reasons for and the benefits of these changes analysed together with collaborating farmers	Impact assessment survey	Local traders are willing to experiment with the sale of new products Markets can be arranged for, initially, small volumes of traditional and non-traditional farm outputs
Output 3. Linkages between smallholder farmers in target communities and input and output traders evaluated and strengthened in order to facilitate the adoption of conservation agriculture and the intensification and diversification of the production system	Farmers practicing conservation agriculture have increased volume of inputs acquired by 10 per cent and produce sold by 20 per cent At least 25 per cent of the farmers practicing conservation agriculture in the target communities have incorporated a new enterprise into their production system		
Objective 4. Establish, document and scale-up methods for scaling-out validated methodologies and technologies	At least three potential methodologies for scaling-up of conservation agriculture technologies evaluated and documented	Project reports	Severe drought or other abnormal weather conditions do not prevail in the target communities in more than one season of the project duration
Output 4. Strengthened capacity of local partners to conduct participatory research and development on conservation agriculture together with multiple stakeholders in innovation networks focused on the needs of smallholder farmers, and to facilitate and foster farmer-to-farmer exchange	All research and development staff associated with the project have enhanced capacity in participatory methods and in innovation system management and participation At least one farmer-to-farmer study visit conducted in each target community focusing	Surveys of personnel from multiple organizations participating in the project Project reports	

<i>Narrative summary</i>	<i>Objectively verifiable indicators</i>	<i>Means of verification</i>	<i>Assumptions</i>
	on the experiments of participating farmers		
Output 5. Project outcomes and the potential (ex ante) impacts of conservation agriculture practices on resource-poor smallholder farmers synthesized, evaluated and communicated to multiple national and international stakeholders to support horizontal and vertical scaling up.	Georeferenced database developed incorporating existing and project-developed agronomic and socio-economic data	Database	
	Conservation agriculture recommendation domains delineated using GIS and updated and refined annually	Maps of conservation agriculture recommendation domains in target countries.	
	At least three technical bulletins and decision guides on the applicability and benefits of conservation agriculture for defined farmer groups published in each target country	Bulletins/decision guides	
	At least one policy brief prepared in each country and discussed with farmers, policy makers and other stakeholders	Policy briefs	
	Project results disseminated through peer-reviewed journal publications and an international conference	Journal articles Workshop Proceedings	

Bioversity International (IPGRI): Programme for Empowering the Rural Poor by Strengthening their Identity, Income Opportunities and Nutritional Security through the Improved Use and Marketing of Neglected and Underutilized Species

I. Background

1. Household food security in poor marginal areas of the developing world still depends on a variety of crops; the importance of that variety which is not adequately recognized by the international research and development community. Over 50 per cent of global requirements for protein and calories are met by just three crops: maize, wheat and rice. However, over the generations more than 7,000 edible species have been used across the globe. These species tend to be neglected today because they are no longer competitive with crops that have come to dominate the world food supply and that are supported by seed supply systems, production and post-harvest technologies, mainstream research and extension services. Low yields and quality standards are among the factors responsible for the decline in use, and ultimate disappearance, of neglected and underutilized species (NUS).
2. NUS hold comparative advantages over commodity crops in view of their adaptation to local conditions, their nutritional contributions, their resilience to adverse climatic situations and other factors. Furthermore, safeguarding is important for protecting local identities, cultural traditions and other types of knowledge intimately connected to the species.
3. In order to bring NUS back into cultivation or to stem their loss, there is a need to develop better production and post-harvest technologies, increase competitiveness and create new opportunities and better policy frameworks. Mobilizing these resources is a powerful way to give visibility and to empower the socio-economic groups that most rely on them: the poor and the marginalized. The proposed programme aims to strengthen the capacities of these groups to fight nutritional insecurity and poverty. It also aims to reduce the associated silent cultural impoverishment linked to the loss of knowledge that is indispensable for recognizing, cultivating, maintaining and using NUS.

II. Rationale and relevance to IFAD

4. Agriculture is fundamental to the world's food and nutritional security. The sector is also the main employer of the poor in developing countries. The biodiversity basket upon which the world relies is shrinking dramatically because of socio-economic changes, market trends, changes in lifestyles, etc. These have a profound effect, particularly on the poor, whose livelihood assets are being increasingly eroded and their sustainability options reduced.
5. Stimulating demand for crops in which smallholder farmers have knowledge and experience, then providing these farmers with organizational and business skills and linking them to markets, will lead to improved incomes for the farmers. Increased demand, effective markets, better policies and the support of institutions and professionals with the capacity to advance research and development will provide an environment that favours the expansion of results on a larger and a wider scale in order to realize the overall project vision.
6. The increasing interest in "nature-driven" tourism is seen by several partners as an opportunity for increasing the incomes of poor community members in target areas while also creating ways to raise self-esteem and strengthen cultural identity by valorizing the NUS resources safeguarded by these communities. The

programme will investigate way to use rural tourism to promote biodiversity, maintain indigenous knowledge and will test strategies for overcoming the present limitations in pilot sites.

7. The interventions envisaged by the programme are fully in line with IFAD's strategic framework objectives related to the strengthening of human, social and productive assets and to ensuring market access for the poor. The programme will also empower poor people, particularly women, by boosting income-generation through community-based tourism activities. Programme outputs will support IFAD's regional strategies by focusing on poverty reduction, food and nutritional security, self-sustaining mechanisms such as microcredit and cooperatives for community empowerment and local training in effective practices.

III. The proposed programme

8. The three-year programme aims to contribute to the empowerment of the rural poor, raise incomes and strengthen the sense of identity and food security of small farmers and rural communities worldwide by harnessing and taking full advantage of the genetic and cultural diversity contained in NUS.
9. Proposed activities are grouped under eight interlinked areas of focus:
 - **Area 1.** Assessment and enhancement of income generation based on NUS. Activities will consolidate information related to income generation from NUS and develop marketing tools for boosting supply and demand. Collaborative links will be sought with the International Fair Trade Association and the Tradecraft Market Access Centre (based in the United Kingdom of Great Britain and Northern Ireland), in the context of building stakeholders' capacities in linking to markets and benefiting from fair trade.
 - **Area 2.** Assessment of nutritional values of NUS and development of strategies for their enhanced use in nutrition programmes. Interventions will consolidate data already gathered through previous IFAD grant resources and other projects on the nutritional role of NUS and their impact, particularly on the poor. Strategies for promoting NUS in areas where their nutritional contribution is most strategic will be developed.
 - **Area 3.** Enhancement of the human and social capital of stakeholders to manage NUS and derive benefits from their use, combined with strengthening of local identity. This will comprise activities to enhance the capacities of those along the value chain to cultivate, process, market, use and promote NUS independently and/or in partnership with other key players. Business skills will be developed and the efficiency of value chains will be promoted through training, technology transfer and other highly participatory and inclusive interventions. In terms of strengthening community-based organizations engaged in managing NUS, specific support will be directed at defining and promoting the most appropriate structures to help community members make better use of NUS resources. Particular attention will be devoted to promoting farmers' self-esteem and self-confidence through enhanced use of NUS, since this is fundamental to making them protagonists of their own development. Community members – particularly marginalized groups – have been playing a unique role in maintaining the genetic diversity of NUS and storing the related knowledge. Promoting the nutritional, cultural and other values of NUS is strategic in helping these species "graduate" from their perceived low status and marginalization, and in raising the self-esteem of local people who have been the custodians of these resources for generations.
 - **Area 4.** Exploring the role of rural tourism in promoting NUS. The impact of rural tourism in safeguarding biodiversity and local traditions will be assessed, to develop best practices, approaches and strategies to enhance

its possible contribution while minimizing its drawbacks. The capacities of sector operators will be enhanced through exchange of experiences – both south-south and north-south – and through education and promotion of better policies.

- **Area 5.** Improvement of availability, knowledge and maintenance of genetic resource base. The programme will make available to users the genetic material and relevant knowledge needed to expand the use of NUS in production systems. Activities will also encourage the conservation of target species and the related indigenous knowledge.
- **Area 6.** Promoting better policies and legal frameworks for the sustainable and equitable use of NUS. The grant will promote the development of better policies to improve cultivation (e.g. financial incentives to cultivate nutritionally rich species), value addition (e.g. frameworks to support drudgery-reduction processing enterprises in the community), marketing (e.g. less restrictive measures for exports of NUS products to the European Union), education (e.g. inclusion of NUS in school curricula to educate students about the nutritional and social values of the target species) or access (e.g. development of material transfer agreements).
- **Area 7.** Promoting cooperation in NUS management and raising awareness of the importance of NUS to livelihoods. Given today's commodity **oriented** research and development (R&D) systems, NUS will never command a level of attention in R&D comparable with that received by major crops. Consequently, work will involve harnessing cooperation among stakeholders, including participants in the supply chain at the local level, and raising public awareness on NUS to strengthen the sustainability of their use.
- **Area 8.** Mobilizing support and raising funds for NUS activities: This domain of intervention aims to promote efforts related to NUS – both at the national and international levels – beyond the lifespan of the programme.

IV. Expected outputs and benefits

10. Expected impact and benefits will include:

- enhanced capacity of community members to cultivate, market and use NUS, with nutritional and income benefits experienced also by poor households
- competitiveness of NUS products along with improved image and demand, and more efficient markets
- improved availability of germplasm of most adapted varieties
- conservation of diversity enhanced and the associated indigenous knowledge leveraged, and self-esteem raised through community-based and/or regional/national initiatives
- knowledge of nutritional value and other significant traits in target species
- strategies provided for enhancing use of target species
- training programme(s) covering the economics of NUS
- community-based organizations support for NUS use and empowerment of women
- better understanding of the role of rural tourism in sustainable conservation and the use of agro-biodiversity and methodologies to minimize the associated risks and maximize the benefits

- raised awareness, particularly among younger generations and policy makers, on role of NUS, for instance through recipe books and events celebrating in the diversity of taste, and the cultural links of NUS
- support to the development of policy and legal frameworks to promote NUS
- strengthened R&D networking on NUS

V. Implementation arrangements

11. The programme will be implemented by a broad range of partners, each providing specific skills, in the areas of research and extension, production, marketing and value adding, policy, and public awareness. Partners will include development organizations, farmers' associations, traders, food processors, NGOs, local and international agricultural research institutions, government extension agencies and the media.
12. Bioversity International will be the executing agency of the global programme. The MS Swaminathan Research Foundation (MSSRF), Agricultural Research and Extension Agency (AREA), the Foundation for the Research and Promotion of Andean Products (PROINPA) and the Centre for Research on Natural Resources and the Environment (CIRNMA) will be the executing agencies for the work in India, Yemen, Bolivia and Peru, respectively. Unità e Cooperazione per lo Sviluppo dei Popoli (UCODEP)/Movimondo will execute the rural tourism component. In terms of organizing stakeholder platforms, the Global Forum on Agricultural Research (GFAR) will play a key role. Partnerships will be formalized through a letter of agreement between Bioversity International and relevant programme partners.
13. A steering committee made up of representatives of IFAD, Bioversity International, the German-supported Global Facilitation Unit for underutilized species (GFU), MSSRF, AREA, PROINPA, CIRNMA, GFAR and UCODEP/Movimondo will meet once a year and will be responsible for monitoring programme activities and guide effective implementation. Responsibility for IFAD supervision will lie with PT. Neither the costs of supervision nor IFAD's representation on the steering committee will be financed from grant resources.

VI. Indicative programme costs and financing

14. The total programme budget is estimated at US\$3,158,000 of which US\$1,400,000 will be provided as an IFAD grant.

IFAD grant budget breakdown

Thousands of United States dollars

<i>Category of expenditure</i>	<i>IFAD</i>	<i>IPGRI</i>	<i>Other partners</i>	<i>Totals</i>
Personnel	341 000	600 000	145 000	1 086 000
Consultancies	30 000		10 000	40 000
Travel	89 000		78 000	167 000
Research contrasts	435 000		505 000	940 000
Training and fellowships	30 000		95 000	125 000
Conferences and meetings	205 000		195 000	400 000
Equipment			100 000	100 000
Overheads	210 000			210 000
Publications	60 000		30 000	90 000
Total	1 400 000	600 000	1 158 000	3 158 000

15. This programme will be cofinanced with an in-kind contribution of US\$0.6 million from Bioversity International; as well as a contribution of approximately

US\$1,158,000 from other donors, namely: (i) the System-Wide Genetic Resources Programme (SGRP); (ii) Wageningen International; (iii) the International Centre for Underutilized Crops (ICUC) in Sri Lanka; (iv) GFU, (v) the USA Congressional Mickey-Leyland International Hunger Fellowship (United States of America); (vi) the Genetic Resources Policy Initiative; (vii) the Junior Professional Officer programmes of Italy and the Netherlands; and (viii) several IFAD projects.

Logical Framework

Focus	Expected Outputs	NARRATIVE SUMMARY		Indicators	Means of verification	Risks and Assumptions	
			Proposed Activities				
Area 1. Assessment and enhancement of income generation based on NUS	1.1	Robust data on economics of NUS and cost benefits of their cultivation and commercialization gathered	1.1	Assess economics of NUS, carry out cost benefit analyses in cultivation and commercialization and provide robust data in support of IFAD investment projects.	<ul style="list-style-type: none"> ■ Availability and use of information for decision making by Stakeholders ■ Documented strategies for adding value 	<ul style="list-style-type: none"> ■ Published and unpublished reports ■ Surveys of production methods and practices 	<ul style="list-style-type: none"> ■ Work of sufficient quality is undertaken and effective analyses can be supported ■ Added value products are identified ■ Marketing opportunities are maintained ■ Production improvements continue to be relevant in production situations ■ National and international economies support increased tourism
	1.2	Competitiveness of NUS/products in pilot sites achieved along with improved image, higher demand and more efficient markets	1.2	Increase supply and demand through improvement of image of NUS, enhanced food safety, quality certification, labelling, value addition strategies, novel products, better marketing and commercialization.	<ul style="list-style-type: none"> ■ Changes in production practices ■ Reduced variation in production statistics 	<ul style="list-style-type: none"> ■ Production statistics ■ Employment statistics 	
	1.3	Improved knowledge of agronomic requirements and sustainable agricultural production practices	1.3	Improve knowledge of agronomic requirements of NUS under different agro ecological conditions and using sustainable agricultural production practices.	<ul style="list-style-type: none"> ■ Changes in crop choices by growers ■ Documented increase in numbers of rural poor employed in ecotourism linked to NUS 	<ul style="list-style-type: none"> ■ National records and registers of tourism enterprises 	
Area 2. Assessment of nutritional values of NUS and development of strategies for enhanced use of NUS in nutrition programmes	2.1	Nutritional values of target NUS assessed particularly in areas affected by malnutrition and hidden hunger	2.1	Assess nutritional values of target NUS in priority areas	<ul style="list-style-type: none"> ■ Availability and use of information for decision making by Stakeholders 	<ul style="list-style-type: none"> ■ Published and unpublished reports 	<ul style="list-style-type: none"> ■ Genebanks are prepared to maintain materials supplied ■ Farmers maintain interest in target crops ■ Farmers and others are prepared to communicate traditional knowledge
	2.2	Current and potential impact of target species evaluated across priority groups and areas	2.2.	Evaluate impact of species on nutritional security across social groups and priority areas	<ul style="list-style-type: none"> ■ Documented strategies for enhancing nutritional security using NUS 	<ul style="list-style-type: none"> ■ Surveys of production methods and practices 	
	2.3	Strategies for enhanced deployment of highly nutritious NUS developed and disseminated	2.3.	Recommend strategies for deployment of NUS to combat malnutrition/hidden hunger.	<ul style="list-style-type: none"> ■ Changes in cultivation and use patterns of highly nutritious NUS 	<ul style="list-style-type: none"> ■ Production statistics 	
Area 3. Enhancement of human and social capital to manage NUS and derive benefits from their use, combined with strengthening of local identity	3.1	Enhanced capacities of community members through courses/ workshops and other capacity-building initiatives	3.1	Community-based courses, transfer of technologies	<ul style="list-style-type: none"> ■ Availability of low-cost technologies 	<ul style="list-style-type: none"> ■ Published and unpublished reports 	<ul style="list-style-type: none"> ■ Facilities for training can be mobilized ■ Farmers and communities can find time (and other resources) to participate ■ Trained personnel are retained by institutes
	3.2	Community-based value addition strategies established/ strengthened in pilot sites	3.2	Pilot studies for the establishment/ strengthening of pilot value addition strategies in communities	<ul style="list-style-type: none"> ■ Numbers of trained national staff and community participants 	<ul style="list-style-type: none"> ■ Training statistics and personnel records 	
	3.3	NUS Curricula developed and promoted for building human capacities in the area of NUS	3.3	Establishment of global/regional training programme/s on NUS.	<ul style="list-style-type: none"> ■ Published information in reports and documents 	<ul style="list-style-type: none"> ■ Review of published and unpublished documents 	
	3.4	SHG, CIALs and other CBOs	3.4	Establishment of Self Help Groups, CIALs, etc) to access financial, natural, physical and	<ul style="list-style-type: none"> ■ Published information in reports and documents 	<ul style="list-style-type: none"> ■ Published and 	

NARRATIVE SUMMARY					
Focus	Expected Outputs	Proposed Activities	Indicators	Means of verification	Risks and Assumptions
	established in pilot sites	human capital		unpublished reports	
	3.5 Methods and approaches for empowering women through NUS in target sites, particularly through their direct management of local food culture and related initiatives	3.5 Investigate role of NUS in women's empowerment and develop strategy for enhancing these roles.	<ul style="list-style-type: none"> ■ Documentation of methods ■ Number of Curricula developed 	<ul style="list-style-type: none"> ■ Review of published and unpublished documents 	<ul style="list-style-type: none"> ■ Trained national staff and community members apply knowledge gained
	3.6 People's self-esteem raised through community-based and/or regional/ national initiatives that would recognize contribution of local people as "NUS custodians" and " NUS champions"	3.6 Raise visibility of local people through a celebration and appreciation by civil society of their contribution in maintaining NUS.	<ul style="list-style-type: none"> ■ Numbers of CBOs established in partner countries 	<ul style="list-style-type: none"> ■ Greater participation of women and other marginalized people in community-base decision making processes as a result of the project intervention 	<ul style="list-style-type: none"> ■ Research work of sufficient quality is undertaken
	3.7 Recipe books celebrating NUS/products in their diversity of tastes, flavours, cultural links;	3.7 Production of recipes books celebrating values, tastes, traditions and uniqueness of NUS contribution in maintaining cultural identities	<ul style="list-style-type: none"> ■ Adoption by countries of strategy for the empowerment of women through enhanced use of NUS 	<ul style="list-style-type: none"> ■ Mention of role of communities in media, documents, articles and other References of NUS in project documents dealing with rural tourism 	<ul style="list-style-type: none"> ■ Social and cultural impediments to the participation of women in the project are overcome or do not arise
	3.8 Raised awareness of role of NUS in peoples' livelihood through educational material and other culturally-driven messages targeting younger generations.	3.8 Educating/raising awareness in younger generations on the value and uniqueness of NUS and the stewardship role played by women and elderly	<ul style="list-style-type: none"> ■ Recipe books on NUS; ■ Media material documenting role of community in maintaining NUS ■ Greater participation of women/ marginalized member of society in community- based decision making processes ■ Greater voice of communities in deciding over strategic issues regarding conservation and use of local biodiversity; 	<ul style="list-style-type: none"> ■ Strategic development plans/ papers ■ Articles, minutes of multi-stakeholders meetings 	<ul style="list-style-type: none"> ■ Research work of sufficient quality is undertaken; ■ Social and cultural impediments to the participation of women in the project are overcome or do not arise
Area 4. Exploring the role of rural tourism in promoting NUS	4.1 Better understanding of rural tourism in the maintenance of diversity in target countries/sites. Methodologies and approaches developed and disseminated for the management of tourism by local communities with a focus on safeguarding cultural identity and genetic diversity and improving livelihoods through NUS	4.1 Assess impact of rural tourism and identify procedures and best practices to ensure valorisation of local agro-biodiversity/NUS and associated IK through deployment of rural tourism in local development.	<ul style="list-style-type: none"> ■ Increased number of NUS species used in rural tourism projects / promotional campaigns; ■ Number of NUS conserved through rural tourism enterprises in target sites; ■ Documented strategies for 	<ul style="list-style-type: none"> ■ References of NUS in project documents dealing with rural tourism; ■ Strategic development plans/ papers; ■ Articles, minutes of multi- 	<ul style="list-style-type: none"> ■ Research work of sufficient quality is undertaken; ■ Social and cultural impediments to the participation of women in the project are overcome or do not arise;
		4.2 Inter-regional exchange of experience on best practices on pro-poor rural tourism through south-south and north- south			

Focus	NARRATIVE SUMMARY				
	Expected Outputs	Proposed Activities	Indicators	Means of verification	Risks and Assumptions
Area 5. Improvement of availability, knowledge and maintenance of NUS resource base	4.2 Tangible outputs include methodologies to minimize risks and maximize associated benefits, manuals for community members, specific publications, etc. Non-tangible outputs include empowerment of community members through exchange of experiences, capacity building and other interventions, greater self esteem of partners, greater cooperation fostered among countries and institutions involved	4.3 cooperation Promotion of the knowledge and use of NUS in local and international markets (particularly in Italy)	promoting tourism through biodiversity/NUS; ■ Documented increase in numbers of rural poor employed in ecotourism linked to NUS	stakeholders meetings;	■ National and international economies support increased tourism;
	4.3 Fact sheets and various publications underscoring multiple values of NUS and their intimate links with local cultures and peoples' identity				
	5.1 Improved availability of germplasm and indigenous knowledge of target species for stop-gap measures	5.1 Survey and collection of NUS diversity and associated indigenous knowledge	■ Seed and planting material quality, quantity and availability	■ Surveys of material availability in participating communities	■ National and community participation is maintained
	5.2 Enhanced knowledge of high quality traits in target species and selection of best varieties	5.2 Assessment of high quality traits in gene pools of target species-participatory selection	■ Numbers of plant improvement activities	■ Yields and quality of products	■ Unforeseen environmental or other disasters do not occur
	5.3 Seed production systems strengthened and/or established for target species ensuring quality, regular supply and maintenance of genetic and cultural diversity of NUS in production and market systems	5.3 Strengthening of seed production systems to mobilize NUS germplasm of good quality and in regular supply and development of methods to support maintenance of genetic and culturally diverse NUS in production and market systems	■ Number of <i>ex situ</i> accessions and extent of on farm maintenance ■ Traditional knowledge maintenance systems (e.g. databases) in place in partner countries	■ Records and surveys of numbers of accessions held in gene banks and of areas involved in on farm conservation ■ Information held in databases or published	■ Agricultural policies are not discriminatory ■ Materials are located
5.4 Resource base of selected species and associated indigenous knowledge maintained through <i>in situ</i> and <i>ex situ</i> methods	5.4 Maintenance of genetic diversity/ indigenous knowledge in production systems/on farm and in <i>ex situ</i> facilities				
Area 6. Promotion of better policies and legal frameworks for the sustainable and equitable use of NUS	6.1 Policy and legal framework identified and solutions for their improvement proposed to partners	6.1 Identify inappropriate policy /legal frameworks and advise on their improvement.	■ Strategies to improve policy and legal framework provided to partners	■ Published and unpublished reports	■ Policy-makers are accessible and receptive to public awareness initiatives
	6.2 Public awareness raised among policy makers on issues and options for improved policies and legal frameworks	6.2 Undertake public awareness actions among policy-makers through visible initiatives (e.g. follow up to Chennai April 2005 Consultation).	■ Increased interest of senior policy makers demonstrated through interventions in support of	■ Reports in press and radio ■ Discussions in policy making bodies	

Focus	Expected Outputs	NARRATIVE SUMMARY		Indicators	Means of verification	Risks and Assumptions
			Proposed Activities			
				NUS		
Area 7. Promotion of cooperation in NUS management and awareness raising of the importance of NUS to livelihoods	7.1	Heightened awareness of the economic, social, nutritional and cultural importance of NUS among various stakeholders through TV, radio, workshops, demo gardens, fact sheets, etc.	7.5 Networking, building of synergy, promotion of experience sharing	<ul style="list-style-type: none"> ■ Identified networking arrangements in place ■ Operational networking and communication arrangements ■ Public awareness materials are produced and reach targets ■ Increased expressions of interest by extension workers and other project personnel 	<ul style="list-style-type: none"> ■ Documented reports on policies ■ Network activities, communications, meeting documentation ■ Documentation of networking activities and meetings ■ Reports in press and radio ■ Discussions in policy making bodies ■ Documented reports on policies ■ Surveys and activities in development projects 	<ul style="list-style-type: none"> ■ Participants are able to continue involvement ■ Resources for participation and additional operating costs are secured ■ Expertise from key sectors (economics, marketing etc.) is engaged ■ Participants interests are retained and sufficient support/time is available ■ Communication systems are operational ■ Interest of media is engaged
			7.2 Promote cooperation along supply/value chains.			
			7.3 Disseminate findings, approaches, methods and strategies.			
			7.4 Raise public awareness at different levels to promote greater deployment of NUS.			
	7.2	Dissemination of project deliverables beyond primary partners) and enhance value chains				
	7.3	Supply/value chain of target species enhanced through more effective links among actors				
	7.4	Strengthened networks involving players at various levels.				
Area 8. Mobilization of support and fund raising for NUS activities	8.1	Political support to promote greater use of NUS at local/municipal level as well as at regional and national levels gained through meetings, workshops and other initiatives (link to 6.2, 7.4)	8.1 Canvass political support.	<ul style="list-style-type: none"> ■ Policy-makers react to raised awareness with supportive legislation or policies ■ Institutional support obtained for NUS activities ■ Level of funding on NUS increased as a result of Project's intervention 	<ul style="list-style-type: none"> ■ Reports in press and radio ■ Discussions in policy making bodies ■ Documented reports on policies ■ Surveys and activities in development projects 	<ul style="list-style-type: none"> ■ Appropriate policy arenas exist
			8.2 Fund raising (develop concept notes and contact donors)			
	8.2	Concept notes, project proposals in support of NUS developed and approved by target donors				