Document of
The World Bank

Report No.: 87105

PROJECT PERFORMANCE ASSESSMENT REPORT

BRAZIL

ECOSYSTEM RESTORATION OF RIPARIAN FORESTS IN SÃO PAULO (TF-55091)

April 16, 2014

IEG Public Sector Evaluation
Independent Evaluation Group

Currency Equivalents (annual averages)

Currency Unit = Real (R$)

2005	US$1.00	R$2.43
2006	US$1.00	R$2.18
2007	US$1.00	R$1.95
2008	US$1.00	R$1.83
2009	US$1.00	R$2.01
2010	US$1.00	R$1.65
2011	US$1.00	R$1.58

Abbreviations and Acronyms

APP	Areas of Permanent Preservation
BNDES	National Development Bank
CATI	State Rural Extension Company
CBRN	Coordination for Biodiversity and Natural Resources (of SMA)
GEF	Global Environment Facility
GEO	Global Environmental Objective
ICR	Implementation Completion Report
IEG	Independent Evaluation Group
IEGPS	IEG Public Sector Evaluation
MTR	Mid-term Review
PDO	Project Development Objective
PEMC	Riparian Forest Restoration Program
PES	Payment for Environmental Services
PMU	Project Management Unit
PRMC	Riparian Forest Restoration Project
PROANG	State Program of Support for NGOs
GoSP	State Government of Sao Paulo
LM III	Land Management III Project: Sao Paulo
PPAR	Project Performance Assessment Report
SAA	State Secretariat of Agriculture and Supply
SAF	Agro-forestry System
SEE	State Secretariat of Education
SIG	Geographic Information System
SLM	Sustainable Land Management
SMA	State Secretariat of Environment
UC	Conservation Unit (Protected Area)

Fiscal Year

Government: January 1 to December 31

Director-General, Independent Evaluation	:	Ms. Caroline Heider
Director, IEG Public Sector Evaluation	:	Mr. Emmanuel Jimenez
Manager, IEG Public Sector Evaluation	:	Ms. Marie Gaarder
Task Manager	:	Ms. April Connelly

Contents

This report was prepared by April Connelly, with input from Eraclito Neto who also provided support for the IEG mission to Brazil in March 2013. The report was peer reviewed by Ken Chomitz and panel reviewed by Ridley Nelson. Marie Charles provided administrative support.

Tables

Principal Ratings

Ecosystem Restoration of Riparian Forests in São Paulo Project

	ICR*	ICR Review*	PPAR
Outcome	Satisfactory	Moderately Unsatisfactory	Moderately Unsatisfactory
Risk to Development Outcome	Negligible to low	Moderate	Moderate
Bank Performance	Moderately Satisfactory	Moderately Unsatisfactory	Moderately Unsatisfactory
Borrower Performance	Satisfactory	Moderately Satisfactory	Moderately Satisfactory

* The Implementation Completion Report (ICR) is a self-evaluation by the responsible Bank department. The ICR Review is an intermediate IEGWB product that seeks to independently verify the findings of the ICR.

Key Staff Responsible

Project	Task Manager/Leader	Division Chief/ Sector Director	Country Director
Appraisal	Isabel Braga	Abel Mejia	Vinod Thomas
Completion	Erick C. Fernandes	Ethel Sennhauser	Makhtar Diop

IEG Mission: Improving World Bank Group development results through excellence in evaluation.

About this Report

The Independent Evaluation Group assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the Bank's self-evaluation process and to verify that the Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, IEG annually assesses 20-25 percent of the Bank's lending operations through field work. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or Bank management have requested assessments; and those that are likely to generate important lessons.

To prepare a Project Performance Assessment Report (PPAR), IEG staff examine project files and other documents, visit the borrowing country to discuss the operation with the government, and other in-country stakeholders, and interview Bank staff and other donor agency staff both at headquarters and in local offices as appropriate.

Each PPAR is subject to internal IEG peer review, Panel review, and management approval. Once cleared internally, the PPAR is commented on by the responsible Bank department. The PPAR is also sent to the borrower for review. IEG incorporates both Bank and borrower comments as appropriate, and the borrowers' comments are attached to the document that is sent to the Bank's Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

About the IEG Rating System for Public Sector Evaluations

IEG's use of multiple evaluation methods offers both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. IEG evaluators all apply the same basic method to arrive at their project ratings. Following is the definition and rating scale used for each evaluation criterion (additional information is available on the IEG website: http://worldbank.org/ieg).

Outcome: The extent to which the operation's major relevant objectives were achieved, or are expected to be achieved, efficiently. The rating has three dimensions: relevance, efficacy, and efficiency. *Relevance* includes relevance of objectives and relevance of design. Relevance of objectives is the extent to which the project's objectives are consistent with the country's current development priorities and with current Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, Sector Strategy Papers, Operational Policies). Relevance of design is the extent to which the project's design is consistent with the stated objectives. *Efficacy* is the extent to which the project's objectives were achieved, or are expected to be achieved, taking into account their relative importance. *Efficiency* is the extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared to alternatives. The efficiency dimension generally is not applied to adjustment operations. *Possible ratings for Outcome:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Risk to Development Outcome: The risk, at the time of evaluation, that development outcomes (or expected outcomes) will not be maintained (or realized). *Possible ratings for Risk to Development Outcome:* High, Significant, Moderate, Negligible to Low, Not Evaluable.

Bank Performance: The extent to which services provided by the Bank ensured quality at entry of the operation and supported effective implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of supported activities after loan/credit closing, toward the achievement of development outcomes. The rating has two dimensions: quality at entry and quality of supervision. *Possible ratings for Bank Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Borrower Performance: The extent to which the borrower (including the government and implementing agency or agencies) ensured quality of preparation and implementation, and complied with covenants and agreements, toward the achievement of development outcomes. The rating has two dimensions: government performance and implementing agency(ies) performance. *Possible ratings for Borrower Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Preface

This is a Project Performance Assessment Report (PPAR) of the Ecosystem Restoration of Riparian Forests in São Paulo Project (TF-55091). The project was approved on June 21, 2005 and became effective on September 8, 2005. The total project cost at appraisal was US$ 19.52 million. It was financed by a Global Environment Facility Grant of US$7.75 million. At project closure the full grant amount had been disbursed. The project closed on April 27, 2011, 15 months after the original closing date of January 31, 2010. The closing date was extended to compensate for implementation delays caused by staffing challenges and enable completion of key activities.

This report is based on a review of project documents, including the Implementation Completion and Results Report, the Project Appraisal Document, legal documents and project files, and on discussions held with Bank staff involved in the project. It is also based on an IEG assessment mission to Brazil that was conducted from February 25 to March 8, 2013. IEG held meetings in São Paulo and conducted site visits in Piracicaba, Garça, Jaú, Joanópolis, and Bragança Paulitsta to interview beneficiaries and partner organizations. The mission expresses its appreciation for the generous time and attention of the Borrower and all concerned parties. A list of persons met during the IEG mission is in Annex B.

IEG selected this project for a field assessment in order to verify its results and assess their sustainability. The evaluation also provided input into the IEG Country Program Evaluation of Brazil.

Following standard IEG procedures, copies of the draft report have been sent to government officials and agencies for their review and comment. No comments were received.

Summary

The purpose of this report is to assess the development effectiveness of the Ecosystem Restoration of Riparian Forests in São Paulo Project (2005-2011). São Paulo is Brazil's richest state and has an important agriculture sector. Expansion of intensive agro-industry in the last fifty years, however, has reduced the coverage of native vegetation, increased the strain on natural resources and contributed to severe land degradation. The objectives of this stand-alone GEF financed project were to arrest and reverse land degradation processes in riparian ecosystems and adjacent agro-ecosystems by increasing on-the-ground investments and strengthening the policy, regulatory, economic, and institutional incentive framework to encourage sustainable land management.

The project generated a large volume of studies, reference materials and tools to support riparian forest restoration. These studies contributed to changes in public policies that are expected to have a positive role in promoting forest restoration in the future. One of the most notable public policy achievements was the development of the legal amendment to the existing Climate Change Law that laid the basis for the Payments for Environmental Services, previously not permitted. This is important because restoration is costly and many landholders in degraded riparian areas do not have sufficient resources to bear such costs on their own. However, there is spotty evidence on the application or use of the project's tools and reference materials and there is no systematic evidence of outcome level achievements. The project was also expected to contribute to the application and multiplication of restoration practices by working through NGOs at the grassroots level. While the project helped to strengthen the capacity of some participating NGOs, it is not possible to systematically assess the extent to which the project methodology is being continued by participating NGOs with additional resources or the extent to which the project has had a demonstration effect on non-participants. Some NGOs that participated in the project have continued to utilize the approaches piloted under the project while there has been no continuity by others. The total area of forest restored under the project was less than anticipated at appraisal but was considered to be sufficient for piloting and demonstration purposes. However, at project closure there was little evidence that land degradation was arrested or reversed and there has been no follow on monitoring to demonstrate progress on this front since.

The project outcome rating is moderately unsatisfactory, based upon high relevance of the objectives but negligible relevance of design, and modest achievement in reversing or arresting land degradation. Efficiency is also modest. The risk to development outcome is moderate due to uncertainty of the extent to which landholders will maintain on farm investments and how far other initiatives will carry eco-system restoration towards the ambitious GEO. The performance of the Bank is rated moderately unsatisfactory at entry, moderately satisfactory during supervision, and moderately unsatisfactory overall. Project preparation drew on lessons from similar Bank projects but the project design was overly complex and required excessive coordination. The M&E framework was also flawed and was not sufficiently addressed during supervision. The borrower's performance is rated moderately

satisfactory overall. The Government demonstrated a high degree of commitment to the project, providing counterpart financing that exceeded appraisal estimates and was supportive of important policy reforms. The implementing agency was highly committed and proactive in project management but there were weaknesses in coordination, partly arising from the project's complexity, and M&E was weak.

Lessons

Based on the experience of this project, several lessons can be drawn:

- In land or forest management projects that aim to induce a change in land use practices and scaling up, it is important to gain an understanding of the motives different types of landholders have to adopt and maintain such practices in addition to technical dimensions of restoration. In this case, the project documented some comparative evidence on the cost and effectiveness of alternative riparian forest restoration technologies that may be of use to future restoration efforts. But there was less attention to the incentives or disincentives that different land owners have to adopt and sustain such practices or to overcoming barriers to participation, which is equally important for scaling up.

- Consistency between the objectives statements and the scale of investments and associated indicators is essential to avoid incongruities between investment strategy and project intent. In this case the project's official objectives were stated in terms of ambitious global environment objectives. But the project was designed as a pilot to meet the de-facto objective of providing the State of São Paulo with the capacity and tools to tackle future restoration, as opposed to being designed to meet its actual declared objective statement and it did not include intermediate outcomes that could enable an assessment of the likelihood of meeting longer term expectations.

- Working through multiple institutional players can enhance policy and operational outcomes but it requires that mechanisms are developed to formalize institutional partnership with clearly defined common targets and timetables to reduce delays. Such mechanisms need to be agreed among all partners upfront and tailored to their own bureaucratic, managerial and operational structures. In this case, project implementation relied upon various institutions but there were difficulties in aligning priorities, timetables and information flow between different institutional teams who followed their own institutions procedures and timetables, contributing to implementation delays.

- Early consensus on coordination of M&E between institutions and sectors within government is crucial in order to ensure alignment of objectives and targets and to achieve the flow of M&E data between entities. This is particularly important for projects with an experimental focus and widely dispersed activities that can make data collection, storage and usage more of a challenge. In this case, the project management unit was established in the Secretary of Environment and was charged with preparing semiannual reports that were to be made available to

project executors at all levels. But monitoring of field activities was carried out by the State's Rural Extension Agency. Incompatibilities between the operational structures of the two agencies led to bottlenecks in information flows that made it difficult for the project management team to detect and respond to issues as they arose and provide timely feedback to other project executing entities.

Caroline Heider
Director-General
Evaluation

1. Background and Context

1.1 São Paulo is Brazil's richest and most populous state with a large industrial sector and an important agriculture sector that contributes to about 15% of national agricultural output. Agriculture in the state is mostly based on sugarcane that is cultivated under an extensive agro-industrial, export oriented system of production. Such production occupies approximately 5.5 million hectares. The state also contains thousands of small farms (under 50 ha.) with mixed production systems that produce most of the agricultural products consumed internally. These small farms represent 78 percent of the total number of farms in the state but only 20 percent of total area under cultivation. (Rodrigues et al. 2011)

1.2 The State contains two major biomes: the Atlantic Rainforest and the Cerrado[1]. Both biomes are among the 25 priority hotspots for world biodiversity conservation, designated by Conservation International. (World Bank 2005) Expansion of intensive agro-industry in the last fifty years has resulted in increased strain on the State's natural resources and severe land degradation. Less than 13% of its land area is currently occupied by native vegetation. The lack of forest cover makes the soil susceptible to erosion and gully formation that leads to less productive soils and carries organic matter and sedimentation into the aquatic ecosystem and contributes to the sedimentation of reservoirs, headwaters and springs. About 60% of the state territory is classified as highly or very highly susceptible to erosion and the official estimated annual soil loss is about 200 million tons. (World Bank 2005)

1.3 The restoration of degraded riparian vegetation is a critical component of sustainable land management due to the important role that these areas play in maintaining overall ecological balance. Riparian forests provide habitat and refuge for terrestrial and aquatic organism, their shade keeps the water at temperatures more appropriate for fish and other aquatic organisms. They are also important for water quality and flood control due to the role they play in runoff control, water uptake, storage and release, and water filtering. Riparian areas are considered to be legally protected under Brazilian legislation (Federal Law 4771/65) as "permanent preservation areas" but enforcement has been weak[2]. At the same time policies directly or indirectly promoting the cultivation of flood plains and other riparian areas to boost crop productivity had resulted in the disappearance or degradation of virtually all native riparian vegetation in productive agricultural areas. (World Bank 2005, Rodrigues et al. 2011) Subsequent concerns over water quality, aquatic ecosystems, and the cost for

[1] The Cerrado is the most extensive woodland-savanna in South America. The region is made up of a mosaic of different vegetation types: wooded savanna habitat, grassland with scattered trees, occasional patches of dry, closed canopy forest, and strips of gallery forest (closed canopy tall forest) that occur along streams. It is the second largest of Brazil's major habitat types, after The Amazonia, and is one of the most threatened and over-exploited regions in Brazil, second only to the Atlantic Forests in vegetation loss and deforestation. Despite its environmental importance, it is one of the least protected regions in Brazil. (WWF, Conservation International)

[2] Permanent Preservation Areas (PPA) are land portions that must be set aside with the exclusive goal of conserving biodiversity and ecosystem services for society at large, and cannot be used for direct economic benefit by land owners. The width of the dual riparian corridors established by PPA depends on the width of the water course or size of water reservoirs and a circular PPA with a radius of 50m is required around all springs. Since the legislation has not been fully respected, most of the PPAs are now degraded and the majority of ecological restoration activities in Brazil are taking place in these riparian areas. (Rodriques et al. 2011)

water treatment and flooding have led to an increased interest in the state for riparian restoration at a watershed scale.

1.4 For decades the World Bank had supported efforts aimed at addressing land degradation through micro-watershed development projects in several states in southeastern Brazil. Among these was the Third Land Management Project in São Paulo (LM III) (1997-2008), implemented by the State Secretariat of Agriculture, which aimed to increase and sustain agricultural production, productivity and farm incomes and support the conservation of natural resources by providing incentives to adopt sustainable land management practices.

1.5 The GEF Riparian Forests Restoration Project was developed by the State Secretariat of Environment and was intended to complement the agricultural land restoration efforts of the LM III project with a dedicated effort to address degradation of riparian forest areas. The GEF project marked the first occasion that the State Secretariat of Environment worked with the World Bank. When the Secretariat of Environment first approached the Bank to propose this operation, it intended to prepare a fully-blended project including IBRD loan and GEF financing. But they were informed by the Secretary of Finance that the State had reached its borrowing ceiling. The operation was thus prepared as a GEF stand-alone project with 100% financing from the State that included parallel financing from the LM III project.

1.6 Both operations (GEF riparian restoration and LM III) covered the same geographic areas and beneficiary populations, and aimed to foster close collaboration across a range of technical and operational elements but there would be no overlap in the activities supported by the two projects. The LM III project would provide co-financing to the GEF operation, for the adoption of sustainable land management practices, using the same incentives scheme, the provision of seedlings of native tree species to build long-term supply, and training/capacity building for project executors/rural extension agents in the rehabilitation and restoration of riparian forests.

1.7 The Riparian Forest project was intended to support the Environment Secretariat's interest in developing a program that would build on the already existing activities supporting restoration of productive agricultural lands, and would aim to restore native riparian habitats as a way to restore and preserve ecosystem stability, functions, and services, including carbon sequestration, and stabilize sediment storage and release in the state's water bodies. The project sought to systematically address the following constrains to the adoption of effective measures to rehabilitate and restore riparian forests on a large-scale and long term basis: (i) rural landowners, especially small farmers, have little interest and incentive for participating in projects aimed at restoration and conservation of riparian forests because, broadly speaking, they understand that an obligation to conserve riparian forests results in loss of farm productivity due to productive areas within their properties being taken out of cultivation; (ii) insufficient mechanisms to raise and channel funds for restoration of riparian forests, and inefficient use of the resources that already exist; (iii) qualitative and quantitative deficit in the supply of seeds and seedlings of native species, resulting in an inability to respond to increased demand from state-wide initiatives for restoration of riparian forests; (iv) insufficient on-the-ground knowledge of methodologies for restoration of riparian forests in the various ecological and socio-economic rural realities present in the State; (v) lack of efficient instruments for integrated planning and monitoring of riparian forest restoration

programs; and (vi) lack of recognition by society in general of the importance of riparian forests, and incipient status of current mobilization, technical capacity, and training programs for those involved in restoration and conservation programs.

2. Objectives, Design, and their Relevance

Objectives

2.1 This was a stand-alone GEF project and had both global environment objectives and project development objectives. The Global Environment Objectives (GEOs), as stated in Project Appraisal Document (pg. 5) were: "to arrest and reverse land degradation processes in riparian ecosystems and adjacent agro-ecosystems by increasing on-the-ground investments and strengthening the policy, regulatory, economic, and institutional incentive framework to encourage sustainable land management, hence increasing carbon sequestration and restoring ecosystem stability, functions and services."

2.2 The project development objectives, as stated in the grant agreement (schedule 2, pg. 24), were “to support long-term and large-scale restoration of riparian forests of the Recipient’s Cerrado and Atlantic Forest biomes in the Project River Basins through the development and harmonization of the Recipient’s policy, regulatory, economic and technological frameworks, while providing opportunities for improved livelihoods and economic well-being of rural communities.” A similar statement of the project development objectives is found in the project appraisal document (pg. 5) “to support long-term and large-scale restoration of riparian forests of the Cerrado and Atlantic Forest biomes through development and harmonization of policy, regulatory, economic and technological tools and mechanisms, while providing opportunities for improved livelihoods and economic wellbeing of rural communities”.

2.3 This review used the global environment objectives as the basis of assessment as the project was a stand-alone GEF-financed project implemented by the World Bank but received no IBRD finances, in accordance with OPCS/IEG harmonized guidelines.

Relevance of the Objectives

2.4 The project's objectives were substantially relevant to past and current World Bank country assistance strategies, the operational strategies of the Global Environment Facility and national priorities set forth in national strategies and international conventions to which Brazil is a signatory.

2.5 The GEOs are aligned with the pillar for improving environmental sustainability in both the FY 2004-2007 and FY2008-2011 Country Partnership Strategy. As well as the long-term country strategy goals of better water quality and water resource management, and more sustainable land management, forests and biodiversity. The objectives remain relevant to the FY2012-2015 Country Partnership Strategy objective of furthering improvement of sustainable natural resource management and enhanced climatic resilience.

2.6 The GEOs were also consistent with the GEF Operational Strategy and the Operational Program for Sustainable Land Management (OP 15) and they were relevant to GEF Operational Policy Statement (OP 3) on Forest Ecosystems.

2.7 With respect national priorities, the GEO is consistent with the country's priorities for sustainable development, including those related to commitments to address land degradation and to implement International Conventions ratified by Brazil such as the UN Framework Convention on Climate Change, the Convention on Biological Diversity. The project also supports the implementation of the National Biodiversity Strategy which indicates the importance of restoring degraded forests. The project area overlaps with Brazil's national priority areas for the conservation of biodiversity in the Atlantic Forest and Cerrado biomes, established under the National Program for Biological Diversity.

2.8 Relevance of objectives is rated ***substantial***.

Design

Components

2.9 The project had 5 components, 13 subcomponents:

2.10 Component 1. Policy Development. (Appraisal US$1.67 million; Actual US$0.92 million). This component supported the establishment of realistic legal, technical, financial and economic frameworks for the future implementation of a statewide riparian forests restoration program.

2.11 Component 2. Support to Sustainable Riparian Forest Restoration. (Appraisal US$1.76 million; Actual US$1.05 million). This component supported the development and field testing of techniques for riparian forest rehabilitation and restoration and improved market supply of native seeds/seedlings to achieve long-term restoration goals.

2.12 Component 3. On-the-Ground Investments in Sustainable Land Management (SLM) Practices. (Appraisal US$10.38 million; Actual US$12.73 million). This component financed the promotion and dissemination of tested sustainable land management practices, including zero till agriculture and terracing, and to pilot riparian forest restoration activities through investments in selected micro watersheds.

2.13 Component 4. Environmental Education and Training. (Appraisal US$2.52 million; Actual US$1.06 million). This component supported establishment of the basis for participation of local populations in planning and implementing local/regional development and conservation activities focusing on better quality of life from the use of SLM.

2.14 Component 5. Project Management, Monitoring and Evaluation, and Information Dissemination. (Appraisal US$3.19 million; Actual US$6.01 million). This component financed the coordination, management and monitoring of project activities at the state, regional and national levels.

Geographic scope of the operation

2.15 The project was carried out in five priority river basins (Paraiba do Sul, Piracicaba, Mogi-Guaqu, Tiete-Jacare and Aguapei) which, as a whole, represent the diversity of physical, biotic and socioeconomic situations found in the State.[3] Collectively the five river basins encompass an area of 113,000 km2 with a population of 9.3 million people. The river basins are classified into four groups according to their principal socioeconomic and soil use characteristics: Agricultural and Livestock, Conservation, Industrialization and Industrial.[4] The selection of priority river basins for implementation of project activities was made to avoid the scattering of resources and concentrate direct investments on restoration and reforestation in regions where the benefits of this action may be maximized.

2.16 Within each selected river basin 15 demonstrative micro watersheds[5] (three in each of the five basins) were selected for the implementation of on-the ground investments in riparian forest rehabilitation. The micro watersheds comprised 30,000 ha and involving 1,500 families. The specific criteria for selection of micro catchments were defined jointly the respective River Basin Committee of each of the five priority basins.[6]

Implementation arrangements

2.17 The borrower was the State of São Paulo. The main implementing agency was the Secretariat of Environment for the State of São Paulo (SMA). The project involved several institutions and agencies both within and outside SMA and State Secretariat of Agriculture (SAA) as co-executors and depended heavily on partnerships. The most important partnership was between the Secretariat of Environment and Secretariat of Agriculture, supported by close collaboration between the proposed project team and the implementation

[3] The selection of priority river basins was based on three general criteria: (i) Priority river basins for biodiversity conservation, in that they overlap with Brazil's national priority areas for the conservation of biodiversity in the Atlantic Forest and Cerrado biomes; (ii) A set of area basins that would ensure inclusion of the various different bio-physical characteristics of the state forest ecosystems, in terms of biome (Atlantic Forest and Cerrado), soil conditions (particularly susceptibility to erosion) and geomorphology; (iii) A set of area basins that are representative of various land use and poverty levels in rural Sao Paulo.

[4] Agricultural and Livestock - predominance of pastureland; industrial activity is strongly linked to the processing of agricultural and livestock products (foods, leather tanning, and sugar and alcohol production); a large part of the urban area is comprised of municipalities with fewer than 40,000 inhabitants; Conservation - with the State's principal Atlantic Rainforest remnants; industry and agriculture are under-developed; tourism is the principal economic activity; low demographic density; Industrialization - sugar-alcohol is the most important industrial sector; traditional agriculture is making way for the planting of sugar cane and oranges; well-structured network of cities; Industrial - with the State's principal industrial pole and 3 metropolitan regions; agricultural and livestock activities have diversified characteristics in this river basin.

[5] A micro-watershed is a geographical unit of an average size of 3,000 ha, with an average of 90 families that provides a convenient forum for local participation in setting priorities for the technical, economic, social, cultural and political aspects of natural resource management and poverty alleviation.

[6] The selection criteria in each basin was based on five parameters: soils (erosion potential, soil management, sedimentation), socio-economy (existence of active farmer organizations, farmers willingness to participate in the project, farm size with priority to work with small farmers, integration of micro-watershed with parallel land management III project, existence of related initiatives), water (location within basin with priority on those located in headwater areas), biodiversity (potential for connection of forest fragments in biodiversity corridors)

team for the São Paulo Land Management III Project. This partnership was mainly through collaborating on the implementation of on-the-ground activities involving individual farmers and micro-watershed associations. The State Secretary of Agriculture's Rural Extension Company (CATI), was a key partner in providing technical assistance for the execution of sustainable land management activities. It was the primary implementation entity responsible for similar activities under the LM III project.

2.18 Other project co-executors included the regional offices of participating State agencies such as the Forest Institute, and SMA's Environmental Planning and Education Department. The State Botanical Institute played a key role as the entity responsible for the project's efforts to improve the market supply of native seeds/seedlings to achieve long-term restoration goals. Non-governmental institutions such as The Nature Conservancy and SOS Mata Atlantica and Universities also participated.

2.19 The Project Management Unit was established in the Secretariat of the Environment within the structure of the Landscape Projects Department. The PMU was responsible for managing project execution and budgetary and financial funds, accounting for their application and the results achieved (both to the State Government and the World Bank), promoting institutional cooperation, and for preparing managerial reports for the Secretariat of the Environment and the Project Steering Committee, and monitoring and evaluation of project results.

2.20 At the state level, the project was to receive coordination support from a Project Steering Committee with the participation of the State Government and representatives of society. At the watershed level, this participatory management structure was to be guided by the existing River Basin Committees - RBCs (one committee for each of the five project watersheds). At the local level, and in those municipalities with pilot micro-watershed sites, the existing Municipal Councils for Rural Development would follow up on the implementation of the pilot activities at the micro-watershed level.

Relevance of Design

2.21 The project's ambitious objectives statement was inconsistent with its design. Arresting and reversing degradation is a slow and complex process. Many of the activities financed, and the corresponding output and outcome targets, were inappropriate to achieving the Global Environmental Objectives as stated. There was insufficient time for results to appear from the planned interventions, particularly treatments such as the planting of indigenous species that take many years to mature.

2.22 The following statements in the project's completion report illustrates the disconnect between the project's design and its declared statement of objective: "The fundamental objective of this project was to provide the State of São Paulo with the capacity and tools to tackle future restoration of about 1.0 million ha of degraded riparian forests by establishing an appropriate legal and technical foundation – and that was very clear to the State and Bank teams. It was an experimental operation which never intended, ***despite its ambitious objectives***, to demonstrate the actual impact of riparian forest restoration on water quality or aquatic eco-systems biodiversity, or the actual socio-economic impact of adopting SLM

practices on the livelihoods and wellbeing of poor farming communities. All the pilots and demonstration projects were meant to test, never to show the full impacts of, these activities since those could only come in the longer run." (World Bank 2011a)

2.23 Another example is found on page 15 "From the beginning, the objective of this project was to prepare the State of São Paulo to tackle the future challenge of restoring 1.0 million ha of degraded riparian forest areas. It was well understood by the Bank and counterpart teams that the amount of riparian forests actually restored under the Project would be insufficient to show actual impact on water quality or biodiversity. Further, the project implementation time would not be sufficient for those areas to grow into well-formed forests." (World Bank 211a)

2.24 The project appraisal document (pg. 81) notes that "The project's actual main objectives are (i)to find ways to reduce the current costs of restoration, and determine the most cost-effective ways, from the financial, economic, technical, institutional, and legal perspectives, to restore riparian forests while also achieving biodiversity objectives, and (ii)to establish effective methodologies and legal, financial and institutional mechanisms to allow for future, cost-effective, large-scale restoration of degraded riparian forests in the State of Silo Paulo - with models and lessons learned that can be adapted to other states in Brazil or other countries in Latin America." (World Bank 2005)

2.25 In short, the project was designed as a pilot to meet the de-facto objective of providing the State of São Paulo with the capacity and tools to tackle future restoration, as opposed to being designed to meet its declared objective statement. OPCS/IEG harmonized evaluation criteria calls for assessing relevance of design, as well as the achievement of outcomes, against the formal statement of objectives.

2.26 Other shortcomings in design that made it difficult to achieve the objectives as stated were the unrealistic phasing of project activities. The project's completion report candidly notes that expecting that the pilot testing of restoration techniques would present lessons in time for scaling up was too optimistic. In addition, the project's heavy reliance on partnerships resulted in coordination challenges that impacted the phasing of activities such as environmental education with field activities. Some activities also called for more flexibility to respond to learning during implementation. Finally, given the long term nature of land management approaches to sustainability, more attention to intermediate outcomes, such as tree seedling survival rates, would have better enabled an assessment of the longer term expectations.

2.27 Relevance of design is rated ***negligible*.**

Safeguards category and requirements

2.28 The project was classified as category B under the Bank's environmental and social safeguards framework and triggered the following safeguards policies: OP4.01 on Environmental Assessment, OP4.09 on Pest Management, and OP 4.37 on forests.

Monitoring and Evaluation Design

2.29 The project appraisal document contained a detailed plan for M&E and a set of detailed, predominantly output level, indicators. The Project Impact Monitoring Plan was intended to provide information on the results and effectiveness of activities under each component and lead to conclusions on the methodology needed for large-scale restoration of riparian forests. The project's completion report (pg. 6) notes that the output indicators were too numerous and some were of limited utility, many of the indicators were redundant or conflicting, and dispersed in different official documents (Project Appraisal Document, Operational Manual). This made the monitoring of targets and activities difficult. The monitoring and evaluation system was also designed on the premise that it was important to integrate project M&E with the State Rural Extension Company's system. In practice, however, this arrangement proved incompatible with the project complexity and the Secretariat of Environment's management structure and according to the project completion report this significantly weakened the ability of the PMU to detect and respond to issues as they arose. M&E design envisaged that the PMU would prepare semiannual reports that would be made available to project executors at all levels and to the River Basin Committees. There was to be an initial diagnostic study with the participation of the community, and then follow-up to assess a number of indicators including social organization, land structure evolution, soil changes, surface and groundwater quality, and flora and fauna changes. It was proposed that an independent external consulting firm would evaluate the results obtained from impact monitoring against the project objectives. This design proved to be overambitious.

3. Implementation

Changes in scope of activities

3.1 The project's objectives and components were not formally revised during implementation but there were some deviations from the activities outlined in the project appraisal document.

3.2 **During implementation the government changed its strategy for meeting demand for native species seeds for restoration**. It determined that large scale seed production was a private sector activity and that the role of the State was as a market regulator that guarantees minimum quality standards and genetic species diversity. Accordingly project resources that had been designated for seed production were reallocated to strengthen the existing state structure for seed collection and processing. In line with this new policy, and as an attempt to reduce costs, the number of seed production centers financed by the project was reduced from two to one.

3.3 **The grant agreement was amended once in 2009 to reflect revisions to World Bank procurement guidelines, extend the project closing date, and reduce some targets**: the number of seed production centers was reduced from two to one; and, the area of

sustainable riparian forest rehabilitation was revised from 1,500 ha to 500 ha. The amendment was considered a Level II restructuring and did not require Board approval.

Planned vs. Actual Expenditure by Component

3.4 Total project cost was US$19.52 million at appraisal and US$21.77 million at closing, an overrun of about 11.5 percent. The project was to be financed by a US$ 7.5m GEF Credit and US$11.7 counterpart contribution from the Government of the State of São Paulo. At closing the dollar-denominated GEF credit was 102 percent of the appraisal amount due to US Dollar/Real exchange rate fluctuations. The Government of São Paulo counterpart contribution exceeded the appraisal estimate by 20 percent due to an under-estimation of Component 3 activities at appraisal and cost inflation in Brazil in the final years for materials and equipment.

3.5 The project completion report indicates that devaluation of the Real through mid-2009 increased the value of the grant resources. However this was offset by domestic inflation that resulted in a net decline of the projects purchasing power. After June 2009 devaluation of the USD coupled with continued domestic inflation further reduced resources available to the project. This was partly responsible for reductions in project targets for seed distribution centers and in the area targeted for riparian forest restoration. Restoration costs were higher than expected at appraisal and contributed to the higher than anticipated costs of component 3. There was an approximate doubling of the project management costs, and some reduction in the costs of the policy development, sustainable restoration, and environmental education components.

Table 1. Project Cost by Component (in USD million equivalent)

Components	*Appraisal Estimate (USD millions)*	*Actual/Latest Estimate (USD millions)*	*Percentage of Appraisal*
1. Policy Development	1.67	0.92	55
2. Support to Sustainable Forest Restoration	1.76	1.05	60
3. Investments in Sustainable Land Management	10.38	12.73	123
4. Environmental Education and Training	2.52	1.06	42
5. Project Management, M&E, and Information Dissemination	3.19	6.01	188
Total project costs	**19.52**	**21.77**	**112**

Source: World Bank 2011a.

Table 2. Project Financing by Source (in USD million equivalent)

Source of Financing	*Appraisal Estimate (USD millions)*	*Actual/Latest Estimate (USD millions)*	*Percentage of Appraisal*
Borrower	11.77*	14.02	119
Global Environment Facility	7.75	7.75	100
Total	**19.52**	**21.77**	

Source: World Bank 2011a.
*The Borrower contribution was to include US$7.34 million of parallel financing from the São Paulo Land Management Project III.

Implementation Experience

3.6 Project implementation was affected by the following factors:

3.7 **Implementation was delayed due to staffing and capacity issues within government agencies and among local partners.** Project files indicate that the SMA initially had insufficient technical and administrative personnel and its strategy to mitigate this by hiring specialized consultants could not be implemented. At the time the State was under pressure from labor unions to stop hiring long-term consultants to implement government activities. There was also a decree prohibiting non-government staff from driving State owned vehicles in response to accident liabilities and abuse of vehicle use. As a result implementation was delayed. Few of the institutions or technicians contracted had prior experience with riparian forest restoration and many were not experienced in rural extension. The project completion report indicates that the implementing agency tried to alleviate this problem by moving some of its staff to regional centers with appropriate skills but their time was divided by other SMA activities. In addition, since there were few local entities with the skills or structure to qualify under public management rules to become project partners, the project had to find and train the local skills it needed. The project employed various strategies to compensate including training NGOs to contract local labor, contracting local facilitators with strong community roots in local agricultural activities and stimulating farmers and communities to prepare technical projects for the areas to be restored. The lack of social organization among farmers further constrained progress of on-the ground investments. Lack of local skilled labor, equipment, as well as the delayed arrival of seedlings and disease hampered the project's ability to cover the targeted area planned at appraisal.

3.8 **Project implementation was also impacted by strong coordination challenges.** Project design was complex and involved multiple agencies in implementation. Design called for the project to be decentralized by components but there would be both vertical and horizontal inter-institutional and inter-sector integration. This required strong coordination. The project completion report and IEG interviews indicate that the evolution of synergies and organized interaction between agencies was slow. Working inter-institutionally was an unfamiliar business model. There were difficulties in aligning priorities, timetables and information flow between teams. Even within SMA, the need to work across departments

and with decentralized units was challenging. The project completion report notes that alternative strategies were adopted and overtime conflicts were reduced or mitigated.

3.9 **Implementation of the projects field activities entailed a participatory process whereby local stakeholders and project facilitators prepared a management plan for the entire Micro-catchment as well as Individual Property Plans. But landholder's direct involvement in implementing restoration activities was limited**. The project provided funding and technical assistance to implement both sustainable land management activities for productive portions of the farm and restoration activities in the riparian areas individual property plans. The budget for each subproject was financed by project funds and a beneficiary contribution (including in kind contributions). The funds were channeled to the local association in charge of project implementation in each project area. The local association procured the materials and carried out most of the restoration activities with their own technicians and hired labor. The project initially planned to test whether landholders undertake restoration themselves at a lower cost than contractors. This was not possible because of legal constraints that prevented the Secretariat of Environment from making direct payments to landholders.[7]

3.10 **The distinction between the different types of on the ground investments was lost during implementation and the entire project came to be seen as demonstration areas for forest restoration**. Component three "On-the Ground Investments in SLM Practices" was designed with two distinct subcomponents: 3.1 supporting sustainable land management practices; and 3.2 pilot projects for on-the-ground adoption of riparian forest rehabilitation. The project completion report (pg. 31) points out that in practice there was significant overlap of the two components and the project as a whole came to be viewed as "Demonstration Projects". IEG interviews indicate that the project's field efforts were primarily focused on developing forest restoration and other sustainable land management activities were viewed as secondary, if they were identified with the project at all.

3.11 **Collaboration with the LMIII project, which was responsible for the sustainable land management investments, was more challenging than anticipated.** The project completion report notes that most of the co-financing provided by the LM III project was concentrated in only five micro-catchments and assistance offered to farmers was variable in quality and quantity and lacked a coherent strategy or standard set of practices. IEG interviews confirmed this view. Interviewees also indicated that initially there were turf battles between CATI extension agents and the Environmental Secretariat's field agents who were supposed to be working together. The project completion report also points out that there were initial difficulties in implementing and testing innovative restoration models as a result of the difficulties in achieving smooth integration with CATI whose systems, methodologies and agenda were already well established. Several measures were implemented to improve integration between the two projects: emphasis was placed on ensuring that technical and operational interventions proposed by the two projects were complementary and synergistic; joint teams were used for planning, implementation, monitoring, supervision and communications, and training of beneficiaries and other stakeholders was jointly-organized. The closing date of the LMIII project was extended to

[7] This may be possible in the future as a result of the PES legislation developed by the project.

allow more time in which the Riparian Forest beneficiaries could access the LM III Incentives Fund which "incentivizes" landholders to take up sustainable land management practices by financing a portion of upfront costs**.** IEG interviews indicate that the extent to which sustainable land management activities were implemented under the GEF project varied across micro-catchments and most interviewees associated sustainable land management activities exclusively with the LMIII project.

3.12 **Sequencing of some activities proved to be problematic, adversely impacting implementation and outputs**. It was expected that pilot testing restoration models under component 2 would yield lessons in time for scaling up under the project through activities implemented under component 3. This proved to be overoptimistic. In addition, the project completion report notes that lack of personnel and planning delayed local mobilization and organization activities under the environmental education and training component.[8] As a result implementation of these activities, which aimed to overcome the lack of engagement of rural landowners and the general population, were out of sync with on the ground investments. The project completion report notes that this contributed to a lack of genuine participation by some landholders in sustainable land management activities. A lack of prioritization early on for participation, social mobilization and environmental education is also reported to have limited dialogue with local society on public policy formulation.

3.13 **Debate over proposed changes to the forest code affected the participation of some landholders**. Project staff and associations involved in implementation reported to the IEG mission that implementation of on the ground investments was impacted by uncertainty around proposed changes to the forest code. The original version of the forest code, in place at project appraisal, required 30 meters of riparian area to be under permanent preservation. During project implementation a high profile debate was carried out nationally that, among other issues, contemplated changes to the size of corridors required to be reforested. IEG interviews with the project team and implementation partners revealed that uncertainty surrounding the changes to the forest code caused some landholders to pause in participating in project activities on their land. Many of the large landholders in the project areas reportedly attempted to discourage smallholders from participating in the project, arguing that they would be effectively giving away part of their farm. This issue largely affected landholders who did not yet have any restoration activates on their farm. Restoration efforts that had already begun on the ground continued. After the Forest Code debate ceased participation was reported to have picked up.

Implementation of Monitoring and Evaluation

3.14 The project completion report notes that monitoring of activities and results was done in an unsatisfactory way during the initial phase of the project but improved by the end of the project. The project MIS was established and included financial management, managerial

[8] The project completion report notes that environmental education activities fell short of their goals. This was attributed to a host of implementation issues and the lack of personnel and of proper planning, which delayed local mobilization and organization activities, and disrupted the necessary synergy/synchronization with other components such as the Demonstration Projects. Planning for SLM agro-systems courses was delayed and they were not inserted into the Annual Operating Plan until 2009. Consequently very few were conducted.

and progress data. However, weaknesses in M&E design carried over into implementation. Implementation of the monitoring plan was delayed and information was not easily retrieved. The first real attempt to improve project indicators was not until 2008. The SMA eventually gained control of the M&E system and monitoring improved. The project produced a Mid-Term Review that resulted in certain agreed revised targets and design changes, a final report, an environmental perception study and a final evaluation. The project carried out several activities in addition to its formal M&E system to distill information and lessons generated by the various project. For example Payment for Environmental Service (PES) practitioners were brought together to share lessons from other parts of the country. A book on the PES experience is to be published. An impressive body of research studies and guidance notes, monitoring methodologies and policy formulation were also generated in the course of implementation. However, the project completion report points out that the dissemination framework was flawed and that dissemination of M&E results could have been improved by more strategic differentiated approaches to communicating results to segmented "markets" of stakeholders.

Safeguards Compliance and Fiduciary Issues

Safeguards

3.15 No significant safeguard issues were reported in the course of implementation and the IEG mission across any issues in the field. The project completion report (pg. 12) notes that "(s)supervision found that the identification and implementation of activities on the ground followed recommended practices consistent with the project's Environmental Management Plan, reduced the need for pesticides and fertilizers, avoided further deforestation of riparian/other areas within the 15 pilot micro-catchments and promoted re-planting of these same areas".

Financial Management and Procurement

3.16 Supervision reports indicate that financial management supervision missions were conducted on a regular basis and no significant issues were detected. Audit reports were delivered on time, with two exceptions. Most audits were unqualified and all issues that arose were reported to have been addressed in a timely manner. The final audit was unqualified. Procurement was rated satisfactory by supervision missions throughout implementation.

4. Achievement of the Objectives

Objective 1

Arrest and reverse land degradation processes in riparian ecosystems and adjacent agro-ecosystems by increasing on-the-ground investments to encourage sustainable land management

4.1 This objective was pursued through the support of on farm investments to pilot restoration techniques and support for the adoption of sustainable land management and restoration activities, as well as facilitating the availability of native species seedlings. Areas with on the ground investments were intended to have a demonstration effect. Each of the 15 demonstration micro-catchments was to share its experience with farmers in nine neighboring micro-catchments. It was estimated that by the end of the 13,500 families would have received some exposure to the alternative technologies for restoration. Due to the piloting nature of on the ground activities and associated uncertainties the original PAD Results Framework flagged the potential for target shortfalls and need for adjustments, by setting project year milestones by which to re-evaluate targets. For example, it was intended to re-evaluate the number of micro-catchments by Project Year 2 had the target lagged the original 150 (it did not). There was an intent to re-evaluate the number of farmers participating by Project Year 2 if, by then, less than 50% of the target had been achieved (this turned out to be the case). It was also the intention to re-evaluate the sustainable land management area target by Project Year 4 (not necessary).

4.2 ***Outputs***.

- 150 communities in 150 micro-catchments were reached with investment and training support to carry out sustainable land management or forest restoration activities (100% of target).

- 317 farms adopted sustainable land management (35% of the target of 900). The project's completion report indicates that the number of families benefitting was lower than anticipated, due to high average cost of restoration projects complexity of the issues faced and slower pace of execution than envisaged at appraisal.

- Riparian forest rehabilitation was adopted on 401 ha (27 percent of the original target of 1,500 ha; 80 percent revised target 500 ha). The original target of 1,500 ha. was reduced to 500 ha mainly due to a consensus that this was a sufficient scale to test each of the 10 model riparian restoration technologies. In addition the project completion report notes that about 7,200 people were trained in restoration techniques and 255,000 were reached by newsletters, radio programs, and workshops.

- The project completion report notes that sustainable land management was adopted on 32,868 ha, slightly exceeding the target of 30,000 ha. However, the land area figure of 38,868 ha is somewhat misleading as it represents the amount of land a farmer committed to managing in a sustainable manner in the individual property plans prepared during the project's diagnostic phase, not necessarily how much each actually managed sustainably

during the project period. It was also reported that, in addition to the direct project achievements, the adoption of sustainable land management practices went beyond the targeted areas through individual farmers, producer cooperatives, associations, NGOs and agro-industrial interests. Thus, it is plausible the reduced number of farmers was at least partly compensated for by an additional larger number outside the project. While some of this may be attributable to the project through the demonstration effect, the IEG mission was unable to verify the extent to which that was the case. The IEG mission was unable to verify the number of catchments in which sustainable land management activities actually occurred, the different techniques that were adopted, or resulting outcomes. Project M&E did not provide information beyond the aggregate number of hectares noted above. IEG interviews in the field indicate that in some project areas the intended synergies with the LMIII project did not occur, thus no sustainable land management activities were implemented. In the other project areas where there was overlap between the two projects, most of the project participants associated sustainable land management activities with the LMIII project and only identified forest restoration activities with the GEF project. The only investment on productive lands that interviewees identified with the GEF project was the provision of wells so that livestock would no longer need to drink from rivers and streams thereby releasing riparian areas for restoration. It is possible that some of the sustainable land management activities that interviewees associated as being provided by the LMIII project were in fact part of the GEF project but they were unaware of the co-financing arrangement.

- There was an awareness target of 48,000 people, and a capacity building target of 4,800 people. Output achievement is not reported. The relevant project component was delayed and the State Secretariat for Environment's final report notes "duplication, fragmentation and redundancy" in many sub-components. The delays in implementing the training in schools meant that it was too late to achieve a mass impact. Only 42% of the funds allocated for the component disbursed.

- The project also had a target of collecting 25,000 kg of native species for use in restoration. The project renovated the seed production center in São Paulo and by project closure 11,545 kg of seeds of native species were collected and made available by the project funded seed center. Supervision reports and the project’s completion report indicate that the seed production target was unrealistically high. However, the key reason that this target was not met is that during implementation the government revised its stance on the State’s role in seedling production, determining that the role of seed collection is better suited to the private sector and that the state should act as a market regulator. Consequently the State began to focus more on quality control via the establishment of designated seed collection areas to match the tree species to their appropriate eco zone in the state and by targeting the collection of and distribution of seed from rare and difficult to reproduce species. The project completion report notes that statewide seedling output over the project period increased substantially due to increased private production. By project closure private seed companies were providing 40,000 kg of native species seed. The project completion report states that some of this private sector activity was attributable to project-supported demonstrations and dissemination. Although this is plausible, no evidence is offered to substantiate this statement. Moreover, IEG interviews in the field as well as the literature indicate that the uptick in seed production in the State began in 2003, prior to the project implementation period. The literature also points to the 1998 environmental crimes law as a possible catalyst

of the increase in seed production.[9] Regardless of the primary cause, seedling production has increased and IEG recognizes that the project's shift away from seed collection to other activities was an appropriate adjustment to this development. The project completion report indicates, however, that distribution of seeds remains a bottleneck in need of improvement.

4.3 ***Outcomes.***

4.4 At project closure there was little evidence that degradation was arrested or reversed on any scale. There has been no follow up monitoring to demonstrate project progress towards this objective since the project's closure.

4.5 The project completion report pointed to evidence from the (earlier, but similar) Land Management III project to argue that the outputs achieved could be expected to lead to reversal of degradation once land management treatments mature. For example, it is known that the benefits of zero tillage typically take about five years to start to become apparent (with declines in yield sometimes experienced in the initial years). Forest restoration with seedlings and management takes more years than the project lifetime to yield measurable outcomes, particularly in terms of erosion reduction or hydrology enhancement. The project completion report points out that, even at the modest scale of the micro-catchments treated under the project, there would have been some possibility of finding some early measurable impact if all restored areas had been concentrated in the same micro-catchment. However, they were, in fact, dispersed across river basins for the purpose of testing restoration under different conditions. No data was available for intermediate indicators like seedling survival rates, changes in vegetation cover, or initial soil loss measurements which would have offered some evidence on which to base expectations

4.6 The project's completion report also notes that "numerous NGOs and municipal governments are, post-closing, developing riparian forest restoration projects based on project experiences and models, while Watershed Committees and the State Government have programs for riparian forest conservation including participation by SMA in the national movement "Pact for the Restoration of the Atlantic Forest (PACTO)." No systematic evidence is available to verify the extent to which the projects methodologies have, in fact, been utilized by these or other entities. The IEG assessment mission found that continuity among the NGOs that participated in the project varied. Some participating NGOs had an impressive level of capacity, were staffed with forest engineers, and continue to implement project models with resources leveraged from other sources.[10] While others were less

[9] "It is not possible to affirm that the increment of seed production resulted directly from SMA 08/2008 resolution, as over the past decade the obligation to restore forests has been extended throughout Brazil since enactment of the country's first environmental Crimes Law in 1998. Before 1998, most environmental damages were considered as misdemeanors, and guilty parties were liable to a fine or administrative procedures at most. Under the new law, however, these damages are considered under the penal code, and guilty parties are subject not only to penalties but also to arrest and imprisonment, or at least to be obliged to restore or compensate in some active way" (Aronson et al. 2011).

[10] The Municipality of Garca obtained resources through the FEHIDRO Program of Riparian Forest Restoration in the Aguapei and Peixe River Basins, as well as the Petrobras Environmental Program for to continue such

successful. Interviews indicate that at least one association lost interest and has not continued. It is unclear the extent to which the project tools and models have reached beyond those that participated directly in the project. The mission was not able to get a comprehensive assessment of the extent to which reforestation has expanded or treatments carried out under the project have been maintained because since the project's closure it has not been monitored. The raising of awareness and education programs were expected to contribute to the expansion of on the ground investments in restoration but the numbers trained appear to be modest in relation to the needs of the State.

4.7 Due to the lack of sufficient outcome level evidence, achievement of the objective is ***rated modest.***

Objective 2

Arrest and reverse land degradation processes in riparian ecosystems and adjacent agro-ecosystems by strengthening the policy, regulatory, economic, and institutional incentive framework to encourage sustainable land management

4.8 ***Outputs***.

4.9 The project generated a large volume of studies and reference materials that are accessible to the public at http://www.sigam.ambiente.sp.gov.br . The Project also supported the incorporation of riparian forest issues in State legislation. This included work related to the operation and management of the project; regulations on new methodologies; financial incentives facilitating and requiring collaboration between government, municipalities and civil society on forest restoration; and improvements to existing laws and regulations to establish riparian forest issues within a legal framework. The project completion report is candid in acknowledging that not all legal instruments can be attributed exclusively to the project but states that it was "frequently the proponent, convening agent, catalyst and organizing force."

4.10 Eleven innovative norms were established creating new pathways to promote riparian forest restoration:

4.11 (i) Banco de Areas para Recuperacao Florestal (SMA 30, 2007): A mechanism to identify, register and disseminate information about areas available for restoration to persons or institutions interested in or legally obligated to restore forests. At project closure 3.4 million hectares were registered. An estimated R$1.0 million was mobilized to finance the recovery of about 92 ha.

4.12 (ii) Riparian Forest Communication (SMA 42, 2007): a register of riverine areas of permanent preservation (APPs) stimulating farmers and rural landowners to inform SMA about the situation of riparian areas under their control. This tool allows farmers to voluntarily register riparian areas on private properties, whereby they commit that, at a

---

works; (ii) an NGO in Joanopolis Municipality obtained resources from the National Social and Economic Development Bank (BNDES) to restore 580 ha of riverine Protected Area in the Atlantic Forest.

minimum; they will leave them unutilized to enable regeneration. At project closure it 400,000 ha were registered.

4.13 (iii) Voluntary Restoration Communication (SMA 42, 2007): an instrument to reduce bureaucratic and financial barriers for those interested in voluntary reforestation.

4.14 (iv) Strategic Riparian Forest Project (SMA 42, 2007): forerunner of the State Riparian Forest Program. The project completion report notes that a Riparian Forest Restoration Program system was designed and was instituted by a State Resolution and that an implementation plan was developed and applied. It is unclear what this "program" constitutes. IEG interviews with government staff indicate that the government does not intend to staff a program that will carry out restoration itself. Rather it intends to create incentives for restoration that will be carried out, and financed, by others. The State Government's Multi-year Development Plan (2008-2011) identifies riparian forest restoration as a critical strategic environmental element with the potential for obtaining funding support from carbon credits or voluntary compensation. This was also included the new draft Multi-year Development Plan for 2012/2015.

4.15 (v) Strategic Project for Green Municipalities: intended to contribute to decentralization of environmental policy, with economic incentives for municipalities with good environmental management policies;

4.16 (vi) Regulation to Implement Agro-forestry Systems (SAF) including in Areas of Permanent Preservation: The procedures of this norm were not established until the second semester of 2010, too late to have much impact within the Project. However, it is expected to be an incentive to future recuperation of degraded areas as it allows for some productive uses within legally protected areas as opposed to strict conservation;

4.17 (vii) Regulations for Seed Collection in Conservation Areas (SMA 68 2008);

4.18 (viii) Induced demand for projects financed by the State Water Resources Fund (FEHIDRO) in 2009, to revitalize water catchments (CRH Deliberation 95, 2009);

4.19 (ix) Inventory of emissions from voluntary planting of forests for partial or total compensation of gas emissions (SMA 30, 2009);

4.20 (x) Targets for riparian forest restoration in municipalities participating in the Waters Pact, a commitment by municipal mayors to improve water quality and availability associated with the World Water Forum of 2009;

4.21 (xi) State Climate Change Policy (State Law 13.798, 2009). The project made an important contribution to the development of the legal amendment to the existing Climate Change Law that laid the basis for procedures for Payment for Environmental Services (PES). By the end of the project, there were 21 pilot municipalities testing the development of a PES system with project support. Key project staff were actively involved in crafting the legal amendment and used the lessons being learned in the project to provide evidence of the importance of the PES legal and fiscal issues to support riparian zone rehabilitation.

4.22 In addition to legislative tools, new institutional partnerships were established supporting the integrated conservation, socioeconomic and sector goals. Key partner agencies in investments included BNDES (National Development Bank), FEHIDRO (the State Water Resources Fund), and PETROBRAS (the semi-public Brazilian multi-national energy corporation).

Outcomes

4.23 One of the more significant changes that the project has made to the institutional incentive framework was the legal amendment to the Climate Change Law, which laid the basis for Payments for Environmental Services (PES). Establishment of the legislation is in itself an important step forward. Without such legislation the state was unable to develop a PES program. Practitioners active in the restoration of riparian forest in the State but who were not directly involved in implementation of the project confirmed to IEG the significance of having State Policy that allows for payments to be made to landowners. The cost of riparian restoration is high and financial incentives are important. Although landowners are required by law to bring their property in compliance with the forest code there are no government provisions to assist smallholders with the cost of compliance and the cost of restoration (which often requires active intervention as opposed to natural regeneration) is out of reach of many of the state's smallholders. Actual payments, however, were only tested on a small scale during the life of the project and development of a full scale program was at an incipient stage at the time of the assessment mission. The Bank operational team provided IEG with additional information that that shows the issuance of payments for carbon credits for reforested areas since the project's closure. The credits were provided to a private company for the reforestation of 2,000 hectares of riparian areas along the banks of ten hydropower reservoirs with over 200 native forest species.

4.24 The project completion report states that the project had a marked and durable impact on institutional capacity, and that a collaborative dialogue evolved between the agriculture and environment sectors. It also states that a new management culture evolved in the State Environment Secretariat, including greater control over the timing of activities and the quality of projects' physical and financial management. Little evidence was presented in the project completion report document to support these statements or about the impact of the enhanced frameworks on practices and processes. IEG interviews indicated that previously the topic of restoration was overlooked within the Secretariat of Environment. In this respect the projects outputs are important in terms of ensuring that the topic is now officially reflected among state environmental concerns. Interviews with government staff also suggest that the project fostered changes in how the government works. This includes greater collaboration between the Secretariat of Environment and the Secretariat of Agriculture that has extended beyond joint implementation of project activities. For example, the Environment Secretariat is attempting to transmit environmental education through agriculture technicians, as the Agriculture Secretariat has a larger outreach structure. One Agriculture Officer in each region is now trained in environmental topics, including riparian restoration. It was also reported that the in the past the field staff of the Secretariat of Environment, who are largely involved in issuing environmental permits and levying fines for violations of environmental laws, had no knowledge of riparian restoration. They now receive training in restoration and utilize the monitoring tools developed under the project to

assess restoration progress. It is expected that this will enhance their capacity to assess whether farmers are complying with environmental law and if the efforts of those found to be in violation of the law are sufficient to restore degraded forest to areas.

4.25 The extent to which changes to the enabling environment and government capacity are in fact catalyzing riparian forest restoration, and in turn arresting and reversing land degradation processes, remains an open question. There is little evidence of the extent to which the studies and tools generated under the project are being utilized by different actors to carry out restoration. Or the extent to which awareness of these tools has reached beyond the projects direct participants.

4.26 Overall achievement of the objective is ***rated modest.***

5. Efficiency

5.1 In terms of formal efficiency calculations, there is very little evidence on the efficiency of specific land management interventions and none on that of the project as a whole. An ex post internal rate of return (IRR) was not estimated.[11] The project appraisal document included a cost effectiveness analysis and a partial IRR but the project completion report points out that although the IIR at appraisal is stated as being for the whole project, in fact it only covered the sustainable land management component and was taken from the project appraisal document of the Land Management III project. The project completion report notes that proxy measurements from the Land Management III project carried out by the Food and Agriculture Organization (FAO) on similar types of intervention suggest satisfactory rates of return, although these appear to refer mainly to agricultural activities and are not the results of this project. There is no evidence on maintenance costs.

5.2 The project completion report also reports on the potential reduction in restoration costs that the testing of the project achieved. It notes that the total savings from the lowest cost restoration option, assuming a state wide target of one million hectares, would eventually be about US$2 - 3 billion. However, in terms of attribution of such savings, it is not easy to see how application of the lower-cost options would not have evolved without the project. IEG interviews indicate that many of the technicians that worked on the project, as well as technicians of other agencies active in restoration in the State, were already aware of these techniques and applying them where appropriate. Moreover, the selection of restoration technique is determined to a large extent by the degree of degradation. The project completion report acknowledges that many of the riparian areas in the state are degraded to the point that the total planting technique (the more costly option) remains the only viable option. The project also intended to test whether farmers could undertake restoration themselves at a lower cost than contractors. This was prevented by the legal inability of the State Secretariat of Environment to make direct payments to landholders.

5.3 During preparation the following factors were taken into account with the aim of contributing to the cost effectiveness of project design. It was assumed that integrating

[11] As noted by the ICR, (footnote, page 17), "It was not possible to provide an IRR as benefits were not measured, only costs, as is typical in GEF projects".

implementation with the São Paulo Land Management III project would reduce costs by building on that project's M&E system and benefitting from the rural extension services and community capacity building activities. Project implementation was deliberately limited to a few 'pilot' micro-watersheds in five river basins, sufficient to provide a minimum diversity of situations to test enough restoration models for future replication all over the state. In addition the selection of pilot micro-watersheds for project implementation was to take into consideration the cost of supervision of on-the-ground pilot activities.

5.4 The following factors, related to the efficiencies in the use of project funds, suggest that actual efficiency was less than anticipated at appraisal. Complexity of the project and weak capacity led to many implementation delays in the initial years of the project. Project coordination was more burdensome than anticipated. Integrating project M&E with the CATI's M&E system proved to add to the coordination challenges. The project completion report states that due to the unanticipated complexity of implementing the M&E system, costs were almost double the appraisal estimates. The project completion report also points out that there was "duplication, fragmentation and redundancy" in many of the awareness-building and training activities. The unrealistic phasing for the findings of tested technologies to influence subsequent project activities suggests some costs in terms of reduced or delayed benefits. Finally, there was a substantial reduction in the original targets for forest restoration and the number of families benefitting was lower than anticipated, due to high average cost of restoration projects, complexity of the issues faced, and slower pace of execution than envisaged at appraisal.

5.5 Overall, efficiency is rated modest due to limited evidence, lack of data on operation and maintenance at the farm level, and the reduced scale of achievement measured against the original investment-related indicators.

5.6 Overall efficiency is ***rated modest.***

6. Ratings

Outcome

6.1 While the Global Environmental Objectives were substantially relevant, the scale and timing of project activities were out of step with the development objectives as stated, and there were other weaknesses in design relevance, which is assessed as negligible. Efficacy is also modest. The attainment of outputs against targets was variable with shortfalls in some important areas. By project closure there was no evidence that degradation was arrested or reversed on any scale and there has been no systematic monitoring since project closure to assess subsequent progress. Efficiency is modest given the lack of attributable evidence on cost effectiveness and project management inefficiencies.

6.2 The overall project outcome is ***rated moderately unsatisfactory.***

Risk to Development Outcome

6.3 The main risk to the project's on farm investments is the lack of certainty that they will be maintained by landowners. No formal data captured the extent to which beneficiary farmers were maintaining or intended to maintain actual improvements introduced on their land by the project. The project completion report (pg. 30) notes that during implementation "(t)here was a difference between adherence and genuine participation, the latter suffering among communities which had not grasped the substance or significance of the forest restoration processes underway in their areas." The IEG mission also found that landholder's commitment to project investments varied. In some sites farmers were enthusiastic about the project investments and were not only maintaining the areas restored under the project but were expanding areas under restoration. In other cases farmers were less actively maintaining their investments. There were anecdotal reports of some landholders having lost interest even during the project's implementation, including an extreme case in which the landholders extracted the trees that had been planted. The IEG mission also found variation in the extent to which participating NGOs and other local associations are continuing to utilize the project's methodologies. Some of the NGOs visited had a very high capacity, were staffed by forest engineers and have successfully continued employing the projects methodologies with funding from other sources. Others have discontinued working on restoration efforts. The mission was unable to assess the extent to which the large volume of studies and information generated by the project is being utilized by relevant stakeholders who did not participate in the projects implementation.

6.4 Brazil's national environmental legislation now requires landowners to register their property in a rural environmental registry and comply with the provisions of the forest code within five years, including ensuring that riparian areas are forested. Failure to comply will make landowners ineligible for state credit and other forms of government support. Once all of the country's rural properties are registered in the system, in theory, Brazil's government will be able to (a) more easily identify and track illegal deforestation through satellite monitoring, and (b) develop land use plans, creating alternatives for farmers and ranchers thereby contributing to the protection of land and waters. The registry represents a significant step forward in enforcing compliance with environmental legislation. It could also drive an increase in demand for restoration in the future, which may in turn lead to an uptake in the use of the tools and studies developed by the project.

6.5 However, restoration is costly and most medium and smallholders do not have sufficient resources to bear this cost on their own. The State's efforts to develop a payment for environmental services scheme could potentially offset some of this cost for qualifying landowners. But the program is in incipient stages and it is not clear how many of the landholders with riparian areas in need of restoration will in fact benefit.

6.6 The project's completion report noted that the ongoing Sustainable Rural Development and Access to Markets Project approved in May 2010 is now effective and is expected to continue support for the improvement of environmental sustainability. However, IEG interviews indicated that the follow project does not continue with the model or activities carried out under the riparian restoration project. The current project focuses on increasing the competitiveness of family agriculture in priority areas of the State of São

Paulo. The main implementing agency is the Secretariat of Agriculture. While the Secretariat of Environment is also participating in this project, the activities it supports are related to ensuring that agricultural production is environmentally sustainable. Moreover, only farmers who are members of agricultural cooperatives or other producer associations are eligible to participate. Interviews with project staff suggest that many of the landholders who participated in the Riparian Restoration project may not meet the eligibility requirement of the current project.

6.7 The risk to development outcome is assessed as ***moderate.***

Bank Performance

6.8 ***Ensuring quality at entry***.

6.9 Positive aspects of quality at entry include the preparation of a project to address the relevant area of land degradation and build on the government's increasing interests in modern land management technologies. The project preparation team comprised an appropriate mix of technical skills. Preparation drew on lessons of previous sustainable land management projects in Brazil. Lessons reflected in the project's design were: (1) the inclusion of a defined set of micro-catchments; (2) the use of incentives to promote the adoption of sustainable land management practices on farmer's land; (3) legislative changes designed to institutionalize sustainable land management and biodiversity conservation in the long term; and (4) the use of environmental education programs and wide dissemination of project findings as a means of building long term adherence to conservation.

6.10 However, there were also a number of significant shortcomings in quality at entry. There was a disconnect between project design and its formal objectives. The project timetable was too short for most intended outcomes to become evident. The GEF Scientific and Technical Advisory Panel Reviewer identified a number of fundamental flaws in the project's design in terms of its underlying theory of change as well as the indicators selected to measure results but the project was approved without addressing them. The project was overly complex and required an unrealistically demanding level of coordination. The risk that stakeholders involved with implementation would not effectively collaborate due to differences in their approach, relative capacity, or varying levels of commitment was not identified. The M&E framework was also flawed.

6.11 Accordingly, the Bank's performance in ensuring quality at entry is rated ***moderately unsatisfactory***.

6.12 ***Quality of Supervision***

6.13 There were a total of four TTLs in five years which made continuity challenging. But IEG discussions with the project team indicate that the Region was able to mitigate this with good information retention and coordination. The project completion report indicates that there were frequent supervision missions, aided by São Paulo's location as a first stop off point for Bank missions to Brazil which facilitated shorter informal visits with state project counterparts in addition to regular supervision missions. Other positive aspects of supervision

include the strong technical collaboration provided by the Bank on the Payment for Environmental Services activities, an area where skills and experience are in short supply globally. The Mid-term Review tackled relevant emerging issues there were no significant issues with fiduciary or safeguard aspects. However, some of the weaknesses in quality at entry carried over into supervision. Notably confusion over what the project would ultimately be held accountable for. The final project completion report reflects the project team's focus on the project's de facto pilot objective instead of its formally stated objectives. In addition M&E weaknesses were not sufficiently addressed including incompatibility between the project's M&E system and that of the extension system.

6.14 Accordingly, supervision is rated ***moderately satisfactory.***

6.15 Taking into account the ratings for quality at entry and supervision, the **overall Bank performance** is rated ***moderately unsatisfactory.***[12]

Borrower Performance

6.16 ***Government Performance***

6.17 The Government of São Paulo demonstrated a high degree of commitment to the project, providing counterpart contributions that were 20 percent higher than what was planned at appraisal and approximately double the financing from GEF. Its commitment to the projects goals was also exhibited through its support for a legal and regulatory framework to promote forest restoration on a larger scale. The project's completion report points out that this was a significant political achievement given the status of the State as an agricultural powerhouse with potential political costs to sweeping conservation reforms impacting land use on potentially productive land. The State further demonstrated its commitment to project goals through the creation of the State Forum for Climate Change and Biodiversity in early 2005 with a technical chamber dedicated to defining the methodology for preparing riparian forest rehabilitation projects that could also generate carbon sequestration credits. However, there were weaknesses in coordination and the capacity of the multiple agencies involved in implementation, partly arising from project complexity.

6.18 Overall government performance is rated ***satisfactory***.

6.19 ***Implementing Agency Performance***

6.20 The key implementing agency was the State Secretariat of Environment (SMA). The project completion report notes that the SMA was highly committed to project preparation and implementation and was pro-active in the promotion of important policy reforms. Local capacity was supported by ensuring that project management and coordination was mainstreamed within SMA rather than through an isolated temporary PMU. Implementation relied heavily on partnerships with other agencies. The State Secretariat of Agriculture,

[12] In keeping with OPCS / IEG harmonized rating criteria, when one dimension of Bank performance is in the satisfactory range and the other unsatisfactory the overall Bank performance rating follows the projects' outcome ratings.

including the State Rural Extension Company, played a key implementing role. The project completion report notes that this was a pioneering effort in institutional collaboration between the two agencies and the associated dialogue was important for longer-term conservation. However there were a number of issues in coordination particularly on M&E. There were also initial problems in implementation due to the complexity of the project and weak capacity. These were partly addressed by the restructuring in 2008/2009. Compliance with the World Bank's safeguards policies was satisfactory as were procurement and financial management. The project completion report notes that audit reports were submitted on time and any qualifications were quickly resolved. However, monitoring and evaluation was weak throughout implementation.

6.21 Overall implementing agency performance is rated ***moderately satisfactory***.

6.22 Taking into account the satisfactory government performance rating and moderately satisfactory rating for implementing agency performance, the overall Borrower Performance is rated ***moderately satisfactory***.

Monitoring and Evaluation

6.23 **Design.** The project appraisal document included a comprehensive M&E plan and a set of detailed output indicators. However, design proved overambitious. In addition the indicators were too numerous and some were of limited utility, and many were redundant or conflicting, and dispersed in different official documents, making the monitoring of targets and activities difficult.

6.24 **Implementation**. The project MIS was established and the Mid-Term Review, an environmental perception study and a final evaluation were carried out. PES practitioners were brought together to share lessons from other parts of the country. A book on the PES experience is to be published. However, the weaknesses in design negatively impacted the effectiveness of M&E. Integration of the project's M&E system with the State rural Extension Company's system weakened the PMUs ability to respond to issues as they arose.

6.25 **Utilization**. Information from the mid-term review was used to amend the credit agreement. Project supervision documents and the project completion report also indicate that adjustments were made during implementation and that these drew at least partly from the documented project learning experience.

6.26 Overall, the quality of M&E is rated ***modest***.

7. Lessons

Based on the experience of this project, several lessons can be drawn:

- In land or forest management projects that aim to induce a change in land use practices and scaling up, it is important to gain an understanding of the motives different types of landholders have to adopt and maintain such practices in addition to technical dimensions of restoration. In this case, the project documented some

comparative evidence on the cost and effectiveness of alternative riparian forest restoration technologies that may be of use to future restoration efforts. But there was less attention to the incentives or disincentives that different land owners have to adopt and sustain such practices or to overcoming barriers to participation, which is equally important for scaling up.

- Consistency between the objectives statements and the scale of investments and associated indicators is essential to avoid incongruities between investment strategy and project intent. In this case the project's official objectives were stated in terms of ambitious global environment objectives. But the project was designed as a pilot to meet the de-facto objective of providing the State of São Paulo with the capacity and tools to tackle future restoration, as opposed to being designed to meet its actual declared objective statement and it did not include intermediate outcomes that could enable an assessment of the likelihood of meeting longer term expectations.

- Working through multiple institutional players can enhance policy and operational outcomes but it requires that mechanisms are developed to formalize institutional partnership with clearly defined common targets and timetables to reduce delays. Such mechanisms need to be agreed among all partners upfront and tailored to their own bureaucratic, managerial and operational structures. In this case, project implementation relied upon various institutions but there were difficulties in aligning priorities, timetables and information flow between different institutional teams who followed their own institutions procedures and timetables, contributing to implementation delays.

- Early consensus on coordination of M&E between institutions and sectors within government is crucial in order to ensure alignment of objectives and targets and to achieve the flow of M&E data between entities. This is particularly important for projects with an experimental focus and widely dispersed activities that can make data collection, storage and usage more of a challenge. In this case, the project management unit was established in the Secretary of Environment and was charged with preparing semiannual reports that were to be made available to project executors at all levels. But monitoring of field activities was carried out by the State's Rural Extension Agency. Incompatibilities between the operational structures of the two agencies led to bottlenecks in information flows that made it difficult for the project management team to detect and respond to issues as they arose and provide timely feedback to other project executing entities.

References

James Aronson, Petro H.S. Brancalion, Giselda Durigan, Ricardo R. Rodrigues, Vera L. Engle, Marcelo Tabarelli Jose M. D. Torezan, Sergius Gandolfi, Antonio C.G. de Melo, Paulo Y. Kageyama, Marcia C.M. Marques, Andre G. Nave, Sebastio V. Martins, Flavio B. Gandara, Ademir Reis, Luiz M. Barbosa, and Fabio R. Scarano. 2011. "What role should government regulation play in Ecological Restoration? Ongoing debate in São Paulo State, Brazil." *Restoration Ecology* Volume 19(6): 690–695.

Joly CA, Rodrigues RR, Metzger JP, Haddad CF, Verdade LM, Oliveira MC, Bolzani VS. 2010. "Ecology. Biodiversity conservation research, training, and policy in São Paulo." *Science* 328(5984):1358-9.

Rodrigues, R. R., Ranato A. F. Lima, Sergius Gandolfi, Andre Gustavo Nave. 2009. "On the restoration of high diversity forests: 30 years of experience in the Brazilian Atlantic Forest." *Biological Conservation* 142: 1242-1251.

Rodrigues R.R., Sergius Gandolfi, Andre Gustavo Nave, James Aronson, Tiago Egydio Barreto, Cristina Yuri Vidal, Pedro H.S. Brancolion. 2011. "Large scale ecological restoration of high-diversity tropical forests in SE Brazil." *Forest Ecology and Management* 261: 1605-1613.

World Bank. 2003. Country Assistance Strategy 2003-2007 for the Federative Republic of Brazil in Support of a More Equitable, Sustainable, and Competitive Brazil. Washington, DC: World Bank.

_____. 2005. Project Appraisal Document. Ecosystem Restoration of Riparian Forests in São Paulo (GEF) Project Report No: 32151-BR.

_____. 2008. International Bank for Reconstruction and Development and International Finance Corporation Country Partnership Strategy for the Federative Republic of Brazil for the Period FY2008-2011. Washington, DC: World Bank. Report # 42677.

_____. 2011a. International Bank for Reconstruction and Development and International Finance Corporation Country Partnership Strategy for the Federative Republic of Brazil for the Period FY2012-2015. Washington, DC: World Bank.

_____. 2011b. Implementation and Results Report State of São Paulo Ecosystem Restoration of Riparian Forests (GEF) Project Report No: ICR00001994.

Annex A. Basic Data Sheet

ECOSYSTEM RESTORATION OF RIPARIAN FOREST IN SÃO PAULO (TF-55091)

Key Project Data (amounts in US$ million)

	Appraisal estimate	Actual or current estimate	Actual as % of appraisal estimate
Total project costs	19.5	21.8	111.5
Loan amount	7.8	7.8	100

Cumulative Estimated and Actual Disbursements

	FY06	***FY07***	***FY08***	***FY09***	***FY10***	***FY11***	***FY12***
Appraisal estimate (US$M)	.6	2.4	4.4	6.2	7.8	7.8	7.8
Actual (US$M)	1.3	2.6	3.3	5.1	6.1	7.6	7.5
Actual as % of appraisal	216.7	41.6	75	82.3	78.2	97.4	96.2
Date of final disbursement: 09/15/2011							

Project Dates

	Original	Actual
Concept Review	01-29-2004	06-23-2004
Negotiations	01-14-2005	04-15-2005
Appraisal	01-18-2005	03-15-2005
Board approval	04-15-2005	06-21-2005
Signing	NA	06-27-2005
Effectiveness	NA	09-08-2005
Closing date	01-31-2010	04-27-2011

Staff Time and Cost

	Staff Time and Cost (Bank budget only)	
Stage of Project Cycle	**No. of Staff Weeks**	**US$ Thousands (including travel and consultant costs)**
Lending		
FY04	8.86	54.73
FY05	10.23	70.85
Total:	**19.09**	**125.58**
Supervision/ICR		
FY06	11.11	58.81
FY07	12.84	69.02
FY08	15.88	73.03
FY09	19.54	92.96
FY10	8.72	57.70
FY11	7.97	61.59
FY12	n/a	n/a
Total:	**76.06**	**413.11**

Task Team Members

Name	*Title*	*Unit*	*Responsibility/ Specialty*
Lending			
Maria Isabel Junqueira Braga	Sr. Env. Specialist	AFTEN	Environmental
Jose Augusto Carvalho	Consultant	LCSPT	Lawyer
Tulio Henrique Lima Correa	Fin. Mgmt Specialist	LCSFM	Financial
Judith M. Lisansky	Sr. Anthropologist	LCSSO	Social
Anemarie Guth Proite	Procurement Specialist	LCSPT	Procurement
Loretta Sprissler	Soc. Dev. Specialist	LCSSO	Social
Supervision			
Susana Amaral	Fin. Mgmt Specialist	LCSFM	Financial
Maria Isabel Junqueira Braga	Sr. Env. Specialist	AFTEN	Environmental
Laurent Debroux	Sr. Nat. Res. Econom.	LCSAR	Natural Resources
Nicolas Drossos	Consultant	LCSFM	Financial
Alvaro Soler	Rural Dev. Specialist		Rural Development
Erick C.M. Fernandes	Adviser	LCSAR	Natural Resources
Carolina J. Cuba Hammond	Program Assistant	LCSAR	Team Support
Jose C. Janeiro	Senior Finance Officer	CTRFC	Finance

Grace Menck De Oliveira Figuero	Jr. Professional Assoc.	MNSEN	Project Analyst
Marta Elena Molares-Halberg	Lead Counsel	LEGES	Lawyer
Anemarie Guth Proite	Procurement Specialist	LCSPT	Procurement
Karen J. Ravenelle-Smith	Sr. Executive Assistant	GFDRR	Team Support
Timothy S. Valentiner	Jun. Prof. Associate	LCSAR	Project Analyst
Luciano Wuerzius	Procurement Specialist	LCSPT	Procurement
Diana Rebolledo	Language Prog Assist.	LCSAR	Team Support

Annex B. List of Persons Met

World Bank

Isabel Braga, TTL at appraisal
Erick Fernandes, TTL at project closure
Marianne Grosclaude, Senior Agriculture Economist, TTL São Paulo Sustainable Rural Development and Access to Markets Project
Adriana Moreira, Senior Environmental Specialist

Global Environment Facility

Carlo Carugi, GEF Evaluation Office

National Government

Rodrigo Martins Vieira, General Coordinator for External Financing Ministry of Planning and Budget Management, Secretariat for International Affairs

State Government

Helena Carrascosa von Glehn, State Secretariat of Environment
Rubens Naman Rizek Júnior, Deputy Secretary – State Secretariat for the Environment
Daniela Petenon, Technical manager of the PRMC
Paulo Roberto Torres Ortiz, Assistente Técnico de Pesquisa Científica e Tecnológica na Coordenação Especial para Restauração de Áreas Degradadas (CERAD)
Regina Tomoko Shirasuna, Assistente Técnico de Pesquisa Científica e Tecnológica na Coordenação Especial para Restauração de Áreas Degradadas (CERAD)
Carlos Eduardo Beduschi and Araci Kamiyama, Director of the Center of Sustainable Use – SMA/SP
Cristina Azevedo, Coordinator of Biodiversity and Natural Resources - CBRN
Pedro S. De Castro, Pact for The Atlantic Forest Restoration
Dagoberto Meneghini, Technical Coordinator for Matacilar project
Marina Eduarte, Environmental education and outreach coordinator for Mataciliar project

Project partners and Local Beneficiaries

Joao Brunelli, Technical manager of the PDRS – CATI/SAA, Botanical Institute
Dr. Luiz Mauro Barbosa, Technical Director of department of the Instituto de Botânica de São Paulo
Dr. Nelson Augusto dos Santos Junior, Director of the Center for Ecology and Phisiology Research
Dra. Marina Crestana Guardia, Director of the Center for Seed research
Ulisses Bottino Peres, Director of Environment of Graça/SAAE
José Alcides Faneco, Mayor of Garça

Vitor Lopes Braccialli, Technical Coordinator of the Rural Association of Barreiro micro-catchment
Rodrigo Bernardes, Technician of CBRN (during GEF Project) for Garça, Pacaembu and Gabriel Monteiro
Marcio Kataiama, President of association in Pacaembu municipality
Nilton Steiq, Rural producer in Pacaembu – restored a ripariam area
Maria Venina, CATI Technician in Gabriel Monteiro municipality- Agronomist
Maria Aparecida, Secretary of the Association in Gabriel Monteiro
Mario Silva, President of the association in Gabriel Monteiro during GEF project
Luis Tavares, Technician AVALON contracted to monitor during GEF project
Eduardo Abussamra, Secretary of Environment of Jau municipality
Amilcar Marcel de Souza, Pro Terra NGO
Marcio Cesarino, Sub-mayor of Potunduva District
Antonio Carlos Botelho Müller Carioba, Farm owner
Juliano Leite, CATI/SAA
Claudia Aparecida Faria, CATI/SAA
Edwaldo L. Oliveira, Terceira Via
Gianmarco Bisaglia, Terceira Via
Maria Fernanda Magione, Terra Roxa Consulting/TNC
Pedro Matarazzo, Joanópolis Local Government

Other Technical Experts

Carlos Nobre, Presidente da Comissão de Coordenação das Atividades de Meteorologia,Climatologia e Hidrologia Esplanada dos Ministérios
Ricardo Rodrigues, ESALQ/USP
Pedro Henrique Santin Brancalion, ESALQ/USP
Sergius Gandolfi, ESALQ/USP
Eduardo Ditt, IPE NGO
Rafael E. Chiodi, IPE NGO
Oscar Sarcinelli, IPE NGO
Roberto de Lara Haddad, IPE NGO