

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

**PARAGUAY**  
**SOCIAL ENTREPRENEURSHIP PROGRAM**

**IMPROVING THE QUALITY OF LIFE OF GARBAGE RECYCLERS IN**  
**ASUNCION**

**(PR-S1001)**

**LOAN AND TECHNICAL COOPERATION PROPOSAL**

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## **BASIC SOCIOECONOMIC DATA**

For basic socioeconomic data, including public debt information, please refer to the following address:

<http://www.iadb.org/RES/index.cfm?fuseaction=externallinks.countrydata>

**INFORMATION AVAILABLE IN THE SDS/MSM TECHNICAL FILES**

**Preparation:**

ALTERVIDA's audited balance sheets

ALTERVIDA's articles of incorporation

Operating plan for the environmental education and communications strategy

Press clippings relating to the Cateura garbage dump

## ABBREVIATIONS

AV	Centro de Estudios y Formación para el Ecodesarrollo, ALTERVIDA [Center for Ecodevelopment Studies and Training, ALTERVIDA]
CAS	Centro de Acopio y Segregación [Collection and Sorting Center]
EPC	Cateura project team
GDP	Gross domestic product
IDB	Inter-American Development Bank
IMA	Intendencia Municipal de Asunción [Asunción Mayor's Office]
IRR	Internal rate of return
JICA	Japan International Cooperation Agency
KfW	Kreditanstalt für Wiederaufbau
NGO	Non-governmental organization
PAHO	Pan-American Health Organization
PB	Project board
PNV	Present net value
RI	Recycling industry
USAID	United States Agency for International Development

## IMPROVING THE QUALITY OF LIFE OF GARBAGE RECYCLERS IN ASUNCION

(PR-S1001)

### EXECUTIVE SUMMARY

**Executing agency:** ALTERVIDA Center for Ecodevelopment Studies and Training (AV)

<b>Amount and source:</b>	<b>Bank</b>	<b>Local</b>	<b>Total</b>
Loan:	238,000	129,900	367,900
Nonreimbursable technical cooperation:	<u>300,000</u>	<u>145,960</u>	<u>445,960</u>
Total:	538,000	275,860	813,860

Resources will come from the net income of the Fund for Special Operations (FSO).

**Financial terms and conditions:**

Amortization period:	15 years
Grace period:	4 years
Disbursement period:	48 months
Execution period:	36 months
Interest rate:	Consumer Price Index plus 2 points

The grace period will apply to the repayment of principal only, not to interest. The loan will be denominated in local currency and will have a real interest rate of 2%; 200 basis points will be added to the inflation rate resulting from annualizing the rate of inflation for the preceding six-month period as determined by the Central Bank of Paraguay.

**Problem to be addressed:** Current working methods at the garbage dump expose garbage recyclers, or *gancheros*, as they are known locally, to economic, social, and health problems as well as serious environmental contamination problems. ***From an economic standpoint, there is a lack of productivity in the sorting process, which adversely affects the gancheros and the recycling industry (RI).*** Because of the inadequate system for separating waste in those places where it originates, the percentage separated by *gancheros* at the garbage dump represents a mere 3% of the demand for paper, 25% of the demand for glass, and 40% of the demand for plastics.

Of all solid waste, 61% is organic and biodegradable, and 9% is plastic, leather, and tires, so the remaining 30% would be potentially

recoverable inorganic material. However, sorting productivity is such that only 10% of potential recoverables are being recovered, which not only means that the RI has to import recyclable materials from Brazil, but also contributes to cutting short the useful life of the garbage dump insofar as volumetric space is being used up with nonbiodegradable inorganic materials. For the *gancheros*, this low productivity also leads to major swings in their income.

***From a social standpoint***, the *gancheros* as a population group are faced with social adaptation problems owing to several factors. These include: (i) many are too old to find any other kind of work; (ii) the single mothers can find no other alternative; (iii) the adolescents have problems with drug use and many adults have problems with alcohol; and (v) some have a criminal record and have not managed to find a social readaptation program, so their only alternative is to *ganchear* (to “hook” usable garbage) to subsist. Although they have formed four associations, these play a more political role, vindicating their right to sort waste in the dump and keeping it from being shut down rather than working on social strengthening and promoting the welfare of their members.

***From a working standpoint***, it should be stressed that *the health and working conditions of the gancheros in the garbage dump are hazardous, owing to the highly informal nature of their work and the absence of infrastructure and health regulations*. This population is exposed to all manner of diseases transmitted by the cockroaches, flies, and mice for which the dump is an excellent breeding ground, and is further exposed to contamination from all types of waste.

Underlying these general problems are specific problems. The *first* is that *the residents of the city of Asunción are not very aware of the economic and environmental problems attending the current system for disposing of garbage*. Consequently, there is little willingness to participate in a public system of household trash separation; nor is there awareness amongst the population of the harsh living conditions for the *gancheros*. *Second*, the infrastructure does not currently exist to introduce a better waste management system (collection vehicles, recycling plant), and the responsible public agencies, while aware of the issues and the urgency of a solution, have more pressing priorities to attend to.

**Description:**

With a view to enabling the *gancheros* to work in better conditions and improve their quality of life, the project calls for developing a site in Cateura, to be donated by the Asunción Mayor’s Office (IMA), with the minimum infrastructure for picking up, collecting, and sorting materials, making it possible to boost productivity, generate higher income, maintain adequate health and hygiene conditions in



the workplace, and provide basic job training that gives them the option of participating in programs to hire out sanitation, cleaning, and waste collection services.

The refurbishment, construction, and outfitting of what will become a Collection and Sorting Center (CAS) will be undertaken as a socially responsible, cooperative community effort, with the IMA, the *gancheros*, the RI, and civil society organizations leading the effort. The bulk of the investments will be financed with reimbursable resources; a nonreimbursable technical-cooperation component is intended to support the initiative with the contracts and activities that help to get the CAS up and running and provide solutions to the problems described.

To accomplish the above objectives, a project will be financed that comprises two components. The loan component will finance construction, procurement, and setup of the infrastructure for a solid waste CAS and the working capital associated with operating it. The nonreimbursable technical-cooperation component will support the social, environmental, and administrative strengthening of the *gancheros* at the Cateura garbage dump. This institutional and social strengthening of the *ganchero* community is indispensable for avoiding the risk of the productive equipment and the disposal of solid waste being managed poorly.

**Objectives:** The goal of the project is to help to improve the quality of life and the general area around the Cateura garbage dump.

The specific purpose or objective consists of developing an alternative pilot model for the social and economic integration of the *gancheros* through a strategic alliance among all players concerned: *gancheros*, civil society organizations, private enterprise, and the IMA.

**Environmental and social review:** The Committee on Environment and Social Impact (CESI) reviewed this operation in its meeting of 20 February 2004. All its suggestions were incorporated in the project document, and a detailed analysis thereof can be found in the project technical files.

**Coordination with other donors:** Several cooperation agencies located in or with interests in Paraguay, including Cooperazione Italiana, Etimos, the United States Agency for International Development (USAID), and the United Nations Development Program, were consulted and indicated that: (i) they are not executing productive or social projects involving *gancheros*; (ii) they are interested in participating in projects that encourage protection of the environment; and (iii) they are familiar with AV and have worked with this agency on major projects. Other agencies, such as the World Bank and the Kreditanstalt für Wiederaufbau (KfW), are

interested in proposals that address environmental and sanitary engineering and waste management issues, but not in projects to tackle the social issues surrounding the *gancheros*. See page 5, paragraph 1.21.

**Beneficiaries:**

The project is expected to directly benefit: (i) the four legally constituted *ganchero* associations recognized by the municipal government, and their 1,000 members; (ii) about 100 families of *gancheros*, through better income and working conditions and day care for their children; (iii) the 1,000 *gancheros* in Cateura, through job training and improvement of the family environment; and (iv) the residents of the 11 pilot barrios in which environmental education will be introduced.

Together with the Cateura project team (EPC), the *ganchero* associations will be in charge of establishing the eligibility criteria for selecting the CAS workers. In order to give the greatest number of *gancheros* the opportunity to enjoy adequate working conditions and the social benefits of organized labor, the associations may opt to pay a larger number of *gancheros* for piecework completed, assigning shifts as well as different shifts depending on the day of the week. The non-negotiable eligibility criteria are: (i) the gender ratio amongst in-plant personnel must be fair, meaning that given the demographics of the *gancheros*, at least 46% of employees are expected to be women; (ii) the older *gancheros* must also be adequately represented, making allowance for their age and physical disabilities so they obtain the same level of income as those who have no physical impairments; (iii) no one under 18 years may work in the plant; and (iv) no more than one member per family will be hired.

**Risks:**

This project involves five main risks: (i) that the community will persist in not source separating; (ii) the international terms of trade, specifically with Brazil, change such that it becomes much more attractive for the RI to import recyclable materials from Brazil than to purchase them from the *gancheros'* collection center; (iii) that the *gancheros* not participating in the project will cut in ahead of pickup and the materials collected by the project's trucks will not be enough to cover the fixed costs of running the CAS; (iv) the IMA decides not to leave this site as an intermediate collection point; and (v) that the *gancheros* decide to leave Cateura and go to sort waste where the new sanitary landfill is located.

Minimizing the *first risk* are the technical-cooperation resources earmarked for funding the communication and education plan, which aims to raise environmental awareness in the schools and amongst the adult population. Helping to mitigate the *second risk* is the IMA's presence as a member on the project board (PB) as both a contributor and stakeholder in the project's success. In the extreme event that this risk were to materialize, the IMA would study the most appropriate solution, which could even be providing subsidies to facilitate trade. With regard to the *third risk*, while it is likely that the "cart" and "foot" *gancheros* as well as those who operate as dealers and unregistered recyclers will benefit from environmental education and source separation, the presence of the RI as a project stakeholder and contributor helps to mitigate their effect, since it will give priority and better prices to products with the CAS seal. As for the *fourth risk*, one could say that the project does not provide for any actions to mitigate it, except the condition placed on the first disbursement of the loan, relating to the need to submit to the Bank's satisfaction the contract of conveyance, donation, or loan and restitution of the land for a period greater than 15 years.

Finally, with regard to the fifth risk, the project contains a comprehensive series of activities intended to be an incentive to remain in Cateura.

**Government  
and Bank  
strategy:**

The proposed project is consistent with the Bank's country strategy with Paraguay as set forth in document GN-2118-1, approved 8 November 2000, and as updated in document GN-2250 of 17 April 2003, particularly with regard to the objective of contributing to the development of human capital.

The operation also fits within the guidelines of the Social Entrepreneurship Program because the project's beneficiaries are persons with very limited resources, who earn between US\$1 and US\$5 per day, and who live and work in very precarious conditions.

The project complements the Asunción waterfront project (Fanja Costera de Asunción, 1447/OC-PR) insofar as the garbage dump is situated in the project's area of intervention. However, the waterfront project does not include specific actions vis-à-vis the *gancheros*.

**Rationale:**

This project, while headed up by AV, is one of community and corporate social responsibility, enjoying the participation of both the *gancheros* themselves, who will supply the labor for the construction and civil works, and the municipal government, and enjoying contributions in cash and in kind from the principal companies in the RI.

The proposed project is justified for the following reasons: (i) it supports an initiative that provides additional resources to a segment of the population that lives in highly precarious conditions; (ii) it is a project that provides the necessary inputs to facilitate and refine better environmental management; (iii) it is a project that contributes to community education in solid waste management and proper disposal; (iv) it supports the initiatives of the Asunción city government with suitable solid waste management alternatives; (v) it stems the outflow of foreign exchange by reducing imports; (vi) the RI is participating, pooling resources and business efforts to assist with technical and human aspects of the project; and (vii) it includes job training to ensure that the *gancheros* can get a job or strike out on their own in activities other than exclusively sorting waste.

**Special  
contractual  
conditions:**

As a condition precedent to the first disbursement of loan resources, AV shall submit, to the Bank's satisfaction: (i) evidence that the contract of conveyance, donation, or commodatum for a period exceeding 15 years has been formalized for the land on which the CAS will be built; (ii) detailed designs of the collection center, including the training area and daycare center, together with the reviewed budgets and the construction plan; (iii) an initial work plan agreed to amongst the *gancheros*, the IMA, and the RI that includes a timeline for disbursements and for meeting goals for the first year, as well as aspects such as route logistics, trips, collection scheduling, and sales to the RI, etc.; (iv) the interinstitutional agreements signed by AV, the *ganchero* associations, the RI, and the IMA; and (v) evidence that the Project Coordinator was hired.

As a condition precedent to first disbursement of the technical-cooperation resources, AV shall submit to the Bank's satisfaction: (i) the timetable and execution plan for the Environmental Education and Communication Plan; and (ii) the terms of reference for hiring the advisory and consulting services for the first year of project execution.

**A special condition for project execution** (reimbursable financing and nonreimbursable technical-cooperation components) is that AV shall submit to the Bank's satisfaction, within 12 months from the signing of the Loan and Technical Cooperation Agreement: (i) evidence that the CAS is in operation (level of activity, shifts, number of workers, contracts signed with the RI); (ii) evidence of agreements arrived at with neighborhood committees and schools in at least three pilot barrios; and (iii) evidence of *gancheros* from the four associations participating in the project's consultative bodies.

Given that AV needs to contract civil works and import machinery for which down payments will be required, the revolving fund will be set at 20%.

**Reports and evaluations:**

Through the EPC, AV will submit progress reports to the Bank's Country Office within 60 days after the end of each six-month period, and a final report 60 days after the last disbursement. These reports will include: (i) a description of the progress made in carrying out the project execution plan, including the verification of performance indicators, as well as an analysis of the difficulties encountered in meeting the project's goals and objectives; (ii) information regarding the benefits to producers in economic and training terms; (iii) an assessment of the level of community response to the education program; (iv) an assessment of the *gancheros*' adaptability to work discipline; (v) reports from the consultants and experts hired to execute the technical-cooperation component, where relevant to project execution; (vi) the extent of progress with training activities and other technical-cooperation activities; (vii) a statement of use of Bank resources and counterpart contributions; and (viii) statistical and financial information regarding the economic outcomes of the project and progress made.

Because this is a project whose most significant outcomes will be seen in the medium term, after the period of project execution has ended, it is considered important that there be a contractual obligation to keep the Bank informed of project performance. AV's contractual obligation to send these reports will therefore remain in effect for three years after the last disbursement.

The first project report should include a methodically arranged set of socioeconomic data on the *gancheros* from before the start of project activities, making it possible to determine the comparative change in income for the project's beneficiaries. This information should be updated in all subsequent semiannual reports.

The Bank will review the content, findings, and recommendations of these reports. Should significant shortcomings in project execution be found, the Bank may suspend disbursements until AV takes satisfactory measures to correct those deficiencies, as appropriate.

*Audited annual financial reports for the loan component:* Within 120 days following the close of each fiscal year, beginning with the fiscal year in which the loan disbursements begin, and continuing for the duration of the project, AV will submit its audited financial statements to the Bank, including a financial report audited by independent authorities showing how the Bank's resources were used.

Within 90 days after the period for the last disbursement of the nonreimbursable technical-cooperation funds ends, AV will submit an audited financial report showing how the Bank's contribution was used.

The Bank will use technical-cooperation resources to commission a final project evaluation. This evaluation will be done once it has been three years since disbursements began or when all the technical-cooperation activities except the evaluation have been carried out, whichever comes first. This evaluation will focus on analyzing and documenting the work done by AV, with special attention to the following: (i) the impact of the CAS as an alternative to diversify the work *gancheros* do, measured as the change in working conditions, access to social services, and the number of *gancheros* trained in related jobs and engaging in new activities; (ii) the marketing structure achieved, measured as firm business deals with the RI; (iii) the increase in productivity, measured as the percentage increase of materials recovered, and hence the increase in the volume of raw materials offered to the RI; (iv) the increase in income earned by the *gancheros*, measured as gains over the baseline; (v) the decline in the number of children sorting waste; and (vi) economic and financial indicators for the CAS and the *gancheros*.

**Exceptions to  
Bank policy:**

None.

## I. FRAME OF REFERENCE

### A. Socioeconomic framework

- 1.1 At the end of 2002, Paraguay recorded a per capita gross domestic product (GDP) of approximately US\$1,350, down markedly in comparison with previous years, owing to a confluence of adverse economic factors. Among these were the sharp devaluation of the guaraní, which lost 221% of its value between 1997 and 2002, and low annual rates of real economic growth, which have not topped 0.5% since 1997. Because of the economic crisis, poverty levels have been growing. While 30.3% of the population was counted as poor in 1995, this number rose to 33.7% in 2001; the figure for the population living in extreme poverty was 13.9% in 1995, reaching 15.9% by 2001.
- 1.2 **The Cateura garbage dump and characteristics of the *gancheros*.** The aforementioned recession and the growing demand for recyclable materials on the part of the recycling industry (RI)<sup>1</sup> have compounded the trend of irregular settlements forming around the Cateura dump, the final disposal site for solid waste from the city of Asunción. This marginalized population, the so-called *gancheros* (because of the hook, or *gancho*, they use to work), or scavengers, work directly in the dump site separating recyclable materials, which they then sell to middlemen who end up making juicy profits.<sup>2</sup> Currently between 1,200 and 1,500 people who derive their income from sorting recyclable materials live near the garbage dump. Of these, about 1,000 belong to one of four legally recognized *ganchero* associations. Some 300 children between the ages of 5 and 12 go to work with their parents every day, since the parents prefer not to leave them alone at home.
- 1.3 The garbage dump began to operate in 1984 and became the definitive final disposal site in 1987. Currently, approximately 1,700 tons of waste of all kinds (household, commercial, industrial, urban sanitation, etc.) arrive at the dump each day.<sup>3</sup> The coverage in terms of collection and final disposal of garbage is 40%.
- 1.4 *Gancheros* make between 10,000 and 20,000 guaranis per day, or US\$1.5 to US\$3, which puts their yearly income at somewhere between US\$540 and US\$1,080. The younger *gancheros* (about 40% of the total) make the most money; the rest cannot manage to make the minimum daily wage. They have limited schooling; most have not finished primary school, and 24% are illiterate. Their one-man recycling outfits are extremely precarious, they have no knowledge as to how to manage their business, nor do they have bargaining power with the

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<sup>1</sup> The principal characteristics of the RI are summed up in the project technical files.

<sup>2</sup> The middlemen buy the material sorted out by the *gancheros* at a low price and sell it to the RI at a significant markup.

<sup>3</sup> It is estimated that greater Asunción (the metropolitan area plus 11 neighboring municipios) has 1.8 million residents who produce an average of 0.961 kg/day each of solid waste.

middlemen or the RI. Some are construction workers, painters, or vendors who in the face of the recessionary crisis found the garbage dump to provide a source of income. According to a survey by the Asunción Mayor's Office (IMA), 54% are men and 46% women. They are most commonly between the ages of 15 and 34, 6% are under 14 years of age, and 2% are over 60. They have no work discipline, and their greatest concern is day-to-day survival.<sup>4</sup>

- 1.5 **Problems for the *gancheros*.** Current working methods at the garbage dump are attended by economic, social, and health problems for the *gancheros* as well as serious environmental contamination problems. *From an economic standpoint, there is a lack of productivity in the sorting process, which adversely affects the *gancheros* and the RI.* Because of the inadequate system for separating waste in those places where it originates, the percentage separated by *gancheros* at the dump is a mere 3% of the demand for paper, 25% of the demand for glass, and 40% of the demand for plastics. Of all solid waste, 61% is organic and biodegradable, and 9% is leather and tires, so the remaining 30% would be potentially recoverable inorganic material. However, the sorting system used is so rudimentary that productivity figures indicate that 10% is being recovered, which not only means that the RI has to import recyclable materials from Brazil, but also contributes to cutting short the useful life of the garbage dump insofar as volumetric space is being used up with nonbiodegradable inorganic materials. For the *gancheros*, this low productivity also leads to major swings in their income.
- 1.6 *From a social standpoint*, the *gancheros* are a population faced with social adaptation problems owing to several factors, including the following: (i) many are too old to find any other kind of work; (ii) the single mothers can find no other alternative; (iii) the adolescents have problems with drug use and many adults have problems with alcohol; and (iv) some have a criminal record and have not managed to find alternative social readaptation and job placement programs. As a result, their only alternative is to *ganchear* (to “hook” useful garbage) to subsist. Although they have formed four associations, these play a more political role, vindicating their right to sort waste in the dump and keeping it from being shut down rather than working on social strengthening and promoting the welfare of their members.
- 1.7 *From a working standpoint*, it should be stressed that *standards for the working and sanitary conditions for *gancheros* at the garbage dump are nonexistent, because of the highly informal nature of their work and the absence of infrastructure and health regulations.* This population is exposed to contracting all manner of diseases transmitted by the cockroaches, flies, and mice that find the dump to be an excellent breeding ground, and is further exposed to contamination with all types of waste.

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<sup>4</sup> Data taken from Solid waste sector analysis for Paraguay, a document prepared jointly by the Pan-American Health Organization and the World Health Organization.



- 1.8 Underlying these general problems are specific problems. The *first* is that *the residents of the city of Asunción are not very aware of the economic and environmental problems attending the current system for disposing of garbage*. Consequently, there is little willingness to participate in a public system of household separation of trash; nor is there awareness amongst the population of the harsh living conditions of the *gancheros*. *Second*, the infrastructure does not currently exist to introduce a better waste management system (collection vehicles, recycling plant), and the responsible public agencies, while aware of the issues and the urgency of a solution, have more pressing priorities to attend to.
- 1.9 The Environmental Inspector's Office ordered the garbage dump to be shut down in the medium term, in response to which the IMA has made some decisions with regard to the status of the dump. First, it converted one of the dump's modules to a sanitary landfill, and proceeded to register the *gancheros* and to regulate sorting procedures, establishing shifts and prohibiting children from entering the sorting area. These decisions earned it an extension of the deadline for closure. Second, it decided to establish a sanitary landfill in another municipio (as yet to be determined), which will entail closing the Cateura dump in the medium term.<sup>5</sup> Third, it will keep the Cateura dump site as a transfer center or intermediate point for sorting recyclable materials, with the biodegradable and organic waste subsequently being transferred to the sanitary landfill. This averts the problem of the *gancheros* moving to the municipio where the IMA decides to locate the new landfill and at the same time addresses the social problem and the political pressure from the *gancheros* themselves, who in order to pressure for Cateura not to be closed have gone on strike on a number of occasions, preventing the IMA's regular collection vehicles from dumping the waste in the dump and thus wreaking environmental havoc in Asunción.
- 1.10 This problem of waste disposal and management is so acute that its solution cannot come from the IMA alone—all stakeholders will have to participate, even if it is only to a minor extent. Also, a comprehensive solution will require an amount of resources that is difficult to mobilize. This is why the ALTERVIDA Center for Ecodevelopment Studies and Training (AV) has proposed a **pilot** project to the Bank that seeks to improve living conditions for the *gancheros* while developing a replicable and efficient model for their social, environmental, and productive integration, as well as seeking to make an impact on citizen awareness and participation through source separation in 11 pilot barrios. This project will entail the participation and mobilization of financial, technical, and human resources from the principal players: *gancheros*, the IMA, the recycling industry, environmental non-governmental organizations (NGOs), and the residents of the 11 pilot barrios.
- 1.11 AV is a nonprofit association founded in 1985. Since its inception it has worked in various regions of Paraguay on sustainable development projects, through which it

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<sup>5</sup> The closure of Cateura is expected to become effective in 2006.

has sought to encourage greater public participation, responsibility, and commitment with regard to environmental management and, by extension, quality of life.

## **B. The proposal**

- 1.12 The project calls for developing a site in Cateura (donated by the IMA) with the minimum infrastructure for picking up, collecting, and sorting materials, making it possible to boost productivity, generate higher income, and maintain adequate health and hygiene conditions in the workplace. This will go hand in hand with environmental training and education activities for the *gancheros* so that they can work at the collection center or be collectors for the selective collection service; training in alternative activities such as making different products from recyclable materials; and training in related jobs and in microenterprise management.
- 1.13 The proposal also seeks to instill the culture of recycling in citizens through environmental education programs and the teaching of sorting, with a view to increasing the recovery rate of recyclables.
- 1.14 The refurbishment, construction, and outfitting of what will become a Collection and Sorting Center (CAS) will be undertaken as a socially responsible, cooperative community effort, with the IMA, the *gancheros*, the RI, and civil society organizations leading the effort.
- 1.15 It should be mentioned that during the study mission, the RI representatives who attended the project design and planning meetings arrived at a preliminary agreement for the creation of the Paraguayan Chamber of Recycling Industries, for which the project will be a catalyst.

## **C. Project background**

### **1. Statement of no objection**

- 1.16 The Government of Paraguay gave its nonobjection to the proposed loan via Communication No. 958 dated 26 April 2004.

### **2. Country and Bank strategy**

- 1.17 The proposed project is consistent with the Bank's country strategy with Paraguay as set forth in document GN-2118-1, approved 8 November 2000, and as updated in document GN-2250 of 17 April 2003, particularly with regard to the objective of contributing to the development of human capital.
- 1.18 The operation also fits within the guidelines of the Social Entrepreneurship Program because the project's beneficiaries are persons with very limited resources,

who earn between US\$1 and US\$5 per day, and who live and work in very precarious conditions.

- 1.19 This project complements the Asunción riverfront project (Franja Costera de Asunción, 1447/OC-PR), which is geared toward improving environmental quality and raising the standard of living of the population of the low-lying areas of Asunción, from Puerto Botánico to Cerro Lambaré. The project provides for actions in four areas: (1) technical urban planning (solution to flooding problems, construction of parks, and housing solutions); (2) roads (construction of the Avenida Costanera); (3) environmental sanitation (construction of sewer network, connection to the city network, pumping stations, and renovation, cleanup, and closure of solid waste dumps); and (4) social issues (temporary settlements, shelters, relocation of at-risk populations, support for community organizations, health care, and support for schools).
- 1.20 The project presented here complements the activities planned for the social and environmental sanitation components in that it offers concrete, viable solutions to society's valuation of the area's at-risk populations, such as the *gancheros*, and at the same time provides mechanisms for implementing sanitation systems that the city needs, such as rational solid waste management. The waterfront development project does not offer specific alternatives for the *gancheros* and will undoubtedly benefit from the outcomes achieved through this initiative.

### **3. Coordination with other donors**

- 1.21 Several cooperation agencies located in or with interests in Paraguay, including Cooperazione Italiana, Etimos, the United States Agency for International Development (USAID), and the United Nations Development Program, were consulted and indicated that: (i) they are not executing productive or social projects involving *gancheros*; (ii) they are interested in participating in projects that encourage protection of the environment; and (iii) they are familiar with AV and have worked with this agency on major projects. Other agencies, such as the World Bank and the Kreditanstalt für Wiederaufbau, are interested in proposals that address environmental and sanitary engineering and waste management issues, but not in projects to tackle the social issues surrounding the *gancheros*.
- 1.22 The agencies that expressed interest in participating actively in the project, as it was conceived, were the Japan International Cooperation Agency (JICA) and the Pan-American Health Organization (PAHO).

## II. THE PROJECT

### A. Objectives

- 2.1 The goal of the project is to contribute to improving the quality of life and the general area around the Cateura garbage dump.
- 2.2 The specific purpose or objective consists of developing an alternative pilot model for the social and economic integration of the *gancheros* through a strategic alliance among all players concerned: the *gancheros*, civil society organizations, private enterprise, and the Asunción Mayor's Office.

### B. Description

- 2.3 To accomplish the above objectives, a project will be financed that comprises two components. The loan component will finance the construction, procurement, and setup of the infrastructure (buildings and equipment) for a solid waste Collection and Sorting Center (CAS) and the working capital associated with operating it. The technical-cooperation component will support the social, environmental, and administrative strengthening of the *gancheros* at the Cateura garbage dump, in addition to providing support through environmental education for the community to learn to source separate. This institutional and social strengthening of the *ganchero* community is indispensable for avoiding the risk of the productive equipment and the disposal of solid waste being managed poorly. Strengthening and training the community is indispensable for achieving better environmental management and for increasing the volume of recovered materials, which the RI needs and which constitute the *gancheros'* principal source of income.

#### 1. Loan component (US\$238,000 Bank – US\$129,900 counterpart)

- 2.4 The loan resources will be used to finance: (i) the productive investments needed for the CAS; and (ii) the starting capital and the working capital for the first two years (insurance, maintenance, fuel, lubricants, collectors' and sorters' wages, etc.).
- 2.5 To determine the amount and type of investment in human and physical resources required, estimates were taken into account of population served, amount of waste generated, distance of collection route (time taken, transportation costs), volumetric capacity of the collection truck, specific weight of the waste, number of users per kilometer, speed of collection, and other additional parameters.<sup>6</sup> This information was used to determine investment needs in terms of physical and human resources.

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<sup>6</sup> This information is available in the project technical files (SDS/MSM).

- 2.6 Operation of the CAS will necessitate the following investments: (i) land, which will be donated by the IMA; (ii) construction of the CAS;<sup>7</sup> (iii) three collection trucks, of which two will be provided by other donors such as JICA and PAHO, and one by the Bank; (iv) two conveyor belts, financed by the Bank; (v) two vertical presses with 15-ton capacity, financed by the Bank; (vi) two 200-kg scales, eight carts with pneumatic tires for transporting classified and discarded materials, and eight small containers for storage of classified material, equipment that will be donated by the RI; and (vii) the uniforms, surgical masks, and gloves needed for the first year of execution, which will be provided by the RI.

**2. Nonreimbursable technical assistance component (US\$300,000 Bank and US\$145,960 ALTERVIDA and others)**

- 2.7 This component aims to achieve the following: (i) that investments in the CAS are utilized in the best way possible such that the problems of sorting productivity, *gancheros*' income, and working conditions can be solved; (ii) that the social issues surrounding the *gancheros* can be addressed; (iii) that an environmental education campaign is carried out to make the public become aware of the value of waste and learn to source separate; and (iv) overall project coordination.
- 2.8 To address **the problems of productivity, income, and working conditions** of the *gancheros*, the project calls for the following activities: (i) hiring a Plant Director and an Assistant for Selective Collection<sup>8</sup> (the terms of reference for these contracts are an integral part of Annex I, Plan of Operations); (ii) consulting on optimal sorting and recycling techniques and quality standards demanded by the RI; (iii) traineeships in Porto Alegre, Brazil, for one representative from each association to learn about similar experiences and establish working networks with Brazilian associations; (iv) outfitting an Environmental Training Center; and (v) contracting consultants to provide training in various jobs suited to the skills and abilities of the *gancheros/as*, such as service activities having to do with cleaning, collection, and gardening, among others. The Training Center will operate within the same facilities as the CAS. There, experts in environmental education will train the community and the *gancheros* specifically so that they in turn can train their fellow *gancheros* and become "green guardians" for Cateura and the surrounding areas; it will also be the place where they will be trained for various jobs such as cleaning, gardening, sanitation, making various products from recycled materials, using organic materials to make humus and compost, etc.
- 2.9 To **address the social issues surrounding the *gancheros***, the following activities will be carried out: (i) hiring a full-time case worker and a half-time social educator to provide ongoing support to the *gancheros* and their involvement with specialized

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<sup>7</sup> For specifications on construction areas, see paragraph 2.19.

<sup>8</sup> The Bank will finance the direct cost of the fees, and AV will finance the indirect costs associated with these contracts.

support networks, and to train women *gancheras* in nutrition and recreation techniques so that they can take care of the children in the area adjacent to the CAS envisioned as a space for a daycare center while the mothers work in the CAS; (ii) providing the minimum equipment for the daycare center to be set up adjacent to the CAS; (iii) contracting consulting services in specific training areas requested by the *ganchero* community; and (iv) contracting specialized consulting services to support the four *ganchero* associations in defining strategic plans and defining their mission and vision in terms of social benefits, education, and community participation.

- 2.10 These social support activities will only be carried out during the three years of project execution. The ongoing assistance, linkages to social safety nets, and job training and social integration activities are elements that are expected to make the technical-cooperation contributions sustainable. The daycare center will have been set up and the mothers and *gancheras* will have received the training to be able to provide the community with “substitute mother” or play specialist services.
- 2.11 The bulk of the resources will go toward solving the problem of the **population’s limited awareness of the need to source separate**, not only for the purposes of sound environmental management, but also so the public becomes aware of the social precariousness of those who work with trash, so that the process of instilling meaning in their work is made easier. This calls for an Environmental Education Plan, found in the Plan of Operations (Annex I), that includes hiring educators, designing the information campaign, designing the training plan and instructional materials, etc.
- 2.12 A few environmentalist NGOs have expressed their commitment to working together with AV in executing this technical-cooperation component, specifically as relates to the activities of environmental education of the public and working with schools and neighborhood committees. These are Juventud que se Mueve, Corazones Abiertos, and Rotary Junior (Rotarac). It is hoped that at least 20 young people sign up to support the execution of the Environmental Education Plan at the neighborhood committee and school levels.

### C. Cost and financing

- 2.13 The total amount for the project is US\$813,860. The Bank’s contribution is US\$538,000, comprising US\$238,000 of reimbursable financing and US\$300,000 of nonreimbursable technical-cooperation funds. The counterpart contribution totals US\$275,860 and comes from various sources: the IMA, the *gancheros*, the recycling industry, and ALTERVIDA, although AV is responsible for the entire counterpart contribution. The following table provides a project summary, and Annex III contains the detailed budget:

	IDB	AV and others <sup>9</sup>	Total
Loan component	238,000	129,900	367,900
Technical-cooperation component	300,000	145,960	445,960
<b>Total</b>	<b>538,000</b>	<b>275,860</b>	<b>813,860</b>

- 2.14 The US\$257,000 of reimbursable financing from the Bank will have an execution period of 36 months and a 48-month period for disbursement of resources. The loan will be denominated in local currency and will have a real interest rate of 2%; 200 basis points will be added to the inflation rate resulting from annualizing the rate of inflation for the preceding six-month period as determined by the Central Bank of Paraguay. The loan will have a grace period of 4 years and the principal will be amortized over 15 years. The grace period will apply only to the repayment of principal and not to interest. The nonreimbursable financing will have an execution period of 36 months and a period of 48 months for disbursement.

#### **D. Expected beneficiaries and outcomes**

- 2.15 The project is expected to directly benefit: (i) the four *ganchero* associations legally recognized by the IMA, and their members; (ii) a minimum of 62 families of *gancheros* in the third year, 115 families in the fifth year, and an estimated 400 families in the tenth year; (iii) the 1,000 *gancheros* in Cateura, through job training and improvement of the family environment; and (iv) the residents of the 11 pilot barrios in which environmental education will be introduced. The table of indicators under paragraph 4.17 shows the specific goals.
- 2.16 Together with the Cateura project team (EPC, see paragraph 4.2), the *ganchero* associations will be in charge of establishing the eligibility criteria for selecting the CAS workers. In order to give the greatest number of *gancheros* the opportunity to enjoy adequate working conditions and the social benefits of organized labor, the associations may opt to pay a larger number of *gancheros* for piecework completed, not only assigning shifts but having different shifts depending on the day of the week. The nonnegotiable eligibility criteria are: (i) the gender ratio amongst in-plant personnel must be fair, meaning that given the demographics of the *gancheros*, at least 46% of employees are expected to be women; (ii) the older *gancheros* must also be adequately represented, making allowance for their age and physical disabilities so they obtain the same level of income as those who have no physical impairments; (iii) no one under 18 years may work in the plant; and (iv) no more than one member per family will be hired.

<sup>9</sup> The project technical files contain letters signed by: the Mayor of Asunción, the Association of Municipal Dump Workers, the Ganchero Cooperative of Paraguay, the Union of Gancheros and Recyclers of Paraguay, Montealegre (Herman Millar - Tech Master), Fábrica Paraguaya de Vidrios S.A., Copabra S.A., Industria Nacional de Perfilados de Aluminio, CYSA - Cartones y Aguarrete S.A., and Plásticos Paí Pukú S.R.L.

## **E. Scale of the project**

- 2.17 The project begins with a coverage of about 9% of the population of Asunción,<sup>10</sup> with the aim of increasing coverage by 30% each year. To start, 11 pilot barrios were chosen based on the following criteria: (i) barrios with high population density; (ii) areas coinciding with collection zones; (iii) high average per capita production of recyclable waste; (iv) least possible distance between barrios and between them and Cateura; (v) existence of multipliers such as educational and religious institutions, and (vi) level of organization of the barrios' neighborhood committees. Based on these criteria and with a view to having an acceptable scale of operation, the first barrios to be served in year one will be Manora, Las Lomas, Los Laureles, Villa Morra, Recoleta, and Vista Alegre.
- 2.18 Project planning took into account the following factors: the population of the 11 pilot barrios, the area served in km<sup>2</sup>, distance to the dump, amount and specific weight of the waste produced per resident/day according to data from the IMA, and composition of waste (organic vs. inorganic). Current waste composition data indicate that 81.9% of waste is organic and 18.1% is recyclable materials, broken down as follows: glass 1.9%, paper and cardboard 5%, plastics 1%, metals 0.9%, and others 9.3%.<sup>11</sup> The project was designed to start recycling 8.8% of the current waste stream and gradually bring this percentage up to 16.3% by year 12.
- 2.19 An analysis and projections of these figures were used to calculate the required size of the property (3,000 m<sup>2</sup>). The buildings should include 595 m<sup>2</sup> for receiving and weighing, 300 m<sup>2</sup> for the sorting area, 1,800 m<sup>2</sup> of storage shed area for raw material awaiting recycling as well as recycled materials (calculated based on the optimum accumulated volume of sorted material), and two spaces of 100 m<sup>2</sup> each, one for the Training Center and the other for the daycare center.
- 2.20 The volumetric capacity of the collection trucks, the average speed of transit, and the number of routes and trips needed were taken into account to determine the investment in collection vehicles and the working capital associated with operating them. The figures that served as a basis for calculating the size of investment may be found in the project technical files.
- 2.21 The above considerations determined the total cost of the project. It should be noted that the amount of technical-cooperation resources exceeds the limit of US\$250,000 established for approval from the Management, for which reason this operation will be submitted to the Board for its consideration via short procedure.

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<sup>10</sup> According to the General Directorate of Statistics, Surveys, and Census (DGEEC), Asunción had a population of 510,910 at the end of 2002.

<sup>11</sup> Leather, tires, oils, etc.



### **III. EXECUTING AGENCY**

#### **A. Characteristics, origin, and objectives**

- 3.1 The project will be executed by the ALTERVIDA Center for Ecodevelopment Studies and Training (AV), a nonprofit association founded in 1985. Since its inception it has worked in various regions of Paraguay on sustainable development projects, through which it has sought to encourage greater public participation, responsibility, and commitment with regard to environmental management and, by extension, quality of life.
- 3.2 AV's organizational structure comprises the Members' Assembly, which is the top authority, the Board of Directors, made up of distinguished, well-known personalities from civil society, and the Office of the Executive Director. Under these are the Program Coordinating Office, the respective program units, and the support units, such as the administrative department, the library, and computer support.
- 3.3 The programs that AV runs are: Environmental Management and Local Development, Rural Sustainable Development, Biodiversity, Gender and Environment, Communication, and Agroecology.
- 3.4 AV carries out these programs with the support of prestigious international agencies, including: USAID; the Interchurch Organization for Development Cooperation (ICCO) of Holland; Bilance, also of Holland; Missereor of Germany; the Swedish ecumenical organization Diakonia; Evangelical Missions of Germany; the Government of Belgium; Development and Peace of Canada; and Manos Unidas of Spain, among others.
- 3.5 The work that is done is community-based, having a strong component in training, working in networks, empowerment of the excluded, particularly women, agroecological production, and the institutional strengthening of communities and municipal governments so they can implement and manage productive, educational, environmental, and community health projects. AV also has an FM radio station spearheading its project to strengthen community radio as a mechanism for vindicating the right of citizens to have access to the media and as a way to provide training in environmental mass media.
- 3.6 What stands out is the work it has done for USAID, for which it has carried out the following programs, among others: (i) in sustainable tourism, development of the Ypacarai Lake basin; (ii) in local development and consensus-building, the creation of agricultural schools and community dairy farms in some municipios; (iii) in land management, the development of environmental management and land use plans for some municipios, a master plan for Santa Rita, and comprehensive water

resource management of the Ypacarai Lake basin; (iv) in urban waste, converting garbage dumps to sanitary landfills in the municipios of San Bernardo, Ita, and Altos, and construction of other sanitary landfills; (v) in the area of drinking water, several projects to generate drinking water and sanitary sewerage systems; and (vi) in the field of municipal finances, it worked together with Chemonics in improving the municipal finances of 22 different municipios.

- 3.7 AV has a sophisticated system of financial controls enabling it to submit program-specific audited financial statements to each donor or stakeholder, as well as its consolidated financial statements, which it presents in national currency (guaranis) and in dollars.
- 3.8 On 31 December 2003, AV's total assets were US\$627,223. Of that amount, 64% was financed with equity (capital, reserves, and capitalized earnings), which totaled US\$404,064, and 35% was financed with short-term liabilities, basically represented by accounts payable in the normal course of business and by accounts to be rendered to those financing the programs. The overall level of assets has grown by 175% between 2000 and 2003 as measured in guaranis. This figure, when converted to dollars, taking into account an effective devaluation during the same period of 90%, yields real asset growth of 44%, which goes to show how soundly and reliably projects are managed at AV. It keeps rational levels of liquidity, with current assets exceeding current liabilities by an average of 30%.
- 3.9 In terms of its income-generating capacity, AV is typical of consulting agencies: between 50% and 80% of its income comes from different grants or funding for executing projects that AV submits to the international community for financing or projects that it is awarded through a bidding process. The remainder corresponds to income for various services, consulting, and to a minor extent, income generated through temporary investments of excess liquidity.
- 3.10 Its cost structure also follows the pattern for this type of agency, for which personnel costs represent the largest expense. At AV, 50% of costs on average correspond to personnel costs, 10% to depreciation, 10% to communications, dissemination, and training, 2.5% to financial expenses, and the remainder to administrative expenses.

## IV. PROJECT EXECUTION

### A. Responsibility for execution

- 4.1 The project will be executed by AV, which will assume responsibility for both the loan and the technical-cooperation components' being carried out in accordance with the terms of this document and its annexes.

### B. Organizational structure for execution

- 4.2 A Cateura project team (EPC) will be created within AV, made up of the current Director of the Environmental Management and Local Development Program, the staff currently working on this program, and the new hires for the project,<sup>12</sup> including: (i) the Project Coordinator; (ii) the Director of the CAS; (iii) the Assistant for Selective Collection; and (iv) the case worker. In organizational terms, the EPC will answer to the Executive Director of AV. In terms of strategic direction, an ad hoc project board (PB) will be created, of which the Mayor of Asunción, the managers of the RI companies involved in the project, representatives of the *ganchero* associations, and the Executive Director of AV will be members. The *gancheros* will participate in the EPC, and will receive coaching and training so that their participation on that team can become more meaningful every day in terms of real empowerment. The *ganchero* associations will internally elect the members (maximum of two per association) who will participate in the meetings and attend planning events and all the meetings and decision-making get-togethers relating to the project. The *gancheros* will be required to attend the meetings of the project kick-off workshop at the Bank.
- 4.3 The EPC will be in charge of planning, coordinating, and monitoring all the activities for the two components. The PB will be in charge of strategic direction and facilitating the agreements and specific supports needed to successfully implement the project. The PB will meet at least once semiannually to discuss progress and go over the report to be submitted to the Bank, which should always be accompanied by the minutes of these meetings.

#### 1. Reimbursable financing and nonreimbursable financing component

- 4.4 AV will execute this component through the EPC. The EPC will handle the technical designs, pricing, and arrangements for purchasing and possibly importing machinery; handle and make arrangements for getting the operating permits required by the authorities; and hire technical personnel for the CAS. It will also, together with the leaders of the four associations, be in charge of defining the eligibility criteria for selecting the classification workers, the sorters, the drivers,

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<sup>12</sup> The terms of reference for these contracts are an integral part of the Plan of Operations, Annex I.

and their assistants, with the criteria noted in paragraph 2.16 being nonnegotiable. The collection truck purchased with the financing resources granted by the Bank should bear the Bank logo on the sides in addition to any logos that the PB chooses.

## **2. Technical-cooperation component**

- 4.5 The technical-cooperation program will be executed in parallel with the loan program. The Plan of Operations, which describes in detail the technical-cooperation activities, is presented in Annex I of this document.

### **C. Disbursements**

- 4.6 The reimbursable loan resources have a period of execution of 36 months, and the period for disbursement is 48 months. The same periods apply to the technical-cooperation component.

### **D. Procurement of goods and services**

- 4.7 The responsibility for procuring goods and services with technical-cooperation resources rests with AV, which will comply with the Bank's rules, procedures, and policies relative to the hiring of consultants and procurement with Bank funds.

### **E. Special contractual conditions**

#### **1. Loan component**

- 4.8 As a condition precedent to first disbursement of the loan resources, AV shall submit to the Bank's satisfaction: (i) evidence that the contract of conveyance, donation, or loan and restitution for a period greater than 15 years has been formalized for the property on which the CAS will be built; (ii) detailed designs of the collection center, including the training area and daycare center, together with the reviewed budgets and the construction plan; (iii) an initial work plan agreed to amongst the *gancheros*, the IMA, and the RI that includes a timeline for disbursements and for meeting goals for the first year, as well as aspects such as route logistics, trips, collection scheduling, and sales to the RI, etc.; (iv) the interinstitutional agreements signed by AV, the *ganchero* associations, the RI, and the IMA; and (v) evidence that the Project Coordinator was hired.
- 4.9 Given that AV needs to contract civil works and import machinery for which down payments will be required, the revolving fund will be set at 20%.

#### **2. Technical-cooperation component**

- 4.10 As a condition precedent to first disbursement of the technical-cooperation resources, AV shall submit to the Bank's satisfaction: (i) the timetable and execution plan for the Environmental Education and Communication Plan (the

preliminary plan appears in Annex I); and (ii) the terms of reference for hiring the advisory and consulting services for the first year of project execution.

### **3. Special condition for execution**

- 4.11 A **special condition for project execution** (reimbursable financing and nonreimbursable technical-cooperation components) is that AV shall submit to the Bank's satisfaction, within 12 months from the signing of the Loan and Technical Cooperation Agreement: (i) evidence that the CAS is in operation (level of activity, shifts, number of workers, contracts signed with the RI); (ii) evidence of agreements arrived at with neighborhood committees and schools in at least three pilot barrios; and (iii) evidence of *gancheros* from the four associations participating in the project's consultative bodies.

### **F. Reports**

- 4.12 Baseline: AV will be responsible for collecting and analyzing information relevant to the continual monitoring of project performance indicators. These indicators will be established by the social support staff that will work on the project as set forth in section 3, paragraph 3.5b of the Plan of Operations (Annex I). They will be submitted to the Bank's Country Office in Paraguay and will become the basis for monitoring the project's performance. Performance and deviation from the established parameters will be analyzed in the progress reports as well as in the final evaluation.
- 4.13 Through the EPC, AV will submit progress reports to the Bank within 60 days after the end of each six-month period, and a final report 60 days after the last disbursement. These reports will include: (i) a description of the progress made in carrying out the project execution plan and meeting its objectives, as well as an account of the principal successes and difficulties encountered in meeting the project's goals and objectives; (ii) performance indicators (using the indicators shown in the table under paragraph 4.17); (iii) an updated project execution plan for the next 12 months, including measures for overcoming the obstacles identified; (iv) statistical, financial, and narrative information from AV regarding overall project execution; (v) information about the benefits to the *gancheros* in economic and training terms; (vi) a statement of the use of Bank resources and of counterpart contributions; (vii) an assessment of the *gancheros*' adaptability to work discipline and the community's response to the environmental education program; (viii) reports from the consultants and experts hired to execute the technical-cooperation component; and (ix) statistical and financial information on the project's economic outcomes. The last of these reports will serve as the final report and should contain a summary of what was achieved in terms of the original objectives and indicators. The first project report should include a methodically arranged set of socioeconomic data on the *gancheros* from before the start of project activities, making it possible to determine the comparative change in

income for the project's beneficiaries. This information should be updated in all subsequent semiannual reports.

- 4.14 The Bank will review the content, findings, and recommendations of these reports. Should significant shortcomings in project execution be found, the Bank may suspend disbursements until AV takes satisfactory measures to correct those deficiencies, as appropriate.
- 4.15 *Audited annual financial reports for the loan component:* Within 120 days following the close of each fiscal year, beginning with the fiscal year in which the loan disbursements begin, and throughout the period of project execution, AV will submit its audited financial statements to the Bank, including a financial report audited by independent authorities showing how the Bank's resources were used.
- 4.16 Within 90 days after the period for the last disbursement of the nonreimbursable Technical Cooperation ends, AV will submit an audited financial report showing how the Bank's contribution was used.

#### **G. Performance indicators**

- 4.17 It will be a contractual obligation of the executing agency to meet the performance objectives shown below in order for project disbursements to continue. If significant deviations (+/- 20%) are found with regard to these indicators, the Bank will come to an agreement with AV as to the necessary corrective measures, and may suspend the disbursement of resources.

Indicator	Year 1	Year 2	Year 3	Year 5	Year 10
<b>Productivity</b>					
Number of collection trucks	2	2	3	5	16
Number of people served (in thousands)	47	61.4	80.3	137	520
Number of collection cycles/week (14 km each)	16.3	21	28	46	173
Volume sorted (m <sup>3</sup> /hour)	3.66	5.11	7.13	13.87	73.21
<b>Employment</b>					
Drivers and collection assistants	6	6	9	15	48
CAS workers	18	25	35	67	351
<i>Gancheros</i> working in sanitation and cleaning services	5	10	15	25	50
<b>Social</b>					
Number of children in day care (2 shifts)	20	30	30	40	50
Number of mothers working as "play specialists" (volunteer basis)	4	6	6	8	10
<b>Income</b>					
Economic impact on producers					
-Families with increased real income, measured against the baseline	29	41	56	107	449
-Families with adequate health and working conditions	33	47	62	115	419

## **H. Evaluations**

- 4.18 The Bank will use technical-cooperation resources to commission a final project evaluation. This evaluation will be done once it has been three years since disbursements began or when all the technical-cooperation activities except the evaluation have been carried out, whichever comes first. This evaluation will focus on analyzing and documenting the work done by AV, with special attention to the following: (i) the impact of the CAS as an alternative to diversify the work *gancheros* do, measured as the change in working conditions, access to social services, and the number of *gancheros* trained in related jobs and engaging in new activities; (ii) the marketing structure achieved, measured as firm business deals with the RI; (iii) the increase in productivity, measured as the percentage increase of materials recovered, and hence the increase in the volume of raw materials offered to the RI; (iv) the increase in income earned by the *gancheros*, measured as gains over the baseline; (v) the decline in the number of children sorting waste; and (vi) economic and financial indicators for the CAS and the *gancheros*.

## **I. Environment and gender**

- 4.19 The Committee on Environment and Social Impact (CESI) reviewed this operation in its meeting of 20 February 2004. All the project design elements that specifically and concretely address its suggestions are summarized in Appendix 2.

## V. VIABILITY AND RISKS

### A. Institutional viability

- 5.1 The viability factors are: (i) AV has experience working with sanitary landfills, garbage dumps, and community management in areas around them, as well as experience in managing cooperation funds; (ii) the IMA's positive attitude toward the project and toward the issues surrounding the *gancheros*; (iii) the *gancheros*' own interest in participating in the project and their clear motivation because of the fact that they will be co-managers of the project and members of the EPC; and (iv) the interest and involvement of the RI.

### B. Socioeconomic viability

- 5.2 The strengthening of the associations, the job training, the empowerment of the *gancheros* as they increasingly manage their own development, and the guaranteed increase in revenues resulting from the training given by the RI regarding required quality conditions are all factors contributing to the project's socioeconomic viability.

### C. Financial viability

- 5.3 Financial viability was analyzed based on cash flow projections and the project income statement. The projection parameters were taken from the basic information used in determining the scale and cost of the project (found in the technical files), which comprises demographic and geographical information and information on the current and expected composition of waste and the characteristics of the service to be offered. This analysis yielded the needs in terms of personnel, working capital, routes, sales revenue, etc.
- 5.4 In order to analyze repayment capacity and overall project viability, it was assumed that local costs would increase at the rate of inflation, which was estimated at 10% for the first year, 6% for the second, and 5% annually thereafter. Foreign costs were adjusted for devaluation, which was estimated at the same percentages. Four waste pricing scenarios<sup>13</sup> were run to analyze the project's sensitivity to the price effect.<sup>14</sup> The price chosen for calculating the internal rate of return (IRR) fluctuates with inflation, just as costs do, since this is the most realistic alternative.

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<sup>13</sup> Prices rising at the rate of inflation, rising at half the rate of inflation, rising at 15% of the inflation rate, and finally, remaining at constant base-year prices. This last option was ruled out, for if the calculations are made assuming constant base year prices, the project turns out not to be cost-effective, because costs increase with volume and with inflation while revenues would increase only with volume.

<sup>14</sup> The project is very sensitive to price variations, since initially it will operate under capacity, i.e. at low volume.



- 5.5 The projections include the need to purchase collection trucks, which will be done with funds generated internally.
- 5.6 The resulting cash flow, assuming a salvage value of 10% of the investments in the plant and 20%, 30%, and 40% of the purchase value of the collection vehicles purchased in the three last years, respectively, is 6.6%. This figure means that the project covers its costs, and has the capacity to generate a profit, but it is below the opportunity rate at which investors would invest their money, which is 11.79%.<sup>15</sup> Still, considering the type of project being analyzed, the IRR could be considered acceptable.
- 5.7 Loan repayment capacity can be inferred from the fact that if the cash flow<sup>16</sup> is discounted at the opportunity rate the result is positive (US\$375,955). This figure, 1.5 times the loan amount, shows that the project has real potential to generate the cash to repay the loan at today's prices. Similarly, if the debt-service formula is applied,<sup>17</sup> both in nominal terms and using present net value (PNV), earnings plus depreciation more than exceed the debt service payments. In fact, the average debt-service ratio at current prices (PNV) is 3.32, indicating that earnings could potentially pay the debt service up to 3.32 times over.
- 5.8 Finally, in nominal terms, the total investment (recalling that additional investment needs will be met with funds generated internally during the life of the project) will be recouped in 7.5 years. It will not be recouped in terms of PNV, given that the 11.79% discount rate used is higher than the project's IRR of 6.6%.

#### **D. Project sustainability**

- 5.9 Success in accomplishing the project goal rests on the assumption that the environmental education programs will have the effect of making the population willing to learn to source separate. This assumption, which allows one to infer that the technical-cooperation resources will be effective, provides the basis for approaching the subject of the sustainability of the CAS.
- 5.10 With that in mind, its sustainability is based on: (i) the possibility of surpassing the level of waste that the *gancheros* process today, which corresponds to the minimum expected production level of the CAS; (ii) the participation of IMA staff on the PB; (iii) the involvement of the *gancheros* themselves in designing the project and their anticipated participation in managing it, both as employees and as co-managers, and the fact that they are aware that if they do not commit to it, the IMA may use the property that it is donating for the CAS for other purposes, which would adversely

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<sup>15</sup> Weighted average rate for securities issued during the month of February 2004, according to the Central Bank of Paraguay (BCP).

<sup>16</sup> Earnings before interest and taxes + depreciation + financial costs.

<sup>17</sup> (Earnings before interest and taxes + Depreciation)/(Interest payments + payments of principal).

affect their ability to generate income and better their quality of life; and (iv) the expected financial outcomes, which indicate that the CAS has significant financial potential.

#### **E. Project risks**

- 5.11 This project involves five main risks: (i) that the community will persist in not source separating; (ii) the international terms of trade, specifically with Brazil, change such that it becomes much more attractive for the RI to import recyclable materials from Brazil than to purchase them from the *gancheros*' collection center; (iii) that the *gancheros* not participating in the project will cut in ahead of pickup and the materials collected by the project's trucks will not be enough to cover the fixed costs of running the CAS; (iv) the IMA decides not to leave this site as an intermediate collection point; and (v) that the *gancheros* decide to leave Cateura and go to sort waste where the new sanitary landfill is located.
- 5.12 Minimizing the *first risk* are the technical-cooperation resources earmarked for funding the communication and education plan, which aims to raise environmental awareness in the schools and amongst the adult population. Helping to mitigate the *second risk* is the IMA's presence as a member on the project board (PB) as both a contributor and stakeholder in the project's success. In the extreme event that this risk were to materialize, the IMA would study the most appropriate solution, which could even mean providing subsidies to facilitate trade. With regard to the *third risk*, while it is likely that the "cart" and "foot" *gancheros* as well as those who operate as dealers and unregistered recyclers will benefit from environmental education and source separation, the presence of the RI as a project stakeholder and contributor helps to mitigate their effect, since it will give priority and better prices to products with the CAS seal. As for the *fourth risk*, one could say that the project does not provide for any actions to mitigate it, except the condition placed on the first disbursement of the loan, relating to the need to submit to the Bank's satisfaction the contract of conveyance, donation, or loan and restitution of the land for a period greater than 15 years.
- 5.13 Finally, the fifth risk is one to which the project takes a comprehensive approach. In fact, the actions taken in Cateura by AV and the IMA as well as all the planned project activities are intended as an incentive for the *gancheros* to remain in Cateura.

#### **F. Rationale**

- 5.14 This project, while headed up by AV, is one of community and corporate social responsibility, enjoying the participation of both the *gancheros* themselves, who will supply the labor for the construction and civil works, and the municipal government, and enjoying contributions in cash and in kind from the principal companies in the RI.

- 5.15 The proposed project is justified for the following reasons: (i) it supports an initiative that provides additional resources to a segment of the population that lives in highly precarious conditions; (ii) it is a project that provides the necessary inputs to facilitate and refine better environmental management; (iii) it is a project that contributes to community education in solid waste management and proper disposal; (iv) it supports the initiatives of the Asunción city government with suitable solid waste management alternatives; (v) it stimulates growth in the country's GDP and stems the outflow of foreign exchange by reducing imports; (vi) the RI is participating, pooling resources and business efforts to provide technical and personal leadership for the project; and (vii) it includes job training to ensure that the *gancheros* can get a job or strike out on their own in activities other than exclusively sorting waste.

**PLAN OF OPERATIONS**  
**IMPROVING THE QUALITY OF LIFE OF GARBAGE RECYCLERS IN ASUNCIÓN**  
**PR-S1001**  
**SOCIAL ENTREPRENEURSHIP PROGRAM (SEP)**

**I. BACKGROUND**

- 1.1 In addition to the resources from the loan component, the ALTERVIDA Center for Ecodevelopment Studies and Training (AV) has requested nonreimbursable technical-cooperation resources in the amount of US\$300,000, which together with US\$145,960 in counterpart contributions makes up a technical-cooperation program of US\$445,960.
- 1.2 These resources will go toward supporting the effective implementation of the loan component as well as providing specific solutions to the problems that the project is intended to solve.

**II. PROJECT DESCRIPTION**

- 2.1 With a view to enabling the *gancheros* to work in better conditions and improve their quality of life, the project calls for developing a site in Cateura, to be donated by the Asunción Mayor's Office (IMA), with the minimum infrastructure for picking up, collecting, and sorting materials, making it possible to boost productivity, generate higher income, maintain adequate health and hygiene conditions in the workplace, and provide basic job training.
- 2.2 The refurbishment, construction, and outfitting of what is to become a Collection and Sorting Center (CAS) will be undertaken as a socially responsible, cooperative community effort, with the IMA, the *gancheros*, the recycling industry (RI), and civil society organizations leading the effort.
- 2.3 The goal of the project is to help to improve the quality of life and the general area around the Cateura garbage dump through a strategic alliance among all players concerned: the *gancheros*, civil society organizations, private enterprise, and the IMA.
- 2.4 The specific purpose or objective consists of developing an alternative pilot model for the social and economic integration of the *gancheros*.

## **A. Scale of the project**

- 2.5 The project begins with a coverage of about 9% of the population of Asunción,<sup>1</sup> with the aim of increasing coverage by 30% each year. To start, 11 pilot barrios were chosen based on the following criteria: (i) barrios with high population density; (ii) areas coinciding with collection zones; (iii) high average per capita production of recyclable waste; (iv) least possible distance between barrios and between the barrios and Cateura; (v) existence of multipliers such as educational and religious institutions; and (vi) level of organization of the barrios' neighborhood committees. Based on these criteria and with a view to having an acceptable scale of operation, the first barrios to be served in year one will be Manora, Las Lomas, Los Laureles, Villa Morra, Recoleta, and Vista Alegre.
- 2.6 Project planning took into account the following factors: the population of the 11 pilot barrios, the area served in km<sup>2</sup>, distance to the dump, amount and specific weight of the waste produced per resident per day according to data from the IMA, and composition of waste (organic vs. inorganic). Current waste composition data indicate that 81.9% of waste is organic and 18.1% is recyclable materials, broken down as follows: glass 1.9%, paper and cardboard 5%, plastics 1%, metals 0.9%, and others 9.3%.<sup>2</sup> The project was designed to start recycling 8.8% of the current waste stream and gradually bring this percentage up to 16.3% by year 12.
- 2.7 An analysis and projections of these figures were used to calculate the required size of the property (3,000 m<sup>2</sup>). The buildings should include 595 m<sup>2</sup> for receiving and weighing, 300 m<sup>2</sup> for the sorting area, 1,800 m<sup>2</sup> of storage shed area for raw material awaiting recycling as well as recycled materials (calculated based on the optimum accumulated volume of sorted material), and two spaces of 100 m<sup>2</sup> each, one for the Training Center and the other for the daycare center.
- 2.8 The volumetric capacity of the collection trucks, the average speed of transit, and the number of routes and trips needed were taken into account to determine the investment in collection vehicles and the working capital associated with operating them. The figures that served as a basis for calculating the size of investment may be found in the project technical files.
- 2.9 The above considerations determined the total cost of the project. It should be noted that the amount of technical-cooperation resources exceeds the limit of US\$250,000 established for approval from the Management, for which reason this operation will be submitted to the Board for its consideration via short procedure.

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<sup>1</sup> According to the General Directorate of Statistics, Surveys, and Census (DGEEC), Asunción had a population of 510,910 at the end of 2002.

<sup>2</sup> Leather, tires, oils, etc.

### III. OBJECTIVES OF THE TECHNICAL COOPERATION

- 3.1 The technical-cooperation component will be carried out in parallel with the reimbursable financing component. Its objectives are: (i) that investments in the CAS are utilized in the best way possible such that the problems of sorting productivity, *gancheros*' income, and working conditions can be solved; (ii) that the social issues surrounding the *gancheros* can be addressed; and (iii) that an environmental education campaign is carried out to make the public become aware of the value of waste and learn to source separate.
- 3.2 Technical-cooperation resources will be used to fund project coordination and the evaluations.

#### 1. Productivity, income, and working conditions

- 3.3 The project involves some contracting of technical personnel, construction, and outfitting of the CAS as a means of supporting production and quality aspects. The staff to be hired are:
- a. The Director of the Collection and Sorting Center, who will be in charge of: (i) supervising and evaluating the overall operation of the CAS; (ii) preparing periodic reports for the project coordinator; (iii) developing and coordinating the classification system together with the RI; (iv) developing and following up on strategic alliances with the RI; (v) defining the criteria for expanding new products; (vi) preparing and presenting the operating plans, when so required; (vii) ensuring that the operating plans for each area are followed; (viii) defining and developing the trainings for the *gancheros*; (ix) expanding the market and the prospects for selling other recyclable materials; (x) coordinating and holding periodic meetings with the social, technical, and marketing assistants; and (v) coordinating and articulating concrete actions with the various social departments at the municipal level through programs being implemented and/or to be implemented: public health, job banks, youth, scholarships, reproductive health, disease prevention, substance abuse, etc.
  - b. The Assistant for Selective Collection, who will be in charge of: (i) supervising and evaluating the selective collection system; (ii) preparing periodic reports for the project coordinator; (iii) developing and coordinating the selective collection system with the municipal government of Asunción; (iv) developing and following up on strategic alliances with major generators of waste; (v) defining the criteria for expanding coverage; (vi) preparing and presenting the operating plans, when so required; (vii) ensuring that the operating plans are followed (for each area); (viii) designing and drafting the proposed regulations for the selective collection system; and (ix) designing and implementing the strategies for including informal collectors in the project.

- 3.4 The project also calls for specific activities and consulting services that will support the work of the technical staff:
- a. Consulting on optimal sorting and recycling techniques and quality standards demanded by the RI.
    - (i) This service will be provided by technical personnel designated by the RI. Four different experts (from the plastic, glass, paper and cardboard, and metals industries) will train and coach the *gancheros* in: (1) quality, in terms of cleaning and sorting; (2) how the RI uses the different materials and why it demands minimum quality standards; (3) recycling processes; (4) storage processes; and (5) factors determining price.
    - (ii) The experts designated by the RI will be in charge of teaching the courses and providing *in situ* technical assistance. They should train 20 *gancheros* monthly. The cost of this technical assistance will constitute a cash contribution from the RI to the project, and will be recorded as US\$125 per month per expert for a total of US\$500 per month and US\$6,000 per year. The experts will also, together with the Director of the CAS and the Assistant for Selective Collection, develop a minimum quality standard for determining purchase prices based on a system of incentives and penalties with respect to the current base price. These incentives and penalties will depend on the level of compliance with the agreed-upon quality standards.
  - b. Traineeships for one representative from each association in Porto Alegre, Brazil, to familiarize them with similar experiences and establish working networks with the Brazilian associations:
    - (i) The aim is to take leaders from the four *ganchero* associations to Porto Alegre so they can see how a system such as the one proposed really operates. A representative from the IMA and another from the RI will also participate in this activity.
    - (ii) The costs budgeted were based on travel via bus from Asunción and per diem for food and lodging for five days, for a total of US\$440 per traveler. The IMA and the RI will cover the travel costs for their representatives.
    - (iii) The eligibility criteria for choosing the *gancheros* who will participate in this traineeship will be established jointly by the Director of the CAS, the Project Coordinator from the Cateura project team (EPC)—see paragraph 3.26—and the case worker. They should be submitted for the Bank's consideration and approval before they are put into effect. The minimum, nonnegotiable criteria are: (1) at least half must be

women; (2) they should be those with the most quality incentive bonuses; and (3) they should have leadership qualities and make a commitment to sharing the experience with the others.

c. Outfitting of an Environmental Training Center:

- (i) The Training Center will operate in the same facilities as the CAS. There, experts in environmental education will train the community and *gancheros* so that they in turn can train others and become “green guardians” of Cateura and its surroundings. It will also be where they get the various kinds of job training that will qualify them to participate in programs to hire out cleaning, gardening, sanitation, and trash collection services.
- (ii) This center will be equipped with the following: display panels, mock-ups, overhead projector, infocus, computer equipment, video equipment, television set, screen, chalkboard, office supplies, furnishings, chairs, tables, and an interactive museum room. The cost of this equipment is US\$17,100.

d. Hiring of consultants to provide training in various jobs suited to the skills and abilities of *gancheros/as*.

- (i) The jobs and services training for the *gancheros* will basically be oriented toward activities related to cleaning, sanitation services in general, and generating value added from recyclable materials (articles of adornment, crafts, paper, etc.). Course content will include production and processing and service procedures as well as economics and basic business administration.
- (ii) This activity is intended to deliver the know-how and skills they need to offer quality services independently or to be hired as cleaning personnel. It is also intended to help them so that in the medium and long term they can manage their own resources in family enterprises that entail at least partially leaving the dump.

**2. Social integration of the *gancheros***

3.5 The following activities will be carried out:

- a. Hiring a full-time case worker and a half-time social educator to provide ongoing support for the *gancheros* and their involvement with specialized support networks. They will also be in charge of training women *gancheras* in nutrition and recreation techniques so that they can decide amongst themselves who will take shifts working in the CAS and who will in the meantime take care



of the children in the daycare center, acting as play specialists or “substitute mothers.”

- (i) The case worker will be hired for 36 months, receiving a fee of US\$850<sup>3</sup> per month. His/her workplace will be at the dump; he/she may use IMA facilities while the CAS is built and starts operation. The work consists of visiting all the homes of the *gancheros*, filling out the record of basic socioeconomic data, and providing support and assistance to each family, solving whatever problems he/she can, and in those cases where the problem is outside his/her purview, contacting and referring the matter to the agencies that could offer a solution. He/she should also maintain regular contact with support networks, city and barrio assistance programs, church-sponsored integration programs, and in general, all social services offered by the national and municipal governments. The case worker’s specific functions are to: (i) establish the priority areas of intervention for the *ganchero* population; (ii) design and establish the strategies for access to the public social services being offered in the barrios and/or communities: day care, health clinics, violence programs, judicial claims; (iii) organize and plan with each group the mechanisms and measures for meeting their most deeply felt social needs; (iv) organize and plan the strengthening of the *ganchero* associations; (v) prepare the operating plans; and (vi) prepare periodical reports for the Director of the CAS.
  - (ii) The social educator’s function will be to assist the case worker and organize monthly environmental management courses, nutrition and diet courses, courses on adapting recyclable materials to make furniture and useful spaces in the home; horticulture courses, and courses in neighborhood beautification and community services. They will work half-time and their monthly fee will be US\$500. The social educator’s hourly workload will decrease over time: it will be more intense the first year but then drop to one-third time the second year and to one-fifth time the third year.
- b. The record of basic socioeconomic data, which will be used for a detailed participatory diagnostic study of the *gancheros*’ socioeconomic situation, will contain the following information:
- (i) First and last name of the *ganchero*, accompanied by a recent passport-sized photograph.

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<sup>3</sup> For transportation expenses, administrative support, stationery, workspace, etc., 35% will have to be added to the fee of US\$850.

- (ii) Family profile: number of members, ages, activities, schooling, eating habits, training received, activities other than recycling, average family income, information on ethnic background.
  - (iii) Number of family members working sorting recyclable waste. Productivity.
  - (iv) Whether or not the person belongs to one of the *ganchero* organizations.
  - (v) Has the person participated in other support programs for *gancheros*?
  - (vi) Location of home.
  - (vii) Does the person sell directly to the RI or through dealers?
- c. Outfitting of the daycare center to be set up next to the CAS:
- (i) The daycare center will be provided with a chalkboard, colors, paints, cushions, exercise mats, an integrated play structure, books, and spelling books. It will also have adjacent restrooms for boys and girls, built in proportion to the number of children.
  - (ii) The estimated cost of outfitting this daycare center is US\$10,000.
- d. Hiring of specialized consulting services to help the four *ganchero* associations to define strategic plans and define their mission and vision in terms of social benefits, education, and community participation.
- (i) The consultant(s) selected will be responsible for conducting a study of each association's governance and the functions of its leaders, establishing a mission and vision, creating an organizational strategy for each, and training the leaders in trade union administration and community representation. Once the diagnostic studies are complete, the consultant should be available to help each association implement the suggestions. This consultant will have a contract for US\$500 per month for three months out of the year. Assisting will be a legal advisor who will also provide services for the equivalent of three months a year, at an average cost of US\$250 per month.
  - (ii) The consultant's efforts to help strengthen the associations will be backed by a legal advisor who will assist the associations for as many business deals as necessary. This legal advisor's fees will be US\$250 per month; he/she should guarantee a minimum of 30 full days of legal counsel a year. This advice may be on family and domestic matters, as well as on processes of negotiating with dealers and the RI.

### 3. Environmental Education Plan

- 3.6 The bulk of the resources will go toward solving the problem of the public's limited awareness of the need to source separate and of the value of recyclables to the country's economy. The aim is to achieve sound environmental management and an awareness of the social precariousness of those who work with trash. This activity has a cost of US\$81,304, which includes the costs of implementing an Environmental Education Plan. This Plan calls for hiring educators, designing the information campaign, designing the training plan, instructional materials, etc.
- 3.7 Environmental education should be continuous and gradual, and should aim to get families motivated, always conveying the message of social and citizen responsibility and working toward the social and environmental goal of the project. These two aspects are intended to ensure social sustainability.
- 3.8 **Plan objectives:**
- a. Help to spread the culture of recycling among citizens.
  - b. Contribute to citizens' becoming more engaged and assuming greater social responsibility with regard to the management of urban solid waste.
  - c. Establish the source separation of recyclable materials.
- 3.9 **Lines of work:** The socioeconomic characteristics of Paraguay dictate the need to work at both the macro and micro levels: at the macro level, using the mass media and other outlets to create the sense that "something is happening" in Paraguay and reach a wide segment of the population, and at a micro level, going house to house to reinforce the message of the publicity spots and to reach people who are part of the pilot areas but have no access to the mass media.
- 3.10 **At the macro level**, the objectives are to publicize the project, set the stage for the later involvement of the next pilot areas, create the sense that "something new is happening" in Asunción, and involve youth organizations as disseminators for the project.
- 3.11 **The means** to be used are:
- a. Mass media
    - (i) Television: (audiovisual) publicity spots.
    - (ii) Radio and press: publicity spots and ads.

- b. **Youth organizations known and respected nationwide** (Juventud que se Mueve, Corazones Abiertos, Rotary Junior (Rotarac), etc.). Establish alliances with youth organizations.
  - (i) Training workshops for youth leaders
  - (ii) National campaigns in conjunction with major generators and other partners (brochures, incentives for recycling such as T-shirts, etc.)
- c. Major generators (malls, supermarkets, etc.)
  - (i) Installing separate recycling bins (paper, plastic, etc.)
  - (ii) Putting up publicity posters
  - (iii) Handing out incentives for recycling<sup>4</sup>
- 3.12 At the micro level, the objectives are to: reinforce the mass campaigns and reach the type of person who has no access to the mass media.
- 3.13 The means to be used are:
  - (i) Leaders of neighborhood committees, schools, churches, etc.
  - (ii) An estimated 3 schools per barrio, 40 teachers per school, and 2 neighborhood committees/churches per barrio are expected to participate, with 15 persons per neighborhood committee, church, etc.
- 3.14 Strategy: in a plan to build awareness about recycling, it is essential to reach the majority of the population, since they are the foundation for source separating, which is necessary to increase the recovery of recyclable materials for the *gancheros*, one of the project's central objectives.
- 3.15 Further, environmental leaders have to be trained (national youth organizations, neighborhood committees, teachers, schools, etc.) who take ownership of the project and act as multipliers.
- 3.16 Periodic reinforcement strategies, i.e. informing the public about how the project is going and "congratulating" them for their efforts, are a basic component of this type of awareness-building plan, which is why it is necessary to launch a strong initial campaign and then maintain the community's interest through periodic incentive campaigns, such as handing out useful gifts made from recycled materials

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<sup>4</sup> The recycling incentives, such as notebooks, trash cans, etc., are entered in the budget as a counterpart contribution from the recycling industry.

(notebooks, trash cans, etc.) that give people the sense that their daily gesture of separating trash is useful.

- 3.17 Hence, the first year there will be an initial campaign and a reinforcement campaign. In year two, two barrios will be added where an initial campaign will have to be launched, while reinforcement campaigns are continued in the first pilot area. In year three the campaign will be started in a new pilot area and maintained in the two previous areas.
- 3.18 It is also considered a good idea to make it possible to visit the Collection and Sorting Center, in order to reinforce the importance of source separation. A multipurpose room is to be adapted so it can serve as the training room for *gancheros* and as the visitors' room. This will make for more efficient use of the infrastructure.
- 3.19 The Plan's activities are:
- (i) Designing the project logo and slogan (school drawing contest)
  - (ii) Designing the set of informational materials
  - (iii) Designing recycling incentives
  - (iv) Designing the audiovisual (TV) ads and publicity spots
  - (v) Designing how the education and training center is to be outfitted
  - (vi) Contact and agreements with youth groups (Corazones, Juventud, etc.)
  - (vii) Training youth
  - (viii) Contact and agreements with major generators
  - (ix) Survey of and contact with neighborhood committees, churches, etc.
  - (x) Training neighborhood leaders
  - (xi) Participatory design of campaigns with youth groups
  - (xii) Participatory design of micro-level strategies and campaigns
  - (xiii) Launching publicity campaigns in the mass media and the major generators
  - (xiv) Mounting neighborhood campaigns
  - (xv) Outfitting the education and training center

(xvi) Periodic reinforcement campaigns

3.20 The plan's coverage is envisaged as presented in the following table:

Year	Year 1	Year 2	Year 3
Barrios	7	2	2
Persons	47,000	14,406	18,821
Schools	21	21+ 6	21 + 6+ 6
Teachers	840	840+240	840+240+240
Neighborhood committees/churches	14	14+4	14+4+4

3.21 The estimated human resources needed to carry out the above plan are:

- a. An education and communications assistant, who will perform the following functions: (i) design and prepare with the team the social marketing strategies and the educational programs to be implemented in the schools; (ii) design and prepare with the team the instructional and communication materials for those campaigns; (ii) design and prepare with the team the training programs; (iii) follow up on the strategic alliances with agencies, the IMA, the RI, major generators, and civil society organizations with regard to the educational campaigns; (iv) prepare periodic reports for the project coordinator; (v) prepare and present the operating plans, when so required; and (vi) ensure that the operating plans for each area are followed.
- b. Two educators for the micro-level work with the barrios
- c. A part-time communicator
- d. A part-time graphic designer
- e. A part-time layout specialist

3.22 Estimated physical resources needed:

- a. Decals, fliers, brochures, posters, and audiovisual, radio, and print ads
- b. Recycling incentives

3.23 Educational strategy:

- a. Training workshop for environmental monitors (leaders of neighborhood committees, teachers, etc.)
- b. Training support materials (manuals for the leaders and instructional units for instructors)

3.24 Outfitting of the Environmental Education and Training Center:

- a. Interactive museum room
- b. Display boards
- c. Mockups (2mx1m)
- d. Overhead projector
- e. Infocus
- f. Complete computer equipment
- g. Video equipment
- h. Television set
- i. Screen
- j. Chalkboard
- k. Office supplies
- l. Furnishings
- m. Chairs
- n. Tables

3.25 The activities included in this Environmental Education Plan will be carried out directly with families in the pilot area, using children and young people from the neighboring schools as communication agents. This strategy will be accompanied by contests and prizes in each barrio, training for educators in the pilot area, and the mobilization of youth groups who have taken up the cause of environmental cleanup, as is the case of Juventud que se Mueve, among other organizations. This organization has linked up with the project and has agreed to be part of this initiative. The participation of the RI in the educational campaigns will help to cultivate an awareness of social responsibility that is hoped will permeate the project as a whole.

3.26 **Project coordination and management.** The technical-cooperation component includes the resources needed to coordinate and manage the project. This budget item includes as counterpart contributions 10% of the time of the Executive Director of AV and of a secretary, and 20% of the time of an accountant. Also, AV will finance the indirect costs of hiring the Project Coordinator, calculated as

35% of the direct cost, which include transportation costs, administration, stationery, basic administrative services, etc.

- 3.27 The Bank will finance the direct cost of hiring the Project Coordinator for 36 months, at a monthly fee equivalent to US\$1,250 (plus 35% of indirect costs). The Project Coordinator will perform the following functions: (i) supervising the execution of the project components as set forth in the Plan of Operations; (ii) timely preparation of the reports required by the Bank, particularly the Project Performance Monitoring Report (PPMR); (iii) monitoring adherence to the Plan of Operations in terms of the objectives, activities, and sequence of the various components; (iv) keeping a record of progress with the components and activities, identifying whether the assumptions are borne out, and proposing the necessary mechanisms for objectives to be met in the case of deviations; (v) identifying the internal and external factors delaying project execution; (vi) designing mechanisms for project management controls; (vii) preparing, with the other consultants, the monthly timeline for executing each component's activities and tasks and verifying whether the previous week's targets were met; (viii) developing institutional relationships with government agencies; (ix) managing the project's human and technical resources; and (x) preparing interinstitutional agreements establishing the responsibilities of AV, of the beneficiaries, and of the stakeholders, in the interest of efficient project execution.
- 3.28 The Coordinator should be a professional educated in the field of environmental science, engineering, or architecture, with extensive knowledge of solid waste management systems.
- 3.29 The expected outcomes are:
- a. Interinstitutional agreements with all the beneficiaries regarding project execution
  - b. Project status reports
  - c. Project management control tools
  - d. Monthly monitoring of execution of activities and tasks
  - e. Overall coordination of all activities and participants
  - f. Preparation of financial and narrative reports on project outcomes

#### **4. Procurement of equipment and instructional materials**

- 3.30 The responsibility for procuring goods and services with technical-cooperation resources rests with AV, which will comply with the Bank's rules, procedures, and policies relative to the hiring of consultants and procurement with Bank funds. The



lists of the equipment and services to be procured and contracted have been included in each of the above sections.

## 5. Evaluation

- 3.31 The Bank will use technical-cooperation resources to commission a final project evaluation. This evaluation will be done once it has been three years since disbursements began or when all the technical-cooperation activities except the evaluation have been carried out, whichever comes first. This evaluation will focus on analyzing and documenting the work done by AV, with special attention to the following: (i) the impact of the CAS as an alternative to diversify the work *gancheros* do, measured as the change in working conditions, access to social services, and the number of *gancheros* trained in related jobs and engaging in new activities; (ii) the marketing structure achieved; (iii) increase in productivity; (iv) increase in income and decline in the number of children sorting waste; and (v) economic and financial indicators for the CAS and the *gancheros*.
- 3.32 The initial data on the beneficiaries should be collected by the corresponding EPC. These data will serve as a baseline for measuring the income earned by the beneficiaries as a result of the project.

## IV. SPECIAL CONTRACTUAL CONDITIONS

- 4.1 As a condition precedent to first disbursement of the technical-cooperation resources, AV shall submit to the Bank's satisfaction: (i) the timetable and execution plan for the Environmental Education and Communication Plan (the preliminary plan appears in Annex I); and (ii) the terms of reference for hiring the advisory and consulting services for the first year of project execution.
- 4.2 A **special condition for project execution** (reimbursable financing and nonreimbursable technical cooperation) is that AV shall submit to the Bank's satisfaction, within eight months of the date the Loan and Technical Cooperation Agreement enters into force: (i) evidence that the CAS is in operation (level of activity, shifts, number of workers, contracts signed with the RI); (ii) evidence of agreements arrived at with neighborhood committees and schools in at least three pilot barrios; and (iii) evidence of *gancheros* from the four associations participating in the project's consultative bodies.

## V. COST AND FINANCING

5.1 The technical cooperation amount totals US\$445,960, broken down as follows:

Item	Number	Months duration	US\$/ months	Total US\$
<b>Project coordination office</b>				
Project Coordinator	1	36	1,687.50	60,750
Executive management and administrative support		36	311	11,196
<b>Subtotal</b>				<b>71,946</b>
<b>Productivity, income, and working conditions</b>				
Production personnel		36	2,333	84,000
Quality and production advisors		36	500	18,000
Job training courses		36	500	18,000
Traineeship in Porto Alegre				3,080
Outfitting of training center				17,100
<b>Subtotal</b>				<b>140,180</b>
<b>Social integration</b>				
Case worker	1	36	1,147.50	41,310
Social educator	1	36	239	8,606
Consultant(s) for strengthening associations		12	750	9,114
Outfitting of daycare center				10,000
<b>Subtotal</b>				<b>69,030</b>
<b>Environmental education and communication</b>				
Education assistant	1	36	1,147.50	41,310
Educators	1	36	956,25	34,425
Communicator		11	322	3,545
Graphic designer		3	337	1,012
Layout specialist		3	337	1,012
<b>Subtotal</b>				<b>81,304</b>
<b>Instructional materials</b>				<b>73,500</b>
<b>Audits and evaluations</b>				<b>10,000</b>
<b>TOTAL</b>				<b>445,960</b>

5.2 The above budget is distributed between Bank and counterpart contributions as follows:

Item	IDB	AV and others	Total
Executing unit	45,000	26,946	71,946
Productivity, income and working conditions	94,300	45,880	140,180
Social integration	16,750	52,280	69,030
Environmental education and communication	60,450	20,854	81,304
Instructional materials	73,500		73,500
Monitoring and evaluations	10,000		10,000
Total	300,000	118,960	445,960

## VI. PROJECT EXECUTION

- 6.1 The proposed technical-cooperation program will be executed parallel to the loan component, which will be approved concurrently. AV will be accountable to the Bank for execution of the different components and activities of the technical-cooperation program.
- 6.2 The technical-cooperation project will be executed over 36 months and the disbursement period will be 48 months. The Bank will set up a revolving fund of 20% of the component total, owing to the fact that some of the activities require substantial initial outlays, and also because many activities will be executed simultaneously, requiring prompt availability of resources.
- 6.3 AV assumes responsibility for the procurement of equipment and other goods for the project. Procurement will take place in accordance with Bank procedures, rules, and policies.

## VII. REPORTS

- 7.1 **Baseline:** AV will be responsible for collecting and analyzing information relevant to the continual monitoring of project performance indicators. These indicators will be established by the social support staff that will work on the project as set forth in section 3, paragraph 3.4b of the Plan of Operations (Annex I). They will be submitted to the Bank's Country Office in Paraguay and will become the basis for monitoring the project's performance. Performance and deviation from the established parameters will be analyzed in the progress reports as well as in the final evaluation.
- 7.2 Through the EPC, AV will submit progress reports to the Bank within 60 days of the end of each six-month period, and a final report 60 days after the last disbursement. These reports will include: (i) a description of the progress made in carrying out the project execution plan and meeting its objectives, as well as an account of the principal successes and difficulties encountered in meeting the project's goals and objectives; (ii) performance indicators (using the indicators shown in the table under paragraph 3.305); (iii) an updated project execution plan for the next 12 months, including measures for overcoming the obstacles identified; (iv) statistical, financial, and narrative information from AV regarding overall project execution; (v) information about the benefits to the *gancheros* in economic and training terms; (vi) a statement of the use of Bank resources and of counterpart contributions; (vii) an assessment of the *gancheros*' adaptability to work discipline and the community's response to the environmental education program; (viii) reports from the consultants and experts hired to execute the technical-cooperation component; and (ix) statistical and financial information on the

project's economic outcomes. The last of these reports will serve as the final report and should contain a summary of what was achieved in terms of the original objectives and indicators. The first project report should include a methodically arranged set of socioeconomic data on the *gancheros* from before the start of project activities, making it possible to determine the comparative change in income for the project's beneficiaries. This information should be updated in all subsequent semiannual reports.

- 7.3 The Bank will review the content, findings, and recommendations of these reports. Should significant shortcomings in project execution be found, the Bank may suspend disbursements until AV takes satisfactory measures to correct those deficiencies, as appropriate.
- 7.4 Within 90 days after the period for the last disbursement of the nonreimbursable Technical Cooperation ends, AV will submit an audited financial report showing how the Bank's contribution was used.

#### A. Performance indicators

- 7.5 It will be a contractual obligation of the executing agency to meet the performance objectives shown below in order for project disbursements to continue. If significant deviations (+/- 20%) are found with regard to these indicators, the Bank will come to an agreement with AV as to the necessary corrective measures, and may suspend the disbursement of resources.

Indicator	Year 1	Year 2	Year 3	Year 5	Year 10
<b>Productivity</b>					
Number of collection trucks	2	2	3	5	16
Number of people served (in thousands)	47	61.4	80.3	137	520
Number of collection cycles/week (14 km c/u)	16.3	21	28	46	173
Volume sorted (m <sup>3</sup> /hour)	3.66	5.11	7.13	13.87	73.21
<b>Employment</b>					
Drivers and collection assistants	6	6	9	15	48
CAS workers	18	25	35	67	351
<i>Gancheros</i> working in sanitation and cleaning services	5	10	15	25	50
<b>Social</b>					
Number of children in day care (2 shifts)	20	30	30	40	50
Number of mothers working as "play specialists" (volunteer basis)	4	6	6	8	10
<b>Income</b>					
Economic impact on producers					
-Families with increased real income, measured against the baseline	29	41	56	107	449
-Families with adequate health and working conditions	33	47	62	115	419

## **B. Evaluations**

- 7.6 The Bank will use technical-cooperation resources to commission a final project evaluation. This evaluation will be done once it has been three years since disbursements began or when all the technical-cooperation activities except the evaluation have been carried out, whichever comes first. This evaluation will focus on analyzing and documenting the work done by AV, with special attention to the following: (i) the impact of the CAS as an alternative to diversify the work *gancheros* do, measured as the change in working conditions, access to social services, and the number of *gancheros* trained in related jobs and engaging in new activities; (ii) the marketing structure achieved, measured as firm business deals with the RI; (iii) the increase in productivity, measured as the percentage increase of materials recovered, and hence the increase in the volume of raw materials offered to the RI; (iv) the increase in income earned by the *gancheros*, measured as gains over the baseline; (v) the decline in the number of children sorting waste; and (vi) economic and financial indicators for the CAS and the *gancheros*.

## IMPROVING THE QUALITY OF LIFE OF GARBAGE RECYCLERS IN ASUNCIÓN (PR-S1001) LOGICAL FRAMEWORK

Narrative Summary of Objectives	Verifiable Indicators	Means of Verification	Assumptions
<p><b>Goal</b> The goal of the project is to contribute to improving the quality of life and the general area around the Cateura garbage dump.</p>			
<p><b>Purpose</b> The purpose or specific objective consists of developing an alternative pilot model for the social and economic integration of the <i>gancheros</i>, through a strategic alliance with all players concerned: the <i>gancheros</i>, civil society organizations, private enterprise, the Asunción Mayor's Office (IMA), and residents of the 11 pilot barrios.</p>	<p>After 3 years, a minimum of 62 <i>ganchero</i> families are earning income equal to or higher than one and one-half times the minimum wage, enjoy proper sanitary conditions and industrial safety standards at work, and have access to all the social services mandated by law; 115 families will enjoy the above benefits by year 5, and an estimated 400 families will do so by year 10.</p> <p>By project's end, i.e. after 3 years, 1,000 <i>gancheros</i> from Cateura will have been trained for various jobs such as gardening, cleaning, collection, etc.</p> <p>After 3 years, 75% of residents in the pilot barrios are source separating recyclable materials from nonrecyclable materials.</p> <p>After 3 years, 20 young people from different environmental youth organizations are providing training in schools and to neighborhood committees.</p>	<p>Semiannual reports and audited financial statements</p> <p>Accounting records in the project chart of accounts</p> <p>Project performance monitoring reports (PPMR)</p>	<p>The population of Asunción will prove willing to source separate, and the program will be well received by the public.</p> <p>The <i>gancheros</i> will find that working in the collection center is more lucrative than "hooking" garbage.</p>

Narrative Summary of Objectives	Verifiable Indicators	Means of Verification	Assumptions
<p><b>Components</b></p> <p><b>1. Reimbursable financing</b></p> <p>The infrastructure for sound solid waste management is in place.</p>	<p>The Collection and Sorting Center (CAS) is in operation.</p> <p>Within 3 years, the recovery rate for recyclable materials will have increased by close to 100%.</p> <p>Within 3 years, 80,000 Asunción residents have recycling pickup service.</p>	<p>Receiving forms for recyclables, by shift and route.</p> <p>Invoices from the sale of recyclables to the recycling industry.</p> <p>Record of services provided by the daycare center.</p> <p>Statements of account from the <i>ganchero</i> associations, bylaws, creation of boards, and activities carried out.</p> <p>Training records and certificates.</p> <p>Statement of accounts from Altervida (AV) and records of all contributions.</p> <p>Statements of account for the counterpart contributions.</p> <p>Copies of interinstitutional agreements</p>	<p>The community is interested in participating, and there are leaders in the schools, neighborhood committees, church communities, and environmental youth organizations who will be willing to do the environmental training in order to learn about recycling and source separation.</p> <p>The <i>gancheros</i> are interested in participating in the project and assuming responsibility for executing it once the mechanisms are worked out with Altervida and repayment of the debt to the Bank is guaranteed.</p> <p>The recycling industry continues to show interest and has the trained, qualified personnel to guide the technical actions of the Collection and Sorting Center by indicating the quality levels it demands and the volume of materials it needs.</p>

Narrative Summary of Objectives	Verifiable Indicators	Means of Verification	Assumptions
<p><b>2. Nonreimbursable technical cooperation</b> Economic, work, health, safety, and hygiene conditions and productivity of the <i>gancheros</i> have improved.</p>	<p>The Environmental Education and Communication Plan is introduced and put into action.</p> <p>The issues surrounding the <i>gancheros</i> and the dealers is analyzed and support mechanisms provided for through social networks and help for the most disadvantaged.</p> <p>After 3 years, 30 children are cared for at the daycare center.</p> <p>Families belonging to the <i>ganchero</i> associations will not allow their children to work.</p> <p>At least 40 women trained as play specialists and substitute mothers.</p> <p>The four <i>ganchero</i> associations are strengthened in governance, transparency, and social programs.</p> <p>At least 11 neighborhood committees and 11 schools are participating in the project.</p>	<p>Receiving forms for recyclables, by shift and route.</p> <p>Invoices from the sale of recyclables to the recycling industry.</p> <p>Record of services provided by the daycare center.</p> <p>Statements of account from the <i>ganchero</i> associations, bylaws, creation of boards, and activities carried out.</p> <p>Training records and certificates.</p> <p>Statements of account from AV and records of all contributions.</p> <p>Statement of accounts for the counterpart contributions.</p> <p>Copies of interinstitutional agreements</p>	



Narrative Summary of Objectives	Verifiable Indicators	Means of Verification	Assumptions
<p><b>Activities</b></p> <p>Creation of a board involving all players.</p> <p>Updating studies of the volume and physical composition of the waste stream.</p> <p>Design and implementation of a system of selective collection of recyclable materials.</p> <p>Design and construction of a Collection and Sorting Center for recyclable materials with suitable infrastructure for complementary uses (training center, daycare center).</p> <p>Planning of sorting activities, determination of work shifts, development of industrial and occupational health and safety standards, etc.</p> <p>Drafting and signing of agreements between businesses from the recycling industry and the <i>gancheros</i>.</p> <p>Support for the creation of the Paraguayan Chamber of Recycling Industries.</p>	<p>See Budget, Annex III.</p>	<p>Copy of the agreement signed by the IMA, AV, the recycling industry, and the <i>ganchero</i> associations.</p> <p>Updated study on the amount and composition of waste.</p> <p>Certificate of incorporation of the Paraguayan Chamber of Recycling Industries.</p> <p>Certificates issued by the project staff indicating training provided and contacts with public and private enterprises wanting to outsource cleaning services.</p> <p>Records of work, production, and sales of recycled material.</p> <p>Records of payment for piecework and wages and mandatory social security contributions for CAS employees.</p>	<p>The IMA will stand by its plans to close the Cateura garbage dump, make adjoining land suitable for the construction of social housing, and make available 3,000 m<sup>2</sup> of land for the construction of a recyclable materials Collection and Sorting Center.</p> <p>The IMA will stand by its plans to keep the Cateura site as a location for handling recyclable inorganic materials</p> <p>.</p>

Narrative Summary of Objectives	Verifiable Indicators	Means of Verification	Assumptions
<p>2.1 Design and implementation of an Environmental Education and Communication Plan for encouraging source separation and social revaluation of the <i>gancheros</i>.</p> <p>2.2 Design and implementation of an Environmental Education and Communication Plan for involving neighborhood committees, churches, schools and environmental nongovernmental organizations in recycling.</p> <p>2.3 Analysis of dealers and diversion of materials, analysis of alternatives.</p> <p>2.4 Working out a strategy vis-à-vis dealers and street collectors.</p> <p>2.5 Design and implementation of a technical and business training program for the <i>gancheros</i>, with support from the recycling industry and individual consultants.</p> <p>2.6 Project monitoring and follow-up</p>		<p>Survey of <i>gancheros</i> regarding demand for job training.</p> <p>Training course participant lists</p> <p>Surveys of residents of the pilot barrios.</p> <p>Work plan for the youth volunteers.</p> <p>Minutes from neighborhood committee meetings.</p> <p>Minutes from the meetings of the leadership bodies of the <i>ganchero</i> associations.</p>	

## DETAILED BUDGET

Component	Total	IDB	AV	Ganaderos	Other donors	IMA	RI	Total counterpart contribution
<b>I. Reimbursable financing (collection infrastructure)</b>								
i. Land	12.295					12.295		12.295
ii. Collection vehicles	111.000	37.000			74.000			74.000
iii. Civil works for the CAS	71.355	59.000		12.355				12.355
iv. Production machinery	70.000	70.000						0
v. Office equipment	5.000	5.000						0
vi. Vehicle for transportation and promotion	35.000	35.000						0
vii. Working capital	49.250	32.000				17.250	0	17.250
viii. Miscellaneous production equipment	4.000						4.000	4.000
ix. Pickup and plant uniforms	10.000						10.000	10.000
<b>Reimbursable subtotal</b>	<b>367.900</b>	<b>238.000</b>	<b>0</b>	<b>12.355</b>	<b>74.000</b>	<b>29.545</b>	<b>14.000</b>	<b>129.900</b>
<b>II. Technical Cooperation</b>								
i. Project coordination and management	71.946	45.000	26.946					26.946
ii. Technical assistance in quality and production	18.000						18.000	18.000
iii. Production personnel	84.000	57.000	27.000					27.000
iv. Technical assistance in environmental education	81.304	60.450	20.854					20.854
v. Technical assistance in job training	18.000	18.000						0
vi. Technical assistance in social case work	49.916	0	12.941			36.975		49.916
vii. Technical assistance in strengthening associations	9.114	6.750	2.364					2.364
viii. Instructional materials	73.500	73.500						0
ix. Outfitting of training center	17.100	17.100						0
x. Ganaderos' traineeship in Porto Alegre	3.080	2.200	440			440		880
xi. Outfitting of daycare center	10.000	10.000						0
xii. Final evaluation	10.000	10.000						0
<b>Technical cooperation total</b>	<b>445.960</b>	<b>300.000</b>	<b>90.545</b>	<b>0</b>	<b>0</b>	<b>37.415</b>	<b>18.000</b>	<b>145.960</b>
<b>Project total</b>	<b>813.859</b>	<b>538.000</b>	<b>90.545</b>	<b>12.355</b>	<b>74.000</b>	<b>66.960</b>	<b>32.000</b>	<b>275.860</b>
<b>% share</b>	<b>100</b>	<b>66</b>	<b>11</b>	<b>2</b>	<b>9</b>	<b>8</b>	<b>4</b>	<b>34</b>

AV: Altervida  
IMA: Asunción Mayor's Office  
RI: Recycling industry

					Year 1	Year 2	Year 3	Total	AV	Other donors	IMA	IDB NR	IDB Reimb.	Companies	Total
ITEM	No.	Unit cost	Unit cost	Unit cost	Total cost	Total cost	Total cost								
		Gs/month	US\$/mo.	Gs/year	US\$/yr.	US\$/yr.	US\$/yr.								
<b>COUNTERPART FUNDS FROM AV</b>															
Executive Director (10% T)	0.1	12,200,000	2,000	14,640,000	2,400	2,400	2,400	7,200	7,200						7,200
Executive Secretary (PT)	0.1	1,830,000	300	21,960,000	360	360	360	1,080	1,080						1,080
Office equipment	0	7,320,000	1,200	87,840,000								0			0
<b>Subtotal:</b>					<b>2,760</b>	<b>2,760</b>	<b>2,760</b>	<b>8,280</b>							<b>0</b>
															<b>0</b>
<b>PROJECT COORDINATOR (FT)</b>	1	7,625,000	1,250	91,500,000	<b>15,000</b>	<b>15,000</b>	<b>15,000</b>	<b>45,000</b>				<b>45,000</b>			<b>45,000</b>
<b>Total (+35%: transportation, administration, etc.)</b>					<b>20,250</b>	<b>20,250</b>	<b>20,250</b>	<b>60,750</b>	<b>15,750</b>						<b>15,750</b>
															<b>0</b>
<b>EDUCATION COMPONENT</b>															<b>0</b>
Education assistant	1	5,185,000	850	62,220,000	10,200	10,200	10,200	30,600							<b>0</b>
Educators	2	3,050,000	500	73,200,000	12,000	9,000	4,500	25,500							<b>0</b>
Communicator (PT)	1	1,525,000	250	9,150,000	1,500	750	375	2,625							<b>0</b>
Graphic designer (PT)	1	1,525,000	250	4,575,000	750			750							<b>0</b>
Layout specialist (PT)	1	1,525,000	250	4,575,000	750			750							<b>0</b>
<b>Subtotal:</b>					<b>25,200</b>	<b>19,950</b>	<b>15,075</b>	<b>60,225</b>				<b>60,225</b>			<b>60,225</b>
<b>Total (+35%: transportation, administration, etc.)</b>					<b>34,020</b>	<b>26,933</b>	<b>20,351</b>	<b>81,304</b>	<b>21,079</b>						<b>21,079</b>
<b>Job training</b>	1	6,100,000	1,000	36,600,000	<b>6,000</b>	<b>6,000</b>	<b>6,000</b>	<b>18,000</b>				<b>18,000</b>			<b>18,000</b>
															<b>0</b>
<b>SOCIAL COMPONENT</b>															<b>0</b>
Case worker	1	5,185,000	850	62,220,000	10,200	10,200	10,200	30,600							<b>0</b>
Social educators	0.5	3,050,000	500	18,300,000	3,000	2,250	1,125	6,375							<b>0</b>
Human resources development consultant (PT)	0	3,050,000	500	0	0	0	0	0							<b>0</b>
Area-specific consultants (3 mos./yr)	0	6,100,000	1,000	0	0	0	0	0							<b>0</b>
<b>Subtotal:</b>					<b>13,200</b>	<b>12,450</b>	<b>11,325</b>	<b>36,975</b>			<b>36,975</b>				<b>36,975</b>
<b>Total (+35%: transportation, administration, etc.)</b>					<b>17,820</b>	<b>16,808</b>	<b>15,289</b>	<b>49,916</b>	<b>12,941</b>						<b>12,941</b>
															<b>0</b>
<b>TECHNICAL COMPONENT</b>															<b>0</b>
Technical assistant	1	5,185,000	850	62,220,000	10,200	10,200	10,200	30,600					30,600		<b>30,600</b>
Selective Collection Coordinator	1	4,575,000	750	54,900,000	9,000	9,000	9,000	27,000					27,000		<b>27,000</b>
Technical training consultant (PT)	1	3,050,000	500	36,600,000	6,000	6,000	6,000	18,000						18,000	<b>18,000</b>
Technical assistant	0	1,830,000	300	0	0	0	0	0					0		<b>0</b>
<b>Subtotal:</b>					<b>25,200</b>	<b>25,200</b>	<b>25,200</b>	<b>75,600</b>							<b>0</b>
<b>Total (+35%: transportation, administration, etc.)</b>					<b>34,020</b>	<b>34,020</b>	<b>34,020</b>	<b>102,060</b>	<b>26,460</b>						<b>26,460</b>
															<b>0</b>
<b>ADMINISTRATION/SUPPORT</b>															<b>0</b>
Computer operator (PT)	0	1,220,000	200	14,640,000	0	0	0	0							<b>0</b>
GIS operator (1/4 T)	0	1,525,000	250	18,300,000	0	0	0	0							<b>0</b>
Computer consultant (1/4 T)	0	610,000	100	7,320,000	0	0	0	0							<b>0</b>
Accountant (1/4 T)	0.2	1,830,000	300	21,960,000	720	720	720	2,160							<b>0</b>

					Year 1	Year 2	Year 3	Total	AV	Other donors	IMA	IDB NR	IDB Reimb.	Companies	Total
ITEM	No.	Unit cost	Unit cost	Unit cost	Total cost	Total cost	Total cost								
<b>Subtotal:</b>					720	720	720	2,160	2,160						2,160
<b>Total (+35%: transportation, administration, etc.)</b>					972	972	972	2,916	756						756
															0
<b>ASSOCIATION-STRENGTHENING COMPONENT</b>															0
Consultant	1	3,050,000	500	9,150,000	1,500	1,500	1,500	4,500							0
Legal advisor (3 mos./yr.)	1	1,525,000	250	4,575,000	750	750	750	2,250							0
<b>Subtotal:</b>					2,250	2,250	2,250	6,750				6,750			6,750
<b>Total (+35%: transportation, administration, etc.)</b>					3,038	3,038	3,038	9,113	2,363						2,363
															0
				<b>TOTAL</b>	118,880	110,780	102,680	332,339	89,789			129,975	57,600	18,000	332,339

# **BUDGET FOR THE ENVIRONMENTAL EDUCATION AND COMMUNICATION PLAN**

Item	Year 1	Year 2	Year 3
<b>A. Communication strategy</b>			
<b>Communication materials</b>			
Decals	3.000	1.000	500
Fliers	3.000	1.500	1.000
Brochures	10.000	5.000	2.500
Posters	1.000	1.000	1.000
Audiovisual	7.500	0	0
Radio and press campaigns	2.000	2.000	2.000
Incentives for recycling	1.000	1.000	1.000
<b>Instructional materials</b>			
Training support materials (environmental, job skills, etc.)	3.000	3.000	3.000
	<b>30.500</b>	<b>14.500</b>	<b>11.000</b>
<b>B. Education strategy</b>			
Teacher training materials	1.000	1.000	1.000
Community and <i>ganchero</i> training materials	1.000	1.000	1.000
Training course support materials	1.000	1.000	1.000
Instructional units	5.500	1.500	1.500
<b>Subtotal</b>	<b>8.500</b>	<b>4.500</b>	<b>4.500</b>
<b>C. Environmental education center</b>			
Equipment	0		
Interactive museum room	10.000		
Display panels	50		
Mockups (2m x 1m)	250		
Overhead projector	700		
Infocus	2.500		
Complete computer equipment	600		
Video equipment	600		
TV set	400		
Screen	300		
Chalkboard	200		
Office supplies	1.000		
Furnishing	0		
Chairs	400		
Tables	100		
Maintenance	0		
<b>Subtotal</b>	<b>17.100</b>		
<b>Total</b>	<b>56.100</b>	<b>19.000</b>	<b>15.500</b>

PROPOSED RESOLUTION

Republic of Paraguay. Financing and Nonreimbursable Technical Cooperation to  
Alter Vida, Centro de Estudios y Formación para el Ecodesarrollo

The Board of Executive Directors

RESOLVES:

1. That the President of the Inter-American Development Bank or such representative as he shall designate is authorized, in the name and on behalf of the Bank, to enter into such agreement or agreements as may be necessary with Alter Vida, Centro de Estudios y Formación para el Ecodesarrollo, to grant it, within the Social Entrepreneurship Program approved by Resolution DE-183/98: (a) a reimbursable financing for the execution of the program referred to in Document PR-\_\_\_\_; and (b) a nonreimbursable technical cooperation for the execution of the program, in accordance with Annex I of said document.

2. That up to the amount of US\$238,000, or its equivalent in other convertible currencies, is authorized for the purposes indicated in paragraph 1(a), and up to the amount of US\$300,000, or its equivalent in other convertible currencies, is authorized for the purposes indicated in paragraph 1(b), both chargeable to the net income of the Fund for Special Operations.