

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

ARGENTINA

SOLID WASTE MANAGEMENT IN TOURIST MUNICIPIOS

(AR-L1025)

LOAN PROPOSAL

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Annex I Logical framework

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Electronic Links and References	
Basic socioeconomic data	http://www.iadb.org/RES/index.cfm?fuseaction=externallinks.countrydata
Status of loans in execution and loans approved	http://ops.iadb.org/approvals/pdfs/ARen.pdf
Information available in the RE1/EN1 technical files	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=#920982
Procurement plan, subprogram 1	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=984265
Procurement plan, subprogram 2	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=984269

ABBREVIATIONS

APN	National Parks Administration
IBRD	International Bank for Reconstruction and Development
ICAS	Institutional Capacity Assessment System
kg	kilogram
km	kilometer
LIBOR	London Interbank Offered Rate
OC	Ordinary Capital
PEU	project executing unit
SAYDS	Department of Environment and Sustainable Development of the Office of the Chief of Cabinet
SECTUR	Federal Department of Tourism
UNDP	United Nations Development Programme

PROJECT SUMMARY

ARGENTINA SOLID WASTE MANAGEMENT IN TOURIST MUNICIPIOS (AR-L1025)

Financial Terms and Conditions ¹					
Borrower: The Argentine Republic				Amortization period:	25 years
Executing agency for subprogram 1: Federal Department of Tourism (SECTUR)				Grace period:	5 years
Executing agency for subprogram 2: Department of Environment and Sustainable Development of the Office of the Chief of Cabinet (SAyDS)				Disbursement period:	5 years
Source		Amount	%	Interest rate:	Adjustable
IDB (OC)		US\$60 million	80%	Inspection and supervision fee:	0%
Local		US\$15 million	20%	Credit fee:	0.25%
SECTUR	US\$10 million			Currency:	U.S. dollars from the Single Currency Facility of the Bank's Ordinary Capital
SAyDS	US\$ 5 million				
Total		US\$75 million	100.0%		
Project at a Glance					
<p>Project objective: The goal of the program is to support environmentally sustainable tourism in Argentina's tourist municipios. The purpose of the program is to improve integrated solid waste management in tourist municipios through projects that: (i) implement technically, environmentally, and financially viable solutions for integrated solid waste management in the municipios; (ii) strengthen the capacity of the municipios so that they can effectively exercise their integrated waste management powers; and (iii) expand local community awareness and participation in this area.</p> <p>Dimensioning: The proposed loan amount was increased from US\$50 million to US\$60 million as a result of project analysis.</p> <p>Special contractual conditions: <i>Conditions precedent to the first disbursement for the respective subprogram:</i> (a) formation at each executing agency of a project executing unit with responsibility for executing the respective subprogram and appointing the necessary staff (paragraph 3.5); and (b) approval of the Manual of Operations and Procedures for the program by the two executing agencies (paragraph 3.2). <i>Execution condition:</i> Signature of participation agreements between the municipios benefiting from the program and the respective executing agencies, including the municipio's responsibility to institute mechanisms for financing costs of operation, maintenance, and future investment, will be a condition precedent to the allocation of program resources for projects to be executed on behalf of the beneficiary municipios (see paragraph 3.8).</p> <p>Exceptions to Bank policies: None.</p>					
<div style="display: flex; justify-content: space-between;"> <div>Project consistent with country strategy: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></div> <div>Project qualifies as: SEQ <input checked="" type="checkbox"/> PTI <input checked="" type="checkbox"/> Sector <input type="checkbox"/> Geographic <input checked="" type="checkbox"/> Headcount <input checked="" type="checkbox"/></div> </div> <p>Procurement: See paragraphs 3.14 and 3.15.</p> <p>Verified by CESI on: 15 December 2006.</p>					

¹ The interest rate, credit fee, and inspection and supervision fee mentioned in this document are established pursuant to document FN-568-3 Rev. and may be changed by the Board of Executive Directors, taking into account the available background information, as well as the respective Finance Department recommendations. In no case will the credit fee exceed 0.75%, or the inspection and supervision fee exceed 1% of the loan amount.*

* With regard to the inspection and supervision fee, in no case will the charge exceed, in a given six-month period, the amount that would result from applying 1% to the loan amount divided by the number of six-month periods included in the original disbursement period.

I. FRAME OF REFERENCE

A. Background

- 1.1 In July 2005, the Bank approved the program to enhance tourism sector competitiveness (loan 1648/OC-AR) at a total cost of US\$56 million, US\$33 million of which is being financed with Bank resources. The operation's objective is to steadily increase foreign exchange earnings generated by tourism in the lakes circuit and the Iguazú–Jesuit missions circuit. This operation, which has been under way since August 2005, is being implemented by the Federal Department of Tourism (SECTUR).
- 1.2 Operation 1648/OC-AR is consistent with the strategic objective of the Federal Strategic Plan for Sustainable Tourism (*Plan Federal Estratégico de Turismo Sustentable*), a government document approved in June 2005 that establishes guiding principles for Argentina's tourism policy. The plan seeks to develop the tourism sector through environmentally sound leveraging of the country's supply of natural and cultural attractions; to this end, it has identified 18 tourist circuits, or geographic areas consisting of contiguous municipios with similar or complementary tourist attractions, capable of attracting a larger number of tourists and inducing them to extend their stay. The lakes circuit and the Iguazú–Jesuit missions circuit served by operation 1648/OC-AR fall under this strategic plan. As in many of the circuits identified in the plan, the main tourist attractions in these two circuits are the national parks. Argentina has 34 national parks which receive 2.2 million visitors per year; the ones most frequently visited are Iguazú (920,000 tourists per year), Los Glaciares (440,000), Nahuel Huapi (310,000), Lanín (270,000), and Los Alerces (140,000).
- 1.3 Some 650 municipios are part of the tourist circuits identified in the strategic plan. Tourism is a major source of income for the populations of these municipios, especially those in the circuits in the northeast and northwest regions, which have a high incidence of poverty.¹ According to the Permanent Household Survey, 51.2% and 45.8%, respectively, of the inhabitants of these regions are poor, as compared to 31.4% nationally, while 21.3% and 15.4%, respectively, live in extreme poverty, as compared to 11.2% nationally.
- 1.4 The socioenvironmental analysis for operation 1648/OC-AR found that the expected growth of tourist flows to the tourism circuits will tend to place additional pressure on the delivery of public services in the areas visited. The analysis recommended including specific activities for managing solid waste, particularly in the national parks located in the circuits with the largest number of visitors. The tourism generated by these national parks is posing major challenges for the surrounding municipios in terms of solid waste management, especially with respect to final disposal. Around 60% of this waste is deposited in open-air dumps with little sanitary, environmental, or social regulation, often located in the vicinity

¹ The poverty line for individuals and households in Argentina is defined on the basis of the Permanent Household Survey.

of populated areas or a short distance from tourist attractions. The environmental impact of this type of disposal (contamination of surface water and groundwater by organic, metallic, and pathogenic leachates; proliferation of health vectors; generation of toxic fumes; foul odors resulting from the burning of waste) can potentially affect the flow of economic benefits generated by tourism because of its negative impact on the quality of natural attractions. In some cases, these environmental and aesthetic effects are compounded by social effects in areas where the dumpsites attract marginal populations who derive income from selling salvaged materials. It is estimated that the volume of solid waste managed by these municipios is between 1.2 and 1.5 kg/inhabitant/day, a significantly higher volume than the national average of 0.91 kg/inhabitant/day.

- 1.5 The environmental analysis for operation 1648/OC-AR determined that solid waste management projects were needed to meet the expected growth in tourism. The proposed program supports the federal government in the implementation of these projects.

B. Institutional and legal framework for solid waste management

- 1.6 Solid waste management in Argentina is regulated by Law No. 25,916 of 2004, which sets minimum budgets and minimum quality standards for service provision and provides a sufficient and appropriate framework for integrated waste management. Implementation of this regulation is mandatory for provinces and municipios, although the provinces can enact any supplementary regulations that do not alter these standards. The provinces have full authority and law enforcement powers over solid waste management. Provincial regulations are applicable throughout the provincial territory, except in territories under federal jurisdiction, such as the national parks.
- 1.7 The national parks are governed by Law No. 25,916, as supplemented by the guidelines set out in Law No. 22,351 on National Parks and Reserves. The collection and final disposal of solid waste in the national parks is the responsibility of the National Parks Administration (APN), an independent federal government agency attached to SECTUR. Law No. 25,916 provides that final disposal centers may not be established in protected areas or sites containing significant elements of natural and cultural heritage, which means transporting the waste and arranging for its final disposal outside the parks and reserves, i.e. in provincial territory. To do this, the APN must obtain the agreement of the respective province and municipio.
- 1.8 The municipios are autonomous entities with jurisdiction in the area of urban solid waste management, having the power and capacity to levy taxes, enact their own regulations, organize urban solid waste collection and disposal systems, collect fees and other assessments, and operate their own budget. The municipios are responsible for the execution, operation, and maintenance of works associated with the collection, transportation, and final disposal of urban solid waste.
- 1.9 The Department of Environment and Sustainable Development (SAyDS), in the Office of the Chief of Cabinet, assists in the implementation of environmental

policy, including appropriate solid waste management. To this end, the SAYDS coordinates and links the environmental management functions of the various policy-implementing bodies, which in the case of solid waste are the provinces and municipios.

C. Argentina's solid waste strategy

- 1.10 The federal government recognizes the need for integrated urban solid waste management, both to improve the quality of life for the population in general and, in particular, to enhance the quality of the landscape and the experience that tourists have in visiting the country's various attractions. In order to steer provincial and municipal governments toward integrated urban solid waste management, the federal government has produced a National Strategy for Integrated Urban Solid Waste Management (*Estrategia Nacional para la Gestión Integral de Residuos Sólidos Urbanos*), prepared by the SAYDS in 2005.
- 1.11 This strategy lays out a conceptual framework, identifies challenges and opportunities, and proposes strategic lines of action for the country as a whole. The main strategic thrusts are: (i) reduction and recovery of urban solid waste; (ii) sustainable final disposal of urban solid waste; (iii) closure of open-air dumps; (iv) recycling and repurchase of processed materials; (v) compilation, processing, and dissemination of information; and (vi) communication and participation. The strategy seeks to extend integrated urban solid waste management throughout the country and close all open-air dumps, as well as significantly reduce the volume of waste generated and implement efficient information and communication mechanisms between governmental and nongovernmental players in the sector. The strategy provides for technical and financial assistance from the federal government to encourage decision-making and action at the municipal and provincial levels.
- 1.12 The National Strategy for Integrated Urban Solid Waste Management was financed by the pollution management project (IBRD 4281-AR, UNDP 99/025) and has been implemented since January 2006 under the national urban solid waste management program (IBRD 7362-AR); both operations are financed by the World Bank. With US\$40 million in financing, IBRD operation 7362-AR seeks to improve public health and quality of life by implementing financially and environmentally sustainable systems for urban solid waste management. The project, which is being executed by the SAYDS, involves the preparation of provincial integrated solid waste management plans and regional solutions for collection and final disposal based on those plans, including sanitary landfills and complementary works. The project is being reviewed to find a way to speed up its execution.
- 1.13 The planned investments under this operation complement those to be financed by the World Bank operation by covering tourist municipios located outside the provincial regional networks, for which regionalization is not the least-cost solution, either because of their geographical location or because the volume of waste they generate does not permit the necessary economies of scale.

D. Bank strategy

1. The Bank's country strategy

- 1.14 The main objective of the Bank's 2004-2008 country strategy with Argentina (document GN-2328) is to help the country achieve sustainable and more equitable growth. To achieve this objective, the Bank aims to concentrate its action on the following areas: (i) institutional strengthening for better governance and fiscal sustainability; (ii) a more favorable climate for investment and productivity growth, to enhance the country's competitiveness; and (iii) poverty reduction, rebuilding the human resource base, and promotion of sustainable and inclusive social development.
- 1.15 The proposed program supports the line of action aimed at a more favorable climate for investment and productivity growth by seeking a solution to environmental problems that limit the viability of tourism enterprises. The program also supports the line of action aimed at poverty reduction, rebuilding the human resource base, and promotion of sustainable and inclusive social development by seeking improvements in environmental quality and sanitary conditions for the beneficiary populations.

2. Bank action with respect to solid waste in Argentina

- 1.16 Complementarity between investment in sanitation and tourism infrastructure is also being pursued through financing of the program to support integrated development of the tourism sector in the province of Salta (1465/OC-AR), which includes investment in integrated urban solid waste management, the comprehensive plan for which was designed using technical-cooperation resources (ATN/SI-8130-AR). In other cases, the Bank is financing the preparation of integrated plans for urban solid waste management under separate technical-cooperation projects, as in the case of the province of La Pampa (ATN/IA-9853-AR); this project provides for the preparation of a business plan for a public-private partnership in build-operate contracts for provincial integrated waste management systems. Execution of the proposed program will make it possible to consolidate the investments in tourism infrastructure that Argentina is making with loan 1648-OC, as described in the background section. It will also provide considerable support in the implementation of Argentina's strategy in this sector.

3. Lessons learned

- 1.17 The program design has benefited from lessons learned through these and other investment programs for urban solid waste management. Those lessons identify the most common problems in the execution of projects of this type: (i) lack of consensus on the location of major works; (ii) lack of coordination between different agencies and levels of government; (iii) financial and administrative constraints on the municipios; and (iv) meager interest on the part of the private sector. The program seeks to prevent the first two problems by accepting financing

requests only after the municipios have clearly formulated viable alternatives for the location of the works, and by requiring participation agreements to be signed that specify the obligations of the parties and the mechanisms for coordination between the various participating agencies and levels of government. The last two problems are expected to be particularly relevant to the municipios targeted by the program, since they are generally small and located in remote areas. The program has therefore been designed to avoid overloading the financial and administrative capacities of the municipios, and aims to take a proactive approach toward private-sector participation in those municipios whose generated waste volumes could make them attractive to the private sector.

E. Program design

- 1.18 The program is designed to remedy problems with inadequate management and disposal of solid waste, which are resulting in pollution of the landscape, water, air, soil, and natural systems associated with areas that draw large numbers of tourists. The areas covered by the program are mainly rural, and the population of the participating municipios is generally low-income; these municipios are responsible for disposing of the solid waste generated not only by their permanent population, but also by the transient tourist population.
- 1.19 Since tourism generates income for the country as a whole, Argentina has a special interest in maintaining the flow of profits and income derived from it. That flow of profits can be adversely affected inasmuch as problems of poor solid waste disposal can have a negative impact on tourists' satisfaction and the length of their stay. For these reasons, the country has decided to support initial investment in a far-reaching plan to transform the image of tourist areas by financing infrastructure works, technical assistance, and institutional strengthening to solve problems with poor solid waste disposal.
- 1.20 Integrated solid waste management projects will be identified and proposed by the beneficiary municipios, and channeled through the departments of tourism (SECTUR) and the environment (SAyDS), which will evaluate the proposals submitted by the municipios and prepare project designs and bidding documents. These two departments will then be responsible for execution of the projects so designed, including construction and supervision of works, transferring the completed works to the beneficiary municipios. The municipios will be responsible for defraying the costs of operation, maintenance, and future investment for the works built with program funds, using resources derived mainly from the service charge for final disposal. When so warranted by scale, the program will promote participation by the commercial private sector wherever there is a sufficient volume of waste. The program includes technical assistance and strengthening for the participating municipios and financing for community participation. The first-year investments are guaranteed, as the bidding documents for 13 projects are being prepared with resources from operations ATN/II-10208-AR and ATN/OC-10164-AR, currently in execution.

II. THE PROGRAM

A. Objective

- 2.1 The **goal** of the program is to support environmentally sustainable tourism in Argentina's tourist municipios. The **purpose** of the program is to improve integrated solid waste management in tourist municipios through projects that: (i) implement technically, economically, environmentally, and financially viable solutions for integrated solid waste management in the interested municipios; (ii) strengthen the capacity of the municipios so that they can effectively exercise their integrated waste management powers; and (iii) expand local community awareness and participation in this area. The program's expected impact, outcomes, and outputs are presented in the logical framework (Annex I).
- 2.2 The program's main outputs are as follows: (i) feasibility studies and final designs for 75 projects for a similar or higher number (in the case of consortiums) of tourist municipios; (ii) construction of 50 new sanitary landfills; (iii) closure and environmentally sound capping of 35 open-air dumps that are currently contaminating the water and landscape in areas with tourist attractions and flows; (iv) training of 50 officials from the units responsible for urban solid waste management in the participating municipios; and (v) implementation of awareness-raising campaigns and community participation activities in all the beneficiary municipios.

B. Description

- 2.3 The program is divided into two subprograms that will serve tourist municipios included in the Federal Strategic Plan for Sustainable Tourism. Subprogram 1 covers national parks and adjacent tourist municipios; subprogram 2 covers other tourist municipios facing environmental/social costs or landscape degradation because of solid waste problems. For these, the project represents the least-cost solution, including the regional alternative analysis for those provinces with a provincial regionalization plan. The Federal Department of Tourism (SECTUR) will be the executing agency for subprogram 1, while the Department of Environment and Sustainable Development (SAyDS) will be the executing agency for subprogram 2. The program will be managed under separate cost tables, one for each executing agency.
- 2.4 The scope of both subprograms is the same, in the sense that each one will finance a group of individual projects designed to achieve integrated urban solid waste management in their respective municipios. Each project financed by the program will include the following elements, which reflect the concept of integration in urban solid waste management: (i) feasibility studies and final designs, where necessary; (ii) construction works for new sanitary landfills, with their transfer and/or separation plants, and closure of open-air dumps; (iii) municipal strengthening activities for integrated urban solid waste management; and (iv) awareness-raising and community participation activities.

1. Studies (US\$3 million)

- 2.5 Each project may finance the following: (i) technical, economic, financial, environmental, social, and institutional feasibility studies to provide an integrated, environmentally sound, and cost-efficient solution for the collection, transportation, and final disposal of urban solid waste; (ii) other environmental studies, including the leveraging of biogas to generate electricity; (iii) final engineering designs and costs; and (iv) preparation of bidding documents for the construction of works and procurement of related services.

2. Works (US\$60 million)

- 2.6 Each project may include financing for the construction of new sanitary landfills and transfer and/or separation plants. Among other features, the sanitary landfills will have controlled site access; impermeable cell bases and slopes with low surface exposure of solid waste; equipment for the periodic covering of waste; management of leachates; biogas management, as applicable, to minimize the potential environmental and human-health impact; facilities for personnel, with dressing rooms/lavatories; a chain-link perimeter fence with top guard; an access gate; scales for weighing trucks; internal roadways; signage; lighting; service delivery; and access ramps to urban solid waste cells or unloading bays.
- 2.7 Projects may also include the environmentally sound capping of open-air dumps that have been identified as focal points of contamination and whose visual impact affects the scenic balance in tourist areas. The planned works will be designed to minimize the open-air exposure of waste, the presence of health vectors, and the seepage or dispersal of leachates, and to monitor the dispersal of waste and byproducts carried by runoff, waterways, and winds.

3. Municipal strengthening (US\$4.6 million)

- 2.8 Technical assistance for the technical units responsible for urban solid waste management in the participating municipios will be financed as part of each project. The technical assistance activities will focus on the areas of technical and environmental works management, administration of goods and services, administration of service contracts and consortiums with the private sector, and financial and accounting management. As part of these activities, support will be provided to municipios interested in the design and implementation of financing mechanisms for reduction of greenhouse gas emissions.

4. Community activities (US\$950,000)

- 2.9 Each project may include financing for awareness-raising campaigns and promotion of household practices for volume reduction and source separation, as well as other activities to promote community participation in solving the problems of urban solid waste management. Training activities to help informal workers enter the formal labor market will also be financed. The scope of the training will encompass business skills (commercial, organizational, administrative),

occupational health and safety, security, order and cleanliness, and maintenance work.

C. Cost and Financing

- 2.10 The program cost is US\$75 million. The Bank will finance US\$60 million (80%); the Argentine government will contribute the local counterpart of US\$15 million equivalent (20%). The program cost by expenditure category and financing source for each subprogram is presented below.

Budget (in thousands of U.S. dollars)						
Category		IDB	Counterpart		Total	%
			SECTUR	SAyDS		
Subprogram 1: NATIONAL PARKS AND ADJACENT MUNICIPIOS						
	Management and supervision	1,600	400		2,000	2.67%
	Direct costs	37,900	7,700		45,600	60.80%
1.	Studies	1,400	600		2,000	2.67%
2.	Works	35,000	4,800		39,800	53.07%
3.	Municipal strengthening	1,000	2,100		3,100	4.13%
4.	Community activities	500	200		700	0.93%
	Monitoring and evaluation	150	0		150	0.20%
	Audits	150	0		150	0.20%
	Financial costs	0	1,900		1,900	2.53%
	Total, subprogram 1	39,800	10,000		49,800	66.40%
Subprogram 2: OTHER TOURIST MUNICIPIOS						
	Management and supervision	960		240	1,200	1.60%
	Direct costs	19,140		3,810	22,950	30.60%
1.	Studies	760		240	1,000	1.33%
2.	Works	17,680		2,520	20,200	26.93%
3.	Municipal strengthening	500		1,000	1,500	2.00%
4.	Community activities	200		50	250	0.33%
	Monitoring and evaluation	50		0	50	0.07%
	Audits	50		0	50	0.07%
	Financial costs	0		950	950	1.27%
	Total, subprogram 2	20,200		5,000	25,150	33.53%
	Program total	60,000	10,000	5,000	75,000	100.00%
	%	80.00%	20.00%		100.00%	

III. PROGRAM EXECUTION

A. Borrower and executing agencies

- 3.1 The borrower will be the Argentine Nation. The executing agencies will be the Federal Department of Tourism (SECTUR), which will execute subprogram 1, and

the Department of Environment and Sustainable Development (SAyDS), which will execute subprogram 2.

B. Project execution and management

- 3.2 The program will be executed and managed in accordance with the *Manual of Operations and Procedures (MOP)* drafted in the program preparation stage. The manual establishes a single set of rules and procedures for SECTUR and the SAyDS regarding the programming of activities and the preparation of annual work plans; procurement; handling and filing of the supporting documentation for bidding processes; financial and accounting management of the program; and audits. The manual also spells out: the responsibilities of the participating municipios to be included in participation agreements, the project formulation process, the execution and supervision of works, and various aspects of their operation and maintenance, as described below. The manual has been developed and reviewed with the national authorities and is ready for their approval. **Approval of the Manual of Operations and Procedures by the two executing agencies will be a condition precedent to the first disbursement for the respective subprogram.**

1. Executing agencies

- 3.3 Each executing agency will be responsible for the general management, financial and accounting management, and monitoring and evaluation of the subprogram entrusted to it, as well as for the commissioning of the designs and the execution and supervision of the works, in accordance with the MOP.
- 3.4 The responsibilities of each executing agency include: (i) opening separate bank accounts and maintaining accounting records that identify the sources and uses of program resources; (ii) preparing and submitting to the Bank disbursement requests, appropriate documentation for eligible expenses, and audited program financial statements; (iii) preparing open calls for proposals and bidding processes, and carrying out procurement, payments, and technical and environmental supervision of contracts for program activities; (iv) conducting periodic inspections of the works during their execution and subsequently monitoring their operation and maintenance; (v) preparing the requisite monitoring and evaluation reports, submitting them to the Bank, and making them available to the public; and (vi) ensuring compliance with the contractual provisions set out in the loan contract and with the agreements to be established with the beneficiary municipios. Each executing agency has a consolidated integrated accounting system that will ensure effective financial management of the program and the timely submission of reports.
- 3.5 The responsibilities of each executing agency will be carried out by project executing units (PEUs) created for that purpose, which will report to technical units within the organizational structure of the respective agency. Each PEU will consist of a general coordinator with experience in project management, a technical coordinator, a procurement specialist, a financial and accounting specialist, and a

monitoring and evaluation specialist. Each PEU will also receive occasional support from consultants for the technical, economic, financial, and environmental evaluation of projects. **The formation at each executing agency of a PEU with responsibility for executing the respective subprogram and appointing the necessary staff will be a condition precedent to the disbursement of resources for each subprogram.**

2. Participation agreements

- 3.6 The participating municipios will propose projects for program financing that meet the criteria and conditions described in the MOP. They will review the supporting technical documentation for competitive bids for the works and assist the executing agencies during the execution of these works. The strengthening provided for the municipios under the program will enable them to perform their role in the project cycle with sufficient guarantees.
- 3.7 The responsibilities of the municipios participating in the program will be spelled out in participation agreements between the executing agency and each municipio. These responsibilities include: identifying the institution-strengthening activities to be provided by the program that are needed for integrated solid waste management; implementing the mechanisms for financing the costs of operation, maintenance, and future investment for the works once they have been transferred to their jurisdiction, consistent with the respective financing plans; demonstrating that they hold ownership rights to the land on which the works will be executed and delivering it free of occupants; helping to arrange for any authorizations, permits, approvals, easements, and internal formalities that the projects may necessitate; approving the studies and final designs for the works under their jurisdiction; allowing the executing agencies, contractors, auditors, and the Bank to have free and unfettered access to the construction sites during program execution and for up to five years following the final loan disbursement; properly operating and maintaining the project works, in accordance with generally accepted technical standards, and reporting annually to the appropriate executing agency on the progress of that task.
- 3.8 The participation agreements will be accompanied by a copy of the agreement between the municipio and the national park and/or adjacent municipios, setting out the park's obligation to dispose of solid waste in the municipio's sanitary landfill and to pay for this service. **The entry into force of the participation agreement between the relevant executing agency and the municipio, under the terms agreed upon with the Bank, will be a condition precedent to any call for competitive bids for works under the municipio's jurisdiction.**

3. Project formulation

- 3.9 Each executing agency will hire consulting firms to prepare the feasibility studies for the projects under its responsibility, following the *Instructions for the Preparation of Program Projects*, which form part of the MOP. These instructions define the scope and methodology of the studies, which will include engineering

studies and environmental, economic, and financial analyses. The engineering studies will be conducted using technically acceptable design parameters; the environmental analysis will support the technical proposals; the economic analysis will identify the least-cost alternative and ensure that the per-unit economic cost of that solution does not exceed US\$15 per metric ton for transportation and final disposal; and the financial analysis will evaluate the municipio's capacity to operate and maintain the works under its jurisdiction. The methodologies for each type of analysis will be the ones used to assess the feasibility of the three projects mentioned below.

- 3.10 Each executing agency will hire consulting firms to prepare the final designs, the final environmental studies, a cost financing plan that takes into account the recommendations contained in the financial analysis for proper operation and maintenance of the works, and the respective bidding documents, subject to the Bank's no objection to the technical documentation supporting the feasibility assessment.

4. Execution and supervision of works

- 3.11 The works must adhere to the relevant environmental and safety regulations. To verify compliance with these regulations, the responsible executing agency will send the technical documentation for the works to the respective national and subnational agencies for their approval, in accordance with the relevant legislation. The environmental studies will be sent to the agency having jurisdiction over each project for its approval. The responsible executing agency will also keep in contact with the municipio in whose jurisdiction the works will be implemented so that the latter can express its consent to the studies and final designs for the works under its jurisdiction and perform the tasks of holding consultations and promoting public participation in accordance with Bank policies. Once the approvals have been received, the responsible executing agency will send the documentation to the Bank for its no objection.
- 3.12 The executing agencies will be responsible for the technical supervision of contractors and verification of their compliance with environmental regulations. Contracts for program works will incorporate the environmental measures required by these regulations. The participation agreements will specify the municipios' responsibilities in terms of support for the technical supervision of works. Each executing agency will be assisted by consultants in carrying out supervision. As part of its semiannual execution report, each executing agency will present the outcomes of its supervision work, indicating the progress made in complying with environmental regulations, the general problems encountered, and the steps taken to solve them.

5. Operation and maintenance

- 3.13 Once the works have been completed, the operation and maintenance tasks will be carried out by the municipio in whose jurisdiction the works are located, including future investment to open new sanitary landfill cells. For the three projects analyzed

during program preparation, the least-cost solution yielded average annual costs for these tasks equivalent to US\$351,750 for the sanitary landfill and separation plant for Iguazú National Park–Puerto Iguazú, US\$407,460 for the three sanitary landfills for Lago Puelo National Park–El Bolsón–Lago Puelo–El Hoyo–Epuyén, and US\$111,440 for the sanitary landfill for Talampaya National Park–Pagancillo–Villa Unión–Guadacol.² Because the municipios will have to cover the costs of operation, maintenance and future investment, the supporting technical documentation for each project will include a financing plan for operating and maintenance costs that must incorporate the recommendations contained in the financial feasibility analysis for the project. This plan will propose appropriate income-generating mechanisms to cover such costs, which may include collection of a fee per metric ton of solid waste deposited in the sanitary landfill by adjacent municipios. Evidence of the implementation of the mechanisms to finance the costs of operation, maintenance, and future investment will be provided in the participation agreement between the respective executing agency and the responsible municipio. The extent to which such cost financing mechanisms have been implemented by the responsible municipio will be monitored in the program evaluation reports. The logical framework (Annex I) includes purpose indicators to support such monitoring.

C. Procurement of goods and services

- 3.14 The executing agencies will procure works, goods, and related services and select and contract consulting services with program resources in accordance with the policies for the procurement of goods and works financed by the IDB of July 2006 (document GN-2349-7) and the policies for selection and contracting of consultants financed by the IDB of July 2006 (document GN-2350-7). International competitive bidding will be used for works with an estimated cost of US\$5 million or more, and for goods and related services with an estimated cost of US\$500,000 or more. Goods valued at US\$100,000 to US\$500,000 may be procured using national competitive bidding, and goods costing US\$100,000 or less may be procured using the shopping method. The procurement of consulting services estimated to cost more than US\$200,000 must be advertised internationally in the United Nations' *Development Business* (UNDB). Shortlists of consultants for assignments with an estimated value below US\$500,000 may comprise entirely national consultants. However, foreign firms expressing an interest may also be considered. The works, goods, related services, and consulting services to be procured in the first 18 months of program execution are presented in each subprogram's procurement plan.

² These amounts include the average annual investment cost of opening new cells in the respective sanitary landfills. The estimated investment is US\$35,350 for the Iguazú National Park–Puerto Iguazú project; US\$62,460 for the Lago Puelo National Park–El Bolsón–Lago Puelo–El Hoyo–Epuyén project; and US\$7,140 for the Talampaya National Park–Pagancillo–Villa Unión project.

- 3.15 The Bank will supervise all procurement ex ante. Twelve months after the first procurement or contract, the quality of each executing agency's internal controls will be assessed on the basis of periodic reviews, external audit reports on the program financial statements, and inspection visits. The findings of this analysis will be used to determine whether ex post reviews of procurement and disbursement processes can be done when contract amounts for works and goods are below the thresholds for international competitive bidding, and consulting contracts are below US\$500,000 for firms and US\$50,000 for individual consultants. In each case, full or partial ex post review of procurements may be cancelled at any time, and financing with the loan proceeds or local counterpart contribution may be denied, depending on the circumstances, based on the findings of the ex post reviews.

D. Revolving funds

- 3.16 To provide advance funding of the activities to be financed with the loan proceeds, two revolving funds will be established—one for each subprogram. The amount of each revolving fund will be limited to 5% of the Bank loan proceeds for the respective subprogram.

E. Recognition of expenditures

- 3.17 The executing agencies have requested that up to US\$45,000 equivalent for SECTUR, and up to US\$24,000 equivalent for the SAyDS, be recognized and charged against the local counterpart contribution as expenditures made by them to prepare basic studies and environmental analyses of the first-year investments, and as expenditures associated with the operation of the PEUs during the 18 months prior to the Bank's approval of the project. The procedures followed in the selection and contracting of consulting services have been reviewed and are considered acceptable to the Bank.

F. Execution period and disbursement schedule

- 3.18 The program execution period will be five years. The disbursement schedule is given below:

Table III: Execution timetable

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Subprogram 1	2,490,000	12,450,000	17,430,000	12,450,000	4,980,000	49,800,000
IDB	1,990,000	9,950,000	13,930,000	9,950,000	3,980,000	39,800,000
SECTUR	500,000	2,500,000	3,500,000	2,500,000	1,000,000	10,000,000
Subprogram 2	1,260,000	6,300,000	8,820,000	6,300,000	2,520,000	25,200,000
IDB	1,010,000	5,050,000	7,070,000	5,050,000	2,020,000	20,200,000
SAyDS	250,000	1,250,000	1,750,000	1,250,000	500,000	5,000,000
Total	3,750,000	18,750,000	26,250,000	18,750,000	7,500,000	75,000,000
%	5.00%	25.00%	35.00%	25.00%	10.00%	100.00%

G. Monitoring and evaluation

- 3.19 Each executing agency will monitor and evaluate compliance with the periodic output, outcome, and impact targets set out in the logical framework (Annex I) for the subprogram under its responsibility. The executing agencies will use mainly information from the execution reports on individual projects, as well as data generated by their periodic inspection visits. Opinion surveys of residents and tourists will also be conducted to measure changes in the level of satisfaction with improvements in solid waste management systems in the respective areas.
- 3.20 The executing agencies will prepare semiannual execution reports detailing the technical and financial progress of the activities for which they are responsible, and deliver them to the Bank within 60 days after the end of each six-month calendar period during the program. The executing agencies will use report formats to be agreed on with the Bank. These reports will focus on compliance with output indicators and progress toward outcomes specified in the logical framework (Annex I). They will include the outcomes both of works supervision and of monitoring the implementation of the environmental and social management plans for the individual projects, as well as an analysis of problems encountered and corresponding measures taken. The reports for the second six-month period will also include the programming for the next calendar year, including projected disbursements and an updated procurement plan. The program adjustments that emerge from discussion of these reports will be agreed upon with the Bank in the respective semiannual meetings. Once accepted by the Bank, the monitoring reports of each executing agency will be made available to the public on its website.
- 3.21 As part of the program evaluation, each executing agency will prepare and deliver a midterm report to the Bank within 90 days after the date on which 40% of the loan proceeds for the respective subprogram have been disbursed, and a final evaluation report within 90 days after the date on which 90% of the loan proceeds for the respective subprogram have been disbursed. These evaluations will be carried out by consulting firms contracted by the executing agencies and will be financed from the loan proceeds. The reports will include: (i) output and outcome targets met and progress toward expected impacts, based on the indicators in the logical framework (Annex I); (ii) the effectiveness and efficiency of the project feasibility assessment process, with an emphasis on quality, time, and cost; and (iii) the extent to which environmental and social management plans for the works have been implemented, cost-recovery mechanisms have been implemented by the municipios responsible for operation and maintenance of the works, the operating and maintenance requirements for completed works have been met, and contractual commitments and agreements have been kept. Once accepted by the Bank, the evaluation reports of each executing agency will be made available to the public on its website. The reports, including the supporting documentation and statistical data, will be kept available for an ex post evaluation in case the government or the Bank decides one should be done after the program has ended.

H. Audits

- 3.22 The executing agencies will submit each subprogram's audited financial statements to the Bank within 120 days after the close of each fiscal year, and the program's close-out audit report within 120 days after the last disbursement, all of them duly certified by independent auditors acceptable to the Bank. The audits will be based on the terms of reference approved in advance by the Bank (document AF-400) and the Bank's policy and requirements for external audits (documents AF-100 and AF-300). If the audit is done by a private firm, the cost, excluding taxes, may be financed out of the program resources. In such case, the standard procedures for the selection and contracting of external auditors (document AF-200) will be followed.

IV. VIABILITY AND RISKS

A. Institutional viability

- 4.1 The program execution scheme provides for two federal departments to participate as executing agencies, with equal rights and obligations in the execution of the respective subprograms. This structure arose from the need to cover the demand generated by two distinct universes of beneficiaries: one associated with the national parks, which are tourist attractions for many areas and for which such association will have a strong impact on the financial viability of the proposed projects, and the other not associated with a specific, institutional source of tourist flows.
- 4.2 SECTUR has a close relationship with the municipios associated with protected areas because the National Parks Administration (APN) is attached to this department, and it maintains regular operational links with those municipios. The solid waste generated by visitors to the parks is deposited in municipal disposal sites, pursuant to an agreement between each national park and the municipio. The existing agreements will be modified to formalize the obligations of the units and municipios with respect to urban solid waste disposal and to more accurately reflect the final waste disposal costs. The application of the rates provided for under these agreements should go a long way toward ensuring the financial viability of the individual projects, as explained in the respective section.
- 4.3 The SAYDS can, at the request of and by agreement with the municipal governments, act throughout the national territory, but not in the parks and protected areas, whose territory is under the exclusive jurisdiction of the APN. The SAYDS receives a steady demand for financial support from municipios throughout the country. The resources it has from the proceeds of World Bank loan IBRD 7362-AR cover the needs of the municipios, provided that they are part of a provincial integrated urban solid waste management plan that factors in regional considerations. There is a strong unmet need, however, among small municipios that are generally located in areas far from the provincial hubs around which the regional solutions are built and whose economic base is derived from tourism. The SAYDS feels that this group requires ad hoc solutions that could not easily be

- provided through large-scale provincial plans, and has given this group of municipios priority for Bank financing.
- 4.4 As part of program preparation, the institutional structure proposed by the Argentine government was analyzed and deemed to meet the following prerequisites for effectiveness and efficiency: (i) each executing agency has comparative advantages in terms of establishing and maintaining cooperative relations with the respective groups of beneficiary municipios; (ii) the executing agencies have developed a relationship with the municipios that are part of the eligible universe for their respective subprograms, and real demand has been expressed in the two universes; (iii) the administration and supervision costs involved in operating the two PEUs are reasonable (4% for subprogram 1 and 4.8% for subprogram 2) and proportional to the investment amount to be managed by each subprogram, with a slight variation owing to the existence of basic financial management and administrative costs that cannot be scaled in exact relation to the investment amount.
- 4.5 The project team updated the results of the Institutional Capacity Assessment System (ICAS) analyses conducted for the two executing agencies in the context of preparing two other Bank loans, one of which was approved recently (1648/OC-AR), while the other is in the approval stage (AR-L1026). With respect to SECTUR, the analysis concluded that the execution of loan 1648/OC-AR has enabled the coordinating unit for that loan to gain experience with Bank procedures and to implement administrative and accounting structures that will be of direct value in executing the present operation, since the existing coordinating unit will, with the reinforcement of additional staff hired with resources from this operation, assume the functions of PEU1. However, PEU1 will have to be endowed with the technical and administrative capacities that will enable it to act efficiently and nimbly; in particular, the analysis identified the need to hire environmental and urban solid waste management consultants to round out the agency's experience.
- 4.6 With respect to the SAyDS, the ICAS analysis performed during the preparation of AR-L1026 is directly applicable to the institutional viability assessment for the present operation, as the execution structures and mechanisms will be the same. That analysis concluded that the SAyDS needs to strengthen certain aspects of administrative planning, administration of goods and services, and internal controls. In the administrative planning area, the SAyDS has no formal procedures for the preparation of annual work plans; the program will offset this weakness through the preparation of annual work plans and semiannual monitoring reports. The ICAS analysis gave the system for administration of goods and services a moderate risk rating, owing to its insufficient capacity to manage the projected procurement workload during execution of the subprogram; accordingly, the program will strengthen the SAyDS by hiring a procurement specialist to take on the additional workload that execution of the subprogram will entail. Lastly, in terms of its internal control system, the SAyDS does not have adequate standards and procedures to ensure that this system performs in an efficient and transparent

manner; accordingly, program resources will be used to hire a financial and accounting specialist to implement procedures applicable to the subprogram, following the detailed guidelines provided in the Manual of Operations and Procedures.

B. Socioeconomic viability

- 4.7 The economic analysis focused on selection of the least-cost alternative for final solid waste disposal. The least-cost method of analysis compares a set of feasible alternatives and selects the one with the lowest present value of cost flows for investment, operation and maintenance, and transfer. This method was applied to the three projects analyzed during program preparation: (i) Iguazú National Park–Puerto Iguazú; (ii) Lago Puelo National Park–El Bolsón–Lago Puelo–El Hoyo–Epuyén; and (iii) Talampaya National Park–Pagancillo–Villa Unión–Guadacol. Investments in these three projects represent about 7% of the direct program costs. The alternatives considered for each project assume environmental and engineering standards consistent with feasibility. The investment costs encompass the construction of cells, including embankments and berms, and sealing them with geomembranes or bentonite; sanitary landfill facilities and machinery; and possible transfer and separation plants. The operation and maintenance costs are those associated with these investments. Transportation costs include the cost of vehicles for transporting waste from the generating centers to the respective plants and/or sanitary landfill, as well as their annual operation and maintenance. The calculations used December 2006 prices. All of the alternatives considered could accommodate the expected volumes of waste generation over a 20-year time horizon. In each case, the annual projections of waste generated by each locality were calculated based on population projections and waste generation parameters established by the World Bank for various income levels in Argentina. The discount rate used for calculating present value was 12%. This method will be used for the final selection of the least-cost alternative for the remaining program projects, which is why it is included in the *Instructions for the Preparation of Program Projects*. The outcomes for each project are presented below.

1. Iguazú National Park–Puerto Iguazú

- 4.8 Three alternatives were considered for the final disposal of solid waste from the city of Puerto Iguazú and from Iguazú National Park. Each option included a combination of investments in a sanitary landfill and in transfer and separation plants of different sizes and locations. The total volume of solid waste projected for both localities for the period analyzed is 469,000 metric tons, of which 91% will be generated by Puerto Iguazú. Table IV-1 shows the present value of cost flows for investment, operation and maintenance, and transportation for each alternative over the period analyzed. The results show that alternative 2— construction of a sanitary landfill and a separation plant—is the least-cost alternative.

Table IV-1: Puerto Iguazú-Iguazú National Park project

Present value by cost category

(in thousands of December 2006 Argentine pesos)

Alternatives	Investment	O&M*	Transportation	Total
1. Installation of a waste separation and transfer plant 7 km from Puerto Iguazú and 23 km from Iguazú National Park, and expansion of the Caragatay provincial sanitary landfill, located at a distance of 140 km	3,584.9	5,134.5	4,401.2	13,120.6
2. Construction of a sanitary landfill with a separation plant 7 km from Puerto Iguazú and 23 km from Iguazú National Park	4,753.1	5,722.2	0	10,475.3
3. Construction of a sanitary landfill with a separation plant 15 km from Puerto Iguazú and 28 km from Iguazú National Park	4,883.0	5,722.2	737.5	11,213.8

* Operation and maintenance.

2. Lago Puelo National Park-El Bolsón-Lago Puelo-El Hoyo-Epuyén

- 4.9 The least-cost analysis was based on four alternatives. The total volume of solid waste projected for the five localities for the period analyzed is 643,250 metric tons, of which the cities of El Bolsón and Lago Puelo will each generate 47% of the total, El Hoyo 5%, and Lago Puelo National Park and Epuyén the remaining 1%. Table IV-2 shows the present value of cost flows for investment, operation and maintenance, and transportation for each alternative over the period analyzed. The results show that alternative 4—construction of one sanitary landfill each in El Bolsón, Epuyén, and Lago Puelo, with the latter also serving the localities of El Hoyo and Lago Puelo National Park—is the least-cost alternative.

Table IV-2: Lago Puelo National Park-El Bolsón-Lago Puelo-El Hoyo-Epuyén project

Present value by cost category

(in thousands of December 2006 Argentine pesos)

Alternatives	Investment	O&M*	Transportation	Total
1. Construction of a sanitary landfill in El Bolsón and another in Epuyén, with corresponding transfer plants in each city	10,977.5	23,153.5	5,058.7	16,251.4
2. Construction of a sanitary landfill in El Bolsón and another in Epuyén, with a transfer plant only in Epuyén	10,123.5	21,967.9	5,290.8	13,844.3
3. Construction of a sanitary landfill in El Bolsón and another in Epuyén, with a transfer plant only in El Bolsón	10,123.5	21,548.6	7,897.9	14,508.4
4. Construction of one sanitary landfill each in El Bolsón, Epuyén, and Lago Puelo	9,835.4	20,699.7	2,215.3	12,444.2

* Operation and maintenance.

3. Talampaya National Park-Pagancillo-Villa Unión-Guadancol

- 4.10 Three alternatives were considered for the final disposal of solid waste from these four localities. The total volume of solid waste projected for these localities for the period analyzed is 120,270 metric tons, of which 68% will be generated by Villa Unión, 21% by Guadancol, 8% by Pagancillo, and the remaining 3% by Talampaya National Park. Table IV-3 shows the present value of cost flows for investment, operation and maintenance, and transportation for each alternative over the period analyzed. The results show that alternative 2—construction of a sanitary landfill in Villa Unión to serve all the localities in the area—is the least-cost alternative.

Table IV-3: Talampaya National Park-Pagancillo-Villa Unión-Guadancol project
Present value by cost category
(in thousands of December 2006 Argentine pesos)

Alternatives	Investment	O&M*	Transportation	Total
1. Construction of three small sanitary landfills in Villa Unión	2,831.2	4,836.0	0	7,667.2
2. Construction of a sanitary landfill in Villa Unión, with a collection truck for Pagancillo and Talampaya National Park	2,113.0	2,119.7	596.7	4,909.4
3. Construction of a sanitary landfill in Villa Unión, with transfer plants in Guadancol and Pagancillo	2,632.1	4,011.8	185.2	6,829.1

* Operation and maintenance

- 4.11 In order for the scale of the program's other projects not to strain the financial capacity of the participating municipios, it was determined that the economic cost per metric ton of refuse should not be greater than US\$15 for the least-cost solution for these projects. This ceiling was calculated by taking as a reference point the economic cost per metric ton of the least-cost solutions for the three projects analyzed (or, the present value of the transfer and final disposal cost flows for these solutions divided by the total number of metric tons of refuse to be disposed of during the period analyzed). For the Iguazú National Park–Puerto Iguazú project, this cost was 22 Argentine pesos, or US\$7.3 equivalent at the current exchange rate; for the Lago Puelo National Park–El Bolsón–Lago Puelo–El Hoyo–Epuyén project, it was 20.5 pesos, or US\$6.8 equivalent; and for the Talampaya National Park–Pagancillo–Villa Unión–Guadancol project, it was 40.3 pesos, or US\$13.5 equivalent. This ceiling also squares with the range of per-unit economic costs for transfer and/or final disposal observed in similar projects financed by the Bank.³

³ In the program for the environmental restoration of the Lake Amatitlán watershed (1651/OC-GU), the economic cost of final solid waste disposal under the least-cost investment was calculated as US\$8.76 per metric ton; in the Georgetown solid waste management program (1730/SF-GY), this cost was US\$6.46; and in the Jamaica solid waste management program (1185/OC-JA), the cost was US\$9. These costs did not include the economic costs of waste transfer.

C. Financial viability

- 4.12 The financial analysis focused on the municipios' financial capacity to cope with the annual costs of operating and maintaining the works under their respective jurisdiction, including future investments related to opening new sanitary landfill cells. Using projections based on budget execution for the last three years, the methodology analyzes expected current revenue and expenditure and measures the impact on the municipio's primary balance sheet of the annual costs of operation, maintenance, and future investment for the works under the least-cost solution.
- 4.13 The methodology was applied to four municipios belonging to the three projects analyzed during program preparation: Puerto Iguazú, in the Iguazú National Park–Puerto Iguazú project; El Bolsón and Epuén, in the Lago Puelo National Park–El Bolsón–Lago Puelo–El Hoyo–Epuén project; and Villa Unión, in the Talampaya National Park–Pagancillo–Villa Unión–Guadacol project. Data were compiled on each municipio's financial situation as of December 2005. In no case were data available on previous years or on expenditure for urban solid waste management, as the participating municipios do not break down their budget by specific end use. This lack of data made it necessary to use their 2005 financial condition as their expected long-term condition, and prevented a more precise financial analysis of the program's impact on solid waste management in each municipio. For purposes of analysis, the annual costs of operation, maintenance, and future investment were calculated to be equal to the annual average of such costs for the project time horizon. In those cases where the least-cost solution involves a sanitary landfill for disposal of solid waste from more than one municipio (i.e. Puerto Iguazú and Villa Unión), it is assumed that the respective municipio will collect revenues for the service provided to the adjacent municipios that are approximately proportional to their share of the total volume. The results are shown in Table IV-4.

Table IV-4: Statement of current revenue and expenditure of selected municipios
(in thousands of Dec. 2005 Argentine pesos)

Item	Puerto Iguazú	El Bolsón	Epuén	Villa Unión
A. Current revenue	11,280.4	5,978.0	3,236.3	4,923.6
Municipal	5,944.5	3,008.0	122.7	618.6
Nonmunicipal*	5,250.5	2,970.0	3,113.6	4,204.8
Fees for disposal of refuse from other localities	85.4	0	0	100.2
B. Current expenditure	12,240.2	4,891.2	1,244.3	5,831.6
C. Operation and maintenance of program works	904.2	505.5	264.4	341.8
D. Current saving (A-B-C)	(1,864.0)	581.3	1,727.6	(1,249.8)

* Includes revenue-sharing of taxes, royalties, etc.

- 4.14 According to the results, the average annual operating and maintenance costs are not expected to have a significant impact on the municipios of El Bolsón and Epuén, both of which are associated with the Lago Puelo National Park–

El Bolsón–Lago Puelo–El Hoyo–Epuyén project. The opposite is the case with respect to the municipios of Puerto Iguazú and Villa Unión, whose primary deficit situation will be exacerbated by the costs associated with the works. For these last two municipios in particular, the cost financing plan to be submitted together with the final designs will be a central element in determining what mechanisms these municipios will have to put in place to avoid a deterioration of their fiscal situation once the works under their jurisdiction have been completed.

D. Environmental and social considerations

- 4.15 The Committee on Environment and Social Impact (CESI) reviewed the project at its meeting 48-06 of 15 December 2006. It confirmed the category B assignment for the program, and suggested that individual project evaluations be limited to environmental analyses. As a result, environmental analyses were done of the investment projects planned for the first year.
- 4.16 The environmental analyses of the individual projects lead to the conclusion that: (i) in every case, the environmental and social impact in the scenario with the project is positive, since the works and activities financed under the program will solve water, soil, and scenic pollution problems that adversely affect the health of the surrounding populations and the natural environment of the tourist attractions that constitute a source of income for those populations; (ii) the adverse environmental impact is minor, and characteristic of the type of work proposed—easily identifiable, mitigable through the inclusion of good practices in the bidding documents and contracts, and limited geographically to the area where the construction of sanitary landfills, access roads, and separation and/or transfer stations will take place; (iii) the social impact that has been identified is of two types: positive, where it is associated with the closure of clandestine dumps and the replacement of plant cover, or with the relocation of dumps now in riverbeds that fill and drain periodically; and potentially negative, to the extent that the new landfills are located in the vicinity of populated areas. To mitigate the latter impact, the program has established as an eligibility criterion that the interested municipio provide land that is unoccupied and free from any social pressure.
- 4.17 The review of the legal and institutional framework for the execution of individual projects revealed the need to implement strengthening and training activities for the beneficiary municipios that will make the integrated urban solid waste management project viable. Such integrated management is based on practices not previously implemented in the project areas, such as: formal separation of recoverable fractions of urban solid waste in ad hoc plants; disposal in a sanitary landfill built with a high level of environmental and technical quality control; better control of operations, logistics, administration, and finances; outsourcing of aspects of operation and management that are profitable for the private sector; and active community participation in the strategic planning of the service and in carrying out activities such as source separation and recycling. To improve their performance, the municipios will need technical, operational, and administrative personnel, and training plans must be developed in accordance with the technical and institutional

proposal formulated for each project. To expand opportunities for private-sector participation, such participation must be actively promoted, starting with analysis of the financial profitability of each undertaking and inviting enterprises active in the sector in Argentina to round-table discussions. To increase community participation, efforts must be made to reach out to the community and raise awareness with regard to integrated urban solid waste management and the project, and to multiply the program's social benefits, resources must be devoted to the reintegration into the labor market of persons who currently derive part of their income from waste that has been disposed of improperly.

- 4.18 The executing agencies prepared an environmental and social management report on the program, which describes the prevention, control, and mitigation measures that must be taken with respect to the individual projects, the institutional responsibilities of the municipios and executing agencies during the execution phase, the additional technical assistance that is required to help the municipios and executing agencies perform the monitoring and evaluation tasks under the plan, and the allocation of financial resources to cover these activities.
- 4.19 In addition, the Argentine authorities were informed about the resources available under the IDB's new Sustainable Energy and Climate Change Initiative, which will finance preliminary assessments of the potential for generating carbon credits, as well as an analysis of the sales potential of CO₂ emission reduction certificates under the Clean Development Mechanism.

E. Benefits and beneficiaries

- 4.20 The program's principal beneficiaries are the low-income groups living in the municipios that will participate in the program. It is precisely these low-income groups who live in the outlying districts where clandestine dumps are generally located, and who suffer the environmental and health impact resulting from improper disposal of urban solid waste. For these communities, the program will generate the following benefits: (i) open-air dumps closed, covered with a layer of vegetation, fitted with exhaust pipes for any gases, signposted, and actively protected by the municipio; (ii) better operation of trash collection services as a result of the municipios' enhanced operating capacity and the implementation of integrated urban solid waste management systems; (iii) greater awareness and education with respect to measures for reducing the volume of waste generated by each family unit, and methods of separation and proper control of municipal waste; and (iv) opportunities to participate in the various community activities financed by the program, including job placement programs and support for small family or community enterprises.

F. Risks

- 4.21 **Compliance with the commitments assumed by the municipios:** The commitments that the municipios will assume vis-à-vis the executing agencies are mainly twofold: covering the operation and maintenance costs, and incorporating training and technical assistance for improved urban solid waste management. The

analysis of completed projects showed that the marginal cost of covering operation and maintenance costs will be insignificant for the municipios; nonetheless, it was agreed that each municipio will submit a cost financing plan that can be evaluated as part of the financing proposal for each specific project. Moreover, the municipality's obligation to participate actively in training activities will be included as part of the participation agreements. The program also provides for community awareness-raising and participation activities to highlight the importance of proper waste disposal. The midterm and final evaluations will place emphasis on measuring progress at this level of community awareness, and will recommend adjustments to the program's social communication strategy if the support provided is found to be insufficient.

- 4.22 **Profitability of potential operating contracts for the private sector:** The generally small size of the municipios and their low population headcount suggests that private companies will be interested in operating facilities (landfills and transfer stations) only in the case of larger projects. However, the program seeks to extend this interest to smaller projects in order to introduce the concepts of efficiency, profitability, internal controls, and competence in the delivery of urban solid waste management services in all participating municipios. To this end, the program will finance promotional and consulting activities with the business sector in order to identify, in each case, which administrative or technical measures could make the individual projects more attractive. The midterm and final evaluations will pay special attention to evaluating the degree of private participation and will recommend adjustments based on the findings of those evaluations.

ARGENTINA
SOLID WASTE MANAGEMENT IN TOURIST MUNICIPIOS (AR-L1025)

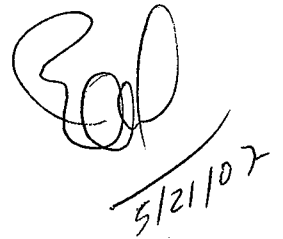
LOGICAL FRAMEWORK

Narrative Summary	Success Indicators	Means of Verification	Assumptions
Program Goal	Impact/Goal Indicators		
To support environmentally sustainable tourism in Argentina's tourist municipios	<ul style="list-style-type: none"> By the end of the program, 80% of inhabitants residing in the participating municipios and tourists visiting the national parks notice a significant reduction in the volume of uncollected refuse or refuse that has been disposed of improperly. 	<ul style="list-style-type: none"> Opinion surveys of residents and tourists using existing mechanisms 	
Purpose/Outcomes	Purpose Indicators		
To improve integrated urban solid waste management in the program's target areas	<ul style="list-style-type: none"> Upon program completion, 100% of the new sanitary landfills are in regular operation and no new improper disposal sites have been detected. Baseline: 0 Once the works have been transferred to the municipios, 100% of the infrastructure financed by the program is operated and maintained by the responsible municipios according to the respective financing plan for such costs. Baseline: 0 Once the works have been transferred to the municipios, participating national parks pay 100% of cost of disposal of their solid waste in the new sanitary landfills. Baseline: 0% 50% of municipio residents recognize that final disposal of urban solid waste has improved substantially. Baseline: 0 	<ul style="list-style-type: none"> Executing agencies' evaluation reports Community opinion surveys 	<ul style="list-style-type: none"> The municipios participating in the program keep their promise to meet the obligations assumed in the participation agreements. The private sector shows interest in helping to operate the systems.
Components/Outputs	Output Indicators		
Subprogram 1: Integrated management of urban or household solid waste in national parks and adjacent municipios	<ul style="list-style-type: none"> Final designs completed, bidding documents prepared, and open for competitive bidding: 2008: 6 projects 2009: 7 projects 	<ul style="list-style-type: none"> Executing agencies' monitoring and evaluation reports 	<ul style="list-style-type: none"> The municipal officials participating in the training remain in their positions and have the opportunity and desire to apply their integrated urban solid waste

Narrative Summary	Success Indicators	Means of Verification	Assumptions
	<p>2010: 10 projects</p> <p>2011: 11 projects</p> <ul style="list-style-type: none"> • New sanitary landfills constructed and operating according to the highest environmental and technical quality standards in areas where the scenic impact is minor: <p>2009: 3 landfills</p> <p>2010: 10 landfills</p> <p>2011: 10 landfills</p> <p>2012: 11 landfills</p> <ul style="list-style-type: none"> • Old dumps closed: <p>2009: 5 dumps</p> <p>2010: 10 dumps</p> <p>2011: 10 dumps</p> <p>2012: 10 dumps</p> <ul style="list-style-type: none"> • 100% of the municipios participating in the subprogram have been strengthened in the area of integrated urban solid waste management. • 30 staff members from the units responsible for urban solid waste management in the participating municipios have attended at least one training course in integrated urban solid waste management, management of private-sector contracts, etc. • By the end of the program, 100% of the municipios benefiting from this subprogram have implemented at least one of the planned awareness-raising and community participation activities. <p>Baseline: 0 for all indicators</p>		<p>management training.</p>
<p>Subprogram 2:</p> <p>Integrated management of urban or household solid waste in other tourist</p>	<ul style="list-style-type: none"> • Final designs completed, bidding documents prepared, and open for competitive bidding: <p>2008: 7 projects</p>	<ul style="list-style-type: none"> • Executing agencies' monitoring and evaluation reports 	<ul style="list-style-type: none"> • The municipal officials participating in the training remain in their positions and have the opportunity

Narrative Summary	Success Indicators	Means of Verification	Assumptions
municipios	<p>2009: 5 projects</p> <p>2010: 5 projects</p> <p>2011: 3 projects</p> <ul style="list-style-type: none"> • New sanitary landfills constructed according to the highest environmental and technical quality standards in areas where the scenic impact is minor: <p>2009: 2 landfills</p> <p>2010: 5 landfills</p> <p>2011: 7 landfills</p> <p>2012: 6 landfills</p> <ul style="list-style-type: none"> • 100% of the municipios participating in the subprogram have been strengthened in the area of integrated urban solid waste management. • 20 staff members from the units responsible for urban solid waste management in the participating municipios have attended at least one training course in integrated urban solid waste management, management of private-sector contracts, etc. • By the end of the program, 100% of the municipios benefiting from this subprogram have implemented at least one of the planned awareness-raising and community participation activities. <p>Baseline: 0 for all indicators</p>		and desire to apply their integrated urban solid waste management training.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK



5/21/07

PROPOSED RESOLUTION

Argentina. Loan ----/OC-AR to the Argentine Republic
Solid Waste Management in Tourist Municipios

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Argentine Republic, as Borrower, for the purpose of granting it a financing aimed at cooperating in the execution of solid waste management in tourist municipios. Such financing will be in the amount of up to US\$60,000,000, from the resources of the Single Currency Facility of the Bank's Ordinary Capital, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.