



1. Project Data

Project ID
P106702

Project Name
BR Integr. Solid Waste & Carbon finance

Country
Brazil

Practice Area(Lead)
Social, Urban, Rural and Resilience Global Practice

L/C/TF Number(s)
IBRD-79640

Closing Date (Original)
31-Dec-2015

Total Project Cost (USD)
160,000,000.00

Bank Approval Date
02-Nov-2010

Closing Date (Actual)
31-Dec-2015

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	50,000,000.00	0.00
Revised Commitment	16,724,631.96	0.00
Actual	16,724,631.96	0.00

Sector(s)

Waste Management(90%):Public Administration - Water, Sanitation and Waste Management(10%)

Theme(s)

Pollution management and environmental health(75%):Climate change(25%)

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2. Project Objectives and Components

a. Objectives

As stated in the Loan Agreement between IBRD and Caixa Economic Federal dated December 5, 2011 (p.5), the project development objective was to improve the treatment and final disposal of municipal solid waste in Brazil while: (a) supporting (i) the closing of open dumps and the implementation of modern and environmentally safe landfills or alternatives to waste disposal; (ii) improved municipal solid waste management practices; (iii) reduction of poverty among waste pickers; and (iv) increased private sector participation in solid waste service provision; and (b) strengthening Caixa Economica Federal's capacity to manage carbon finance projects. The statement of the objectives in the Project Appraisal Document (PAD) was identical (p. 6).



- b. Were the project objectives/key associated outcome targets revised during implementation?

No

- c. Components

Component 1. Infrastructure Investments in Solid Waste Disposal and Treatment (appraisal US\$154 million; actual US\$122.7 million) was to provide financing to public or private entities (beneficiaries) for infrastructure investments (subprojects) to improve final waste disposal and treatment within comprehensive solid waste management strategies reducing negative environmental and health impacts, such as, *inter alia*: (a) the construction and operation of sanitary landfills; (b) the closing of open dumps and related management of environmental impacts; and (c) the development of alternative waste treatment facilities.

Component 2. Technical Assistance, Institutional Strengthening and Project Management (appraisal US\$6 million; total cost n/a; no IBRD funds were disbursed on this component) was to support the development of an integrated approach to solid waste management in Brazil by preparing regulatory, financial and technical guidelines to enable and encourage investments in the solid waste sector through the provision of: (a) technical assistance and capacity building for the preparation of solid waste management investments; (b) technical assistance to strengthen Caixa Economica Federal's institutional capacity to manage, supervise and monitor solid waste management investments; and (c) support to Caixa Economica Federal to insure proper management and supervision structures for project implementation.

- d. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project Cost. The total project cost was US\$122.7 million at closure that is 77% of the estimated project cost of US\$160 million as a number of planned activities were not carried out.

Financing. A Financial Intermediary Loan of US\$50 million was signed between IBRD and Caixa Economic Federal with a guarantee from the Federal Republic of Brazil. Only 33% of the loan were disbursed (US\$16.7 million). A carbon finance operation (P124663) was linked to the project, under which the Emission Reduction Purchase Agreement was signed between IBRD and CAIXA on December 5, 2011; the carbon finance operation is ongoing with the scheduled closing date of December 2019. In addition, a recipient-executed Grant Agreement was signed on January 28, 2011 with the Japanese Social Development Fund (JSDF) for the Solid Waste Picker Social Inclusion Initiative (P121881), with a total value of US\$ 2,729,900. This JSDF project was conceived as a complement to the investment loan aimed at financing social inclusion initiatives for waste pickers; only about 5% of grant was disbursed and the activities were cancelled due to a number of implementation and coordination challenges.

Borrower Contribution. The Borrower (Caixa Economic Federal) contributed US\$97.7 million, slightly lower than the appraised estimate of US\$110 million. *Saneamento e Energia Renovável do Brasil* (SERB) contributed another US\$8.3 million during implementation.

Dates. The project closed on the original closing date of December 31, 2015. There was no project restructuring.

3. Relevance of Objectives & Design

- a. Relevance of Objectives

At the time of appraisal, 251 municipalities in Brazil with over 100,000 inhabitants were generating over 100,000 tons of solid waste per day. In 2007, it was estimated that while 141,000 tons of waste were collected daily around the country, only 39% of the 5,564 municipalities adequately disposed of their waste (i.e. at a sanitary landfill). The objectives were highly relevant to the country's challenges in disposal of solid waste and lack of financial resources at the municipal level to address these issues. After more than a decade of the political debate on the National Solid Waste Policy bill, the Solid Waste Law was finally approved during project implementation in 2010 to provide a regulatory framework for the management of solid waste. A high priority was given by the central government (through the Ministers of Environment and of Cities) to providing financial resources and technical assistance to municipalities to comply with ambitious planning investment targets under the Law. The Law made special provisions to incentivize private sector engagement in the sector. The project development objectives remained relevant to the World Bank Group's strategies for the country. The 2016 Strategic Country Diagnostic states that Brazil's environmental challenges threaten its competitiveness and productivity, and lack of sanitation and of adequate solid waste management is a major source of environmental degradation.



Rating
High

b. Relevance of Design

The project was designed to provide an integrated approach to addressing key systematic issues in solid waste management that included investments in the closing of open dumps and provision of safe landfills and the development of technical and financial tools to promote private sector participation, including implementation of carbon finance focusing on landfill gas capture. The project development objective was to improve the treatment and final disposal of municipal solid waste in Brazil to be achieved through five specific objectives; these were supported by the relevant project activities under two components. The linkages, however, were not clearly established between all the specific objectives and related outcomes in the results framework. There was a lack of clarity of how the different activities and components were expected to achieve the intended outcome.

The project combined a financial intermediary loan (FIL) to the second largest development bank in Brazil (CAIXA), a technical assistance package and a carbon finance operation, integrating multiple sources of financing, including JSDF financing under the third objective of reducing poverty among waste pickers. A choice of FIL for CAIXA to provide a line of credit for solid waste investments was not fully aligned with CAIXA's needs and priorities, which mainly focused on strengthening its capacity in carbon finance and safeguards. A loan of relatively small amount was not aligned with the ambitious targets and objectives of the operation for the solid waste sector in Brazil. Additional resources for infrastructure investments were not utilized and technical assistance activities were not carried out in the end.

Rating
Modest

4. Achievement of Objectives (Efficacy)

Objective 1

Objective

The overarching objective to improve the treatment and final disposal of municipal solid waste in Brazil will be assessed through the achievement of the five specific objectives pursued by the project.

(1) Supporting the closing of open dumps and the implementation of modern and environmentally safe landfills or alternatives to waste disposal.

Rationale Outputs

- Three dumps were closed in the state of Rio de Janeiro, below the targeted six: (1) Dump in the municipality of Seropédica, where Santa Rosa Waste Treatment Center is located; (2) Dump in the municipality of Itaguaí; and (3) Jardim Gramacho (Duque de Caxias), which was the original dump of the City of Rio de Janeiro. The closure of this dump was not financed by the project, but the start of operations at the Santa Rosa Waste Treatment Center (the overall financing of the facility was structured through a loan of roughly US\$200 million from CAIXA, with approximately of US\$31 million of IBRD resources) allowed the City of Rio to close its dump. The Santa Rosa facility receives most of the waste generated in the metropolitan region of Rio de Janeiro. The landfill is privately owned, and it operates under a concession contract with the city of Rio de Janeiro. A comprehensive approach was carried out under the Santa Rosa sub-project that included the construction of facility, closure of dumps in three adjacent municipalities, a modern leachate treatment facility, improvement of working conditions of waste pickers at closed dumps, and capture and flaring of landfill gas; this however has not been replicated to other municipalities.



- Investments to improve solid waste management were carried out in 7 municipalities, above to the targeted four. This included three municipalities at Santa Rosa Landfill: Rio de Janeiro, Seropédica and Itaguaí; and four municipalities at Candeias Landfill: Recife, Jaboatão dos Guararapes, Cabo de Santo Agostinho, and Moren.

Outcome

- Roughly 9,000 tonnes/day are disposed at the Santa Rosa Landfill that substantially surpasses the target of 4,000 tonnes of waste per day.

Rating
Substantial

Objective 2

Objective
(2) Improved municipal solid waste management practices.

Rationale
The target of supporting five participating cities with regulatory framework and cost-recovery to adequately manage solid waste service was not achieved. The project was designed as a vehicle to fill gaps in knowledge on technical, administrative and procurement issues, and to help municipalities prepare well-designed projects with private sector participation. However, no activities were implemented to strengthen municipalities in solid waste management practices for lack of support from CAIXA. The ICR (p.16) adds that low capacity at municipal level continues to be one of the most pervasive challenges in Brazil, despite the substantial increase in financial resources.

Rating
Negligible

Objective 3

Objective
(3) Reduction of poverty among waste pickers.

Rationale



As part of the JSDF grant support, CAIXA and the Bank agreed on an action plan with an operator of Itaoca Landfill that involved training for 246 ex-waste pickers, as well as the establishment of a recycling cooperative for 50 workers. However, motivated by policies implemented by the City of Rio de Janeiro related to the closure of Jardim Gramacho, ex-waste pickers at Itaoca requested monetary compensation for the loss of livelihoods that resulted from the closure of the dump. Unable to reach a consensus, the decision was made to cancel the planned activities.

The ICR (p.17) notes that the project provided technical support and financed the implementation of two Social Inclusion Plans that were prepared by *Ciclus Ambiental* for the waste pickers impacted by the closure of the *Seropédica* and *Itaguaí* dumpsites. The Plans, prepared in accordance to the Environmental and Social Management Framework of the project, benefited a total number of 59 waste pickers in Itaguaí and 57 in Seropédica. The Plans included support to the waste pickers and their families, which included assistance for registration in government assistance programs, education and vocational training, support in the preparation of business plans, support in the formalization of recycling cooperatives and others. No information is provided by the ICR if waste pickers were able to find employment opportunities. No intermediate indicator was included to measure reduction of poverty among waste pickers.

Rating
Negligible

Objective 4

Objective

(4) Increased private sector participation in solid waste service provision.

Rationale

The project sought to increase private sector presence in SWM by strengthening municipal capacities for project design, and by improving contractual documents and management modalities that would make it more attractive for the private sector to engage. A related output that was produced was a diagnostic of viability of various management models with private sector participation using PPIAF funding. Two sub-projects involved private financing (the target was 4). The sub-project in Rio de Janeiro that was already in place at the start of the project involved a leading private solid waste operator (SERB) who was partly the owner of the majority of companies that have ongoing CF agreements under CAIXA's Program of Activities. The selected target on the increase of commercial banks financing or co-financing municipal solid waste projects to at least two was not achieved. The ICR (p.18) clarifies that the original objective was to have a more diversified engagement with the private sector and this did not take place.

Rating
Negligible

Objective 5

Objective

(5) Strengthening CAIXA's capacity to manage carbon finance projects.

Rationale

With the implementation of the Santa Rosa sub-project in the metropolitan region of Rio de Janeiro, CAIXA was able to register Brazil's first programmatic solid waste management program under the United Nations Clean Development Mechanism (CDM). CAIXA became the only bank in Brazil to offer loans that accept future carbon revenues as partial guarantees, through the introduction of an innovative mechanism for financing of landfills, in particular by linking the interest rate of loans offered by CAIXA to the performance of the landfill project. The Bank assisted CAIXA in building its capacity in terms of safeguards, as well as management of the CDM project cycle - from project identification and evaluation, to registration by the UNFCCC Executive Board and monitoring. CAIXA's SWM POA and its ability to access CF was showcased as a corporate asset and disseminated publicly. While a task force within CAIXA was established for the management of carbon initiatives, a dedicated carbon finance unit at CAIXA was not created as targeted. The knowledge and capacity to develop CF



sub-projects under the Programme of Activities (POA) was confined to the small team in Brasilia that was able to identify and implement a small number of CF operations. As the ICR (p.10) notes, the scope and size of the POA could have been expanded but CAIXA did not approach other buyers outside the Bank to exploit a pool of possible projects; more than 10 additional landfills have been registered in Brazil under CDM after the registration of POA. Overall, two sub-projects with legal agreements (ERPA) were signed with CAIXA: Santa Rosa and São Gonçalo (below the target of 6).

Rating
Substantial

5. Efficiency

At appraisal, a cost-benefit analysis estimated one single benefit that was the financial income (fees) generated by the project. No other benefits were calculated; the impacts of investing in landfills on environmental conditions and household health indicators were planned to be estimated by an impact evaluation. There were six alternative scenarios offered that represented the replacement of dumps and inadequate facilities by sanitary landfills from 0 (without project) to 100% (with project). An internal rate of return was estimated at 34% with a net present value ranging from R\$26.6 million to R\$227.7 million under six alternative scenarios, with a discount rate of 12% (PAD, Annex 9). At project closure, the impact evaluation was not carried out given the low level of investment that took place, and given that only one investment received a very limited amount of Bank resources. Instead, a cost effectiveness analysis was done to compare investment and operation costs per tonne of solid waste disposed at the Santa Rosa landfill with similar systems financed under Bank lending operations in Argentina on the basis of costing formulas developed by the Colombian Water and Sanitation Regulatory Commission. In particular, the reference cost for the Santa Rita landfill was US\$49.8 per tonne of waste disposed and the actual operating cost was US\$58.3 per tonne of waste disposed; this compares well with the costs of a landfill in Mendoza, Argentina, which were US\$41.6 and US\$54.6 accordingly. The landfill in Mendoza is located in a less urbanized area, where costs of labor, land and services are lower than in Rio de Janeiro. The project closed on the original closing date with 67% of undisbursed funds. There were delays in effectiveness, long internal administrative processes and procurement delays; as the ICR (p.18) notes that low disbursement levels, the opportunity cost of nearly five years of unspent Bank resources in Brazil, and the level of supervision that it involved (and its associated costs) point to the fact that the project did not represent the least cost solution for the results achieved.

Efficiency Rating
Modest

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	34.00	97.00 <input type="checkbox"/> Not Applicable
ICR Estimate		0	0 <input type="checkbox"/> Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

The project development objectives were highly relevant to the challenges in the solid waste sector of Brazil. Due to weaknesses in project design, relevance of design is rated modest. The project support to improving the treatment and final disposal of municipal solid waste in



Brazil had mixed results that were pursued under its five specific objectives. The project overachieved its outcome target of the increased volume of waste disposal through support of the Santa Rosa landfill that serves the metropolitan area of Rio de Janeiro; such support to safe landfills, however, has not been replicated to other municipalities. The objectives related to improving municipal solid waste management practices and increasing private sector participation in solid waste service provision were not achieved and rated negligible, as the related activities were not implemented under the project. The objective of reducing poverty among waste pickers is rated modest as the project benefited waste pickers and their families at two dumps through implementation of social inclusion plans, albeit no information exists at project closure if they were able to find other employment opportunities. The project objective to strengthen of CAIXA's capacity to manage carbon finance projects was substantially achieved; CAIXA was able to register Brazil's first programmatic solid waste management program under the UN Clean Development Mechanism, albeit the number of carbon finance initiatives managed by CAIXA was lower than expected. Efficiency is rated modest as only 33% of the project funds were utilized during five years of project implementation and 67% remained undisbursed.

- a. Outcome Rating
Unsatisfactory

7. Rationale for Risk to Development Outcome Rating

Financial. Santa Rosa is a state-of-the-art facility that is operated by a private company under the provisions of a long-term concession contract with the Rio de Janeiro municipality. There is, however, a substantial risk to the PPP's financial viability due to the country's macro-economic environment and the city's finances being under significant pressure. With regard to the generation of emissions reduction credits in compliance with the ERPA, while emission reduction levels were considerably lower than those projected during the first two years of operation of the landfill gas capture system, they picked up during 2015.

Institutional. There is a risk to maintaining the capacity developed within CAIXA to manage CF operation. As a dedicated CF Unit within CAIXA was not created, a limited number of individuals have the capacity to manage carbon finance projects due to their active engagement in the implementation of sub-projects under the Program of Activities.

- a. Risk to Development Outcome Rating
Substantial

8. Assessment of Bank Performance

- a. Quality-at-Entry

The project design built on the lessons from other Bank solid waste management projects in the region (i.e., Mexico, Argentina, and Colombia), and the analytical work carried out through the PPIAF resources to assess the solid waste sector and opportunities for the private sector involvement under different management models. A CF Intermediary Agreement between CAIXA and the CF Unit was signed during preparation, which set the framework for a pipeline of CF projects in Brazil. The CAIXA Project was the first fully blended IBRD-CF operation in the Latin America and the Caribbean region.

During preparation, significant emphasis was placed on advancing the identification of CF subprojects and having a comprehensive framework for addressing the environmental and social safeguards. A list of possible infrastructure sub-projects that could be financed with the loan was pre-identified, including potential operations in the states of Rio de Janeiro, São Paulo, Pernambuco and Espirito Santo. With the exception of a project for the Rio de Janeiro landfill that was ready for financing, no specific project designs however had been completed. As the ICR (p.7) notes, the pipeline of sub-projects eligible for investment in SW infrastructure was not robust at project appraisal. While many gaps in local government capacity had been identified and possible tools to address them had been planned, there were no specific requests from municipalities for technical assistance through the CAIXA line of credit. It was expected that CAIXA with offices in the majority of Brazilian municipalities would be in a unique position to reach out to municipal governments and provide technical assistance and financing for SWM. CAIXA's local outreach potential was, however, overestimated during preparation, and it ultimately never materialized during implementation.

The Bank underestimated the complexity of CAIXA's internal administrative processes. While the project piloted the use of Country Systems in its approach to environmental and social safeguards, CAIXA was required to follow operational and fiduciary procedures to disburse IBRD resources and create new operational procedures that significantly delayed the implementation and affected the delivery of results. Complexity of the implementation mechanisms also affected the JSDF funds and Project Preparation Fund that were not utilized. In addition,



there were also significant weaknesses in the project's results and monitoring framework.

Quality-at-Entry Rating
Moderately Unsatisfactory

b. Quality of supervision

Three supervision missions per year were carried out between 2011 and 2015, with teams composed of technical staff (solid waste and carbon finance specialists), environmental and social safeguards specialists, financial management and procurement specialists. The Bank team provided close support throughout supervision that proved to be an important factor for strengthening of CAIXA's capacity to manage safeguards and Carbon Finance operations. The CF team continues to provide a close support to CAIXA on CF operations, including monitoring and reporting to UNFCCC. Fiduciary teams conducted training at least once a year, and worked with CAIXA in the preparation of periodic fiduciary and audit reports.

The team worked closely with CAIXA in the design of the capacity building program, in the preparation of terms of reference for activities and for consultants, in bringing in global experiences and models for engagement of municipalities. The task team met with municipal governments and with the private sector in efforts to identify sub-projects and demand for technical assistance. Efforts to partner with other institutions to deliver knowledge and materials to municipal governments however did not succeed due to low priority to the related project support by CAIXA. The Mid-Term Review was delayed until October 2014 when it could better tailor recommendations to the new institutional structure of CAIXA, following its lengthy internal reform. The MTR recommended restructuring of the project with partial cancellation of the unused balance. However, CAIXA was not interested in a major restructuring of the project to shift the focus from investment to technical assistance.

Quality of Supervision Rating
Moderately Unsatisfactory

Overall Bank Performance Rating
Moderately Unsatisfactory

9. Assessment of Borrower Performance

a. Government Performance

The Government placed a high priority on addressing solid waste management issues in the country. Solid Waste Law was adopted in 2010 after a decade of political debate that set a regulatory framework for the sector and assured a flow of financial resources to meet ambitious investment targets. The closure of the largest dump in Latin America, *Jardim Gramacho*, in the metropolitan region of Rio de Janeiro became a major priority of Mayor Paes' first term in government. In anticipation of Rio + 20 in June 2012, the Santa Rosa Waste Treatment Center and the closure of Gramacho were moved forward and took place in early 2012. The signature between CAIXA and SERB, the private sector company who owned the landfill, was however postponed for over one year, resulting in major implementation and disbursement setbacks for the project.

The Government provided the guarantee for CAIXA to directly access the IBRD loan and showed strong commitment to the project during preparation and up to effectiveness. However, communication with the central government after effectiveness was limited to the audit reports made by the Central Auditors. Throughout implementation and until closure, the Ministry of Finance did not engage with the Bank on discussions over the performance of the project.

Government Performance Rating
Moderately Unsatisfactory

b. Implementing Agency Performance

CAIXA was the project implementing agency and also a coordinating agency for the Carbon Finance program, in charge of contractual arrangements, oversight, and coordination of individual carbon sub-projects. CAIXA had clear interests in acquiring the expertise in Carbon Financing applicable to SWM, as well as in having a comprehensive framework for addressing environmental and social safeguards. However, low priority was given to the development of implementation mechanisms for the execution of investment and



technical assistance components, which were ultimately not realized.

While the CAIXA team was actively engaged during preparation of the project and contributed to the design of the operation, it was not responsive to implementation delays, showed limited initiative in trying to resolve problems and improve overall performance. The approval process for the Santa Rosa credit took over one year, and after that there was little interest of the business development team to pursue additional sub-projects, even though one third of the resources remained unused. Lengthy internal administrative processes led to delays in the project implementation and two major internal restructuring processes of CAIXA in 2012 and 2013 significantly impacted the team managing the project. While CAIXA complied with all fiduciary, safeguards and reporting requirements of the loan, the team demonstrated limited ownership of the project, with the exception of the CF component. 67% of IBRD funds remained undisbursed by project closure.

Implementing Agency Performance Rating
Unsatisfactory

Overall Borrower Performance Rating
Unsatisfactory

10. M&E Design, Implementation, & Utilization

a. M&E Design

There were three outcome indicators under the five specific objectives in support of improving the treatment and final disposal of municipal solid waste in Brazil. There were (i) number of open dumps closed and monitored; (ii) increased volume of waste disposed in environmentally sustainable sanitary landfills; and (iii) increased volume of waste composted and recycled in targeted municipalities. These targets were achieved with only one investment financed under the project. No intermediate indicator was included to measure reduction of poverty among waste pickers. The results framework lacked process indicators to monitor progress and help identify bottlenecks in implementation.

b. M&E Implementation

Indicators and targets were monitored during the implementation phase and discussed with the CAIXA team during regular supervision missions. Given the slow progress of implementation, it was difficult to monitor and to capture advances in the definition of implementation mechanisms for the various components. The decision was made not to revise the M&E at the time of mid-term review, as difficulties in reaching some of the critical targets reflected more a change in the overall context of the SWM sector rather than a wrong choice of the indicators.

c. M&E Utilization

With substantial delays and lack of disbursements under the project, the M&E framework was not a very useful tool to help track progress on the main bottlenecks.

M&E Quality Rating
Negligible

11. Other Issues

a. Safeguards

The project piloted the Use of Country Systems (OP 4.00) with respect to the triggered Bank Safeguard Policies: Environmental Assessment (OP/BP 4.01); Natural Habitats (OP/BP 4.04); Pest Management (OP 4.09); Physical Cultural Resources (OP/BP 4.11); and Involuntary Resettlement (OP/BP 4.12). Supervision arrangements for safeguards required Bank's approval of (at least) the first two subprojects identified under the Project, as well as monitoring of CAIXA's capacity during implementation. The Environmental and Social



Management Framework (ESMF) that was developed during preparation was later applied to CAIXA's entire solid waste management portfolio. Training was provided to CAIXA to make their Environmental and Social Management Framework (ESMF) compatible with the Bank's. The resulting framework *Plano de Gestão Socio Ambiental* was adopted by CAIXA for its entire SWM portfolio; it is publicly available through the CAIXA website, and has become one of the technical assistance tools that CAIXA can make available to municipalities. The ICR (p.12) reports that regular safeguards supervision confirmed that the ESMF and other related safeguards instruments were applied in a satisfactory manner throughout implementation. In case of carbon finance operation, periodic supervision of environmental and social safeguards will be required at the Santa Rosa landfill (including the Tanque and Penha transfer stations), as well as the Sao Gonçalo, Ipojuca and other facilities that may request incorporation under the POA. The CF Unit and the CPF have agreed to continue coordination with the Urban and Safeguards team, and to the provision of annual budget.

b. Fiduciary Compliance

Financial management. The ICR (p12) reports that financial management (FM) performance ranged from satisfactory to moderately satisfactory throughout project implementation. Minor shortcomings related to with the inability of the Project Monitoring and Reporting System (SIAPF) to automatically generate the SOEs and IFRs were ultimately resolved and Bank requirements were complied with adequately. All Project audit reports were reviewed and found acceptable to the Bank.

Procurement management. The procurement management rating throughout the lifetime of the project was rated as moderately satisfactory, as reported by the ICR (p.12). Procurement was carried out only for one investment under the project, and the capacity of the PIU to apply the Bank's procurement rules remained limited

c. Unintended impacts (Positive or Negative)

d. Other

12. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Unsatisfactory	Unsatisfactory	---
Risk to Development Outcome	Substantial	Substantial	---
Bank Performance	Moderately Unsatisfactory	Moderately Unsatisfactory	---
Borrower Performance	Unsatisfactory	Unsatisfactory	---
Quality of ICR		Substantial	---

Note

When insufficient information is provided by the Bank for IEG to arrive at a clear rating, IEG will downgrade the relevant ratings as warranted beginning July 1, 2006.

The "Reason for Disagreement/Comments" column could cross-reference other sections of the ICR Review, as appropriate.

13. Lessons

Lessons were selected from the ICR with some adaptation of the language:



- **Aligning incentives and operational objectives is critical in the development of an operation.** Under this project, CAIXA's main interest in partnering with the Bank on this operation was to have access to World Bank knowledge and technical assistance for developing its CF capacity. A relatively small credit line of IBRD resources, particularly given the extent of CAIXA's own financing resources in the sector, was not in itself a major incentive.
- **Project readiness for implementation is critical.** Having a well-defined pipeline of eligible subprojects is essential to allow implementation to begin once the project is approved. Long delays at the onset of the project while the viability of a pipeline of subprojects is being evaluated may result in a loss of momentum that may negatively impact the delivery of results.
- **Process-oriented intermediate indicators are useful to capture institutional changes and identify bottlenecks in implementation.** Indicators reflecting progress (or lack of progress) on critical upstream reforms may send clearer signals to the implementing agency on internal bottlenecks needed to be addressed.
- **Well-coordinated, blended IBRD-CF projects can successfully leverage and complement solid waste management operations.** The integrated work of the solid waste and CF teams was one of the most positive design aspects of the operation. Presenting a joint approach to project implementation underscores the technical and financial advantages of integrating emissions reduction equipment and technology from the onset of the project, and allows the inflow of resources early during implementation. Payments for emissions reductions credits become a critical incentive to accelerate implementation and to more effectively operate landfills in accordance to CDM technical procedures, as they are proxies for well-managed operations.

14. Assessment Recommended?

No

15. Comments on Quality of ICR

The ICR is candid, internally consistent, and outcome oriented. It provides a rich level of detail and important insights into the implementation issues faced by the project. The ICR is particularly notable for its balanced and candid analysis of what the project aimed to achieve and the results attained, with a critical overview of its contribution to the outcomes. The lessons are evidence-based and useful for future operations.

- a. Quality of ICR Rating
Substantial