



Investing in rural people

LARGE GRANT DESIGN DOCUMENT

Linking agrobiodiversity value chains, climate adaptation and nutrition: empowering the poor to manage risk

Quality Assurance and Grants Unit

Document Date:

**STRATEGY AND KNOWLEDGE DEPARTMENT
DRAFT**

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Abbreviation and Acronyms

ASA	Action for Social Advancement
CCAFS	Climate Change, Agriculture and Food Security
CGIAR	Consultative Group on International Agricultural Research
CRP	CGIAR Research programmes
BMZ	Bundesministerium Für Wirtschaftliche Zusammenarbeit (<i>German Federal Ministry for Economic Cooperation and Development</i>)
IDO	Intermeddiate Development Outcomes
IPAF	Indigenous Peoples Assistant Facility
IER	Institute of Rural Economy
LOA	Letters of Agreement
NESFAD	North East Slow Food and Agrobiodiversity Society
PARM	Platform for Agricultural Risk Management
PIM	Policies, Institutions and Markets
POWB	Policies, Institutions and Markets
SHG	Self Help Groups
SLOs	System level Outcomes
SRF	Strategic Results Framework
UVG	Universidad del Valle de Guatemala
VCEN	Value Chains for Enhanced Nutrition

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SUMMARY TABLE

Grant Title	Linking agrobiodiversity value chains, climate adaptation and nutrition: empowering the poor to manage risk
Recipient	Bioversity International
CRP(s) Links	Main linkage with CCAFS. Other linkage with A4NH.
GRIPS ID1	
IFAD grant originator	Malu Ndavi,
Originating Division(s)	Strategy and Knowledge Department
Grant contribution to IDOs of CRP	<p>CCAFS</p> <ul style="list-style-type: none"> • <u>Adaptive capacity</u>: Increased capacity in low income communities to adapt to climate variability, shocks and longer term changes • <u>Food security</u>: Increased and stable access to food commodities by rural and urban poor • <u>Gender and social differentiation</u>: Increased control by women and other marginalized groups of assets, inputs, decision-making and benefits <p>A4NH</p> <ul style="list-style-type: none"> • <u>Nutrition</u> - Improved diet quality of nutritionally-vulnerable populations, especially women and children
Grant Contribution to SLOs of the SRF	The Grant is well aligned with the Consortium's SRF (especially to 'open innovation' and integrative system-based approaches). Its expected contribution will be relevant to all SLOs but in particular to SLO4 ('building resilient agriculture and food systems in the face of climate change'). The IDOs linked to the Grant include 'food security' (enhanced access to sufficient, safe and nutritious traditional crops), 'income' (access to markets by the poor), 'gender and empowerment' (capacity building on marketing and enhancement of value chains of local crops and products), 'capacity to innovate' (linking climate change adaptation with nutrition and value chains), 'adaptive capacity and climate' (weather forecast and risk management) and nutrition (increased diet diversity and increased consumption of nutritious foods).
Beneficiary Countries	Guatemala, India and Mali
IFAD Grant in USD	1 000 000 (for One Year)
EC Funding in USD²	1 320 000 (for three years)
Partners' Contribution	503 000 (for three years)
Total Budget	2 823 000

¹ See <https://xdesk.ifad.org/sites/uee/PeopleSoft/grips/SitePages/Home.aspx>

² Allocation is in EURO, proposed EC co-funding is EURO 1 000 000

Programme Duration	1 year IFAD funding and 3 years for EC and other co-funding.
Target Group and Benefits	<p>This multi-year Programme aims to empower local women and men farmers (including indigenous people), as well as other value-chain actors, to build resilient livelihoods through agrobiodiversity-based solutions. The Programme will build capacities of local, community-based organizations (CBO) and Self Help Groups (SHG) to collect information, share experiences and make self-directed decisions to foster knowledge building and local innovation. Beneficiary groups, particularly the most vulnerable, will be able to exchange data regarding weather, performance of varieties of crops, nutritional benefits and market information. Data generated through the mechanisms established by the Programme will enhance the preparedness of farmers and other value-chain actors for climate variability and will help them to manage associated risks. Data on crops and varieties (e.g. prices, demand) will guide farmers and other value-chain actors to make informed choices regarding production of crops more aligned to market needs and emerging trends. Existing networks will be strengthened and new ones will be created to help the local communities, including indigenous people, to better document, monitor, exchange and manage their traditional crops. National and international platforms and fora will be used to voice the concerns and aspirations of local communities for more sustainable, inclusive and nutrition-sensitive food and agricultural systems to benefit the poor and the marginalized.</p>
Rural Development Projects to be linked with the Grant	<p>The Grant will be linked to a number of important Rural Development Projects whose common denominator is the strengthening of the livelihoods of the poor through more resilient agricultural production systems. Methods, approaches and tools to be developed through the programme of work will be particularly relevant to the following Projects currently operative in countries that will be targeted by the Grant: Integrated Livelihoods Support Project in Uttarakhand (India); <i>Programme d'amélioration de la productivité agricole au Mali</i> (PAPAM), (Mali); Sustainable Rural Development Programme for the Northern Region (Guatemala). It will also build on previous IFAD investments in Meghalaya and other parts of Northeast India made through The Indigenous Partnership. The Grant will also work closely with the Indigenous Peoples Assistant Facility (IPAF) and with IFAD's Adaptation for Smallholder Agriculture Programme (ASAP) by contributing to the enhancement of value of stress-tolerant, but currently underutilized, traditional crops along the value chain, by providing information systems related to adapted crops, weather forecasts, nutrition and markets. Linkages will be also established with the programme of the Canadian Government and the German Federal Ministry for Economic Cooperation and Development (BMZ) on Nutrition-Sensitive Agriculture and Rural Development.</p>
Supervision Arrangements	<p>The project will be supervised by IFAD in line with the signed Grant Agreement with Bioversity as recipient of the Grant and IFAD. Bioversity will be responsible for all project implementation as well as reporting on both fiduciary and technical aspects. Bioversity as the Grant recipient will ensure that activities agreed are implemented by partners following the highest standards of scientific rigour, cost effectiveness, participatory methods, transparency and accountability. This will be realized through regular interactions with partners during field visits, workshops, Skype sessions and emails. Bioversity will leverage its presence in the target regions through its country offices in Costa Rica, Benin and New Delhi. Each partner will be</p>

	<p>required to produce mid-year and end-of-year technical and financial reports, which will be used for producing consistent updates and Programme reports to IFAD.</p>
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I. BACKGROUND

1. Agricultural biodiversity is an essential asset for rural households worldwide, especially for the poor and the marginalized. Diversity options allow farmers to respond to different situations and contexts and, when responses are accompanied with enhanced capacities to cope with risk along the value chain, these options can be more effective in building resilience within livelihood systems and can improve food and nutrition security. Communities' resilience relies on the use of crops adapted to new weather patterns and the way that these resources are used effectively to generate income in the market and realize household food security. Several neglected and underutilized species (e.g. Andean grains, Fonio, Bambara groundnut, minor millets) known to be stress-tolerant hold great potential to contribute to the resilience, nutrition and food security communities need if their cultivation could be supported and integrated into value chains.

2. Climate change adaptation and value-chain development need to be fostered in an integrated approach. If they are not, communities risk developing value chains with crops that fail because they are not adapted to new weather patterns, or developing cropping systems with crops which are difficult to market. Some farmers are already doing this successfully, but the potential impact is greatly limited by social, market and policy barriers. Until now, effective linkages between efforts to develop crops more adapted to climate change and interventions targeting agrobiodiversity value chains have been very limited. Furthermore, linkages between genetic diversity and its use for resilient production systems, value chains and nutrition are also very poor. Local communities, including indigenous peoples, hold knowledge which is important for sustainably managing resources and responding to ever-evolving opportunities and threats that may affect their nutritious crops. To be fully beneficial, this knowledge needs to be supported by innovative methods and approaches developed by other communities and by researchers. This Programme will thus work on these linkages —filling the knowledge gaps and finding affordable solutions for and with resource-poor indigenous communities.

3. The Programme will be housed within the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), strengthening the CGIAR engagement in researching the worldviews and practices related to Poor local communities and indigenous. Important linkages will be also created with the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH) through work on nutrition-sensitive value chains and nutrition policy analysis. Links with the CGIAR Research Program on Policies, Institutions and Markets (PIM) will also be explored in the context of the work on supportive policies for upgrading value chains of traditional crops.

II. RATIONAL RELEVANCE AND LINKAGES

4. Diversification of farming systems does not lead automatically to a reduction in climate vulnerability or improved nutritional status of men, women and children. Reduced vulnerability and improved nutrition need to be built on complementarities of species and varieties selected using criteria of current and future climatic and socio-economic conditions, awareness of dietary insufficiencies within households and cultural appropriateness. Enabling policies linking farmers to markets are also needed, along with appropriate institutional support, for instance incentive mechanisms to support farmers' conservation efforts and nutrition and gender -sensitive value chains. Designing diversification strategies requires women and men farmers to be able to draw on a wide range of knowledge sources

which supplement their own extensive knowledge, allowing them to set goals and mobilize their resources effectively. Tried and tested participatory scientific tools are available to support diversification strategies, manage production and market risks, and guide assessment of income generation potential and nutritional value of local crops. Until now the impact of diversification strategies on multiple goals including income generation, climate change adaptation and food and nutrition security has been limited—largely because researchers and the networks they engage in tend to be disconnected. There is no coherent methodology to analyze diversification options in a systematic and integrated way, linking equitable value chain development with climate change adaptation and gender-sensitive food security and nutrition considerations. This knowledge gap is what this Programme will address.

5.

6. The choice of target countries (Guatemala, India and Mali) has been made on the basis of a number of considerations, including the need to test methods in different regional contexts to allow for inter-regional knowledge-sharing, previous strong research partnerships and desire to leverage existing CCAFS efforts in the same areas

A. CRP Links

7. This Programme contributes to CCAFS through the development and testing of ‘climate smart’ options, which simultaneously contribute to increases in productivity, incomes and resilience of vulnerable groups and decreases in emissions (where possible). The work under this Programme will especially test and promote options to deal with climate variability and shocks, e.g. local crops that contribute to local food availability and incomes, especially during and after bad agricultural seasons. The approaches developed in this project to prioritize and test options regarding ‘climate smart crop diversification and to produce and use local weather data integrated with seasonal climate forecasts are an important contribution to the CCAFS research agenda (e.g. Flagships 1 and 2). It will also explore whether value chains can integrate emissions information into value chains (e.g. promoting local products as low-carbon).

8. The project links well also with the A4NH flagship on value chains for enhanced nutrition (VCN) which advocates more research on nutrition-sensitive value chains. Nutrition-sensitive value chains are an important research area to foster a better understanding of the agriculture-to-nutrition pathways which can lead to improved household food and nutrition security as well as improve livelihoods, income and women’s empowerment. The four main objectives of this Programme (identification and management of resilient traditional crops for use in value chains, strengthening of community mechanisms for enhancing use of agrobiodiversity, reinforcing the capacity of NARS to address value chains in a holistic manner, and promoting policy changes in support of resilient nutritious crops) are all well aligned with the goals and objectives of the A4NH VCN flagship, which include solving technical issues in the production and processing of foods, institutional arrangements (social enterprises, public-private partnerships), and policy innovations to increase the production and consumption of healthy diets, particularly for women and children.

B. Contribution to SLOs and IDOs

9. The Programme is well aligned with the Consortium’s Strategic Results Framework (SRF), especially through its ‘open innovation’ and integrative, system-based approaches. Its expected

contribution will be relevant to all SLOs but in particular to SLO4 ('building resilient agriculture and food systems in the face of climate change'). The IDOs linked to the Programme include 'food security' (through its work to select local nutritious crops that are more adapted to climate change and promote their enhanced use), 'income' (by making adapted local crops and varieties more competitive in the markets and promoting greater access to these by growers and other actors involved in their production and value addition), 'gender and empowerment' (by building capacities of resource-poor women and men and marginalized groups in sustainable production and marketing supported by the strengthening of social networking and platforms for knowledge sharing), 'capacity to innovate' (by synergistically linking crop diversity with climate change adaptation, nutrition security and value chain enhancement through novel approaches in weather forecast and market intelligence designed for and used by communities), 'adaptive capacity and climate' (by strengthening risk management using enhanced weather and market information systems for a more effective use of resilient crops and varieties) and 'diet quality' (by increasing consumption of nutritious foods).

C. Project contribution to goals, objectives and outputs of EC's Action Fiche

10. The Programme will contribute squarely to the EC's efforts in support of CGIAR's development work on Global Public Goods for Food and Nutrition Security (link to DCI-FOOD/2013/024-755), which is managed jointly with IFAD and FAO. Particularly significant will be its endeavours to make smallholder agricultural systems more resilient to climate, economic and social shocks through agricultural and rural innovation for poor farmers and other vulnerable groups, such as resource-poor women. Cross-cutting CRP issues, relevant to this Action Fiche, which will be also covered by the Programme include assessment of the nutritional contribution of local crops to food security and dietary diversity in vulnerable countries and documentation and monitoring of local crops to prevent their loss, which will contribute to the evidence base for nutrition-sensitive agriculture in line with the EC Communication on Enhancing Maternal and Child Nutrition in External Assistance.

11. The Programme will contribute to enhancing the expertise of partner countries in addressing climate change by leveraging the ecological and economic potential contained in local underutilized nutritious crops and in so doing will contribute also to the EC Action Fiche in Asia (India) as per DCI-ASIA/2013/024-732. It will also contribute to developing the capacities of the private sector in ACP countries (Mali) through technology transfer and enhanced skills of public organizations and SME in developing agricultural production more adapted to climate change through enhanced use of local crops and market linkages (link to CRIS Program ACPTPS/FED/ 024-154).

12. Given the scope of this Programme, synergy with the EC's Platform for Agricultural Risk Management (PARM) in DCI countries will also be pursued (link to DCI-FOOD/2013/318-962).

D. Project alignment with IFAD's AR4D Grant Goals and Objectives

13. The Programme will be well aligned with IFAD's AR4D Grant Goals and Objectives to strengthen CCAFS efforts. In particular, it will contribute to making more effective use of natural resources to enhance resilience and environmental sustainability in small-scale agriculture, by leveraging adaptation traits of local crops and varieties to face climate, social and economic change. It will promote better access to adapted crops and varieties by poor rural women and men and contribute to their food and nutrition security. The work on value chains will strengthen the incomes of the poor and

contribute to reducing poverty levels. Actions in support of social networking, knowledge sharing and capacity building will strengthen the ability of the poor and vulnerable, including indigenous people, to manage profitable, sustainable and resilient agri-business enterprises based on local crops and products. The Programme will also promote greater awareness in policymakers with regard to the contribution that local crops can make in building more resilient and nutrition-sensitive production and food systems and advocate policy changes in support of the conservation of these resources and their use enhancement by the poor.

E. Linkages with IFAD's Strategic Framework Objectives

14. The proposed work is in line with the IFAD Strategic Framework 2011–2015 (SF) and contributes to the implementation of at least two of its strategic objectives: (a) enabling poor men and women, and specifically indigenous peoples, to influence policies and institutions that affect their livelihoods; and (b) enabling institutional and policy environments to support agricultural production. It also implements IFAD's SF principles of engagement by championing the empowerment of indigenous communities to bring them tangible benefits and culturally appropriate local food security measures, and to give them access to relevant institutional and governance processes. Furthermore, the proposed Programme would maximize synergies between IFAD's Loan and Grant Programmes and would support a results-based approach, whose outcomes could be an example of best practice for IFAD's future investments in work with indigenous peoples.

15. Indigenous people constitute approximately 5% of the world's population (370 million), but they make up 15% of the world's poor and constitute about one third of the world's 900 million extremely poor rural people present in more than 70 countries. IFAD's Policy on Engagement with Indigenous Peoples sets a precedent for participatory rural development that values indigenous cultural heritage and knowledge systems. Its principles of engagement reinforce a commitment both to indigenous empowerment and to resilience of local ecosystems. A core principle underpinning the proposed work is that diverse indigenous food systems and sustainable agricultural practices provide a mechanism for all local communities, including indigenous people, to overcome poverty, malnutrition and marginalization while protecting their cultural distinctiveness and the biodiversity they safeguard. This principle aligns seamlessly with those of IFAD. Furthermore, vulnerability of indigenous people is very much linked to their social exclusion, which in turn contributes to powerlessness, the worst form of poverty.

16. The work is also consistent with IFAD's ASAP Programme particularly with regard to finding solutions that are community based, highly participatory, gender sensitive and that link farmers to markets through building competitiveness and access to information.

F. Grant Complementarity with Rural Development Projects

17. In terms of linkages between this Programme and the IFAD Loans, the following have been identified as most promising, and close synergies will be actively pursued with them:

- India: Integrated Livelihoods Support Project in Uttarakhand. The new Grant will provide information related to cultivation and markets on hardy crops so as to strengthen the income generation component especially for small-scale rural producers. It will also engage in training regarding value chains and branding of local products. It will also build on previous IFAD

investments in Meghalaya and other parts of Northeast India made through The Indigenous Partnership.

- Mali: *Programme d'amélioration de la productivité agricole au Mali (PAPAM)*. The new Grant will provide information on water-stress-tolerant crops and work to produce high quality seed of their varieties to strengthen farmers' options for adaptation to climate change.
- Guatemala: Sustainable Rural Development Programme for the Northern Region. The new Grant will provide information on stress-tolerant local crops that can be exploited to support market-oriented businesses of local communities. It can be involved in training farmers and value-chain actors in ways to conserve, sustainably manage and market local crops.

18. Furthermore, the new Grant will work closely with the Adaptation for Smallholder Agriculture Programme (ASAP) to disseminate and mainstream the products to be generated through the holistic value chain approach that the Grant will be promoting. The Grant can contribute to the enhancement of the value of stress-tolerant, but currently underutilized, traditional crops along the value chain, and provision of an information system related to adapted crops, weather forecasts and markets, designed to support informed, robust decision making by farmers.

19. It will also partner with the Indigenous Peoples Assistant Facility (IPAF) by connecting grantees in the targeted countries, including their communities in the capacity building activities to promote locally led decision processes based on weather, performance of varieties of crops, and market information.

20. The Programme will link with the programme of the Canadian Government and the German Federal Ministry for Economic Cooperation and Development (BMZ) on Nutrition-Sensitive Agriculture and Rural Development, which aims to help smallholder farmers improve the production of nutritious food and promote innovations in nutrition-sensitive agriculture, and which is already supporting IFAD's efforts in this domain. Methods, approaches and tools expected to be generated by the Programme, will be shared also with IFAD's Technical Assistance Grants to explore as wide a participation of farmer groups and local organizations as possible for greater impact.

III. IMPACT PATHWAY AND THEORY OF CHANGE

21. Thanks to the Programme interventions over a period of at least three years, women and men farmers and other value-chain actors will be able to identify diverse, stress-tolerant, adapted crops with market potential. The development of climate-resilient and adaptive practices, combined with the availability of high quality seed of stress-tolerant varieties, will strengthen the capacities of farmers to cope with change. Greater participation of poor local and indigenous women and men's farmer groups in income generation activities, supported by better skills in cultivation, value addition and marketing, and accompanied by activities designed to raise demand for nutritious products from traditional crops, will contribute to enhanced nutrition, income and empowerment of vulnerable groups.

22. By understanding better the pros and cons of diverse configurations of local crops, and their interactions with management of animals on farm, poor local and indigenous communities will have improved capacities to manage weather-associated risks and improve their livelihoods. One way they will learn more about the potential of local plant genetic resources is by being involved in novel,

participatory systems to document and monitor it. Local communities will also learn to participate in weather forecast information dissemination systems and farmer-led market intelligence systems about diverse local crops and market demand, which will help them to better commercialize underutilized local resources and generate more benefits. Increased market opportunities will create incentives for local communities to continue to conserve indigenous local crops on farm. This will contribute to safeguarding important livelihood assets. The strengthening of indigenous agro-ecological networks will allow participants to share their knowledge and learn from others. The evidence-based analyses that will be carried out through systematic reviews and modelling of climate–nutrition linkages will be used to raise the awareness of decision makers about policy options in support of the better conservation and enhanced use of nutritious and stress-tolerant crops.

23. Close synergy with other important programmes and initiatives (e.g. CCAFS and ASAP) combined with policy options promoted by the Programme at national and international level will help up-scale climate resilient and weather adaptive practices.

IV. THE PROPOSED PROJECT

A. Project goals and objectives

24. The goal of the Programme is to strengthen the capacities of women and men farmers and other value-chain actors—including indigenous communities—to manage risks associated with climate change, poor nutrition status and economic disempowerment. We will achieve this through developing: better conservation and management practices of traditional crops and landraces; information on adaptive potential of diverse crop species in mixed production systems; intelligence on market needs; and greater abilities to produce, process and commercialize agrobiodiversity-based products through pro-poor, holistic, nutrition-sensitive value-chains. The Programme will consist of four main objectives:

1. Strengthen capacities of indigenous and local women and men farmers and development practitioners to assess, document, monitor, conserve and manage stress-tolerant varieties of traditional crops for their effective deployment in value chains and resilient livelihood strategies;
2. Strengthen CBOs, mechanisms and processes managed by local communities (including indigenous people) to share with peers and partners (including researchers) best practices for the sustainable conservation and use of agrobiodiversity;
3. Strengthen capacities of NARS to deal with climate risks within a holistic value-chain approach and promote scaling up of successful approaches through collaborative linkages with local communities, and major national and international agendas. Part of the capacity-building process will be to promote an enabling environment for NARS; and
4. Enhance the scientific understanding of the role played by agricultural biodiversity in resilient and nutrition sensitive production and food systems and advocate a policy change for their sustainable use.

B. The Target Group

25. This multi-year Programme aims to empower local women and men farmers (including indigenous people) as well as other value-chain actors (including producer associations and self-help

groups [SHG]), to build resilient livelihoods through agrobiodiversity-based solutions. The Programme will build capacities of local, community-based organizations (CBO) to collect information, share experiences and make self-directed decisions to foster knowledge building and local innovation. Beneficiary groups, particularly the most vulnerable, will be able to exchange data regarding the weather, and performance, nutritional value and market information about varieties of crops. Some 15,000 to 20,000 people belonging to an estimated 3,000 to 4,000 families across the three target countries are expected to directly benefit from the Programme. At the end of three years of implementation, 50,000 to 60,000 people will be benefiting indirectly from the changes that will be brought about by the Programme in terms of provision of innovative methods, approaches and tools for more resilient production, value chain and food systems.

26. Data generated through the mechanisms established by the Programme will enhance the preparedness of farmers and other value-chain actors for climate variability and will help them to manage associated risks. Data on crops and varieties (e.g. prices, demand, nutritional values) will guide farmers and other value-chain actors to make more informed choices regarding production of crops more aligned to market needs and emerging trends. Existing networks of indigenous farmers will be strengthened and new ones created to help indigenous people to better document, monitor, exchange and manage their traditional crops. The evidence base about the role of agrobiodiversity generated by systematic reviews and modelling will be used to sensitize policymakers to policy change in support of nutritious, stress-tolerant crops and varieties. National and international platforms and fora dealing with poor local and indigenous people will be leveraged to voice their concerns and aspirations for more sustainable and inclusive food and agricultural systems.

C. Strategy Approach and Methodology

27. The strategic approach of the proposed Programme will consist of a highly participatory research process where resource-poor people will be empowered to take full advantage of their agricultural biodiversity in coping with climate change. Farmers are already doing this to some degree, but the potential impact is greatly limited by social, market and policy barriers. The Programme will explore these barriers and work to release the power of diversification in people's farming systems taking into account the skills and knowledge of men and women as well as of indigenous groups, by linking stress-tolerant crops in mixed systems to effective value chains. The portfolio of community-based and nutrition-sensitive value-chain methods and tools developed by the IFAD NUS Projects³ so far will be linked to research on climate change, capacity development and information systems. This will be supplemented with lessons learned from nutrition-focused projects such as the GEF multi-country initiative 'Mainstreaming biodiversity conservation and sustainable use for improved human nutrition and well-being'⁴ being implemented in Brazil, Kenya, Sri Lanka and Turkey, which is testing methods for promoting the conservation and use of local agrobiodiversity for better incomes and more sustainable diets.

28. The resulting methodology and evidence generated on multiple benefits will be used to promote up-scaling of agrobiodiversity-based solutions by community-based organizations (CBOs),

³ More information on the IFAD NUS Projects can be found at www.nuscommunity.org

⁴ More information on the Biodiversity for Food and Nutrition Project can be found at <http://www.b4fn.org/>

governmental organizations (GOs), non-governmental organizations (NGOs) and national agricultural research systems (NARS). The work on the evidence base will be supported by a systematic review and modelling work whose results will be used to advocate policy change for enhancing use of local crops and their better conservation and management on farm for the food and nutrition security of both rural and urban people.

29. Implementation will be a mixture of country-specific activities for testing approaches, methods and tools, complemented by activities of broader international focus related to capacity building, networking, policy and public awareness. The choice of target countries (Guatemala, India and Mali) has been made on the basis of a number of considerations, including the need to test methods in different socio-cultural contexts, strong presence on the ground of partner agencies and desire to leverage existing CCAFS efforts in the same areas. Results can be disseminated to other resource-poor indigenous communities through the networks of the Indigenous Partnership.

D. Programme Outputs and Activities

30. The Programme will be organized in five focus areas, of which the first four will deal with technical activities while the fifth will deal specifically with aspects related to global coordination. Following is a summary of the work envisaged to take place in each Activity. Annex 1 reports for each Activity further details of outputs, deliverables, global public goods, outcome and impact expected from their implementation.

Area 1: Cultivation, conservation and risk management

31. An international expert consultation will be held at the onset of the Programme so that partners from target countries and key agencies including representatives of the EC and IFAD can discuss the methodologies to be developed and used in the target sites. The initial framework will be refined during follow-up meetings with stakeholders in Guatemala, India and Mali. Year one activities will include: surveys on stress-tolerant crops and assessment of conservation status, erosion threats, degree of use and nutritional value. The survey results will guide design of other activities that will be conducted together with target groups (especially indigenous people and women's associations). Interventions will include: support to custodian farmers and community genebanks for the conservation of target crops and their associated knowledge, participatory documentation and monitoring including development of indicators for resilience of the cultivation–marketing–nutrition system as a whole, strengthening of networking among farmers, identification of best practices for cultivating target crops, and development of weather information systems to support risk management by farmers. Training sessions will be carried out for partner agencies, who will then disseminate approaches, methods and tools to participating value-chain actors, including indigenous people and local women and men farmers. Starting at the end of year one, seeds of stress-tolerant crops identified will be multiplied and distributed to farmers.

Area 2: Value addition and marketing

32. Stress-tolerant crops identified in Area 1 will be prioritized and model species selected which will be the main focus of this cluster of activities. Participatory analyses of the value chains of these model crops will be carried out to understand constraints and opportunities and identify entry points for nutrition. The participation of more vulnerable and marginalized groups such as indigenous people and resource-poor women in these processes will ensure that the viewpoints of all stakeholders will be taken into consideration. Solutions to bottlenecks along the value chains using a blend of traditional and

scientific approaches will be explored in multi-stakeholder meetings. Information systems on weather conditions for risk management will be designed and tested in Guatemala along with training of women and men farmers, development practitioners and other actors on how to operate these tools. These will be then replicated in Mali and India. Concurrently, in all three countries, farmer-led market intelligence systems will be explored and tested in ways and forms suitable to local contexts. Novel systems will build on project partners' experiences.

Area 3: Institution building and knowledge sharing

33. This area will deal with the strengthening of the capacities of local organizations and institutions (SHG, CBOs, women's groups, etc.) to develop farmer-led platforms to collect local information, share approaches, methods and tools and to facilitate access to information relevant to climate change, nutrition and agrobiodiversity markets. The Programme will develop a framework to empower local communities, including indigenous people, to enhance their knowledge and practices as community-based conservers, innovators and promoters of agrobiodiversity in their own community landscapes. It will build on traditional knowledge and practices—of women and men—by supporting the generation and exchange of information through community-based documentation and monitoring of agrobiodiversity and benefits of use (seed fairs, food festivals, participatory video, community biodiversity registers, etc.). Groups involved will be empowered to develop locally driven plans, leveraging local innovation through stronger dialogue, networking and participation among local and indigenous peoples and between them and scientists. The project will strengthen the connection between the scientific and local communities and will use national and international platforms and fora dealing with local and indigenous peoples to voice their concerns and aspirations for more sustainable, nutritious and inclusive food and agricultural systems.

Area 4: Enabling policies and public awareness

34. This area of work will analyze how current policy and legal frameworks affect the use of crop diversity by farmers. Activities will explore policy options for enhancing the efficiency of incentives aimed at promoting the use of diversity of crops for climate change coping strategies and nutritional benefits. It will also contribute to raising awareness—especially among decision makers—about the advantages that agrobiodiversity can offer to local farmers and other value-chain actors in building more adapted and resilient agricultural and production systems. These efforts will be complemented by systematic reviews and modelling studies that will help consolidate the evidence base and make more incisive and robust the argument for policy change in support of greater use of agrobiodiversity. Indicators on the resilience of the system as a whole (agro-ecosystem, value chains and food system) will be developed together with communities, tested and used to generate needs assessments, make recommendations for policy interventions and guide countries towards adoption of innovative integrated monitoring frameworks.

35. This area of work will pay special attention to the role that local and indigenous communities play as generators and users of diversity with regard both to major and minor crops, and will develop mechanisms for strengthening their capacities to better benefit from them. A solid communication framework will be organized to support dissemination of methods, approaches and tools among practitioners and reach out to stakeholders, including research organizations, NGOs, policymakers and donors. The communication plan will include giving visibility to the EC and IFAD.

Area 5: Global coordination

36. This focus area clusters those activities needed to ensure a properly managed Programme: provision of technical backstopping to partners, harmonized implementation across partner agencies, nurturing synergies among all actors involved at national and international level, and regular sharing of R&D outputs emerging from Programme implementation. It will also promote visibility of the Programme in order to foster strategic partnerships and adoption of best practices related to underutilized stress-tolerant crops and how their use enhancement can help empower indigenous and local communities in sustainable ways in a context of climate change.

V. PROGRAMME IMPLEMENTATION ARRANGEMENTS

A. Implementation, Organization and Management

37. The programme will be implemented in agreement with IFAD financial management procedures and guidelines on procurement, financial reporting, audit and fund flow requirements, as described in the general provisions applicable to IFAD large grant agreements.

38. The Recipient will contract with its Partners through Letters of Agreement (LOA). Each LOA will include a Program of Work and Budget (POWB), disbursement schedule tied to the POWB, and appropriate flow-down provisions from the IFAD Large Grant Agreement, including financial management and audit requirements.

39. The Programme overall will be coordinated by Bioversity International at a global level through its experts based in Costa Rica, Benin, New Delhi and Rome. The Indigenous Partnership (hosted by Bioversity in Rome) will support the global coordination for those activities dealing with indigenous people and their empowerment. A Steering Committee, made up of representatives of Bioversity, The Indigenous Partnership and partner countries, will be established to oversee the implementation of the agreed workplan. The international expert consultation in year one will identify methodological approaches, methods and tools to be developed, tested and deployed by the Programme in each country. The initial framework that will be discussed at the consultation will be refined during follow-up multi-stakeholder meetings in Guatemala, India and Mali. The application of a common framework will allow sharing of experiences, assessment of impact and lesson learning among partners. In order to make most efficient use of allocated resources, the work on the development of a weather forecast information system will focus initially only on Guatemala, with lessons learnt tested in subsequent years also in the contexts of Mali and India.

40. Dialogues with national governments in target countries on the creation of an enabling environment to allow mainstreaming of good practices into policies and actions, will be supported by systematic reviews, modelling and system indicators studies and complemented by advocacy campaigns organized in various international fora.

41. The selection of implementing agencies has been made to leverage existing competences at national and international level in the Programme focus areas. Implementation will build on consolidated cooperation between Bioversity—who will lead the Programme—and the other partners, realized through a number of successful past or ongoing projects. The funds sought from IFAD and the EC will allow synergies among these players to be strengthened in highly strategic domains of work,

linking sectors and disciplines (agrobiodiversity, agriculture, climate change, marketing, nutrition, rural development and resilience of production and livelihood systems) that are too often dealt with separately in project interventions.

42. A brief presentation of Bioversity and the other agencies involved in the implementation of the Programme is provided as follows:

a) *Bioversity International (Italy)*

43. Bioversity International is a research-for-development organization that provides scientific evidence of the role that on-farm and wild agricultural and forest biodiversity can play in a more nutritious, resilient, productive and adaptable food and agricultural system. Bioversity International is a member of the CGIAR Consortium. CGIAR is a global research partnership for a food secure future. Founded in 1974, the organization includes over 300 scientists and staff based in more than 15 countries with experts in the fields of plant science, agronomy, agro-ecology, nutrition, economics, forestry, geography, anthropology and many more related fields. Bioversity's active participation in numerous CRPs, will be leveraged to ensure that proper linkages between CRPs and this Programme will be established, in particular with CCAFS and A4NH. www.bioversityinternational.org.

b) *Indigenous Partnership for Agrobiodiversity and Food Sovereignty (Indigenous Partnership) (Italy)*

44. The Indigenous Partnership is supported by the Centre for Agroecology and Food Security, Coventry University, UK; Slow Food International, Bra, Italy; Bioversity International; and three indigenous organisations: Tebtebba Foundation of the Philippines; the Vanuatu Cultural Centre of the Pacific; and ANDES of Cusco, Peru. Hosted by Bioversity International, the Indigenous Partnership supports indigenous peoples, local communities and their representatives to celebrate, defend and revitalize their food systems and agricultural practices at local and global levels through research, participatory initiatives and associated advocacy activities. It is a network of indigenous communities and organizations committed to defining their own food and agricultural practices that sustain agrobiodiversity, assisted by scientists and policy researchers who value participatory agricultural research approaches. With one foot in the world of leading academic research and the other grounded in the knowledge and priorities of indigenous peoples, the Indigenous Partnership is ideally suited to reinforcing and expanding IFAD's global indigenous initiatives. <http://bit.ly/1k7XjIV>.

c) *Action for Social Advancement (ASA) (India)*

45. ASA is an Indian-based NGO committed to improving livelihoods of 3 million poor people through providing developmental services. ASA focuses in the Indian States of Madhya Pradesh and Bihar. ASA's approach to development is firmly founded upon participatory action at the community level. At the heart of the organization is the aim of developing livelihood security which is facilitated by an intensive participatory process of natural resources development and local institutional development. Particular emphasis is placed upon the poor and women. ASA works directly with over 120,000 poor families in more than 1,000 villages implementing various rural development programs, covering 18 districts across its target States. Most of the people ASA is engaged with in its projects belong to tribal

and other socially disadvantaged communities. ASA's work revolves around five Programmes of which particularly relevant for the work envisaged under this proposal, are those dealing with agricultural productivity enhancement, agribusiness promotion for small holders and research and training. www.asaindia.org/About%20Us.html#1.

d) *Institute of Rural Economy (IER) (Mali)*

46. IER was created in 1960 under the Ministry of Agriculture and Rural Development in Mali. It is the main research institute in the country in charge of agricultural research and development. Its mandate is to undertake or facilitate research activities that contribute to better performance of crop, animal and tree resources to ensure food security and income generation for the peoples of Mali. Based in Bamako, it is decentralized through six regional Research Centres (Kayes, Sotuba, Sikasso, Niono, Mopti and Gao), subdivided into research stations and substations. Research domains at IER include: plant and animal breeding, soil and water analysis, pathology and entomology for plants and animals, sustainable cropping systems, integrated agricultural development, capacity building, gender and development, natural resource management, agricultural enterprises, food technology and animal nutrition. The institute uses participatory approaches in all its research activities and puts farmers at the centre of these activities. Traditional knowledge and innovations are taken into account to develop technologies that are adapted to local conditions. IER has a staff of 814 people, of whom 250 are scientists with different specialities. <http://ier.gouv.ml>.

e) *Universidad del Valle de Guatemala (UVG) (Guatemala)*

47. The Biology Department at UVG is one of the key institutes in Guatemala that work on the conservation and use of agrobiodiversity and has an explicit focus on plant genetic resources in their academic programme. They contributed on behalf of Guatemala to the second FAO's State of the World's Plant Genetic Resources and to FAO's State of the World's Forest Genetic Resources. UVG started, with support of FAO, the NGO Hands of Love, and, with the Benefit Sharing Fund of the International Treaty of Plant Genetic Resources for Food and Agriculture (ITPGRA), a network of community seedbanks working with different ethnic and linguistic groups in four Guatemalan departments: Alta Verapaz, Chiquimula, Zacapa and Sololá. These communities face high poverty, high risk of food insecurity, and climate vulnerability. Until now 1,340 families (with equal balance of men and women farmers) have been reached by UVG. UVG supports these local communities by building good farming practices, seedbank management, seed multiplication and quality, and agrobiodiversity conservation. It combines this work with research on maize and beans landrace diversity, ecogeographic studies, and morphological characterization. <http://www.uvg.edu.gt/>.

f) *North East Slow Food and Agrobiodiversity Society (NESFAS) (India)*

48. NESFAS is a collaborative initiative established in Northeast India by the Indigenous Partnership with Slow Food International. While Slow Food brings into play the importance of pleasure through good, clean and fair food, which goes hand in hand with our responsibility for the environment, the Indigenous Partnership reaffirms the importance of local food systems and the age-old role of indigenous peoples as guardians of agrobiodiversity which is inextricably linked to their cultural identity

and their rights to food sovereignty and food security. NESFAS brings together partners from different sectors that can help in the enhancement of agrobiodiversity, leading to food sovereignty. As a platform, NESFAS believes that traditional ecological knowledge is as important as modern science and therefore facilitates a mutually respectful dialogue for sustainable progress. NESFAS especially focuses on facilitating community-level networks to empower local communities to celebrate and defend their diverse food and agricultural practices and to have a say at local, national and international levels for food policies that will sustain their well-being and protect their lands, territories and resources. <http://nesfas.org/about-us/>

B. Monitoring, Evaluation and Reporting

49. Participatory monitoring and evaluation processes involving all stakeholders will be used to assess and monitor aspects such as: the efficacy of training NARS and community members in participatory activities and use enhancement of target species; the effective participation of women and gender balance; the quality of products delivered such as diversity and custodian farmer maps, manuals and guidelines for CBRs and stress-tolerant varieties produced to cope with climate change; effectiveness of indicators to monitor resilience of the system; effectiveness of the weather and market intelligence information systems developed; effectiveness of documentation and monitoring of community-based methods; effectiveness of conservation networks; effective linkages between *in situ* and *ex situ* conservation; effective linkages of stress-tolerant crops to markets; efficacy of policy papers and fact sheets disseminated; efficacy of awareness raising on the role of on-farm conservation and sustainable means for supporting it; increased levels of inclusion of indigenous people and local farmers—both women and men—in agricultural and market decision-making processes. The Programme will use Outcome Mapping to establish progress markers to monitor progress towards outcomes. The Programme Steering Committee will meet every year to monitor activity progress, share lessons, suggest ways to address challenges and seize emerging opportunities for new partnerships that may arise. Partners' own participatory monitoring mechanisms will also be employed by the Programme.

50. The Programme will be included in Bioversity's impact assessment and evaluation activities. Regular update notes will be prepared by Bioversity and circulated to IFAD, EC, CCAFS and other partners. A consolidated technical and financial report will be submitted to donor agencies on a yearly basis. A final internal evaluation at the end of a 3-year period will be carried out by Bioversity International.

Annex 1. Logical framework

	Objectives hierarchy	Objectively verifiable indicators*	Means of verification	Assumptions
Goal	To strengthen the capacities of women and men farmers and other value-chain actors, including indigenous communities, to manage risks associated with climate change, poor nutrition status and economic disempowerment.	<ul style="list-style-type: none"> • Food and nutrition security levels for farmers and farming communities in project sites • Income levels in project sites • Levels of vulnerability of local production systems to climate change in target communities 	<ul style="list-style-type: none"> • Baseline data for ex-post impact assessment. 	<ul style="list-style-type: none"> • Favourable political environment • Policymakers and partners contribute to the research and dissemination processes
Objectives	<p>1) Strengthen capacities of indigenous and local women and men farmers and development practitioners to assess, document, monitor, conserve and manage stress-tolerant varieties of traditional crops for their effective deployment in value chains and resilient livelihood strategies</p>	<ul style="list-style-type: none"> • 25% more farm households, over baseline, are using traditional varieties in managing adaptation to climate change in their production systems • 25% more production, over baseline, of traditional crops in areas challenged by climate change (aggregated measure) • 3-5 stress tolerant crops per country, with approx. 10-20 varieties per crop, conserved by target communities on farm • 3-5 stress tolerant crops per country, with at least 20 varieties per crop, conserved by <i>ex situ</i> genebanks in partner countries 	<ul style="list-style-type: none"> • Farmer and household surveys linked to data from the field • Field fora and training records • Market surveys • Surveys involving CCAFS and other partners • Genebank annual reports • National agricultural development strategies and plans • Surveys targeting policymakers 	<ul style="list-style-type: none"> • Favourable political environment for research and training to take place • Committed community organizations assist with the dissemination of innovative approaches and practices • Possible risk: not sufficient national or local political will to facilitate the uptake of the research results.
	<p>2) Strengthen CBOs, mechanisms and processes managed by local communities (including indigenous people) to share with peers and partners (including researchers) best practices for the sustainable conservation and use of agrobiodiversity</p>	<ul style="list-style-type: none"> • Participants earn 25% more than baseline from traditional crops and products, disaggregated by gender • 3-5 stress tolerant crops per country, with 5-10 varieties per crop, sold in local and national markets linked to target areas 		

Objectives	<p>3) Strengthen capacities of NARS to deal with climate risks within a holistic value-chain approach and promote scaling up of successful approaches through collaborative linkages with local communities, and major national and international agendas. Part of the capacity-building process will be to promote an enabling environment for NARS</p>	<ul style="list-style-type: none"> • 500-800 farmers per country , of which at least 40% women 30% indigenous, trained in practices for managing risk through agricultural biodiversity • 30 NARS experts trained in use of agrobiodiversity to manage climate change risks in crop production and value-chain enhancement (disaggregated by gender) • 300-500 farmers per country, of which at least 40% women, participating in decision-making fora related to climate change 		
	<p>4) Enhance the scientific understanding of the role played by agricultural biodiversity in resilient and nutrition-sensitive production and food systems and advocate a policy change for its sustainable use</p>	<ul style="list-style-type: none"> • At least 3 to 5 linkages with national and international projects per country, including to IFAD loan programs and to ASAP • At the end of the program, the three participating countries, plus, through the collaboration with ASAP and CCAFS, an additional three to five countries, will have increased R&D attention on agrobiodiversity for more resilient and sustainable production and food systems 		
Outputs	<p>Output 1: Improved crops, methods, approaches and tools for coping with climate change</p>	<ul style="list-style-type: none"> • 3-5 improved, stress-tolerant crops per country with market potential identified and used by women and men farmers and other value-chain actors in target communities • Amount of high quality seed of stress-tolerant varieties (in kilos, target to be established during inception) managed and produced by women and men farmers in target sites • At least 3-5 farmer-led intelligence systems to support local producers • At least 3-5 weather information forecast systems used by local communities in target areas 	<ul style="list-style-type: none"> • Field surveys in target sites • Fact sheets on stress-tolerant varieties produced and disseminated by NARS and NGOs • Annual Reports by Bioversity and other partnering agencies • Project research data • Project reports 	<ul style="list-style-type: none"> • Crop genetic diversity with respect to climate change is available in project sites • Community members and value-chain actors agree to provide information regarding markets of traditional crops.

<p>Output 2: Strengthened market access for stress-tolerant and nutritious crops</p>	<ul style="list-style-type: none"> • Level of production of stress-tolerant traditional crops and varieties (increased yield to be established at inception based on the target crops selected) • At least 30% increase in demand, over baseline, for nutritious crops/products of stress-tolerant crops in local markets linked to target sites 	<ul style="list-style-type: none"> • Field surveys in target sites • Annual Reports by Bioversity and other partnering agencies • Project research data • Project reports 	<ul style="list-style-type: none"> • Community members and value chain actors agree to provide information on market demand.
<p>Output 3: Enhanced capacities of farmers and other value chain actors in conserving and using agrobiodiversity sustainably</p>	<ul style="list-style-type: none"> • 5-10 farmers' networks (including indigenous ones) strengthened per country • 3000-5000 farmers per country, of which at least 40% women, enabled to access information on climate change for better management of their agricultural production • 300-500 farmers per country, of which at least 40% women, from target communities enabled to document stress tolerant crops for their better use in their production systems • 40-50 practitioners/ researchers in NARS per country (with gender proportion to be established) trained by the Programme in holistic value chain approaches • Amount of high quality seed of stress tolerant crops produced by women and men farmers in target communities (in kilos, to be established at project inception based on crops selected) • Three participating countries, plus an additional three to five countries, are using agrobiodiversity documentation and monitoring tools promoted by the Programme • At least 3 to 5 projects adopting methods and tools developed by the Programme (including to IFAD loans and ASAP) 	<ul style="list-style-type: none"> • Field surveys in target sites • Annual Reports by Bioversity and other partnering agencies • Project research data • Project reports 	<ul style="list-style-type: none"> • Secured level of commitment of research partners

	<p>Output 4: Proof of evidence of role of agrobiodiversity in nutrition, income and adaptation to climate change provided along with recommendations for supportive policies for its enhanced use</p>	<ul style="list-style-type: none"> • 5-10 highly-visible scientific papers that provide further evidence of how agrobiodiversity strengthens people's livelihoods • 10-20 policy recommendations to decision makers promoting the greater use of local diversity, at national and international levels • Collaboration with ASAP and CCAFS established and operational for promoting linkages between local producers and national and international agendas dealing with adaptation to climate change 	<ul style="list-style-type: none"> • Annual Reports by Bioversity and other partnering agencies • Press news and other media • Project research data • Project reports 	<ul style="list-style-type: none"> • Decision makers are open to the adoption of agrobiodiversity-rich approaches in addressing climate change, nutrition and income generation. solutions
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* All targets will be reconfirmed and verified during the multi-stakeholder launching meeting at project inception. The logframe presents indicators and targets for the 3 Year Programme of Work.