

INTER-AMERICAN DEVELOPMENT BANK
MULTILATERAL INVESTMENT FUND

BOLIVIA

**PROMOTING THE INCLUSION OF SMALL PRODUCERS IN THE
AMARANTH VALUE CHAIN IN CHUQUISACA, BOLIVIA**

(BO-M1062)

DONORS MEMORANDUM

This document was prepared by the project team consisting of Anabella Palacios (MIF/AMC) Project Team Leader; Alejandro Escobar (MIF/AMC), Project Team co-Leader; Fernando Catalano (MIF/CBO), Supervision Leader; Fernanda López (MIF/AMC); Dora Moscoso (MIF/DEU), Yves Lesenfants (MIF/KSC); Ignacio Barragán Crespo (LEG/NSG).

Under the Access to Information Policy, this document is subject to public disclosure.

CONTENTS

EXECUTIVE SUMMARY
PROJECT SUMMARY

| | | |
|-------|---|----|
| I. | BACKGROUND AND RATIONALE | 1 |
| II. | PROJECT OBJECTIVES AND COMPONENTS | 4 |
| III. | MONITORING AND EVALUATION STRATEGY | 12 |
| IV. | COST AND FINANCING | 13 |
| V. | EXECUTING AGENCY | 13 |
| VI. | PROJECT RISKS | 14 |
| VII. | ENVIRONMENTAL AND SOCIAL EFFECTS | 15 |
| VIII. | ATTAINMENT OF MILESTONES AND SPECIAL FIDUCIARY ARRANGEMENTS | 15 |
| IX. | ACCESS TO INFORMATION AND INTELLECTUAL PROPERTY | 15 |

PROJECT SUMMARY

PROMOTING THE INCLUSION OF SMALL PRODUCERS IN THE AMARANTH VALUE CHAIN IN CHUQUISACA, BOLIVIA

(BO-M1062)

The recent explosion of demand for quinoa in the international market shows that Andean grains have the potential to create valuable opportunities for economic development in the region. Amaranth is one such crop: it is the only gluten-free grain that contains vitamin C, and it is an ideal food for fighting child malnutrition and promoting food security. In Bolivia, amaranth is one of the grains cultivated in the inter-Andean valleys, and the department of Chuquisaca is the country's leading producer of amaranth. At present, growing demand cannot be met because the amaranth value chain is weak and there is no relationship among the main actors (producers, cooperatives, intermediaries, and buyers). Producers' limited technical capabilities translate into low average yields, and post-harvest losses amount to almost 50%. Moreover, insufficient information on market requirements, such as price differentials, quality management, and terms of delivery, makes it difficult to produce at consistent levels in terms of volume and requirements, creating a significant barrier for access to high-value markets. Lastly, as there is no common strategy in place to guide public and private investments, local governments and chambers of commerce support the sector in an isolated manner.

Very few institutions have provided funding and strategic guidance to position amaranth in the market. The MIF and the Interchurch Organisation for Development Cooperation (ICCO), based in the Netherlands, will support strategic sectors currently involved in the value chain, with a view to catalyzing their efforts and boosting the economic return of 1,100 producers and 30 micro and small enterprises in eight municipios in northern and central Chuquisaca—Alcalá, Azurduy, El Villar, Mojocoya, Sopachuy, Tarvita, and Tomina—where approximately 66% of the population is poor.

With an investment of US\$1,243,900, the MIF will strengthen the institutional capacity of farmers' associations working in partnership with ICCO and will identify opportunities for creating synergies and integrating small producers into the supply chains of local and international businesses through commercial contacts, training, and agricultural research. ICCO will also coordinate efforts with certain local government initiatives, such as the Amaranth Development Committee of Chuquisaca, to leverage resources effectively. The project aims to boost the income of amaranth producers in the aforementioned eight municipios in Chuquisaca, following an approach that promotes inclusion and sustained development. In terms of outcomes, the intervention seeks to enhance and strengthen the amaranth value chain by focusing on producers who are key to the establishment of an inclusive and sustainable value chain.

ANNEXES

| | |
|-----------|--|
| Annex I | Logical framework |
| Annex II | Summarized budget |
| Annex III | Quality Matrix for Development Effectiveness (QED) |

APPENDICES

Proposed resolution

AVAILABLE IN THE DOCUMENTS SECTION OF THE MIF PROJECT INFORMATION SYSTEM

| | |
|------------|--|
| Annex IV | Detailed budget |
| Annex V | Preliminary list of milestones |
| Annex VI | Executing agency needs assessment |
| Annex VII | Project status report (PSR), Attainment of milestones, Fiduciary agreements, and Institutional integrity |
| Annex VIII | Procurement plan |
| Annex IX | Schedule of activities |
| Annex X | Operating Regulations |
| Annex XI | Terms of reference for the project coordinator |

ABBREVIATIONS

| | |
|---------|--|
| ICCO | Interchurch Organisation for Development Cooperation (the Netherlands) |
| IFOAM | International Federation of Organic Agriculture Movements |
| INIAF | Instituto Nacional de Innovación Agropecuaria y Forestal [National Institute of Agriculture and Forestry Innovation] |
| MSEs | Micro and small enterprises |
| PASOS | Fundación Participación y Sostenibilidad [Participation and Sustainability Foundation] |
| PCU | Project coordination unit |
| PROAGRO | Programa de Desarrollo Agropecuario Sustentable [Sustainable Agriculture Development Program] |
| PROINPA | Fundación para la Promoción e Investigación de Productos Andinos [Andean Products Research and Promotion Foundation] |

BOLIVIA
PROMOTING THE INCLUSION OF SMALL PRODUCERS IN THE AMARANTH VALUE CHAIN IN
CHUQUISACA, BOLIVIA
(BO-M1062)

EXECUTIVE SUMMARY

| | | | |
|---|---|----------------------|-------------|
| Country and geographic location: | Bolivia. Department of Chuquisaca, municipios of Alcalá, Azurduy, El Villar, Mojocoya, Padilla, Sopachuy, Tarvita, and Tomina | | |
| Executing agency: | Interchurch Organisation for Development Cooperation, the Netherlands (ICCO) | | |
| Access area: | Access to Markets and Skills Unit | | |
| Agenda: | Linking small producers to high-value markets | | |
| Coordination with other donors/ Bank operations: | None | | |
| Direct beneficiaries: | 1,100 producers (approximately 51% men, 49% women), and 30 micro and small enterprises (MSEs) and local cooperatives | | |
| Indirect beneficiaries: | 4,500 people (assuming about four people per family) | | |
| Financing: | Technical cooperation funding: | US\$1,243,900 | 69% |
| | Investment: | N/A | |
| | Loan: | N/A | |
| | Total MIF contribution: | US\$1,243,900 | |
| | Counterpart: | US\$550,000 | 31% |
| | Cofinancing (if any) | N/A | 0% |
| | Total project budget | US\$1,793,900 | 100% |
| Execution and disbursement periods: | Execution: 36 months | | |
| | Disbursement: 42 months | | |

Special contractual clauses:

Conditions for the first disbursement: (i) delivery, to the Bank's satisfaction, of the annual work plan for the project's first year of operation; (ii) entry into force of the project's Operating Regulations, which will contain program disbursement-triggering milestones, previously agreed upon with the Bank; and (iii) establishment of the project executing committee.

Environmental and social impact review:

This operation was preevaluated and classified in accordance with the IDB's Environment and Safeguards Compliance Policy (OP-703). Since the impact and risks are limited, the proposed category for the project is C.

Unit with disbursement responsibility:

Country Office - BOLIVIA

I. BACKGROUND AND RATIONALE

A. Diagnostic assessment of the problem to be addressed by the project

- 1.1 There are several reasons for the recent popularity of pre-Columbian grains (chia, quinoa, and amaranth, among others): they provide an important range of nutrients that can help combat child malnutrition and promote food security; they provide effective alternatives for people who are allergic to the more common grains; they are very adaptable to extreme temperatures and drought; and they appeal to innovative cooks searching for new flavors and textures.¹ Amaranth is an ancestral grain that is easy to grow (needs only one third of the amount of water required by other grains) and is highly resistant to drought, pests, and diseases. It is a small, quick-cooking, gluten-free grain that contains more essential amino acids (lysine, in particular) than any other type of plant. It is also the second best plant source of iron—after quinoa—and the only grain that contains vitamin C, among other properties. According to the United Nations Food and Agriculture Organization (FAO) and the World Health Organization (WHO), if an ideal protein has a value of 100, then amaranth stands at 75, cow milk at 72, soybeans at 68, and corn at 44.² For these reasons amaranth—like quinoa—was selected in 1985 by NASA as a food for astronauts on space missions; it was also chosen to form part of a Controlled Ecological Life Support System (CELSS), because it removes carbon dioxide from the atmosphere and also produces food and oxygen for astronauts.³
- 1.2 Amaranth has also become an important crop for high-value markets, given the many qualities that make it an ideal product for many industries, including the food and natural medicine industries. In Europe, Mexico, Peru, the United States, and some parts of Asia, it is consumed as a gluten-free whole grain flour in breakfast foods, cookies, breads, and tortillas and in the form of flakes, oil, cereal bars, beverages, among other things. Amaranth leaves are also edible, and can replace spinach and chard, for example.⁴ Yet amaranth is an under-exploited product that could play a very important role in actions against hunger and as a high-value alternative economic resource for many farming communities. Research has shown that it can be a profitable crop and a viable tool in the fight

¹ Morales, E., J. Lembcke, G. Graham, Nutritional Value for Young Children of Grain Amaranth and Maize Amaranth Mixtures: Effect of Processing. *The Journal of Nutrition*, January 1988, 118 (1): 78-85
<http://jn.nutrition.org/content/118/1/78.full.pdf>

² Nutritional benefits of amaranth, in
http://www.alimentacion.org.ar/index.php?view=article&catid=92%3Acereales&id=260%3Abeneficios-nutricionales-del-amaranto&option=com_content&Itemid=54

³ Idem.

⁴ Admassu Emire, S. and M. Arega, Value added product development and quality characterization of amaranth grown in East Africa. *African Journal of Food and Science and Technology*, August 2012, Vol. 3 129-141.

- against poverty, reversing migratory processes and negative environmental impacts.⁵
- 1.3 Amaranth is grown in the inter-Andean valleys of Bolivia and the department of Chuquisaca is the country's largest producer, although its production capacity (10 to 20 quintals/hectare) is far lower than that obtained in similar geographical areas (such as Peru, with 24 to 40 quintals/hectare). The sector must address a number of obstacles along its value chain, related primarily to quality, technical and agricultural capacity, marketing issues, and cooperatives whose limited institutional capacity prevent them from offering better services to their members. Intermediaries pay producers lower prices because of the poor quality of the grain they receive. While almost 80% of the amaranth purchased by local enterprises is export-bound, the quality of the product they receive is inconsistent. This creates further instability in the value chain as some farmers move up and down the chain, which reduces the likelihood of establishing formal long-term commitments with local and foreign buyers.
 - 1.4 Amaranth is in the position quinoa was some 10 years ago: a grain with great potential but little production planning, a limited number of participants monopolizing the market, and unsustainable practices that place the market at risk. Accordingly, the core problem this project will address is: *the weakness in the current amaranth value chain in Chuquisaca, and the relationship among its main actors (producers, cooperatives, intermediaries, and buyers) to access high-value markets*. Demand for amaranth is growing, but its commercial potential cannot be fulfilled with current production and quality levels.
 - 1.5 This problem can be attributed to a number of causes. First, **producers lack technical skills** and farms are not equipped for proper post-harvest handling, resulting in low productivity and significant losses (almost 50%). In addition, grain quality is low, with a high level of impurities, which makes for even lower prices in the market. Moreover, quality genetic material for producing high-yield seeds is not yet available in the market. Lack of information on market requirements, such as price differentials, quality management, and terms of delivery, makes it difficult to produce consistent levels in terms of volume and requirements.
 - 1.6 Second, there are important **marketing challenges**. There are opportunities for producers and micro and small enterprises (MSEs) to move towards manufacturing value-added products (such as cereal bars, cookies, and beverages). Women play an important role in these activities in the areas of commerce and production; however, they lack the quality management and marketing skills needed for their small enterprises to gain a presence in local and international markets.

⁵ Bjarklev, A., T. Kjaer, B. Kjaergard, Amaranth farming: Rural sustainable livelihood of the future? Sixteenth IFOAM Organic World Congress, Modena, Italy, June 2008. Grain Amaranth for Food Security and Economic Empowerment in Iganga District, Kenya <http://arc.peacecorpsconnect.org/view/1406>

- 1.7 Third, **producers' organizations have significant institutional weaknesses**, especially a lack of business management skills and working capital, which prevents them from providing services of value to their members and gaining purchasing power in the market. Currently, 55% of amaranth production is sold to intermediaries, partly because they can pay immediately at harvest time. Intermediaries hold commercial ties with exporters, selling them clean and preselected grain wholesale, while paying farmers low prices because of the poor quality and limited added value they provide.
- 1.8 And fourth, a **common strategy is needed to guide public and private investment**. Local governments and chambers of commerce are providing support to producers with investments in infrastructure and commercial contacts in an isolated manner. A more coordinated approach is needed to manage these initiatives more effectively and leverage resources.
- B. Project beneficiaries**
- 1.9 The project will be implemented in eight municipios in the northern and central regions of Chuquisaca—Alcalá, Azurduy, El Villar, Mojocoya, Padilla, Sopachuy, Tarvita, and Tomina—which have a total population of 75,000. This intervention will directly support 1,100 producers whose Human Development Index (HDI) is 0.47, much lower than the national HDI of 0.66. The monthly per capita incomes of amaranth-producing families is around US\$288,⁶ and approximately 66% of the population lives in poverty. In addition to amaranth, these families also grow fruit, peanuts, potatoes, peppers, and wheat. Most beneficiary families have plots that measure between one half and one hectare, while others have one- to four-hectare plots. Most of the farmers belong to cooperatives and/or other collective organizations. This intervention will work with an equal number of women and men amaranth producers, with women's participation focusing on harvest activities and organized preparation of processed products, such as cookies and cereal bars.
- 1.10 The project will also benefit 30 local MSEs (up to 60 employees) and cooperatives that focus on the manufacture of amaranth-based value-added products, which they supply to schools through their participation in competitive bidding processes for school breakfast programs promoted by the government through its social welfare and productive development programs. While these MSEs are seeing a growth in production levels and demand, quality tends to vary greatly overall, which hinders the development of a global value chain that extends beyond the local level. Opportunities to supply schools in the rest of the country, and in some regional markets such as Brazil, are constrained by ineffective production and trade integration in this sector.

⁶ Estimates based on: Center for Campesino Research and Promotion (CIPCA) (2008), *Estudio sobre los ingresos familiares anuales 2007-2008* [Study on annual family incomes 2007-2008]. National Statistics Institute (INE) for 2009, based on the poverty line. Exchange rate at October 2007 = Bs.7.81/US\$1.

C. Contribution to the MIF Mandate, Access Framework, and the IDB Strategy

- 1.11 This project will contribute to poverty reduction and private sector development by increasing small producer participation in the amaranth value chain. Its aim is to boost their technical skills to improve the quality of their products, strengthen the organizational capacity of MSEs so they can capture a larger share of the market, and expand collaborative networks with key private sector institutions in order to facilitate their integration in global value chains.
- 1.12 **Connection to the Agenda.** The project will contribute to the agenda Linking Small Producers to High Value Agriculture Markets. It will provide lessons on an underexploited product that can play a significant role in low rainfall areas, in addition to helping to fight malnutrition and promote food safety. The project will use the value chain approach to measure and monitor MSE participation. It has strong potential for replication in other countries of the region, including Mexico, Ecuador, Peru, and Argentina.
- 1.13 **Collaboration with the IDB Group.** The project is consistent with the strategic guidelines of the National Development Plan, under the pillar “*Bolivia Productiva*,” which focuses on the transformation, integrated change, and diversification of the production matrix, by developing comprehensive production complexes and generating surpluses, income, and jobs with a view to changing the excluding nature of the country’s primary export pattern.
- 1.14 The project also addresses other areas of interest identified in Bolivia’s Country Program Evaluation 2008-2010. First, because it focuses on an Andean grain with international commercial potential, the project contributes to the agricultural productivity sector. Second, because it will strengthen marketing channels and support organizations that manufacture amaranth-based products, the project will be contributing effectively to increasing the level of industrial integration with agricultural production.⁷ Lastly, the development and dissemination of the project’s studies and knowledge products will contribute to the crosscutting area of climate change, and to the area of interest of strengthening labor markets in Bolivia.

II. PROJECT OBJECTIVES AND COMPONENTS

A. Objectives

- 2.1 The impact objective is to boost the incomes of amaranth producers in eight municipios in the department of Chuquisaca, following an approach that promotes inclusion and sustainable development. The outcome objective is to enhance and strengthen the amaranth value chain so that beneficiary producers can access high-value markets.

⁷ According to the IDB Country Strategy with Bolivia (2011-2015), only 27% of the value of agricultural production undergoes industrial processing.

B. Description of the model / Solution / Intervention

- 2.2 This project will strengthen the participation of small amaranth producers in the local value chain, pursuant to the “four pillar model” developed by Duke University’s Center on Globalization, Governance & Competitiveness (CGGC) for the Agenda in terms of the processes to improve agrifood value chains at the local level and integrate them into global chains.⁸
- 2.3 The project will strengthen the *access to technical training* pillar through sustainable and responsible management practices to increase organic amaranth production, per-hectare yields, and quality. It will facilitate the introduction of new agricultural practices (i.e., organic farming) with a view to earning a premium price in the market. The technical assistance will be adapted to the **needs of women participating in the amaranth value chain**, for example with techniques for producing processed goods, business management and administration, marketing, and others. In addition, activities will be tailored to existing skill levels, and include **flexible schedules** to encourage the greatest possible participation by women and men. The project will also strengthen access to the technology pillar by financing research and development in genetic material to produce high-yield, high-quality seeds. This will have important effects throughout the amaranth production and value chain by making a higher-quality product available in the region.
- 2.4 The project will facilitate *access to financial services*. The executing agency, ICCO, has extensive experience and a good relationship with **microfinance institutions** in Bolivia, in particular those working in rural areas. Currently, ICCO has a Financial Services Program through which it connects to networks, development finance institutions, and private financial funds (such as ANED, IDEPRO, SARTAWI, ECOFUTURO, and others). During implementation, it intends to identify those working in the project coverage area in order to **generate strategic partnerships that make financial services accessible** to producers. Similarly, ICCO is designing a liquidity fund to support productive chains with **FINRURAL**, an association of Bolivian development finance institutions, through which it plans to channel US\$1.5 million to the productive sector, supplementing the technical assistance provided under this project. This collaboration is expected to start in January 2014, when this project is intended to be taking its first steps.
- 2.5 For the *access to markets* pillar, the executing agency has proposed that project implementation tap the different skills available locally and in the rest of the country. The aim is to involve and boost local capacity by developing **partnerships** with trusted **organizations** with proven institutional capacities, thus ensuring a better use of available local resources and technical and operational know-how.

⁸ To access publications on case studies of value chains, see: <http://www5.iadb.org/mif/es-es/portada/proyectos/accesoamercadosycapacidades/mercadosagr%C3%ADcolas.aspx>

- 2.6 Concerning the *collaborative networks* pillar, the organizations selected for that purpose are: Andean Products Research and Promotion Foundation (**PROINPA**), Participation and Sustainability Foundation (**PASOS**), and the Sustainable Agriculture Development Program (**PROAGRO**), which, in addition to identifying opportunities for integration into the supply chains of local and international enterprises by means of commercial contacts, will also train small producers on agriculture-production topics. As to amaranth organic certification and production, the executing committee will coordinate activities directly with local institutions in charge of this matter, such as the National Institute of Agriculture and Forestry Innovation (**INIAF**) and the National Ecological Production Council. The project will also improve access to these collaborative networks by coordinating with other stakeholders in the value chain in order to establish synergies and share local and international market information to help strengthen access to those levels. Lastly, activities will be coordinated with some local government initiatives, such as the **Amaranth Development Committee in Chuquisaca** and the operational units of the **Ministry of Rural Development and Land**, in order to avoid duplication of efforts and leverage resources for investments in the municipios.

C. Components

2.7 **Component I: Productive development of amaranth: improvement of yield and productivity (MIF: US\$502,000; counterpart: US\$206,000)**

- 2.8 The objective of this component is to boost the amaranth yield and productivity of small producers. The MIF will support **research** initiatives to develop highly productive genetic material. Some of the activities to be financed under this component are: (i) training centered on the sustainable management and organic cultivation of amaranth; (ii) repopulation and regeneration of crops with high-yield seed varieties; (iii) harvest and post-harvest management practices; and (iv) pest control and use of natural fertilizers. This component will help improve farmers' amaranth **management and production capacity** with a view to increasing production quality and volume and to reducing high post-harvest losses. All training activities will take into account the **specific needs of women** in productive activities, in order to promote their **participation and strengthen their role** in the chain. Organic certification and increased production of organic amaranth for high-value markets will also be promoted.

- 2.9 Within this framework, three specialized local organizations have been identified, referred to as **service providers** in the section on "Description of the model." They will play an important role by providing training to farmers and contributing to **local capacity** for development of the amaranth value chain. They will also play a key role in the **sustainability** of the actions promoted by this project once the intervention has ended. Details on each service provider and the funds allocated for the tasks each will carry out under this project are provided below.

- 2.10 **Andean Products Research and Promotion Foundation (PROINPA) (US\$159,000).** PROINPA is an organization with broad experience in technology generation that has made it a national standard of reference for agricultural research. Producers' associations in the municipios in northern and central Chuquisaca, and in the Chaco region, are familiar with it. With regard to amaranth, it has pioneered research into biodiversity, valuation of uses, and agricultural management practices with options for organic production. It is actively involved in the region's Amaranth Development Committee, it has signed agreements with Chuquisaca authorities, INIAF, and San Francisco Xavier University, and coordinates efforts with the Committee for the Integration of Campesino Economic Organizations with regard to organizational strengthening. For this project, PROINPA will conduct research to produce foundation seed, develop new varieties, and validate and transfer good practices for integrated management of amaranth production.
- 2.11 **Participation and Sustainability Foundation (PASOS) (US\$171,500).** In its 12 years of existence, PASOS has worked on various interventions in the department of Chuquisaca to create public-private strategic partnerships through its economic-productive program for local economic/productive transformation. It currently works with 4,300 families in 46 communities in central Chuquisaca, providing technical assistance, training, and specialized investment. Its experience with amaranth stems from projects it has implemented in central Chuquisaca, which have been carried out continuously since 2006 by technicians recognized for their expertise and agricultural extension methodologies that have contributed to the expansion of amaranth cultivation. In this project, PASOS is expected to carry out activities such as training for central Chuquisaca producers in good agricultural practices, integrated crop management, and support for post-harvest management.
- 2.12 **Sustainable Agriculture Development Program (PROAGRO) (US\$171,500).** PROAGRO has nearly 30 years' experience in rural development. It currently works with more than 5,000 rural families in 10 municipios in Chuquisaca. It is known as an agency specialized in agricultural production, with an emphasis on amaranth cultivation, and is a standard of reference for productive organizations, municipios, and other public and private agencies. It has implemented amaranth-related projects since 2006 in the municipios of Mojocoya, Presto, and Zudáñez, with significant productivity and marketing outcomes. It has local offices in central and northern Chuquisaca. In this project, PROAGRO will provide producers with training in good agricultural practices and technical assistance on plots in the two aforementioned areas.
- 2.13 **Component II: Strengthening of marketing channels and access to high-value markets (MIF: US\$233,800; counterpart: US\$40,500)**
- 2.14 The objective of this component is to **strengthen access to markets**, both domestic markets for **local consumption** and potential export markets, through the supply of higher quality products. Many producer organizations are currently

beginning to develop some manufactured goods such as cookies, beverages, and natural energy products. This component will work directly with them to **strengthen their productive processes** so as to increase sales and expand marketing channels. In addition, work will be done directly with the sector's **local businesses** that currently export amaranth grain and/or manufactured products, to conclude trade agreements with minimal participation by intermediaries, in an effort to strengthen producer organizations in these more managerial areas and achieve stronger project **sustainability**. The principal activities of this component are to: (i) strengthen ties with **chambers of commerce and local enterprises** to share information on quality requirements, production levels, and terms of delivery; (ii) establish **commercial partnerships** between producers' organizations and marketing firms to promote access to new markets; and (iii) provide training to strengthen **business management** in organizations that produce amaranth products (beverages, cereal bars, cookies, etc.).

- 2.15 **Component III: Institutional development and strategic partnerships (MIF: US\$98,000; counterpart: US\$43,000).**
- 2.16 The objective of this component is to strengthen the management capacities of producer groups and cooperatives so as to increase their organized participation in local markets. It will also work with local institutions to implement a local strategy to stimulate business growth in the region. Efforts will be coordinated with **local governments** to implement a single strategy for the sector, with a view to increasing investment in and strengthening support for amaranth production and marketing. This component will also increase **access to financial services through coordination with development finance or microfinance institutions**. Training and consulting services will be provided for the cooperatives to comply with the legal and technical requirements they need to obtain financing. Efforts will also be made to obtain better prices for certified **organic amaranth** from buyers. Accordingly, some of the main activities of this component are to: (i) help producers formalize their legal status as cooperatives; and (ii) develop business plans, with special attention to groups **headed by women**, which tend to be less organized. In those cases, efforts will be focus on improving the organizational structure, **increasing women's participation** in managerial positions, and ensuring their access to financing.
- 2.17 **Component IV: Knowledge management and communication (MIF: US\$135,700; counterpart: US\$37,000)**
- 2.18 Although several studies were recently published on the use and benefits of amaranth, knowledge products are still needed that address support for small producers and enterprises involved in the production of Andean grains, especially given their capacity to reduce poverty and to become a source of a sustainable livelihood for small farmers.
- 2.19 The knowledge objective is therefore to identify local and regional obstacles to increasing amaranth production and to disseminate best practices among the

actors in the value chain. Under this component, the project will identify the commercial requirements needed for producers to move up the value chain, and to increase the price differentials paid to small farmers. Lastly, cooperatives' participation in the development of commercial linkages and in access to financing will also be examined. To this end, the project will develop the following knowledge products: (1) a case study of the value chain, considering such factors as the requirements for obtaining price differentials, and amaranth's potential to increase small producers' incomes and improve their position in the value chain; and (2) a practical manual for beneficiaries, covering organization of agriculture, marketing issues, organizational strengthening, and gender analysis, among other topics.

- 2.20 In addition to the knowledge products, the following communication activities will be implemented: (1) a communication, awareness-raising, and promotion strategy for internal consumption; and (2) events for the sharing of information among public, private, and academic actors.
- 2.21 These messages and knowledge products will target the following audiences: (a) local and municipal governments; (b) national enterprises located in Sucre, La Paz, and Santa Cruz; (c) universities and research centers working to improve productive and commercial activities involving Andean grains; and (d) producers' organizations involved with these crops in other parts of the country.

D. Project governance and execution arrangements

- 2.22 The project will be administered by a project coordination unit (PCU) and an executing committee. In addition, three local organizations will be hired through direct selection based on their well-recognized experience with amaranth production—already mentioned in the description of Component II—and on the fact that they are well known to the local communities: PROINPA, PASOS, and PROAGRO. These organizations will conduct technical training activities and develop seeds of high genetic and productive value.
- 2.23 ICCO will establish a PCU that will be directly responsible for implementing project activities. Its project coordinator will be responsible for overall project execution and will have the support of a technical team charged with production, marketing, institutional strengthening, and knowledge activities. The project will also have a team in charge of monitoring and evaluation, and general administration.
- 2.24 To ensure the participation of stakeholders in project governance, an executing committee will be created, made up of the executing agency and the three organizations involved in implementing the project: PROINPA, PASOS, and PROAGRO. The executing committee will meet bimonthly to make the project's most important decisions. Its main function will be to provide guidance on the annual work plans and inputs for project execution on behalf of interested parties in the value chain, and to advise on the sustainability of project activities. The committee will meet at least every six months, or more often if necessary.

- 2.25 One year before the end of the project, a **sustainability workshop** will be held with all participating agencies to identify the measures needed to ensure continuity of the actions once project funds have been exhausted.

E. Sustainability

- 2.26 The project aims to achieve sustainability at several levels. For beneficiary producers and MSEs, larger yields and better grain quality will boost their incomes. It will also be based on the adoption of sustainable and organic amaranth production practices. Component II of this project essentially proposes to establish specific commercial ties with businesses exporting amaranth or manufactured goods to promote consumption internally. This will make it possible to visualize and test, in the medium-term, the beneficial outcomes and effects for both parts of the chain. As far as the project is concerned, sustainability will stem from the linkages created and strengthened among the different **value chain** actors in order to facilitate the marketing of amaranth grain, the production and consumption of processed products, and access to financing and research to promote the development of an inclusive, sustainable, and financially viable value chain.

F. Lessons learned from the MIF or other institutions and included in project design

- 2.27 **Access to credit:** Small farmers have limited access to financial capital. Most loans are for processing and commercial linkages, not for crops produced on a smaller scale. This constraint will be addressed by activities to establish ties with small microfinance institutions.
- 2.28 **Producer organizations:** The project will strengthen existing organizational structures so that they can take ownership of project activities and implement project strategies in their own training programs once the project has ended. (Lesson learned from the Haiti coffee project, HA-M1042.)
- 2.29 **Establishment of linkages with international buyers:** The project will work closely with chambers of commerce and chambers of exporters so they can disseminate information on buyers' preferences and standards, promoting linkages in the value chain. An example of a viable strategy is to provide buyers with a profile of the cooperatives, including a detailed description of the training they have received and samples of the quality of their current output. (Lesson learned from the regional coffee project with Technoserve, TC-0208023.)
- 2.30 **Differentiation of producers' capacities and levels of organization:** The project will work closely with producers' organizations taking into account that their levels of experience, infrastructure, socioeconomic indicators, and market orientation may pose challenges for project implementation and evaluation. These aspects will be evaluated with the baseline in order to design differentiated approaches that will facilitate inclusion of the organizations in the value chain. (Lesson learned from the stevia project in Paraguay, PR-M1013.)

G. MIF additionality

- 2.31 **Nonfinancial additionality.** Although amaranth has considerable economic potential and has been recognized by the government through its inclusion in agricultural production groups, very few financial institutions have provided funds and strategic support to position this grain in the market. The MIF and ICCO will support strategic sectors participating in the current value chain so they can catalyze efforts and improve the economic returns of small farmers.
- 2.32 **Financial additionality.** The MIF's funds will be used to support training and to strengthen the institutional capacity of farmers' associations that are key actors in the amaranth value chain but lack the resources to improve and invest in production and quality processes. Support for producers' organizations is a strategic task in the effort to organize a more inclusive and sustainable value chain. The MIF's resources will support strategic studies and research to develop high-quality genetic material that could increase productivity and improve quality. This will also help expand the scale of the chain and reduce its costs, which will improve the sector's overall competitiveness.

H. Project outcome

- 2.33 The project outcome is to strengthen the development of the amaranth production chain, enabling producers in eight municipios in Chuquisaca to access high-value markets. At the project level, the following outcomes are expected by the end of the project: (a) six producers' organizations establish partnerships and/or trade agreements with high-value markets; (b) a 7,725-quintal increase in the volume of amaranth production above the baseline; (c) a 700-quintal increase in organic amaranth production above the baseline; and (d) an 85% increase in amaranth marketed through beneficiary producers' organizations.

I. Project impact

- 2.34 The project objective in terms of impact is to contribute to boosting the incomes of amaranth producers in eight municipios in the department of Chuquisaca, following an approach that promotes inclusion and sustainable development. By the end of the project, it is expected that: (a) the annual incomes of beneficiary producers will have increased by 40%; (b) 500 new producers will have increased their annual incomes by 25%; (c) the revenues of farmers associated with the project will experience a 15% increase in annual revenues in comparison with the national average for producers; and (d) the price paid for organic amaranth will have risen by 30% over the value of conventional amaranth.

J. Systemic impact

- 2.35 The project will produce systemic change by significantly increasing the volume of amaranth produced in the region. The intervention is of a highly strategic nature, given the growing recognition of amaranth's nutritional value and its economic development potential in low-income areas. The project's comprehensive assistance is expected to boost small producers' daily incomes

from US\$1.17 to US\$3. As was mentioned earlier, the project will help Bolivian producers boost sales to already identified countries in which there is strong demand. The proposed intervention will provide the tools needed to increase the sector's competitiveness and strengthen producers' organizations so they can access new markets in the value chain. The project will also facilitate a transition to better organized marketing channels and will empower the base of the chain in order to increase participation. Although amaranth is an emerging crop, it has the potential to account for a significant percentage of national exports. The project will help create linkages with strategic (private and public) actors in order to promote an amaranth development strategy in domestic and international markets.

III. MONITORING AND EVALUATION STRATEGY

- 3.1 **Baseline.** During the project's first three months of activity, a broad baseline will be established at the level of individual producers and producers' organizations (a total of eight). In that process, information will be shared with beneficiaries to help them understand and recognize the benefits of maintaining good records for evaluating project progress and impact. The baseline will include: income levels, sales, exports (if applicable), characteristics of the business, educational level, gender, production and cultivation practices, costs of inputs, and amaranth prices (organic and traditional).
- 3.2 **Monitoring.** ICCO will develop a monitoring and evaluation protocol in line with the mechanism already established by the MIF for other projects. "Microsoft Dynamics and Web Tool" will be used to enter the logical framework indicators, and to monitor the metrics using data collection procedures. The tool immediately shows results and progress made in the different stages of project implementation. Annual reports that evaluate overall progress will be produced, based on the level of fulfillment of the logical framework indicators. These reports will be shared with the producers' associations in order to inform them of achievements and evaluate results collectively.
- 3.3 **Evaluation.** The project will be carried out over three crop years and will have a midterm and a final evaluation. Some key questions to be answered are: (i) To what extent has this model improved the amaranth producers' competitiveness and contributed to boosting beneficiaries' revenues? (ii) To what degree were the practices to improve the quality and productivity of amaranth implemented, and what influence did that have on boosting beneficiaries' revenues? (iii) What obstacles exist for replicating the model in similar settings? and (iv) What types of strategies have been most effective in promoting connection with high-value markets?
- 3.4 **Closing workshop.** In due course, the executing agency will organize a **closing workshop** to jointly evaluate project outcomes with other participating agencies, identifying any additional tasks needed to ensure the sustainability of actions

initiated by the project, and ascertaining and disseminating the lessons learned and best practices.

IV. COST AND FINANCING

- 4.1 The total cost of the project is US\$1,793,900, of which US\$1,243,900 (69%) will be provided by the MIF, and US\$550,000 (31%) by the counterpart. The execution period will be 36 months, and the disbursement period 42 months.

| Components | MIF | Counterpart | Total |
|--|------------------|----------------|------------------|
| Component 1. Productive development of amaranth: improvement of yield and productivity | 502,000 | 206,000 | 708,000 |
| Component 2. Strengthening of marketing channels and access to high-value markets | 233,800 | 40,500 | 274,300 |
| Component 3. Institutional development and strategic partnerships | 98,000 | 43,000 | 141,000 |
| Component 4. Knowledge management and communication | 135,700 | 37,000 | 172,700 |
| Executing agency/administration | 160,900 | 208,500 | 369,400 |
| Baseline, monitoring, and evaluation | 30,000 | 5,000 | 35,000 |
| Contingencies | 5,000 | 10,000 | 15,000 |
| Subtotal | 1,165,400 | 550,000 | 1,715,400 |
| % of financing | 68% | 32% | 100% |
| Impact evaluation account (5%) | 58,500 | - | 58,500 |
| Agenda account | 20,000 | - | 20,000 |
| Grand total | 1,243,900 | 550,000 | 1,793,900 |
| Contribution percentages | 69% | 31% | 100% |

V. EXECUTING AGENCY

A. Executing agency

- 5.1 The ICCO regional office for Latin America, located in La Paz, Bolivia, will be the executing agency for this project and, as such, will sign the agreement with the Bank. ICCO is an interchurch organization focused on cooperation for development, founded in 1964 in the Netherlands. ICCO's work in Latin America consists of providing financial support and advisory services to local organizations and networks seeking to improve access to basic services, initiate sustainable economic development projects, and strengthen peace and democracy. From its office in Bolivia, the organization coordinates and implements projects in Brazil, Colombia, Ecuador, Paraguay, Peru, Suriname, and Bolivia. The organization has 22 employees and receives counterpart funds from the Ministry of Foreign Affairs of the Netherlands, as well as donations from protestant churches. ICCO's partners include EuropeAid, European Community Humanitarian Office (ECHO), Connect4Change, Sustainable Trade Initiative,

WASH Alliance, and AgriProFocus. ICCO is implementing two other MIF projects: “Development of the Cerrado Native Fruit Chain, Maranhão” (BR-M1097) and “Generation of Biomass and Carbon Credits from Açai Residues” in Manaus (BR-M1110), as well as a project developed in collaboration: “Competitiveness Improvement in the Stevia Chain” in Paraguay (PR-M1013).

- 5.2 ICCO will establish an executing unit and the necessary structure to effectively and efficiently implement project activities and administer project resources. ICCO will also submit progress reports on project implementation. The structure of the executing unit and the progress report requirements are described in detail in Annex 7 of the technical files for this operation.

VI. PROJECT RISKS

- 6.1 **External risks:** Adoption and continuity of the model could be undermined by a lack of cooperation from organized groups of producers. To mitigate this risk, the project will promote the creation of collaborative networks with actors in the public, private, and other sectors. In addition, it will work closely with private actors to lead processes that achieve sustainable results and will encourage public actors to provide support in areas that the MIF cannot finance, such as infrastructure development.
- 6.2 **Sector risks:** At present, there is no reliable source of high-quality seeds. ICCO has identified a specialized organization that will work to develop this genetic material. Through careful planning, volumes, costs, and soil conditions will be identified that take into account the producers’ characteristics (in terms of demand and location). Moreover, the characteristics of production are not the sole factor in amaranth market price variations; the performance of other grains that are direct competitors—such as quinoa and chia—are also a factor. To mitigate this risk, the project will work closely with the companies to guarantee price agreements with producers in order to reduce volatility, or at least establish mechanisms for informing farmers of market trends and changes in a timely manner.
- 6.3 **Environmental risks:** Climate change trends will probably affect current amaranth production. Although the plant is very resistant to arid climatic conditions, droughts could affect production. The project will work closely with the government and the producers’ organizations to develop and establish effective irrigation systems, where and if necessary.

VII. ENVIRONMENTAL AND SOCIAL EFFECTS

- 7.1 The project was expressly designed with a sustainable productive development approach, including good agricultural practices for environmental conservation and protection. No negative environmental impacts are expected; on the contrary, the model focuses on a traditional Andean grain whose sustainable production can result in the development of healthy and nutritious products. By promoting early adoption of the model, the project aims to minimize the negative impact that could occur if amaranth production increases in the future. From the social perspective, the model promotes the inclusion of vulnerable groups living in poverty with limited access to economic and social opportunities.
- 7.2 Effective monitoring and evaluation processes will identify any adverse social and environmental effects that could arise from project implementation. In this specific case, the project intends to develop mitigation plans and hire experts to implement them.

VIII. ATTAINMENT OF MILESTONES AND SPECIAL FIDUCIARY ARRANGEMENTS

- 8.1 **Results-based disbursements and fiduciary arrangements.** The executing agency will agree to the standard MIF arrangements with respect to results-based disbursements, procurement, and financial management, as specified in Annex 8.

IX. ACCESS TO INFORMATION AND INTELLECTUAL PROPERTY

- 9.1 **Access to information.** Under the Bank's Access to Information Policy, this project has been classified as public.
- 9.2 **Intellectual property:** Any material produced with the resources of this technical cooperation operation will be the intellectual property of the Bank.