

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

VENEZUELA

**PROGRAM TO STRENGTHEN NATIONAL CAPACITY FOR
INTEGRATED SOLID WASTE MANAGEMENT**

(VE-L1031)

LOAN PROPOSAL

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CONTENTS

PROJECT SUMMARY

I.	DESCRIPTION AND RESULTS MONITORING	1
A.	Background, problem, and rationale	1
B.	Objectives and components	4
C.	Cost and financing.....	5
D.	Key results indicators	6
II.	FINANCING STRUCTURE AND RISKS	6
A.	Financing instruments and financial conditions	6
B.	Environmental and social risks, and mitigation measures.....	6
C.	Other key issues and risks	8
III.	IMPLEMENTATION AND MANAGEMENT PLAN	11

ANNEXES	
Annex I	Summary DEM
Annex II	Results Matrix
Annex III	Summary Procurement Plan

ELECTRONIC LINKS
Required
Annual work plan http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35113984 Monitoring and evaluation arrangements http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35113989 Procurement plan http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35113997 Environmental and social management report (ESMR) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35114002
Optional
Analysis of compliance with public utilities policy http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOC NUM=35114012 Institutional viability (ICAS) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35114015 Socioeconomic viability http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35112497 Project cycle http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35114022 Environmental parameters for monitoring http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOC NUM=35114027 Safeguard screening form for classification of projects (SSF) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35113886

ABBREVIATIONS

AWP	Annual work plan
EIA	Environmental impact assessment
ESMF	Environmental and social management framework
ICAS	Institutional Capacity Assessment System
MPPA	Ministerio del Poder Popular para el Ambiente [People's Ministry for the Environment]
UEDS	Unidad Ejecutora de Desechos Sólidos [Solid Waste Execution Unit]
VCA	Office of the Vice Minister for Environmental Conservation

PROJECT SUMMARY

VENEZUELA

PROGRAM TO STRENGTHEN NATIONAL CAPACITY FOR INTEGRATED SOLID WASTE MANAGEMENT (VE-L1031)

Financial Terms and Conditions				
Borrower: Bolivarian Republic of Venezuela			Amortization period:	25 years
Guarantor: N/A			Grace period:	5 years
Executing agency: People's Ministry for the Environment (MPPA), acting through the Solid Waste Execution Unit (UEDS) of the Office of the Vice Minister for Environmental Conservation (VCA)			Disbursement period:	5 years
Source	Amount	%	Interest rate:	LIBOR
IDB (Ordinary Capital)	140 million	80%	Inspection and supervision fee:	*
Local	60 million	20%	Credit fee:	*
Total	200 million	100%	Currency:	U.S. dollars from the Single Currency Facility
Project at a Glance				
Project objective/description: The program's general objective is to support the strategy of the Government of the Bolivarian Republic of Venezuela to improve the integrated management of municipal solid waste at the national level, in order to reduce the health and environmental impacts associated with inadequate waste management. The program will finance actions to improve quality and make the service more integrated and efficient through the following components: (i) technical assistance and institutional strengthening (US\$12 million), to include: (a) technical studies pertaining specifically to subproject viability, and sector studies for the design of national policies; (b) contracting of key technical, fiduciary, and operational personnel for the UEDS and the municipalities; and (c) technical training for personnel at the national/municipal levels; and (ii) infrastructure and operational improvements (US\$178 million) through a multiple-works infrastructure program that includes: (a) construction of sanitary landfills; (b) cleanup, conversion, and closure of open-air dumps; (c) transitional operation of landfills during a transfer and training period for municipios; (d) construction of transfer stations; and (e) plant for salvage processing, and basic equipment to support the formalization of informal waste segregators.				
Special conditions precedent to the first disbursement. As conditions precedent to the first disbursement: (i) the Operating Regulations will enter into force on the terms previously approved by the Bank (see paragraph 3.6); and (ii) the program coordinator and the operational and fiduciary personnel required for program execution will be formally appointed within the UEDS (see paragraph 3.6).				
Special execution conditions. As special execution conditions: (i) the municipal financing plan for the final waste disposal service will be prepared before the works are awarded for the sample subprojects in Guanare (Portuguesa state) and Altigracia (Guarico state) (see paragraph 3.7); and (ii) the municipios or leagues of municipios interested in participating in the program must first submit a written expression of interest to the MPPA (see paragraph 3.7).				
The Bank may recognize up to US\$2 million equivalent in expenditures incurred between 1 September 2009 and the date of project approval by the Bank's Board of Executive Directors (see paragraph 2.1).				
Exceptions to Bank policies: None.				
Project consistent with country strategy: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Project qualifies as: SEQ <input checked="" type="checkbox"/> PTI <input type="checkbox"/> Sector <input type="checkbox"/> Geographic <input type="checkbox"/> Headcount <input type="checkbox"/>				

* The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable provisions of the Bank's policy on lending rate methodology for Ordinary Capital loans. In no case will the credit fee exceed 0.75% or the inspection and supervision fee 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. DESCRIPTION AND RESULTS MONITORING

A. Background, problem, and rationale

- 1.1 Municipal solid waste management in the Bolivarian Republic of Venezuela is in a critical state. The amount of municipal solid waste has been increasing substantially, doubling in the past decade. According to the National Statistics Institute (INE), in the year 2000 the amount generated was 0.4 kg/day/person; the current figure, according to estimates by the People's Ministry for the Environment (MPPA), is 0.87 kg/day/person. This increase has forced municipios, whose infrastructure was already limited in terms of final disposal, to manage an estimated volume of 8.9 billion tons per year. The main problem is the uncontrolled final disposal of waste in open-air dumps by a significant proportion of the country's 335 municipios. A 2005 study by the Pan American Health Organization (PAHO) found that in Venezuela 60% of final waste disposal occurs in open-air dumps or watercourses; this figure rises to 80% for medium-sized cities alone, and to 100% for small cities alone. These dumps adversely impact human health and quality of life, both in nearby communities and for the informal segregators who work in the dumps. Their impact on the environment is also significant, as they are a leading source of surface water, groundwater, soil, and air pollution through uncontrolled burning (which releases dioxins and furans), and lead to proliferation of disease vectors.
- 1.2 Venezuela's Municipal Government Act, published in issue 38204 of the country's Official Gazette on 8 June 2005, establishes that the municipios are directly responsible for the collection, treatment, and final disposal of municipal solid waste; this responsibility is currently not being met effectively, creating a range of problems, especially in the final disposal phase. Because of this, the Government of Venezuela declared a national environmental emergency in 2006. The People's Ministry for the Environment (MPPA) took the institutional lead in addressing this situation with the following strategy: (i) design state-level regional plans for integrated management of municipal solid waste; (ii) develop a national plan to clean up 270 open-air dumps, close most of them, and build sanitary landfills to replace them under a partnership arrangement encompassing some 60% of the country's municipios; and (iii) coordinate efforts with the relevant entities to formalize those who work recovering materials from dumps. Over the past three years, the government has invested more than US\$250 million in these activities, and the MPPA has created the Solid Waste Execution Unit (UEDS), under the Office of the Vice Minister for Environmental Conservation (VCA), to execute and coordinate them.
- 1.3 The strategy pursued by the MPPA/UEDS has achieved considerable progress in terms of infrastructure planning and construction; for example, planning with a regional outlook has promoted the intermunicipal construction and operation of sanitary landfills. Nonetheless, the MPPA has not been able to undertake all the projects originally identified, and currently has a pre-identified inventory of 25 additional preliminary designs for projects in 13 states that still need funding

before they can proceed. In addition to funds for infrastructure investments, these projects need resources for technical assistance in the institutional, legal, technical, environmental, social economic sustainability areas.

- 1.4 To strengthen and expand the scope of the MPPA's sector strategy, the Government of Venezuela has requested technical and financial support from the IDB in the form of a US\$140 million loan. These resources will be used to finance part of the current initial inventory of pre-identified preliminary designs, as well as technical assistance. Since this amount will not cover all the infrastructure investment needs of the 25 projects initially pre-identified by the MPPA (estimated at between US\$800 million and US\$1 billion), the proposed operation will be a first phase of an investment program to address the most pressing demands in the sector.
- 1.5 **Legal framework.** Venezuela's laws and regulations on environmental management of urban household waste and refuse provide an overly broad and fragmented framework (Laws 38069/04 and 55/01, Decrees 2216/92 and 1257-06). A new bill to amend Law 55, captioned "Law for the Integrated Management of Nonhazardous Solid Waste and Refuse," has been drafted and passed first debate in the National Assembly. The new law will bring cohesion and coherence to a fragmented framework that has some overlapping of responsibilities. It confirms key concepts for sector development contained in the present framework, and introduces some innovative concepts that have been built into this program. These include: (i) efficiency and prior demonstration of capacity to provide the service, either by the municipios themselves or by third parties; (ii) inclusion of informal segregators into the system, supporting in particular their involvement in selective residential waste collection; (iii) the municipios' obligation to develop integrated management plans; (iv) economic sustainability of the service, and mandatory payment of waste collection fees; (v) support for the creation of leagues of municipios; (vi) economic incentives for participating municipios; (vii) sanctions for noncompliance by municipal public officials responsible for service delivery; and (viii) creation of the National Integrated Waste and Refuse Management Authority under the national environmental authority (MPPA in this case), whose responsibilities will include: (a) sector policy-making; (b) a standard-setting and regulatory role; and, if necessary: (c) capacity to build and operate works. With regard to point (vii), the MPPA has already brought criminal proceedings against noncompliant mayors with the country's Office of Environmental Enforcement, a practice of key importance for creating a reliable framework for work with the municipios.
- 1.6 **Final disposal and specialized operation.** The biggest problem in terms of the integration of Venezuela's waste management system is the lack of final disposal sites that are safe from the operational, environmental, and social standpoints. Although the government has made progress toward solution of the problem, building sanitary landfills and turning them over to the municipios for operation, either directly or outsourced to specialized operators, three key problems have arisen in certain cases: (i) the municipios' technical and institutional shortcomings

prevent them from being able to manage the operation of sanitary landfills directly, such that the landfills soon turn back into dumps; (ii) transportation equipment provided to the municipios for collection services becomes unserviceable a few months after transfer; and (iii) when landfill operations are outsourced, although the service is better than when directly administered by the municipio, the municipios lack the technical capacity to supervise the operations.

- 1.7 **Cost recovery and economic sustainability of the service.** Related to the problem of municipal incapacity to operate and maintain sanitary landfills is that the service is not economically sustainable. In Venezuela, the municipios' budget allotments are insufficient for the management of municipal solid waste for two basic reasons: first, outside the capital fees are very rarely collected for final waste disposal service; moreover, if fees are collected, they do not reflect the actual cost of the service because municipios do not know what that cost is. The second reason is that fee collection levels are low, averaging less than an estimated 40% in the country's interior.
- 1.8 **The government's strategy.** The strategy of the Government of Venezuela, acting through the MPPA, to meet its objective of building adequate final disposal sites for 60% of the country's municipios is consistent with an international historical trend where central governments offer economic incentives to municipios for infrastructure works, sector planning, and technical training in order to equip them to provide an integrated service they had not provided before. The economic incentive is gradually reduced over time, allowing the municipios to adapt technically and financially. In parallel, a new law is being designed that provides for economic and civil sanctions for noncompliance by municipios, as well as individual sanctions for mayors. The sector's governing structure has two key pillars. The first is the new law on municipal waste disposal, which has passed first debate in the National Assembly (Venezuela's highest legislative body); the second are the lessons learned from the experience with project implementation over the past three years. In terms of lessons learned, a transitional financial incentive has been included in the program to cover incremental operating expenditures during the works delivery period, so that the municipios can receive technical training and have enough time to establish cost-recovery mechanisms.
- 1.9 **Program consistency with the Bank's strategy.** The program is consistent with the Bank's current country strategy with Venezuela (document GN-2081-3). Specifically, it supports development of the sanitation sector, considered of key importance in the document, through the construction of infrastructure for collection and final disposal of municipal solid waste and institutional strengthening of the national and subnational governments in the legal, regulatory, and technical areas. A proposed set of priorities is being prepared for inclusion in the Bank's new country strategy with Venezuela for the period 2009-2013. In that process, a formal agreement was reached with Venezuela on a set of target areas of mutual interest, one of which is municipal solid waste.

B. Objectives and components

- 1.10 The program's general objective is to support the strategy of the Government of the Bolivarian Republic of Venezuela to improve the integrated management of municipal solid waste at the national level, in order to reduce the health and environmental impacts associated with inadequate waste management. The program will finance actions to make the service more integrated and efficient, specifically through construction of final disposal sites, transfer stations, plant for salvage processing, and cleanup and closure of open-air dumps. It will also finance technical assistance to strengthen institutional, technical, environmental, social, financial, and administrative capabilities of the national government and municipal governments.
- 1.11 Component I. Technical assistance and institutional strengthening (US\$12 million). This component will finance the following activities: (i) two types of studies: (a) technical studies related specifically to subproject viability, including engineering designs, integrated municipal management plans, environmental impact assessment (EIA), studies of cost-recovery mechanisms and municipios' ability to pay, plans for formalization of informal segregators, plans for communications, dissemination, and community participation activities, legal frameworks for the establishment of leagues of municipios, etc.; and (b) sector studies for national policy-making, including the National Waste Management Plan, analysis of the Venezuelan recycling market, cost studies on municipal solid waste management for establishing sector regulations, implementing regulations for laws, etc.; (ii) contracting of key technical, fiduciary, and operational personnel as needed to meet program requirements; (iii) training for technical personnel at the national and municipal levels; and (iv) basic computer and operating equipment for the UEDS.
- 1.12 Component II. Infrastructure and operational improvement (US\$178 million). This component will finance a multiple-works infrastructure program that includes: (i) construction of sanitary landfills; (ii) cleanup and closure of open-air dumps; (iii) transitional operation of landfills during a transfer and training period for municipios; (iv) construction of transfer stations; and (v) plant and equipment for salvage processing, and basic equipment needed for selective collection and the formalization of informal waste segregators.
- 1.13 Each subproject involves a series of interrelated works including construction of the sanitary landfill, closure of the dump, construction of transfer stations, equipment for salvage processing, etc. For this reason, the number of subprojects to be financed by this operation is expected to range between four and six, depending on the sites finally selected, and could be more, depending on the operational transition time in each case. Two subprojects have already been identified as samples: the Guanare League of Municipios (Portuguesa state) and the Altigracia League of Municipios (Guarico state). These were selected because they are well along in preparation, which will enable rapid implementation. The subprojects still to be selected are referred to as "additional."

Project: Municipio / State	Pop.	Infrastructure and works	In US\$000**			
			Constr.	Oper.	Closure	Total
Altagracia: José Tadeo Monagas, San José de Guaribe / Guarico state	82,195	Integrated project: sanitary landfill; cleanup and closure of 3 dumps; formalization of segregators	\$6,200	\$5,438	\$2,100	\$13,738
Guanare / Portuguesa state*	367,201	Integrated project: sanitary landfill, cleanup and closure of dump; formalization of segregators	\$17,900	\$9,555	\$5,190	\$32,645

* Participating municipios: Guanare, Guanarito, Papelón, San Generaro de Boconoito, Sucre, Unda, Ospino, Alberto Torrealba, Campo Elías

** Costs were calculated on the basis of one of the government's official exchange rates for public investments (2.6 bolívares = US\$1), which yields a cost per disposed ton of approximately twice the regional average.

C. Cost and financing

1.14 Total program cost is US\$200 million. Of that amount, US\$140 million will be a loan from the Single Currency Facility of the Bank's Ordinary Capital, and US\$60 million will be the local counterpart contribution from Venezuela. Table I-2 provides a breakdown of costs by source.

**Table I-2. Cost Table
(US\$000)**

Category/ component	Total		IDB		Local	
I. Administration and studies	\$12,000	6%	\$4,000	33%	\$8,000	67%
Administration and supervision costs	\$7,200	3.6%	\$1,200	16%	\$6,000	83%
Monitoring and evaluation costs	\$800	0.4%	\$800	100%	\$0	0%
Studies and projects	\$4,000	2%	\$2,000	50%	\$2,000	50%
II. Direct costs	\$177,800	89.9%	\$127,200	72%	\$50,600	28%
Infrastructure works*	\$135,200	67.6%	\$126,200	93%	\$9,000	7%
Operational transition and training**	\$39,600	19.8%	\$0	0%	\$39,600	100%
Plant and equipment***	\$3,000	1.5%	\$1,000	33%	\$2,000	67%
III. Contingencies	\$10,000	5%	\$8,700	87%	\$1,300	13%
IV. Audit	\$200	0.1%	\$100	50%	\$100	50%
Total****	\$200,000	100%	\$140,000	70%	\$60,000	30%

* Infrastructure works includes closure and cleanup of dumps, construction of preliminary works for the sanitary landfill system, and construction of the first cell with an estimated five-year service life. Infrastructure works also include formalization of waste segregator activities.

** Operational transition and training includes the cost of proper operation of the sanitary landfill system cell, as well as training for municipal operators to prepare them for the transition or supervision.

*** Plant and equipment includes procurement of equipment for the formalization of waste segregator activities.

**** The counterpart resources do not include credit fees and interest.

D. Key results indicators

- 1.15 The principal specific outcomes expected from this program are summarized below in Table I-3, and are described in greater detail in the Results Matrix (see Annex II).

Table I-3. Results Matrix, Key Indicators

Expected outcome	Indicator		
	May 2010	Year 3	Program end
Tons of municipal solid waste sent to uncontrolled dumps, tons/day	1,100	750	0
Sanitary landfills built, number	0	2	5
Municipal solid waste separated under sanitary and safe working conditions, tons/day	0.2	2	4
Cost recovery studies prepared, number	0	3	5
Agreements signed to establish leagues of municipios, number	0	1	3
Agreements signed by MPPA and municipios, whereby municipios pledge to ensure the project's operational and economic sustainability, number	0	2	5

* Indicators prepared solely on the basis of an estimate of participating municipios.

II. FINANCING STRUCTURE AND RISKS

A. Financing instruments and financial conditions

- 2.1 The loan for this investment project will be taken by the Government of Venezuela under the following conditions: (i) LIBOR-based interest rate; (ii) 25-year amortization period; (iii) 42-month period for physical startup of works, running from declaration of eligibility; (iv) 5-year disbursement period; and (v) 5-year grace period. The borrower may submit documentation to the Bank of up to US\$2 million in expenditures for Components I and II incurred between 1 September 2009 and the date of project approval by the Bank's Board of Executive Directors, for recognition against the counterpart resources, provided that the expenses are included in the program and comply with the Bank's procurement and contracting policies.

B. Environmental and social risks, and mitigation measures

- 2.2 At its 2 November 2009 meeting, the Environmental and Social Impact Review Secretariat (ESR) approved the environmental and social strategy as well as the category "B" classification proposed by the project team. The environmental assessment of the program included: (i) review of the environmental impact assessments (EIAs) of the Guanare and Altagracia sample subprojects; (ii) diagnostic assessment of the capacity of the Solid Waste Execution Unit (UEDS) of the People's Ministry for the Environment (MPPA) to supervise implementation of environmental management plans (EMPs); (iii) review of the methodology for obtaining environmental licenses for infrastructure works;

(iv) specific review of the public consultation methodology; (v) review of the social diagnostic assessments for the formalization of waste segregators; and (vi) preparation of an environmental and social management framework (ESMF), since this is a multiple-works program for which not all the subprojects to be financed have yet been identified.

- 2.3 The program will have a clear and positive environmental impact, since one of its main objectives is to close uncontrolled open-air dumps and bring waste segregators into the formal economy. The program is expected to provide for the safe final disposal, in sanitary landfills, of some 1,100 tons/day of municipal solid waste. The construction of sanitary landfills has adverse, short-term local environmental impacts for which proven and effective mitigation measures exist. Regarding the possible adverse social impact of the program affecting the source of income of informal waste segregators, who will lose access to the sites where they perform separation tasks, the program includes specific mitigation activities and specific guidelines for inclusion of the waste segregators in the new formal system for municipal solid waste management, or for formalization of their work. The program does not call for the physical resettlement of any population; however, if a specific case should require resettlement of a small number of people, operational policy OP-710 on Involuntary Resettlement would apply, and a plan would be prepared. In addition, the program will not involve final disposal of hazardous hospital and industrial waste in the sample subprojects. The additional subprojects, however, may require construction of secure cells for hospital waste. In that case, both the ESMF and the EIA will include the relevant analyses, as will the EMP; these documents will be submitted to ESR for review. No hazardous industrial waste will be accepted unless it has been previously treated. The landfills will have a system for extraction of the biogas they generate, to mitigate the risk of explosion.
- 2.4 Status of sample projects. A set of two subprojects was initially identified because they meet the technical conditions necessary for implementation; they were the initial samples used to evaluate the effectiveness of the ESMF, and the characteristics and quality of the EIAs submitted. The analysis of the EIAs for the Guanare and Altigracia subprojects were satisfactory; the only activity still pending is to conclude the public consultation process. Accordingly, the following activities were conducted: (i) two examples of consultations performed by the MPPA were requested in advance, for the team to review and evaluate their applicability; (ii) model guides for public consultations were delivered to MPPA/UEDS; and (iii) an action plan was agreed upon for completing the two consultations before the project was submitted to the Bank's Board of Executive Directors for approval. In the case of Guanare, the consultation was already complete; in the case of Altigracia, it has been completed. With regard to the latter, it was agreed with the MPPA that supporting documentation was to be submitted before 30 April 2010. It was also agreed in both cases that the EIAs and ESMR would be published and released to the public prior to approval by the Bank's Board of Executive Directors. It is important to note that that, under local laws on EIA applicability (Official Gazette issue 35946 of April 1996), EIAs are not required for sanitary landfills

operating at less than 300 tons/day. Both Guanare and Altagracia are below that threshold.

C. Other key issues and risks

- 2.5 **Land ownership.** Legal ownership of the land where the works will be built is a key piece in the program implementation process. The situation is as follows for the sample subprojects: the land is already in legal possession of the Municipio of Guanare, and in case of Altagracia, the National Land Institute (INTI) is well advanced in the process to transfer the land to the municipio. For the additional subprojects, land ownership will be the first criterion of eligibility (see paragraph 3.3), in chronological terms, for participation in the program.
- 2.6 **Social opposition.** Final waste disposal projects often encounter strong social opposition when it comes to building the infrastructure (the “Not In My Back Yard” syndrome). The aim in some additional projects is to turn uncontrolled dumps into sanitary landfills, which lowers the risk to negligible levels. When the works will be executed in areas not already set aside, a technical assistance component with a strong component of public information and participation has been included as a mitigation measure.
- 2.7 **Institutional/procurement risk.** When the institutional and fiduciary capacity of the MPPA/UEDS was assessed using the Institutional Capacity Assessment System (ICAS) methodology, a low level of risk was identified. The assessment showed that the institution’s program execution mechanism has incorporated the experience gained and lessons learned by the MPPA in project execution with multilaterals, as well as the prior experience of MPPA/UEDS in implementing projects over the past three years. It was deemed necessary to prepare Operating Regulations, and to bring the counterpart’s procurement and financial management policies up to date with Bank current policies. These actions are included in the program.
- 2.8 **Financial viability and cost recovery.** One of the problems identified is for the municipio to be able to ensure the long-term sustainability of the new service. At present, income flows for service delivery are insufficient to cover the cost of the new service (operating expenses, maintenance, capital costs). Although the municipios are authorized to collect fees from users, the amounts collected are insufficient to cover the new incremental costs of final disposal. Under the proposed program, the central government will subsidize the capital costs (design and construction) of the first cell of the sanitary landfill; it will subsidize incremental operating costs, transitionally and decreasingly, during the first 3 to 24 months of operation. The program will finance the development and implementation of a cost-recovery mechanism to ensure long-term sustainability of the service, in terms of both waste collection and the operation and maintenance of the new facilities. The study of the cost-recovery mechanism will include: analysis of municipal ability to pay, setting of fees, and a financing plan to ensure sustainability of service in each subproject. If the revenues obtained through this mechanism are insufficient to cover the operation, maintenance, and administration

of the works financed with the loan proceeds, the study will recommend actions to allot additional resources to cover those costs, and the municipio will be legally bound to provide them. The program will create the initial technical conditions for each municipio to be able to establish and approve a rate schedule that will enable it to cover the costs of the service.

- 2.9 **Operational sustainability.** The greatest problem affecting previous MPPA/UEDS projects was the lack of operational continuity of the landfills once turned over to the municipios; in a short space of time they reverted to being uncontrolled dumps. To overcome this obstacle, this program includes: (i) prior training for the municipios in technical areas and municipal finance; (ii) strengthening of the municipio by requiring it to create a municipal solid waste management unit, which may be supported by a sector technical specialist hired with program resources; and (iii) an economic incentive from the MPPA covering, transitionally and decreasingly, the incremental costs of landfill operations. This incentive will be provided for a period of 3 to 24 months, during which time the municipio will receive training in operations, construction, and supervision. At the end of that period, economic responsibility for operations will transfer entirely to the municipio.
- 2.10 **Socioeconomic viability.** It has been verified that the proposed investments are the most efficient, and maximize the program's net economic benefits. The analysis was based on a study of alternatives for the sample projects. The alternative sites recommended by the technical studies were examined, and it was verified that the site option selected for each project was the least costly (present value of the cost of investment, operation, and maintenance). No cost-benefit analysis was performed for the program as a whole since similar projects to close open-air dumps and to dispose of waste in sanitary landfills have demonstrated that benefits exceed investment costs. Benefits can be measured in terms of the cost of damage avoided through program implementation. This includes: (i) reduction of undesirable factors (dust, smoke, scattered garbage, pests, waste, foul odors, etc.) and their impact on the population's health and quality of life; (ii) loss of ecosystems; and (iii) pollution of surface water and groundwater. Thus, with the closure of open-air municipal dumps and the construction of proper sanitary landfills, the damage avoided or not incurred justifies execution of the program, although this is difficult to quantify because the market does not value it directly.
- 2.11 **Ability to pay.** Although the fee structure for solid waste disposal will not change in the short term, it will be adjusted gradually to a cost-recovery level. The population's ability to pay was calculated for the sample projects (assumed at 3% of the family's monthly income in similar projects). The service fee ranges between B\$13.55 (US\$5.21) and B\$19.37 (US\$7.45) per household per month, or between 1.26% and 1.82% of the minimum monthly wage of B\$1,223.9, as of March 2010. The same analysis was made using the average income reported by the National Statistics Institute (INE), updated to December 2009. The rates represent between 0.85% and 1.2% of average monthly family income. In order to cover all costs of

- the service, the cost-recovery mechanism financed with this program may consider targeted subsidies for low-income families financed by the central or municipal government, or cross subsidies where the population with the ability to pay pays a higher fee.
- 2.12 **Social equity and poverty reduction.** This operation qualifies as a social equity enhancing project, as described in the indicative targets mandated by the Bank's Eighth Replenishment (document AB-1704). This operation does not qualify as a poverty-targeted investment (PTI).
- 2.13 **IDB policies.** This program contributes to the objectives of the Bank's Public Utilities Policy (OP-708) by promoting the introduction of a cost-recovery mechanism and the use of specialized operators, contributing in this way sustainability, economic efficiency, and quality of service.
- 2.14 Operational Policy OP-708 identifies a set of basic conditions necessary to accomplish the policy objectives, including separation of the roles of policy formulator, regulator, and operator. While the current institutional and legal framework does establish a sector structure, there is a certain overlapping of responsibilities (see paragraph 1.5). The MPPA has the role of policy formulator; the municipios, by managing the contracts of specialized operators, are the regulators, and also provide the waste collection service through a public tender held by the municipio in almost the entire country. When the new Law for the Integrated Management of Nonhazardous Solid Waste and Refuse enters into force, it will bring cohesion and coherence to the existing fragmented framework and overlapping responsibilities. The program will provide technical support for preparation of the implementing regulations for this law. This is compatible with OP-708, which recommends that efforts follow a gradual approach in meeting this basic condition. Another condition identified in the policy is that pricing structures be based on efficiency costs, and that they cover the costs of operation, maintenance, and investment, as well as capital remuneration. At present, fees for final garbage disposal are not being collected in the subproject areas because the service is simply not being provided. By way of example, in metropolitan Caracas where garbage collection services do exist, the fees collected cover costs. This program will lay the groundwork for fees to be collected in each subproject area, as well as for subsidies to be applied. While the current legal framework allows for the collection of such fees, the new law confirms this and establishes that rates are to be set in accordance with the actual cost of the service. Moreover, in the current state of affairs, waste collection and final disposal services are outsourced to specialized operators, where these services are provided. The new law upholds this practice, thereby promoting economic efficiency in service delivery, consistent with the objectives of OP-708.
- 2.15 In short, given the current legal framework for the sector, the new legal framework about to enter into force, the operational guides for its enforcement (March 2003), and this program's contribution to the gradual attainment of financial sustainability

and economic efficiency in service delivery, the project team believes that the sector is moving in the direction envisaged in OP-708.

III. IMPLEMENTATION AND MANAGEMENT PLAN

- 3.1 **Borrower and executing agency.** The executing agency for the program will be the People's Ministry for the Environment (MPPA), acting through the Solid Waste Execution Unit (UEDS) of the Office of the Vice Minister for Environmental Conservation (VCA), which has been satisfactorily implementing a program of projects valued at US\$250 million over the past three years. The VCA and the UEDS have staff trained in technical, environmental, social, and fiduciary areas, which will have to be expanded because of the added tasks associated with implementation of the subprojects under this program. The Bank assessed the institutional capacity of the VCA/UEDS office, which will run the program, using the ICAS methodology ([see electronic link](#)). Because the MPPA will be responsible for procurement of works and goods and for financial management, audits of the municipal governments will not be necessary. The program will be national in scope, and the MPPA will invest the economic resources for the construction of infrastructure, transitional operations, and closure of dumps.
- 3.2 **Execution arrangements.** The UEDS will be responsible for program execution, and its functions and procedures will be governed by the program's Operating Regulations. The UEDS will continue with the model it has used to execute the US\$250 million program of projects over the past three years. It will appoint a special coordinator to manage the day-to-day operations of this program. The UEDS will be responsible for programming, procurement, follow-up, supervision, monitoring, evaluation, and receiving and acceptance of the infrastructure works. Once that phase is over and the transitional stage of the operation has come to an end (end of the Bank's financing phases), the works will be transferred to the municipios for operation and maintenance. Procurement processes for works, goods, and services will be scheduled by the UEDS and conducted by the MPPA's Bids and Contracts Committee. The UEDS will also be responsible for: (i) preparing the accountability reports and disbursement requests; (ii) implementing and maintaining effective systems for contract administration, financial/accounting management, and the internal audit system for management of the program resources, in accordance with Bank requirements and independent of other MPPA-managed programs; (iii) timely submittal of disbursement requests and supporting documentation for eligible expenditures; (iv) preparing and delivering the program's consolidated financial reports and other reports as requested; and (v) maintaining an effective system to store the supporting documentation for eligible expenditures, for verification by the Bank and the external auditors.
- 3.3 **Criteria for prioritizing subprojects.** The additional municipios or groups of municipios interested in participating in the program must submit a written expression of interest to the MPPA. The following general criteria have been

- established for prioritizing additional subprojects: (i) subprojects that pose the greatest environmental and community risk; (ii) subprojects where the final disposal site has the shortest remaining useful life; (iii) political decision of the municipio to support the economic sustainability of the subproject; (iv) subprojects that involve the creation of leagues of municipios; and (v) subprojects possessing the legal right to use the land where the infrastructure will be built.
- 3.4 **Eligibility criteria for financing.** Once the municipios have been prioritized, they must meet the following requirements to access the program financing: (i) legal right to use the land where the works will be executed (legal ownership/possession/tenure); (ii) before the solicitation is issued, signature of the agreement between the MPPA and the municipio or league of municipios, approved by the respective municipal council, wherein the municipio or league pledges to ensure the operational and economic sustainability of the service; (iii) performance of the studies, recommending a cost-recovery mechanism; (iv) legal establishment of the intermunicipal association, if necessary, approved by the MPPA; (v) before works commence, designation of the municipal official responsible for the sector; (vi) completion of the environmental impact assessment (EIA), including public consultations; (vii) final engineering design of the project for the alternative with the least economic cost, when there are different site options; and (viii) completion of the plan for formalization of waste segregators.
- 3.5 In the event that the municipios decide to operate the sanitary landfill directly and not through a specialized operator, it must demonstrate its capacity to do so, up to the same quality and efficiency standards as a specialized operator. In such cases, before the bidding process can begin, the municipio must agree legally to a plan of operation with the MPPA that includes hiring suitable technical personnel with the right experience, and the minimum equipment to be purchased.
- 3.6 **As conditions precedent to the first disbursement: (i) the Operating Regulations will enter into force on the terms previously approved by the Bank; and (ii) the program coordinator and the operational and fiduciary personnel required for program execution will be formally appointed within the UEDS.**
- 3.7 **Special execution conditions.** As special execution conditions: (i) the municipal financing plan for the final waste disposal service will be prepared before the works are awarded for the sample subprojects in Guanare (Portuguesa state) and Altagracia (Guarico state); and (ii) the municipios or leagues of municipios interested in participating in the program must first submit a written expression of interest to the MPPA.
- 3.8 **Project readiness.** The two projects scheduled to begin execution in year one have completed engineering, social, and environmental studies; prior public consultations; terms of reference; and bidding documents. A draft of the Operating Regulations has been reviewed by the borrower and the Bank. The final version of the Operating Regulations will be attached to the model MPPA/Municipality

agreement, the model intermunicipal agreement, and the model terms of reference for the cost-recovery studies and preparation of the integrated municipal management plan, the EIA, the public consultation, and the plan for the formalization of waste segregators.

- 3.9 The projected disbursement schedule is given in Table III-1.

Table III-1. Disbursement Schedule

Source	Total (US\$000)	Year				
		1	2	3	4	5
IDB	140,000	5,900	29,890	50,150	50,150	3,910
Local	60,000	600	14,850	14,850	14,850	14,850
Total	200,000	6,500	44,740	65,000	65,000	18,760
%	100%	3%	22%	33%	33%	9%

- 3.10 **Procurement.** Procurement of works, goods, and consulting services financed in whole or part with the loan proceeds will be conducted in accordance with the Bank policies established in documents GN-2349-7 and GN-2350-7. The recommended threshold amounts for requiring international competitive bidding are given in Annex III, based on the institutional capacity assessments and the procurement experience of the MPPA and the UEDS. Program procurements will be subject to ex ante review, unless otherwise stated in the procurement plan. Ex post reviews will be performed every six months, at the most, and the capacity of the executing agency will be rated annually, with the involvement of the procurement specialist at the Bank's Country Office in Venezuela. All procurements for a given period must be included in the procurement plan approved by the Bank, and the methods and ranges established therein shall apply. The procurement plan for the first 18 months of execution will be agreed upon with the UEDS during the loan contract negotiations.
- 3.11 **Disbursements.** The loan proceeds will be disbursed into a special account opened for the program at the Central Bank of Venezuela. This account will be auditable, and all records of Bank disbursements will be retained. The amount of the advances will be determined in accordance with the plan of program financial needs for up to six months, coordinated with the procurement plan and the national budget approved for the operation in the given year.
- 3.12 **Monitoring and evaluation.** Program monitoring and evaluation will be performed using the supervision instruments of the executing agency and the Bank, based on a program execution plan and the procurement plan and results matrix. The executing agency and the Bank will agree each year on the annual work plan (AWP). The executing agency will deliver six-monthly reports on progress in implementing the AWP, the outcomes of activities, and an action plan for the following six-month period. The executing agency will be responsible for monitoring and evaluating the projects that have received financing, for which it may commission independent

consulting engagements with the Bank's prior consent. The Results Matrix (see Annex II) was prepared in conjunction with the executing agency, and specifies the indicators to be used in monitoring the progress of program execution.

- 3.13 Three types of technical monitoring activities will be carried out for each subproject: (i) one focusing strictly on project outcomes, measured against the indicators of the consolidated Results Matrix and the individual results matrix for each subproject; (ii) one focusing on quality, cost, and alignment with engineering designs during construction and operation, measured against the design submitted, and performed by the company hired to inspect the works; and (iii) one focusing on technical/environmental issues, measured against specific parameters detailed in the electronic link, "[Environmental parameters for monitoring](#)" (monitoring of surface water, groundwater, leaching, and gases), to be performed by the specialized operator, analyzed in a laboratory certified by the MPPA, and submitted to the MPPA. For both (i) and (ii), measurements will be taken semiannually throughout the life of the project. For (iii), measurements will be taken according to the periodicity indicated in the [electronic link](#) during the rest of the useful life of the sanitary landfill.
- 3.14 Measurement and other monitoring and evaluation activities for the program and each subproject will be covered by the budget of each. The monitoring and supervision activities described above will be specially established in the agreements between the MPPA and the municipios. In addition, an initial evaluation will be conducted at 18 months, and a final evaluation at 90 months, both running from the contract eligibility date, financed by the IDB. The evaluation at 18 months (loan results report) will address application of the eligibility criteria, specifically in terms of operational and financial sustainability and land tenure. Once more than 50% of the resources have been disbursed, discussions may be opened with the Government of Venezuela for preparation of a second phase of the program or an additional loan.
- 3.15 **External audit.** During the execution period, the executing agency will deliver the program's audited financial statements on an annual basis. The external audit of the program will be performed by a firm of independent auditors acceptable to the Bank, pursuant to the policies and requirements stipulated in documents AF-100 and AF-300. The auditors will be contracted in accordance with the procedures established in the document on bidding procedures for external audits (document AF-200), and the terms of reference previously approved by the Bank (documents AF-400 and AF-500). The scope and periodicity for delivery of external audit reports are described in the [electronic link, "Monitoring and evaluation arrangements."](#) The full cost of these audits will be financed with program resources.

VENEZUELA
PROGRAM TO STRENGTHEN NATIONAL CAPACITY FOR INTEGRATED SOLID WASTE MANAGEMENT
(VE-L1031)
RESULTS MATRIX

Program Objective					
The program's general objective is to support the strategy of the Government of the Bolivarian Republic of Venezuela to improve the integrated management of municipal solid waste at the national level, in order to reduce the health and environmental impacts associated with inadequate waste management. Specifically, the program will finance infrastructure works including the construction of final disposal sites, transfer stations, separation plants, the cleanup and closure of open-air dumps, and technical assistance to strengthen technical, environmental, social, financing, administrative and institutional capabilities of the national government and municipal governments.					

Type of indicator	Indicator	Baseline	Midterm evaluation	End target	Observations
Sanitary and environmentally appropriate final disposal ¹	Tons of municipal solid waste sent to uncontrolled dumps, tons/day ²	1,100	750	0	The baseline only refers to "project tons." The information will be reported by the operator of the sanitary landfill.
Environmental and social sustainability	Municipal solid waste separated under sanitary and safe working conditions, subject to standards in Venezuela, tons/day ³	0.2	2	4	To be reported by the MPPA.
Institution strengthening	Cost recovery studies prepared, number	0	3	5	To be reported by the MPPA.
	Agreements to establish leagues of municipios signed by all participating municipios and accepted by the MPPS, number	0	1	3	To be reported by the MPPA.
	Agreements signed by MPPA and municipios whereby municipios pledge to ensure the project's operational and economic sustainability, number	0	2	5	To be reported by the MPPA.

¹ There is a clear relationship between improper solid waste management practices in open-air dumps and impacts on health due to the pollution of groundwater, disease vectors, etc.

² Total "sample" tons (considering 9 municipios in the Guanare association, and 2 in the Altigracia association) + representative selection of "additional" landfills. If the membership of the associations changes, the tons generated will also change.

³ Only "sample" subprojects.

Physical Targets							
Component	Total	Unit	Year 1	Year 2	Year 3	Year 4	Year 5
1. Technical assistance and institutional strengthening							
1.1 Number of preliminary plans with completed designs	3	Quantity	0	1	1	1	0
1.2 Percentage preparation of studies related to subproject preparation: (EIAs, integrated management plans, municipal ability to pay studies, drafting of laws and decrees, communications plans, etc.)	100	% Studies	10	20	30	30	10
1.3 Percentage of technical personnel hired for institutional strengthening of MPPA and participating municipios	100	%	70	10	10	10	0
1.4 Percentage of MPPA and municipio personnel who attend the technical training offered	100	%	30	30	20	10	10
1.5 Number of plans for the formalization of waste segregators or their inclusion in the formal system for municipal solid waste management	4	Quantity	0	1	1	2	0
2. Infrastructure and assistance for transitional operations							
2.1 Number of “sample” sanitary landfills built ⁴	2	Quantity of “sample” landfills	0	1	1	0	0
2.2 Number of “additional” sanitary landfills built ⁴	3	Quantity of “additional” landfills	0	0	1	2	0
2.3 Number of “sample” open-air dumps closed	5	Quantity of dumps	0	0	4	1	0
2.4 Number of “additional” open-air dumps closed	5	Quantity of dumps	0	0	0	2	3
2.5 Tons/day disposed under transitional operation of “sample” landfills during assistance period	250	Tons processed daily	0	0	190	60	
2.6 Tons/day disposed under transitional operations of “additional” landfills during assistance period	850	Tons processed daily	0	0	200	400	250
2.7 Number of separation centers built ⁵	2	Quantity of separation centers	0	0	1	1	0

⁴ Includes construction of related infrastructure, such as transfer stations.

⁵ Separation centers include sheds, lavatories, baling machines, and scales.

VENEZUELA
PROGRAM TO STRENGTHEN NATIONAL CAPACITY FOR INTEGRATED SOLID WASTE MANAGEMENT
(VE-L1031)

PROCUREMENT PLAN¹

Period covered by this procurement plan: October 2010 to April 2012

Ref. no.	Category and description of the procurement contract	Estimated cost of procurement (US\$000)	Procurement method	Review (ex ante or ex post)	Source of financing and percentage		Prequalification (Yes/No)	Estimated dates		Status (pending, in process, awarded, canceled)
					IDB	Local		Publication of specific procurement notice	Completion of contract	
I.	GOODS									
1.1	Procurement of office equipment	50	S	Ex ante	0%	100%	No	N/A	Oct/10	Pending
2	WORKS									
2.1	Infrastructure works: sanitary landfill, Guanare project (Portuguesa state)	1,778	NCB	Ex ante	70%	30%	Yes	Jul/10	Apr/12	Pending
2.2	Infrastructure works: sanitary landfill, Altigracia project (Guarico state)	862	NCB	Ex ante	70%	30%	Yes	Jul/10	Apr/12	Pending
III.	CONSULTING SERVICES									
3.1	Sector studies (policies)	75	QCBS	Ex ante	80%	20%	No	Jan/11	Feb/12	Pending
3.2	Sector studies (recycling market)	25	QCBS	Ex ante	80%	20%	No	Jul/10	Mar/11	Pending
3.3	Sector studies (MSW management costs)	25	QCBS	Ex ante	80%	20%	No	Jul/10	Mar/11	Pending
3.4	Sector studies (regulations)	62,5	QCBS	Ex ante	80%	20%	No	Jan/11	Feb/12	Pending
3.5	Integral studies, Project 1	62,5	LCS	Ex ante	85%	15%	Yes	Oct/10	Oct/11	Pending

¹ All project contracts should be included, even if not financed by the Bank, indicating the source of funding in each case.

3.6	Integral studies, Project 2	62,5	LCS	Ex ante	85%	15%	Yes	Oct/10	Oct/11	Pending
3.7	Integral studies, Project 3	62,5	LCS	Ex ante	85%	15%	Yes	Oct/10	Oct/11	Pending
3.8	Integral studies, Project 4	62,5	LCS	Ex ante	85%	15%	Yes	Oct/10	Oct/11	Pending
3.9	Contracts, various training events	100	QCBS	Ex ante	80%	20%	No	Ongoing in accordance with project needs		Pending
3.10	Contracts, technical personnel	726	NICQ	Ex ante	0%	100%	No	Ongoing in accordance with project needs		Pending
3.11	Contracting of supervision	100	NICQ	Ex ante	0%	100%	No	Ongoing in accordance with project needs		Pending

Legend:

Goods and services:

ICB: International competitive bidding

NCB: National competitive bidding

S: Shopping

Consulting firms:

QBS: Quality-based selection

QCBS: Quality- and cost-based selection

FBS: Selection under a fixed budget

LCS: Least-cost selection

CQS: Selection based on consultant's qualifications

SSS: Single-source selection.

NICQ: Selection based on individual national consultant's qualifications

Individual consultant:

IICQ: Selection based on individual international consultant's qualifications

NOTE: All consulting contracts for amounts under US\$25,000 and goods procurements for amounts under US\$20,000 will be subject to ex post review, and are not included in the schedule of procurements.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-____/10

Venezuela. Loan ____/OC-VE to the Bolivarian Republic of Venezuela
Program for the Strengthening of National Integrated Solid Waste Management Capacity

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 Bolivarian Republic of Venezuela, as Borrower, for the purpose of granting it a financing to cooperate in the execution of a program for the strengthening of national integrated solid waste management capacity. Such financing will be for an amount of up to US\$140,000,000 from the Single Currency Facility of the Ordinary Capital resources of the Bank, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on _____)

LEG/SGO/CAN-35139171-10
VE-L1031