



1. Project Data

Project ID P094315	Project Name BR Municipal APL4: Sao Luis	
Country Brazil	Practice Area(Lead) Water	
L/C/TF Number(s) IBRD-75780	Closing Date (Original) 31-Dec-2013	Total Project Cost (USD) 59,400,000.00
Bank Approval Date 17-Jul-2008	Closing Date (Actual) 30-Oct-2015	
	IBRD/IDA (USD)	Grants (USD)
Original Commitment	35,640,000.00	0.00
Revised Commitment	35,640,000.00	0.00
Actual	23,440,232.03	0.00

Sector(s)
Other Water Supply, Sanitation and Waste Management(58%):Sub-National Government(13%):Waste Management(9%):Other Transportation(8%):Other Public Administration(8%):Social Protection(4%)

Theme(s)
Urban services and housing for the poor(29%):City-wide Infrastructure and Service Delivery(29%):Urban Economic Development(14%):Other environment and natural resources management(14%):Improving labor markets(14%)

Prepared by Ebru Karamete	Reviewed by John R. Eriksson	ICR Review Coordinator Christopher David Nelson	Group IEGSD (Unit 4)
------------------------------	---------------------------------	--	-------------------------

2. Project Objectives and Components

a. Objectives

The project development objectives stated in the Loan Agreement (p. 5) is:

"to improve the Borrower's capacity in the managerial, financial, urban, environmental and service-delivery areas with a view to promoting local economic development and improving the quality of life of the population living in the Bacanga River Basin".

The Project Appraisal Document statement of objectives is (p. 14):



"to improve public service in the Bacanga Basin of Sao Luis Municipality, and enhance the capacity of the city government in promoting local economic development and municipal management".

This Review uses the Loan Agreement version of the objectives.

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

No

c. Components

The project had three components:

A . Local Economic Development and Municipal Management Strengthening (*Appraisal Estimate: US\$6.3 million, Revised: US\$3.98 million, Actual: US\$3.8 million*).

The component aimed to support the development of a Local Economic Development and Competitiveness Strategy, capacity building for job and income generation, technical assistance for financial enhancement, and technical assistance for project implementation.

The Local Economic Development and Competitiveness Strategy planned to include a Local Economic Development (LED) plan that comprised strategic directions for economic development; an upgrading strategy for the critical clusters such as tourism and cultural heritage preservation and simplification of business processes (Doing Business) and the Municipal Balance Scorecard. Capacity building for Job and income generation included activities such as training and facilitation of access to existing microfinance programs, and providing technical assistance support to the Deputy Secretariat of Employment and Income Generation. Financial Management Enhancement aimed to support the strengthening of the municipal procurement system. Project implementation support financed activities on project management, monitoring and evaluation, public service satisfaction survey, community outreach, communication and dissemination activities for the project.

Restructuring. Through the restructuring in December 2013, simplification of the Business processes was dropped.in favor of activities under LED strategy.

B. Sanitation and Water Improvements (*Appraisal Estimate: US\$34.0million, Revised: US\$50.1 million, Actual: US\$13.45 million*).

This component aimed to improve the storm water drainage, sewerage and water supply systems as well as develop and pilot solid waste management measures in the targeted areas of the Bacanga Basin.

Specifically, sewerage system improvements included construction of a sewage collection system for the entire area of the left bank that feeds into the existing Bacanga Sewerage Treatment Plant (ETE), completion of the wastewater collection system in the targeted areas of the basin; and implementation of a mechanical sludge drying system at ETE Bacanga. Storm drainage system improvements concentrated on micro and macro-drainage for the Canal do Coroado and Rio das Bicas and include constructing storm drain networks; improving the hydraulic operation of the urban drainage canals by cleaning up the canals, rehabilitating areas of environmental value so as to improve the quality of the waters that flow to Bacanga Lake; and preparing a Solid Waste Management Plan and a pilot to be carried out in the Bacanga Basin. Water supply system improvements focused on reducing the number of deep tubular wells; increasing the number of metered connections; purchase of equipment to control unaccounted-for water; and rehabilitating the concrete structure and the metallic bridge that supports the 900 mm distribution pipes in the Bacanga Dam. Funds also supported technical assistance activities for the strengthening of sanitation management and supervision of construction works, including technical assistance to Municipal Government of Sao Luis (PMSL)for regulating water and sanitation services, improving operations and maintenance of drainage services, and development of a solid waste management plan.

Restructuring. Through the restructuring in December 2013, the following activities were dropped: investments in a sludge-drying system in the ETE; pilot for solid waste management (this was transferred to the Municipal Secretariat for Infrastructure and Public Services (SEMOSP)); rehabilitation of water distribution infrastructure connected to the Batatã Dam; and finally Borrower's responsibility to regulate, operate and maintain the WSS and drainage services and Borrower was to focus on implementing project civil works and developing an



Integrated Municipal Plan for WSS, drainage and solid waste.

C. Urban and Environmental Improvements (Appraisal Estimate: \$US 15.8 million, Revised: US\$32.3 million Actual: US\$28.8 million).

The component aimed to support informal area upgrading and resettlement, rehabilitation of the Bacanga Dam, and municipal environmental management.

Specifically Informal area upgrading and resettlement included financing studies for the establishment of the legal limits of urban occupancy in the Basin and addressing the issue of accommodating future migrants to the city; financing the cost of resettlement for families living in risk-prone areas; construction of local roads, public spaces and community facilities in resettlement locales in the project area; technical assistance for land tenure regularization for part of the population. Rehabilitation of the Bacanga Dam comprised rehabilitation of the dam's structure and the electro-mechanical equipment; development of operational rules for the dam. Municipal Environmental Management Support aimed to fund implementation of the municipal environmental policy; formulation and implementation of an environmental education plan for the Bacanga Basin; and support in the implementation of the management plan for Bacanga state park.

Restructuring. Through the restructuring in December 2013, the environmental plan for the Bacanga State Park was dropped as the State Government had already developed such Plan using its own resources.

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

Project Cost: Total project cost at appraisal was estimated at US\$ 59.4 million, then it was revised to US\$ 86.4 million during the restructuring in 2010, due to substantial increase in cost of individual projects after detailed designs as well as increase due to inflation. However, the actual costs were US\$ 31.0 million, or 52 % of the appraisal estimate and 36 % of the revised estimate. The underspending was because of slow implementation due to design complexity, capacity and commitment issues.

Financing: The IBRD loan (IBRD-75780) of US\$ 35.6 million disbursed US\$ 23.4 million and US\$ 12.3 million was cancelled at closing in 2015.

Borrower Contribution: At appraisal, the Borrower planned to contribute US\$ 23.8 million; this was increased to US\$50.8 million, but the actual contribution was only US\$ 3.2 million. The cost increase after detailed design was reflected in the Borrower's contribution through an increase in counterpart funding during the restructuring in 2010, as a significant body of investments were funded exclusively by Municipal counterpart funds. However, the Borrower contribution proved to be very limited due to inefficient management of the Government's Growth Acceleration Program (PAC) that funded investments under this project, as well as diminished resource availability for this Program as implementation progressed. The ICR reported that (p.9) funds flowed well initially but then became erratic due to the inefficiency of PAC's main financial intermediary and in the final year, the Federal Government delayed transfer of approved PAC funds as its fiscal situation worsened.

Dates: The closing date of the operation was extended for 22 months to end-October 2015 via a Level II restructuring in December 2013. This extension was necessary to enable the completion of some of the delayed activities.

Restructuring: The project went through two Level-II restructurings on September 2, 2010 and December 10, 2015. The first restructuring in 2010 aimed to allow the Municipal Government to access additional counterpart funding, as well as to accelerate disbursement of the Loan by increasing the Bank's share of all procurement Categories from 55 % to 100 %. The second restructuring in 2013, revised the results framework by changing some of the outcome and intermediate outcome targets, extended the project closing date by 22 months, reduced the project scope, reallocated some funds, and revised the financing plan.

Although the project scope was reduced and outcome indicators and targets revised to reflect these changes, no split rating was conducted, as a split rating would not change the overall outcome rating. With the exception of one outcome target indicator (# 6), other revised indicators for which the targets were reduced could not be achieved. The major revisions in 2013 of the PDO indicators are as follows: (i) A new Core Indicator was included "Direct project beneficiaries (#) of which female (%)" ; (ii) Indicator #3 was revised to "increased consumer satisfaction with water, sanitation, drainage and urban services" and associated targets were modified to be more logical and measurable; (iii) Indicator #4 target was reduced to reflect then-current implementation status; (iv) Target for "sewage treated" under Indicator #5 was reduced from 80 percent to 40 percent as more realistic/achievable; and, (v) Indicator #6 target was reduced from 750 families to 595 consistent with the approved Resettlement Action Plan and 2012 updated beneficiary survey.



3. Relevance of Objectives & Design

a. Relevance of Objectives

Substantial

The original project development objectives were **substantially** relevant to the country, region and sector strategies and needs. The focus of Project activities, the Bacanga Basin is a large catchment area of 132 km², important to economic activity, and housing a large percentage of the Sao Luis Municipality's low-income, peri-urban population in settlements which successive municipal governments have targeted for urban upgrading. The Bacanga Basin dam was constructed in the 1970s in order to reduce large tidal variations in the Basin and permit the consolidation of upstream urban infrastructure, however the land around the basin lake was subsequently occupied by informal housing settlement that prone to extreme drainage and wastewater problems. The dam's floodgates were in disrepair and poorly-operated, leading to flooding in the informal border settlements, degraded water quality from uncontrolled domestic and industrial pollution and a range of other environmental hazards. During project preparation, São Luís Municipality had a population of 900,000 people and is the capital of the State of Maranhão, one of Brazil's poorest and least-developed states, ranked last regarding per capita household income and regarding access to services and health indicators (ICR p. 1). The settlements around the Bacanga basin were particularly low income and risk-prone settlements with inadequate housing, water supply, sanitation, drainage and solid waste management services.

The Project was one of eight similar Bank-supported municipal operations under the Brazil Municipal Lending Program APL approved by the Board in April 2007 and designed to implement local level policies to improve the lives of the urban poor, and promote sound local governance and economic competitiveness. The Project reflected three of the four pillars of the Bank's Municipal and City Strategy for Brazil: improving municipal, fiscal and administrative management; increasing competitiveness through local economic development; and, strengthening municipal service delivery. Support to São Luís was strategically important for the Bank given it was the capital of Brazil's poorest state. The Project was in line with the Government's Multi-Year Plan, and supported the Municipal Government of Sao Luis' strategy to improve public services, quality of life of the poorest and the Municipality's economic competitiveness. It was also aligned to the Bank's 2004-2007 Country Assistance Strategy (CAS) – recognizing the importance of the sub-national level in economic growth and social equity, as well as relevant to Bank Country Partnership Strategies (CPS, 2008-2011 and 2012- 2015), that called for: continued lending to sub-national governments; enhanced implementation of strategic social and infrastructure investment programs; improved quality and expanded provision of public services for poor households; and, increased efficiency of public (and private) investments. However, the PDO was quite ambitious relative to the institutional capacity of the Municipality.

Rating

Substantial

b. Relevance of Design

Modest

The project design logic was weak. Objectives were unclear, not realistic and not supported by relevant project activities.

(i) The project activities were not aligned sufficiently with the over-ambitious project development objective "to improve the Borrower's capacity in the managerial, financial, urban, environmental and service-delivery areas with a view to promoting local economic development and improving the quality of life of the population living in the Bacanga River Basin." Particularly the scale and type of activities could not capture the high level of the capacity-building objective which spanned five sectors of government. It was also difficult to capture the causal chain between the actual capacity growth objective and improvements in the two sub-objectives – local economic development and quality of life". The activities under Component 1 were intended to leverage the implemented managerial reforms to lead to capacity development as well as local economic development, but the link between the activities and the outcomes was weak. The same issue held for Component 3 activities on Bacanga dam that was to lead to local development but again with insignificant linkages. On the other hand, the alignment between Component 2 investments and the objective of improvement of quality of life was more direct and clear.

(ii) The Project's physical design was too demanding in practice for a single, five-year operation and existing capacity. The activities were too numerous, complex and inflexible to ensure that the objectives and intermediate outcomes would be achieved. Multiple, linked activities/institutions required exceptional technical and coordination capacity/arrangements, firm commitment and flawless execution to finish on time.



(iii) The project had an integrated design that correlated inter-dependent activities, institutions, financing and contracts into a framework where unforeseen difficulties or the delay/failure of one element could compromise others in practice. Also, there was no sequencing of activities as the project was intended to advance on all fronts simultaneously. Infrastructure investment activities were wholly counterpart-financed and needed to source funding from Federal Government/other programs that brought significant risk due to lack of control/influence if those resources were restricted for any reason or the institutions involved did not perform.

The quality of the Results Framework was uneven: outcome indicators were not adequately aligned to the capacity building or LED objectives; however, quality of life indicators were more clearly aligned.

Rating
Modest

4. Achievement of Objectives (Efficacy)

Objective 1

Objective

To "improve the Borrower's capacity in the managerial, financial, urban, environmental and service-delivery areas with a view to promoting local economic development and improving the quality of life of the population living in the Bacanga River Basin".

Based on this statement, this Review considers three objectives (i) "improving the Borrower's capacity in the managerial, financial, urban, environmental and service-delivery areas (ii) promoting local economic development and (iii) improving the quality of life of the population living in the Bacanga River Basin

(i) Improving the Borrower's capacity in the managerial, financial, urban, environmental and service-delivery areas, rated. Negligible.

Rationale

Outputs:

- Technical Assistance Training to Municipal public service staff on employment and income generation.
- Training to Permanent Procurement Center (CPL) on systems for fiscal information disclosure was provided.
- Project financed consultancy resulted in a diagnosis and recommendations for tax aspects and management of key sectors for the Municipality.
- Project Management Unit staff received training on project management and M&E.
- Communication activities with communities were executed.
- Improved fiscal policy was dropped.
- Simplification of business processing was dropped.
- Technical assistance on sanitation and O&M of drainage services was limited overall.
- Technical assistance on development of solid waste program was implemented through development of an Integrated Sanitation Plan.
- Studies for establishing legal limits of urban occupancy were not executed.
- Plan for resettlement of families was partially implemented.
- Financing for the Municipal Environment Policy was not implemented.
- A technical consultancy for development and installation, training of service providers and technology transfer to form an Information System for Environmental Management for Sao Luis (SIGA): The system was implemented and staff were trained. It is currently in the testing phase by SEMA. SIGA is designed to accelerate the environmental licensing process as well as Municipal environmental enforcement/oversight.
- Environmental education plan was not implemented, although there were two unsuccessful tenders.
- Plan for Managing the Bacanga State Park was dropped.
- Construction of a sewerage collection system, in Left Bank was not executed due to engineering design issues (ICR p. 33).
- Completion of a wastewater collection system in targeted areas not covered by State Water and Sewerage Utility's project, was also not executed due to engineering design issues (design was inappropriate for the area planned-ICR p. 33).



- Diagnostic studies were completed on municipal integrated sanitation plan.
- Mechanical sludge drying system was dropped.
- Water Supply Systems:
- Expansion of network distribution system and installation of metered connections in left bank was not executed as they were counterpart financed. The systems were built but meters were not installed due to lack of water flow (ICR p. 35).
- Rehabilitation of distribution infrastructure linked to Batata Dam was dropped.
- Rehabilitation of the concrete structures and metal bridge supporting 900 mm of distribution pipes at the Bacanga Dam was implemented.
- Storm drain networks on the right bank of Bacanga area were not completed. However macro-drainage works on the Coroado and Rio Das Bicas Canals were completed.
- Canals were renovated and cleared of debris. Project financed heavy equipment for O&M and vehicles.

Outcomes:

The ICR did not provide any direct evidence on the nature and depth of Borrower’s capacity improvements on different areas, and whether such improvements can be attributed to the Project. It was not clear how effective the TA and training services financed by the project in terms of improving borrower’s capacity. The ICR did not provide any beneficiary assessment on this matter from the borrower side, nor provided any direct evidence on the improvement of any service delivery mechanism. There were two PDO indicators

(i) The ICR did not provide achievements regarding the PDO Indicator 1: “Increase consumer satisfaction with water, sanitation, drainage and urban services”, reporting that (p. 17) consumer satisfaction with service delivery could not be formally assessed due to lack of evidence.

There was very limited achievements regarding planned investments: The planned water and sanitation works were not completed and urban services were done only partially. The ICR reported that (p. 17), the Rio das Bicas and Coroado macro-drainage canals were renovated to a high standard. Paving works were completed. Target population impacted by the services and works was 92,500 people (77,500 from WSS and 15,000 from drainage). Only drainage target (15,000 people)exceeded (actual beneficiaries were 19,513) and there was zero WSS beneficiaries. Sewerage works completion was very limited (See below).

ii) The 2nd PDO Indicator was: Increase the percentage of sewage collected and treated in targeted areas”. Works in the left bank were stalled at closing. The system on the right bank reached only 30 percent progress. The sludge drying facility was dropped. So, no outcome could be reported by the ICR on this indicator.

Rating
Negligible

Objective 2

Objective

(ii) Promoting local economic development, rated Substantial.

Rationale

Outputs:

- Formulation of Local Economic Development (LED) and Competitiveness Strategy, including a LED plan. This was implemented. A socio-economic portal for Department of Information and Economic Intelligence, Municipal Plans for Professional Qualification and Government Suppliers and Purchasing were developed.
- Competitive Upgrading Strategy for critical clusters such as tourism and cultural heritage and a resource based cluster focused on two major enterprises in the City of Sao Luis were implemented.
- Management committee was established, tourist map was prepared and disseminated, tourism managers were trained, a plan for the development and coordination of the tourism cluster was prepared and the execution plan with specific projects was executed.
- Innovation Plan:
- Project for Labor Insertion:676 people were trained, 59 % female;
- Entrepreneurship training: 540 small enterprises in 17 districts of Sao Luis were trained;
- Project to identify, train and provide entrepreneurial assistance to potential micro and small enterprises : 1,150 participants were trained;
- Courses offered on Strategic Partnerships in 17 districts;
- Environmental Management Plan under Innovation Plan: 44 people were trained on solid waste collection, recycling and 100 drivers were



trained on collection/treatment of solid waste.

Outcomes:

The ICR reported the following achievements (p.18):

- (i) PDO indicator: "Develop local economic development strategy, and budget allocated to undertake main actions from the strategy" was achieved. The project helped prepare a Local Economic Development (LED) strategy which became the key analytical instrument supporting the PMSL's short and medium-term planning instrument; and also supported development of managerial tools, i.e. portals and databases. Associated with the LED Strategy, the Innovation Plan and its Action Plan was prepared and micro- and small scale entrepreneurs were trained.
- (ii) PDO indicator: Develop a competitiveness-enhancement plan for one economic cluster by 2010 and implement recommended short-term actions from the plan in 2011" was achieved. The target cluster selected was tourism and the project helped preparing tourism cluster development studies and carried out various tourism marketing activities.

Rating

Substantial

Objective 3

Objective

(iii) Improving the quality of life of the population living in the Bacanga River Basin, rated Negligible

Rationale

Outputs

- Rehabilitating areas of environmental value to improve quality of water flowing to the Bacanga Lake and to reduce decayed areas on the right bank of the river was partially executed. Consolidation of Bacanga State Park through a Management Plan: the plan was part of the Environmental and Social Management Plan (PGAS) but due to political and institutional difficulties there was inadequate coordination with the State Secretary of Environment. Also, implementation of programs to recuperate protected areas on the Lake margins (30 meter protection strip) was not implemented; the area continued to be occupied by people after the project resettled people off this area. (ICR p. 34).
- Informal Area Upgrading and Resettlement:
 - Plan for resettlement of families was partially executed. A contract prepared an Involuntary Resettlement Plan for the Left Bank defining a map of those affected by flooding, and by project works, based on a survey/cadaster of families compared to a baseline. Contracting of an engineering firm to execute the Plan did not proceed. It was not possible to construct the building at the Carneiros site and thus an alternative strategy was developed to transfer families voluntarily to the Piancó site.
 - Financing resettlement of families in risk-prone areas was partially executed. 108 families from flood risk and other sites were resettled and another 260 families would be resettled in May 2016.
 - Construction of housing units for resettlement of families affected by project works on the Right Bank, was partially executed. At project closing some 12 families out of 33 had been physically resettled and another 21 were waiting for the delivery of their homes.
 - Construction of local roads to facilitate access to better public services in the area, drainage and paving of 39 km, was also partially executed. Some 4.7 km was paved on the left bank, no activity was done on the right bank. The ICR reported that the contract was problematic during execution due to inconsistencies in design (ICR p. 37).
 - Hydraulic landfill in left bank and hydraulic landfill and road paving in the right banks was dropped post Midterm Review (MTR).
 - Construction of sports and culture plaza in the neighborhood of Coroado and acquisition of buildings/equipment in the right bank stalled after 70 percent completion.
 - Executive Projects, Environmental Studies and works for the Rio das Bicas Urban Park located on the
 - Right Bank of the Bacanga Lake, was partially executed. Designs were completed, but works were only partially implemented.
 - Executive Projects and Environmental Studies for Requalification of the Left Bank of the Bacanga Lake was finished.
 - Works for Requalification of the Left Bank of the Bacanga Lake – Lot 1 in Sao Luis, was designed to establish the legal limits for urban occupancy in the Bacanga Basin as a way of preserving and allowing re-vegetation of areas of environmental interest, was partially executed. At final implementation stage, it was decided that only Lot 1 would go ahead due to lack of time. Then at project closing Lot 1 was completed by 60 percent.
 - Final engineering designs for urbanization, public spaces and community equipment for the Rio das Bicas Urban Park located on the Right Bank of the Bacanga Lake were completed.



- Technical assistance to regulate land regularization for part of the population was not done.
- Land regularization activity that was planned to occur in the left bank was not implemented due to complex tenure situation involving multiple agencies (ICR p. 40).
- Construction of public spaces and community facilities/equipment in project resettlement areas, was partially executed: a) Originally 9 areas were planned, only 1 was completed another 4 did not start due to land indemnification problems; b) Final engineering designs to develop the second phase were contracted but not completed due problems with the construction firm.
- Rehabilitation of the Bacanga dam was not executed.

Outcomes

Assessment of quality of life improvements is based on a limited set of investments, partially concluded for mainly resettlement activities. No impact evidence is available to measure the impact of the investments. The project did not provide wastewater sanitation works, and rehabilitation of the Bacanga dam couldn't be implemented. As a result, water quality in the Bacanga Lake was not very favorable (: Four collections were made and cadmiums and heavy metals in significant amounts were not detected. However, the ICR noted that (p 41) monitoring between August 2014 and August 2015 showed eutrophication and plankton ecology consistent with deterioration of water quality; continued pollution of the Lake with untreated sewage; and, inadequate operation of the Dam compromising the hydro-dynamic flow/flushing of the Lake. These results clearly did not help achieve the objective). In addition, despite the social and environmental hazards presented by the Dam in its deteriorated condition, and the body of technical studies, recommendations and detailed designs available to the State, it was/is not a State Government priority and the prospects for its rehabilitation are uncertain. The Project could not comply with OP 4.37, Safety of Dams. The ICR noted that (p. 14) political interference/rivalry played a major role in this outcome. On the other hand, completion of canal works was a positive achievement that helped prevent floods (there is anecdotal evidence on flood effects but no direct/concrete evidence). The ICR noted that (p. 19) canal maintenance needed to continue to sustain the benefits. The relocation of flood-risk families was the biggest achievement. Although, no beneficiary satisfaction survey was carried out on that, the ICR reported visibly improved living conditions in the new areas. However, it was also noted that, implementation of programs to recuperate protected areas on the Lake margins (30 meter protection strip) was not implemented; the area continued to be occupied by people after the project resettled people off this area. (ICR p. 34. Therefore, what the project achieved in terms of relocating people, was diminished by other people continuing to live in these flood-risk areas.

Rating
Negligible

5. Efficiency

Economic and Financial Efficiency:

The ex-ante analysis included a cost-benefit analysis that was conducted for the water supply investment. The results of the cost benefit analysis for the water supply component indicated that, the present value of net benefits would be R\$ 41.5 million, implying an internal rate of economic return of 40.5%. For sanitation investments, while the economic benefits are huge with their impacts on public health, environment and economic development, most of them are usually difficult to be valued monetarily and captured financially. However, the ex-ante and ex-post analyses are not comparable, as the sub-sectors included in each stage were not similar.

The ex-post economic analysis included a cost benefit and cost effectiveness analysis to evaluate project works implemented, using actual costs and actual benefits obtained from drainage, resettlement, and urban parks investments. Results for water interventions and sewerage were zero because they were not executed. Drainage results using a cost effectiveness analysis showed that actual costs were half the alternative selected at appraisal: total cost was lower and number of beneficiaries higher. Results of the cost benefit analysis conducted for drainage, urban parks, and voluntary resettlement show that the investments had positive impact on the area intervened. Actual benefits were 27 percent higher than actual costs and interventions showed a 14 percent return, higher than the 10 percent discount rate. All interventions showed benefits exceeding costs and returns of 13 percent or higher.

However, the ICR noted the shortcoming that systematic maintenance is not yet in place, potentially jeopardizing sustainability and the benefits already enjoyed by residents.

Operational/Administrative Efficiency:

There were significant operational and administrative inefficiencies. The closing date was extended for 22 months to overcome allow time to complete sub-projects that faced delays. However, the 22 month extension did not deliver expected results and one-third of the Loan was cancelled.

Project efficiency is rated **Modest**, due to and significant administrative and operational inefficiencies.



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	✓	40.50	5.00 <input type="checkbox"/> Not Applicable
ICR Estimate	✓	14.00	23.00 <input type="checkbox"/> Not Applicable

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

6. Outcome

The project had major shortcomings. The relevance of Objectives is rated Substantial but Relevance of Design is rated Modest. Two objectives out of the three are rated Negligible, namely “improving the Borrower’s capacity in the managerial, financial, urban, environmental and service-delivery areas” and “improving the quality of life of the population living in the Bacanga River Basin”; and the objective, “promoting local economic development” is rated Substantial. Efficiency is rated Modest due to administrative and operational inefficiencies. The combined outcome rating is **Unsatisfactory**.

a. Outcome Rating
Unsatisfactory

7. Rationale for Risk to Development Outcome Rating

The risk of sustainability of project investments is **significant**, mainly due to lack of maintenance arrangements. Drainage works conform to high design and construction standards but maintenance of works was still lacking when the project got closed. The Municipal Secretariat for Works and Public Services is responsible for canal upkeep, while has appropriate equipment, it lacks systems and planning capacity. As the sewage outflow issue was not addressed, the canals show a mix of sewage, rainwater and vegetation growth, risking renewed flooding. The ICR reported (p. 22) similar issues for the housing clusters where new buildings and public areas were already showing signs of weak maintenance. Community leaders interviewed by the ICR mission were actively promoting organized O&M of buildings by the residents themselves. In addition the Bacanga Dam rehabilitation, which is dependent on State funding, and did not commence under the project faced the risk of non-execution. Despite the social and environmental hazards presented by the Dam in its deteriorated condition, and the body of technical studies, recommendations and detailed designs available to the State, it was/is not a State Government priority and the prospects for its rehabilitation are uncertain.

a. Risk to Development Outcome Rating
Substantial

8. Assessment of Bank Performance



a. Quality-at-Entry

The current project was one of eight similar projects in Brazil, under the Municipal Lending Program (MLP). This project was centered in the capital of the poorest state in Brazil, an area with complex problems including massive migration, poor urban planning and urban poverty, lack of basic services and environmental vulnerability. This resulted in an ambitious project difficult to execute given the changing political climate at the State level and the severe capacity constraints. The Quality of Entry is rated unsatisfactory owing to numerous and major shortcomings :

- Appraisal did not include sufficient lessons: particularly given that lessons drawn from MLP Bank operations were not available at the time of appraisal. The Lessons used in the PAD were partially reflected in design, i.e. municipal capacity strengthening linked to investments and refraining from a christmas tree approach in design.
- Risk analysis underestimated risks and did not provide specific mitigation measures for known risks (e.g. political rivalry and consequences of elections), and did not consider the high risk of complex implementation arrangements (as a new small management unit would coordinate multiple agencies); as well as the high risk of reliance on independently financed and executed activities that were inter-dependent.
- Institutional design was also problematic as the project implementation unit within the Municipal Secretariat for Special Projects (SEMPE), a newly created agency, would work with multiple secretariats of municipal government (eleven of them). Its responsibilities were extensive.
- Although it took three years to prepare the project, sub-projects were not ready to be implemented, as detailed engineering designs were left to the post-effectiveness period; this increased the cost considerably.
- The project activities were not aligned sufficiently with the over-ambitious project development objective; particularly the scale and type of activities could not capture the high level of the capacity-building objective which spanned five sectors of government. The Project's physical design was too demanding in practice for a single, five-year operation and existing capacity. The activities were too numerous, complex and inflexible to ensure that the objectives and intermediate outcomes would be achieved. Multiple, linked activities/institutions required exceptional technical and coordination capacity/arrangements, firm commitment and flawless execution to finish on time.
- M&E indicators were weak, as they were inadequate to track the desired achievements and outcomes.

Quality-at-Entry Rating
Unsatisfactory

b. Quality of supervision

The ICR noted that (p. 6) project supervision missions over the 7-year implementation period were relatively frequent (25 missions including fiduciary and technical) – but not always staffed for project needs. For example Bank supervision missions lacked an M&E specialist, as well as a safeguards specialist to mentor the Project Management Unit (UGP). Fiduciary supervision was strong throughout. Also transitional arrangements for post-closing follow-up were well-crafted, positioning the PMSL/UGP to complete key unfinished interventions. Shortcomings were as follows: during the initial years, the supervision suffered lack of safeguards oversight; “distant” relationship with the UGP technical team; less than candid reporting/ratings (DO and IP ratings were Satisfactory range despite significant issues); and, not contracting the management entity required under the Loan Agreement. Later on issues included delayed MTR (10 month), ineffective restructuring; lack of M&E mentoring. Overall, the supervision team missed opportunities to restructure earlier; therefore development impact and M&E lost focus. Specialist support to the UGP and engagement with the State on the Dam were further intensified but problems persisted and delays accumulated. The ICR noted that (p.22) the Bank team felt its input was discounted and unable to influence the course of events. The Project could not comply with OP 4.37, Safety of Dams.

Quality of Supervision Rating
Unsatisfactory

Overall Bank Performance Rating
Unsatisfactory

9. Assessment of Borrower Performance

a. Government Performance

The Municipal Government of Sao Luis in power during preparation was highly committed to the project, but could not adequately judge its complexity, which increased further through unilateral changes in project concept and environmental compliance. Its dialogue with the Bank team was better during preparation and with the State Government was better before signing the Loan. The new Municipality after the



election had doubts about the Project's resettlement activities and weak operational capacity. After detailed technical designs were made, the project's real costs showed a substantial financing gap; however, the government accessed additional counterpart funds. Still, the new government's commitment toward the project became less over time as delays and problems mounted. However, the government agreed to post-closure Bank supervision of resettlement, and with the terms of the Bank-sponsored Management Letter calling for completion of unfinished works.

Government Performance Rating
Unsatisfactory

b. Implementing Agency Performance

Project Management Unit (UGP): Over the course of project implementation, the new UGP had five coordinators and three separate project teams that were not closely linked to the institutional structure and thus in the initial years lacked the ability to mobilize the established agencies', at the state-level. Also, UGP had a distant relationship with the Bank team in the initial years that affected its performance. Negotiations with multiple parties to resolve the large-scale resettlement of flood-prone families on the Left Bank took two years, but prompted significant maturation. Contract management and M&E remained problematic, the former due to complexity, and the latter set aside under the pressure to implement the works. However, in the final years the UGP procured and signed large, contracts reflecting notable technical and administrative improvements. Also, as assessed correctly by the UGP team, the 22-month extension was used to conclude or advance key works which had not progressed in the previous five years. The UGP's support to the ICR was notable.

State Government/SINFRA: The State Government (SINFRA) was legally committed under the Bacanga Dam Agreement to repair the Dam floodgates and supporting structures and to operate and maintain the Dam properly. But, it was not formally an implementing agency. Mostly for political reasons, the State lacked any buy-in to the Project during implementation. The results of Component 1 – LED, Tourism Cluster efforts, TA/training and employment creation – could, have been even stronger with the State's support.

State Water and Sewerage Utility (CAEMA): This State agency was responsible for implementing the water and sanitation works. The institution was weak and no intervention was successful due to lack of adequate planning and capacity. While water supply works were partly executed by SEMPE/UGP, no results emerged as the main water source (CAEMA's responsibility) could not properly feed the system. Also, at Project completion the sewerage system in the Right Bank was just 30% complete. CAEMA had/still has limited technical capacity to evaluate design, plan ahead and execute works, and to operate and maintain WSS systems.

Implementing Agency Performance Rating
Moderately Unsatisfactory

Overall Borrower Performance Rating
Unsatisfactory

10. M&E Design, Implementation, & Utilization

a. M&E Design

The two PDO indicators (which can equally serve the third objective regarding quality of life) do not directly measure capacity improvements in the sectors mentioned in the development objective. The M&E system included: (i) Management Information System (MIS); (ii) three Consumer Satisfaction Surveys to solicit beneficiary perceptions on the quality of project-provided WSS services; (iii) Environmental Health Baseline linked to water quality monitoring of the Bacanga Lake; (iv) Mid-term Evaluation (MTE); and, (v) Final Evaluation, updating the MTE and supporting the Borrower Completion Report (BCR).

b. M&E Implementation

The Bank team did not chose to improve the M&E framework during implementation to make the indicators more linked to measure the outcomes. The MIS established during preparation tracked basic physical progress but was unable to issue automatic financial monitoring reports (FMR). Progress reporting continued to fall short throughout and the evaluation agenda was weak; the former lacked appropriate monitoring of indicators and thus ISRs tended to post outdated values. Neither of the planned evaluation studies was done and the final Satisfaction Survey was still awaiting procurement at the time of ICR finalization. Bank supervision missions lacked an M&E specialist to



mentor the UGP in best practice data collection, management and evaluation even though the PAD called for the Bank to be “closely involved in the M&E framework. However, the Project financed a baseline Satisfaction Survey, water quality monitoring in the Lake and a BCR, all of satisfactory quality..

c. M&E Utilization

These reports supported preparation of the ICR.

M&E Quality Rating
Modest

11. Other Issues

a. Safeguards

The Project was classified as Category A and triggered OP 4.01 Environmental Assessment; OP 4.04 Natural Habitats; OP 4.11 Physical Cultural Resources; OP 4.12 Involuntary Resettlement; and, OP 4.37 Safety of Dams. A Regional Environmental Assessment and Environmental Management Plan of good quality were prepared. While Bank supervision generally was intensive in the first two years, the Bank team – for reasons unexplained – did not include an environmental safeguards specialist in that period and the Aide Memoires and ISRs of this period did not comment on Safeguards issues yet Safeguards compliance was rated Satisfactory. The UGP technical team of that period lacked an understanding of Bank safeguards requirements because they had never been briefed and this had repercussions for project designs/works. Later, environmental monitoring of works was satisfactory but technical monitoring and environmental licensing were uneven. Further, while ongoing works generally complied with OP 4.01, the UGP having acquired over time the required capacity, most interventions linked to sustainable environmental benefits were not completed: most importantly, renovation of the Dam, sewerage systems, and full resettlement of targeted populations.

Involuntary Resettlement: An Involuntary Resettlement Framework (IRF) was the basis for a later Resettlement Plan based on identification of affected families, public consultation, and engineering/other studies. Analytical quality of the IRF was satisfactory. Social safeguards supervision was negligible in the first two years but strong thereafter. There were two distinct populations to be resettled, initially aggregated under Involuntary Resettlement, but subsequently re-mapped into voluntary and involuntary groups. Progress was partial for the MCMV-financed voluntary resettlement of flood-risk families at Piancó: 108 families of the revised 568 total were settled by closing, another 260 would be settled by end-May, 2016 and the remainder was awaiting approval. Families affected by the canal works and to be resettled involuntarily saw good progress by closing under the Resettlement Action Plan (RAP) with 33 families either physically resettled or waiting in rent-subsidized accommodation. Active construction sites and level of completion were confirmed in both cases by the ICR mission. The Bank’s Safeguards Coordinator for Brazil and the Project Safeguards Specialist agreed with the PMSL - backed by an Action Plan and legal/budget guarantees - to supervise completion of the involuntary resettlement, and to verify completion of voluntary resettlement through PMSL progress reporting. The Social Safeguards Specialist assessed compliance under this Safeguard as moderately unsatisfactory.

Safety of Dams: A safety assessment study by a panel of experts during appraisal (2007) analyzed the Dam’s structural and operational conditions, found strong evidence of deterioration and imminent collapse, and issued recommendations. Performance/compliance under this Safeguard are assessed as highly unsatisfactory based on the Bank Safeguards Specialist’s analysis at exit. Despite all efforts by the Bank and PMSL to resolve the impasse associated with the State’s management of the Dam and legal obligation to rehabilitate it, the Project could not comply with OP 4.37, Safety of Dams. Political interference/rivalry played a major role in this outcome. Despite the social and environmental hazards presented by the Dam in its deteriorated condition, and the body of technical studies, recommendations and detailed designs available to the State, it was/is not a State Government priority and the prospects for its rehabilitation are uncertain. At the time of ICR finalization, the State had not responded to the PMSL’s recent overtures to reactivate a dialogue on Dam restoration.

Natural Habitats: Project interventions sought: adequate use and occupancy of the Bacanga region; maintenance of an agreed water level in the lake; delineation of a permanent preservation strip (Área de Proteção Permanente, APP) of 30 meters; and, plan to promote use of those areas (vegetation, urban parks, leisure areas) by the population and prevent re-occupation. The Environmental Safeguards Specialist assessed compliance as unsatisfactory, due inter alia, to delays in resettling populations in risk areas and thus inability to establish the APP and execute planned works, lack of Borrower control of new, urban occupations in risk areas and in conservation areas around the Lake, and failure to improve the Dam, affecting water levels/quality.

Physical Cultural Resources: The Project was not expected to affect areas of historical and cultural heritage in the City of São Luís as interventions were outside the Central Historic District. However, as the Project entailed construction and excavation to expand and replace



infrastructure the EA included screening for known cultural property in the project area and incorporated chance finding procedures. In practice, screening procedures for all works throughout the Project period did not encounter any known cultural property and chance finding procedures were not invoked.

b. Fiduciary Compliance

Financial Management (FM):

The UGP worked responsibly to address Bank FM concerns and improve capacity. There were several shortcomings: Quarterly expenditure forecasts and disbursement timetables were inadequately aligned with project needs. An outdated operational manual and manually-generated financial management reports persisted throughout implementation. However, audit performance was uniformly strong; annual, independent audits of project accounts produced clean, unqualified opinions for all years audited. FM performance was rated Moderately Satisfactory at closing and for most of the Project period.

Procurement:

Three Procurement Post-Reviews (PPR) were conducted before closing and a final PPR in March 2016 focused on contract management documentation. The Bank team provided analysis, comment and clearance for a high proportion of all contracts processed due to the risks evident in the UGP's limited exposure to IFI-financed procurement. The UGP procurement team received several rounds of Bank training and benefited from the continuity of key staff since 2009. Performance in the initial years was strong - the unit developed significant capacity in complex procurement. However, quality weakened due to time related pressures. The Bank's comments on key issues, e.g., contract cost composition, was not regarded. Some execution delays affecting large contracts in the final period were avoidable, and virtually guaranteed that the works in question would not be completed by closing. The UGP felt that the Bank's response time on some no objections was too slow, and its interpretations unclear. However, the Bank team and Procurement Specialist strived to support the PMSL/UGP in achieving maximum physical execution of works pre-closing.

The Bank Procurement Specialist rated Project procurement performance Unsatisfactory at closing with risk rated Substantial primarily due to weak contract management.

c. Unintended impacts (Positive or Negative)

No unintended impacts were found.

d. Other

12. Ratings

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

The ICR provided comprehensive lessons. The most important follow with some modification of language:

Multiple, interrelated problems of urban poverty in Brazil require phased operations consistent with the longer-term vision of states and municipalities. The level of difficulty and risk for integrated, multi-sector urban operations in fragile environments require a strong diagnosis, a programmatic approach with incremental implementation over a longer engagement period, focused objectives and a stable, institutional “champion”. Substantial capacity-building should accompany infrastructure investments with a strategy for maintaining institutional and professional continuity and commitment.

Dependence fully on counterpart-financed interventions to support achievement of the PDO needs careful consideration, especially if the funds are sourced from public programs. The spread of targeted, sector-specific financing programs in Brazil, many of them grant-based, is both an opportunity and a risk. Accessing these programs adds complexity through program specific processing and approval criteria, schedules and financial intermediation arrangements. They also create a set of autonomous project activities which are difficult to control within the project “package”. Client cost-sharing of own development should certainly be fostered, but the potential risks and benefits of fully counterpart-financed activities should be weighed. If they are needed, those activities should not be inter-linked with other activities, i.e. their existence shouldn’t be central to the success of the overall project.

Ensuring a critical mass of quality engineering designs ready for procurement at effectiveness should be standard practice to identify the correct scope and scale of works, and the corresponding amount of resources and engagement period. Readiness to implement balanced with a flexible design can position a project – especially in an untried context – for more rapid take-off, moderating expectations regarding what can be achieved, building momentum and demonstrating results. Similar MLP projects in Brazil suggest the option/benefits of dividing works into well-defined/sequenced modules, adjustable depending on ambient conditions/timing.

Urban projects which include resettlement need to analyze the political and economic pressures driving land use and allocation, the risks these entail for the project and how they will be mitigated. The expropriating authority should take ownership of the resettlement process, collaborating with stakeholders to monitor/build commitment. The Bank should train the counterpart adequately to build capacity. The elements driving land allocation – scarcity, poverty, competing uses, budgets, speculation – need to be understood and reflected in project documents and design, including whether the correct/feasible approach is via involuntary or voluntary resettlement. Once land is expropriated the authority needs to ensure control over it, including by assigning social and/or public uses to prevent invasion or reoccupation. The Client’s prior agreement and tangible commitment to resettlement should be a condition of negotiations.

The political risks to project implementation, can partially be mitigated through enforceable legal agreements and sustainable institutional structures. Risk mitigation needs to carefully weigh design features for their potential to add to an operation’s political challenges. Legal agreements are a legitimate instrument only if enforceable. The project experience showed that even highly important issues such as dam safety may not be addressed due to political issues/rivalries. Turnover in trained counterpart teams is unavoidable but the Bank can insist on vetting new candidates, and on the retention at minimum of fiduciary and M&E specialists. An embedded international technical agency could boost institutional capacity and continuity through such cycles.

14. Assessment Recommended?

No

15. Comments on Quality of ICR

The ICR was quite comprehensive and clear with candid articulation of implementation challenges as well as good formulation of lessons. No important issue was found with the quality of the ICR. However, justification for the efficiency section was weak, as some points raised by the ICR were more relevant to efficacy and risk to sustainability of outcomes aspects rather than efficiency of the project.

a. Quality of ICR Rating



Substantial