

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

**PARAGUAY  
SOCIAL ENTREPRENEURSHIP PROGRAM  
EXECUTIVE SUMMARY**

**ORGANIC PRODUCTION AND MARKETING SYSTEMS WITH  
SMALL-SCALE FARMERS**

**(PR-S1005)**

**LOAN PROPOSAL**

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## I. BASIC PROJECT INFORMATION

### A. Executing agency

1.1 Arasy Orgánica, Sociedad Anónima

### B. Amount and source of financing

	IDB US\$	Arasy US\$	Total US\$
Reimbursable financing:	700,000	1,542,000	2,242,000
Technical-cooperation funding:	<u>250,000</u>	<u>438,000</u>	<u>688,000</u>
Total:	950,000	1,980,000	2,930,000

Source: Fund for Special Operations (FSO)

### C. Financial terms and conditions

Amortization period:	10 years
Grace period:	3 years for capital
Interest rate:	3% annual
Currency:	U.S dollars
Execution period:	36 months
Disbursement period:	42 months

### D. Statement of no objection

1.2 The executing agency has submitted an application for reimbursable financing and technical-cooperation funding within the framework of the Social Entrepreneurship Program. The government of the Republic of Paraguay communicated its no objection to the financing for this project in Official Letter 2982, issued by the Ministry of Finance on 26 October 2005.

### E. The problem

1.3 The department of San Pedro is home to 330,000 people, nearly 60% of whom are classified as poor. The vast majority are subsistence farmers who grow legumes and mandioca for on-farm consumption and conventional cotton for sale. However, cotton yields in the zone have plummeted in recent years due to inadequate crop rotation and the prolonged, intensive use of agrochemicals. The degradation of the land has so reduced the number of income-producing alternatives that in recent years protests, squatter invasions of farmland, and even violence have beset the region. Despite this situation, the conditions for agricultural production in San

- Pedro are good, and small-scale local farmers could take advantage of this opportunity to raise their income if steps were taken to overcome the following three basic problems.
- 1.4 The first problem small-scale farmers face is the dearth of stable markets for their products. Farmers who grow fruits such as pineapples, grapefruit, oranges, and mandarin oranges typically have between a quarter and one half hectare of land under production. Yet, less than 20% of the fruit produced on this land has a reliable market outlet. During the summer, it is common to see fruit left unpicked or abandoned on the ground, because harvest costs are relatively high compared to the prices at which the fruit is sold. In a good season, farmers receive less than US\$18 per ton of fruit, but must pay between US\$15 and US\$18, depending on per-tree yields, to harvest that ton. When the local market is flooded, prices can dip even lower. The situation is the same with cotton, the crop of choice among small-scale farmers. Despite a clear downward trend in the price of cotton,<sup>1</sup> small-scale farmers continue to plant the crop because of their extensive experience with it, the low investment requirements, and the guaranteed market provided by the country's cotton gins. There are no sustainable markets for other types of cotton, such as organic cotton, which could be rapidly adopted by farmers if they were aware of its commercial potential. At present, raw organic cotton pays 20% more than conventionally grown cotton.
  - 1.5 The second problem facing these small producers is their limited technical expertise in agricultural production, which results in low yields and limits their ability to participate in markets for specialty products, such as those that are produced organically. Cotton is a good case in point. Cotton yields have plummeted in recent years due to inadequate crop rotation and soil degradation. According to information from the Ministry of Agriculture, yields have fallen from nearly 1,300 kilograms per hectare in 2000 to 800 kilograms per hectare, a drop of 38%. The cultivation of organic cotton could gradually improve yields (through the use of green manures and other techniques), bring down production costs, and secure higher prices for the farmers. However, Paraguayan farmers are not familiar with organic farming techniques and do not have specialized nurseries, and the entities that could transfer this technology are few and far between.
  - 1.6 Lastly, the ties between small-scale farmers and industry that would facilitate the transfer of technology, financing, and the opening of new markets for farm products do not exist in San Pedro. This hinders the farm sector from adopting modern agricultural methods and integrating with industry, and as a result credit from formal financial institutions is scarce. Cooperatives and finance companies work strictly with rural and urban nonfarm microenterprises or medium- and large-scale

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<sup>1</sup> The price paid by cotton gins in Paraguay fell from US\$0.28 per kilo in 2000 to US\$0.15 per kilo in 2004.

farm operations, and state development banks<sup>2</sup> do not provide financing for new or high-risk projects.

- 1.7 Against this backdrop stands the innovative approach being taken by Arasy Orgánica, a socially and environmentally committed company working since 2001 in organized organic production and the marketing of value-added farm products. Arasy has entered into marketing agreements with organized groups of farmers in 12 communities in San Pedro, and sales of their products, both conventional and organic, in world markets have been steady. From 2003 to 2004, the company exported close to 50 tons of certified organic cotton fiber, 2,000 tons of sesame seeds, and 200 tons of spices, herbs, and other organic seeds, for a total of US\$1.8 million. Arasy currently buys products (sesame seeds, soybeans, stevia, petit grain essential oil, lemon verbena, etc.) from about 3,000 farmers and is introducing the cultivation of new products for the international market, training farmers in organic farming techniques, and financing the production costs of select groups of organic farmers.
- 1.8 Arasy belongs to a group of subsidiaries of Michelangoli Holding. Although it generates only a small percentage of the group's total sales of US\$25 million, Arasy is the only subsidiary working in agribusiness with small-scale farmers. Arasy was chosen to implement this project based on its recognized track record of working with hundreds of small-scale farmers in a troubled area of the country with tremendous social needs. Given the conflict-prone nature of the department, there are few private companies of this type operating in San Pedro. Arasy's social commitment can be seen in its activities and operations, which are geared towards establishing a long-term presence in the region. The company's founding vision was to demonstrate that an environmentally, socially, and culturally responsible agricultural business can be viable and profitable in Paraguay. Accordingly, it is committed to working with the poorest sectors in the country without neglecting considerations of law and order, good management, clean methods, and fair remuneration.
- 1.9 Arasy has identified organic cotton and citrus and pineapple juice concentrates as new areas for it to focus on, in light of the department's productive potential and the demand for these products in world markets. Most small producers in San Pedro have small citrus groves that often go unused or are not commercially exploited, despite a high production potential. The cultivation of organic cotton, which requires more specialized techniques, would give farmers an opportunity to capitalize on their extensive experience with this crop by adopting conservation techniques that could result in higher yields and prices.
- 1.10 Arasy faces two obstacles to its development of these new products. First, it does not have the specialized machinery and equipment needed to process organic cotton

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<sup>2</sup> The financing provided by Crédito Agrícola de Habitación (CAH) and Banco Nacional de Fomento (BNF) is oriented towards production of conventional cotton, soya, and other traditional commercial crops.

and select fruits that would enable it to place high-quality products in foreign markets. Second, it does not have sufficient working capital and credit to build a supply chain of organic and conventional farmers growing these products.

- 1.11 **Beneficiaries.** According to the National Census, San Pedro is the poorest department in Paraguay. Six of every ten people in the department are classified as poor. The records Arasy keeps on its suppliers show that there are eight people in a typical family, four of whom are between the ages of eight and fourteen. The main economic activity pursued by these families is agriculture. On average, they have about 10 hectares of land, 2.5 of which are for the production of commercial products (primarily cotton and sesame seeds) and 1.5 of which are for the production of subsistence crops (maize, mandioca, beans, peanuts), which may be sold as needed. Many also grow fruit for on-farm consumption and local sale. Farmers in the department have an estimated annual income of approximately US\$800.

## II. THE PROJECT

### A. Objectives

- 2.1 The main objective of the project is to raise the income of small-scale farmers in San Pedro and integrate them into the agroindustrial sector, through a program designed to promote and export organic and conventional products produced on a small scale.
- 2.2 The project's specific objectives are to: (i) boost farm-level yields and productivity among small-scale farmers through improved practices in organic farming systems; (ii) expand and improve Arasy's agroindustrial processes, in order to consolidate its links with small-scale farmers in San Pedro; and (iii) strengthen the executing agency's capacity to develop export markets for its organic and conventional products.

### B. Description

- 2.3 To achieve the project objectives, financing will be provided for two wholly complementary components: a US\$700,000 reimbursable financing component (with a counterpart contribution of US\$1,541,000 from Arasy) and a US\$250,000 nonreimbursable technical-cooperation component (with a counterpart contribution of US\$438,400 from Arasy). Both components will be implemented by Arasy.
- 2.4 The purpose of the **reimbursable financing component** will be to: (i) provide Arasy with US\$275,000 to set up a working capital fund that will be used, *inter alia*, to extend credit to small-scale farmers for the production and harvesting of organic cotton; (ii) enable Arasy to purchase US\$400,000 of specialized equipment to process fruit supplied by small producers in San Pedro and make juice concentrates, essential oils, and other products; and (iii) provide US\$25,000 to build a nursery in the department that will make (organically certified) citrus trees available to small-scale local farmers, increasing the long-term supply of raw materials for the juice processing plant.
- 2.5 The purpose of the **technical-cooperation component** is to improve the production, processing, and marketing systems used by the small-scale farmers and Arasy. This component will provide support in the following four areas: (i) transfer of better farming techniques, with an emphasis on organic farming, to boost yields and improve the quality of farm products; (ii) research and development in agricultural production to test different farming practices and identify the ones that are best suited to the zone; (iii) access to new markets through: (a) better supervision for organic certification; (b) new certifications (fair trade, organic certification, and certification for juice processors); (c) better clothing designs for the international market; (d) participation in international fairs; and (e) support for marketing products internationally; and (iv) strengthening of Arasy's operations

with the support of a financial management consultant specialized in managing capital flows for fast-growth companies. The technical-cooperation funding will also be used to finance project evaluations and audits. The Technical-Cooperation Plan of Operations can be found in the technical files.

### **C. Sustainability and results of the financial analysis**

- 2.6 Project sustainability is assured by activities pursued at several different levels. The project calls for the transfer of technology and good practices in organic farming at several points along the value chain. Although this technology transfer will primarily benefit small-scale farmers in San Pedro, it is also expected to involve other agents in the department, such as Agriculture Ministry extension agents, agents from other rural development organizations, and urban microenterprises and small businesses that manufacture clothing made with organic cotton. After the project ends, all of these individuals and businesses will be free to continue using these new tools and practices, in partnership with Arasy or other commercial agents working in the field of organic production. In other words, the expertise will remain with the beneficiaries and may even be transferred to other areas.
- 2.7 The sustainability of technical assistance and research services will be guaranteed by incorporating them into the executing agency's daily activities. At present, Arasy has more than 40 field staff and two researchers and expects to retain the additional specialists it brings on board or trains under this project after it ends. Their costs will be covered by the revenue the company generates from sales.
- 2.8 Lastly, the sustainability of the project is assured by proven demand in world markets for the products identified by Arasy. Arasy has invested in market research, contacts, and relationships with existing clients, and has reliable indications of solid, growing demand for its products. In the case of cotton, the company has already run production tests and sold clothing, with promising results. In the case of fruit products, it already has a list of interested buyers and has hired skilled personnel from other companies that make juice and juice concentrates.
- 2.9 **Financial analysis.** According to financial projections, Arasy will maintain current rates of return over the medium term, although it will experience a dip during the first two years. Juice production is expected to begin in the project's first year (2006), provided the processing equipment is installed in time. During the first two years, juice operations are expected to proceed at less than full capacity. Consequently, projected operating margins are low, but are expected to return to positive, healthy levels once the juice equipment is being used to full capacity. A return on sales of between 3% and 4% is expected beginning in 2008 (third year of the project), assuming stable market prices. For the third year, annual gross income of US\$6.5 million and net income of US\$190,000 is forecast. The financial analyses project a net present value (NPV) of US\$447,379 on the Arasy investment and an internal rate of return (IRR) of 11% in 10 years. The estimated investment return period is seven years. The company already has relatively high fixed

operating costs resulting from the team of technical experts and professionals it has assembled to handle its diverse interests, but these costs are not expected to rise. Rather, the company's installed capacity will be put to better use through the incorporation of two commodities (organic cotton and fruit) that complement activities pursued during other seasons.

#### **D. Expected outcomes and benefits**

- 2.10 At present, small producers in San Pedro are isolated and have few opportunities to participate in the national economy. This project will link these small-scale farmers to a burgeoning export sector, through Arasy, giving them market outlets for products they would otherwise be unable to place. The technical assistance provided under the project will strengthen the farmers' capacity to meet market demands and requirements, enabling them to establish a long-term relationship with Arasy. By the end of the project, both the farmers and Arasy are expected to have received the following benefits: **1. Producers:** (i) 4,500 farmers who were previously unable to sell all of their fruit receive a total of US\$700,000 per year by the third year of the project by marketing their fruit (citrus and pineapple) through Arasy; (ii) a total of 700 farmers obtain certification to market their products as organic; (iii) 400 new farmers obtain additional income totaling US\$115,200 exclusively from the sale of organic cotton; (iv) organic cotton farmers increase yields by 42% (from 600 kilograms/hectare to 850 kilograms/hectare) and grapefruit farmers increase average yields from 1,800 kilograms/farm to 2,800 kilograms/farm in three years; and (v) 15 groups or *mingas* [cooperative work associations] of organic farmers are established and consolidated by the third year. **2. Arasy:** (i) The company establishes a total sales volume of US\$7 million by the third year of the project; (ii) generates annual sales of US\$1.8 million in juice concentrates by 2008; (iii) obtains annual certification to process juice concentrates beginning in the second year of the project; (iv) sells 210 tons of raw organic value-added cotton (processed as yarn, cloth, and articles of clothing) for US\$445,000; and (v) achieves an annual rate of return on equity of 6% by the third year. The annualized indicators of these benefits, including other process indicators, are contained in the logical framework and the project indicators table, which can be found in the technical files.

#### **E. Bank strategy**

- 2.11 The basic objective of this project is to link small-scale farmers with limited income to the agroindustrial export sector, in order to: (i) make their farms more productive; and (ii) raise their income by opening up new markets for their products. Accordingly, the project is consistent with the Bank's strategy with the country, which incorporates several key crosscutting objectives, including reactivating the economy and creating jobs within the framework of a sustainable development model, based, *inter alia*, on agroindustry. The strategy also mentions the importance of supporting programs that combat poverty and create jobs.

## **F. Cooperation with other international donor agencies**

- 2.12 Because Arasy is a private commercial company, it has not received much support from international donor agencies. As a result of its demonstrated social commitment to working with small-scale farmers, however, it has received limited support from entities and foundations such as the AVINA Foundation in Switzerland, which granted approximately US\$20,000 to defray training costs for groups of organic farmers. Arasy's work has also been recognized by the Paraguayan government. In 2004, it received financial support from the Ministry of Justice and Labor to provide four months of technical training to small producer members of the Organic Farming Systems.

## **G. Summary of the environmental and social review**

- 2.13 The Committee on Environment and Social Impact reviewed this operation on 1 July 2005 and requested clarification of the following points in the project report: (i) expansion of the agricultural frontier; (ii) coordination with the Multilateral Investment Fund operation on cleaner production; (iii) eligibility criteria for organic production loans; and (iv) potential effects on indigenous communities. The action taken on these points is described in the environmental review, which can be found in the technical files.

## **H. Special conditions**

- 2.14 As a condition precedent to the first disbursement of the **reimbursable financing**, Arasy will submit Credit Regulations<sup>3</sup> for the program that have been approved by its board of directors and evidence that it has received all counterpart cash contributions.
- 2.15 As a condition precedent to the first disbursement of the **technical-cooperation funding**, Arasy will deliver: (i) a work plan for the first 12 months of the project, including a schedule of activities and a schedule for the fulfillment of performance indicators, which will make it possible to control and supervise the operation; (ii) evidence that a project coordinator has been selected; and (iii) terms of reference for the consulting services to be hired for the subsequent six months.
- 2.16 In order to disburse more than 50% of the **technical-cooperation component**, Arasy must present evidence that the juice and cotton processing equipment is in operation.
- 2.17 To ensure the proper implementation of technical assistance activities requiring long-term outlays in the rural areas covered by the project, a revolving fund of up to 20% of the nonreimbursable technical-cooperation funding will be created.

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<sup>3</sup> The basic conditions of the Credit Regulations can be found in document 1 of the technical files.

## I. Reports, evaluations, and audits

- 2.18 **Reports.** Arasy will deliver semiannual progress reports to the Bank's Country Office in Paraguay. These reports will include an analysis of progress towards fulfilling the performance indicators, problems that have arisen during project implementation, the corrective measures taken, and projections for the subsequent six-month period. The reports will also include, at a minimum, the following information: (a) for the reimbursable financing: (i) the number of farmers receiving credit under the project for organic farming; (ii) the financial conditions of the credit extended to farmers (rates, terms); (iii) the extent to which producers have satisfied the eligibility criteria, verifying that they have been properly certified under Arasy's environmental program; (iv) total sales of fruit sold by small-scale farmers in San Pedro to Arasy; (v) a summary of the number of hectares being used for the cultivation of crops supported by the project in relation to the number being cultivated for subsistence crops and the number under forest cover; (vi) the increase in sales of products supported by the project; and (vii) Arasy's profitability and the sales volumes for each commodity; and (b) for the technical-cooperation component: (i) the number of organic farmers receiving technical assistance in production; (ii) the increase in per hectare yields of organic cotton and fruit; (iii) the number of farmers who maintain or increase their use of agri-fruti-silviculture systems on their farms; and (iv) the number of *minga* organizations created and in operation.
- 2.19 In the event that Arasy's fulfillment of the chief environmental indicators is found to be unsatisfactory, the Bank may suspend disbursements until it has confirmed that appropriate steps are being taken to achieve the performance indicators that it agreed on.
- 2.20 **Evaluations.** The project calls for two evaluations, to be performed by individual consultants selected and contracted by the Bank's Country Office in Paraguay with resources from the technical-cooperation funding. Midterm and final evaluations will be performed 18 and 36 months after the first disbursement, respectively. At a minimum, the midterm evaluation will take stock of the following: (i) increases in income among small-scale farmers from the sale of organic cotton and fruit; (ii) progress made towards project performance indicators; (iii) lessons learned and recommendations for improving the project; and (iv) the institutional capacity of the executing agency.
- 2.21 In addition to the areas covered by the first evaluation, the final evaluation will assess and document: (i) the impact of the project on the groups surveyed during the initial evaluation; (ii) the extent to which project objectives have been achieved; (iii) lessons learned; and (iv) project sustainability.
- 2.22 **Audits.** The reimbursable financing component will be audited annually with resources from the technical-cooperation funding. Arasy will defray the cost of a

final audit of the technical-cooperation component, to be performed upon its completion.

## **J. Project risks and mitigation measures**

- 2.23 **Market for products supported by the project:** The market for products made from organic cotton is growing, but has not yet matured. Project projections and estimates form the basis of determining the impact generated by small-scale farmers who switch from conventional to organic farming techniques. Hence, any movement in the price differentials for organic and conventional cotton could affect the prices that farmers receive. This risk will be mitigated by project-financed technical assistance in two different areas. First, efforts are already being made to boost yields and implement good practices in organic production, which, with the support of the project, are expected to lead to a substantial increase in productivity. Second, Arasy's involvement in every phase of the industrial processing and production of yarn and clothing will ensure that much more effective quality controls are in place, guaranteeing the company's ability to successfully market these products and negotiate better prices and sales conditions.
- 2.24 In the case of the market for fruit products, juices, and essential oils, there is the potential risk that market prices will not be high enough to cover processing costs and pay the farmers good prices. Arasy's implementation strategy, which is based on a long-term vision for this project, will mitigate this risk. Arasy is already well acquainted with the European and Asian markets thanks to the other commodities it markets and so is well aware that new participants in a market often incur losses initially. It also quite familiar with its operating and transport costs, as a company in a landlocked country, and with project financing, it expects to gather even more market information so that it can steer its products towards the most profitable markets.
- 2.25 **Rural credit:** This project includes a component to extend credit to small-scale organic farmers affiliated with the project, which constitutes a crucial link in the productive chain. Providing credit to these farmers serves the dual purpose of increasing the farmers' productivity (and income) and guaranteeing a supply of raw materials for Arasy. Although the Michelangoli group, which owns Arasy, has experience with urban commercial credit, managing a rural credit portfolio presents different challenges. Without good selection and internal control systems, there is an immediate risk of losing portfolio quality. To mitigate this risk, the project calls for hiring a financial consultant to help set up operating systems and controls that minimize losses.

## **K. Exceptions to Bank policy**

- 2.26 None.