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**IMPLEMENTATION COMPLETION AND RESULTS REPORT**

**LOAN 8155-BR  
ON A**

**LOAN**

**IN THE AMOUNT OF US\$480 MILLION**

**TO THE**

**STATE OF RIO GRANDE DO SUL, BRAZIL**

**FOR A**

**RIO GRANDE DO SUL SWAP**

**DECEMBER 2019**

Finance, Competitiveness, and Innovation Global Practice  
Latin America And Caribbean Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective July 23, 2019)

Currency Unit = Brazilian Real (R\$)

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R\$= US\$1

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US\$ = SDR 1

FISCAL YEAR  
July 1 - June 30

## ABBREVIATIONS AND ACRONYMS

AGDI	Rio Grande do Sul State Development and Investment Promotion Agency ( <i>Agência Gaúcha de Desenvolvimento e Promoção de Investimentos</i> )
APL	<i>Local Productive Arrangements (Arranjos Produtivos Locais)</i>
BNDES	National Economic and Social Development Bank ( <i>Banco Nacional de Desenvolvimento Econômico e Nacional</i> )
CELIC	Acquisitions Center ( <i>Central de Licitações</i> )
CEPI	State Council for Indigenous Populations ( <i>Conselho Estadual dos Povos Indígenas</i> )
CPF	Country Partnership Framework
CREMA	Maintenance and Repair Contracts ( <i>Contratos de Reabilitação e Manutenção</i> )
DAER	Autonomous Department of Highways ( <i>Departamento Autônomo de Estradas de Rodagem</i> )
DECAP	Department of Resource Management ( <i>Departamento de Captação de Recursos</i> )
DLI	Disbursement-linked Indicator
EEP	Eligible Expenditure Program
ERR	Economic Rate of Return
FEPAM	State Foundation for Environmental Protection ( <i>Fundação Estadual de Proteção Ambiental</i> )
FM	Financial Management
HR	Human Resource
ICMS	Tax on Circulation of Goods and Services ( <i>Imposto Sobre Operações Relativas a Circulação de Mercadorias e Prestação de Serviços de Transporte Interestadual e Intermunicipal e de Comunicação</i> )
ICT	Information and Communication Technology
ICR	Implementation Completion and Results Report
IDA	International Development Association
IDB	Inter-American Development Bank
IEDE	State Platform for Special Data ( <i>Infraestrutura Estadual de Dados Especiais</i> )
IPERG	Rio Grande do Sul State Pension Management Institute ( <i>Instituto de Previdência do Estado do Rio Grande do Sul</i> )
IPP	Indigenous Peoples Plan
ISR	Implementation Status and Results Reports
IT	Information Technology
M&E	Monitoring and Evaluation
NPV	Net Present Value

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PAF	Fiscal Adjustment Plan ( <i>Plano de Ajuste Fiscal</i> )
PDO	Project Development Objective
PGFN	Ministry of Economy General Attorney ( <i>Procurador Geral da Fazenda Nacional</i> )
PI	Performance Indicator
PIU	Project Implementation Unit
PPA	Project Preparation Advance)
PROCERGS	RGS Data Processing Company ( <i>Cia de Processamento de Dados do Estado do Rio Grande do Sul</i> )
RF	Results Framework
RGS	Rio Grande do Sul
RPF	Resettlement Policy Framework
SAERS	Evaluation and Results System ( <i>Sistema de Avaliação e Resultados</i> )
SEAP	Educational System for Participatory Evaluation ( <i>Sistema de Educação para Avaliação Participativa</i> )
SEDATUR	State Secretary of Economic Development and Tourism ( <i>Secretaria de Estado de Desenvolvimento Econômico e Turismo</i> )
SEDUC	State Department of Education ( <i>Secretaria de Estado de Educação</i> )
SEFAZ	State Secretariat of Finance ( <i>Secretaria de Estado da Fazenda</i> )
SEGIRD	State Risk and Disaster Management System ( <i>Sistema Estadual de Gestão de Riscos e Gesastres</i> )
SEOBRAS	Public Works Secretary ( <i>Secretaria de Obras</i> )
SEPLAG	Department of Planning and Management ( <i>Secretaria do Planejamento e Gestão</i> )
SIL	Specific Investment Loan
SIRAM	Integrated System for Environmental Regulation ( <i>Sistema Integrado de Regularização Ambiental</i> )
SRR	NOT SURE
SWAp	Sector-wide Approach
TA	Technical Assistance
TCE	State Supreme Audit Body ( <i>Tribunal de Contas do Estado</i> )
TOC	Theory of Change
TOR	Terms of Reference
TTL	Task Team Leader
ZEE	Ecological and Economic Zoning ( <i>Zoneamento Ecológico-Econômico</i> )

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## DATA SHEET

### BASIC INFORMATION

#### Product Information

Project ID	Project Name
P120830	Rio Grande do Sul SWAp
Country	Financing Instrument
Brazil	Investment Project Financing
Original EA Category	Revised EA Category
Partial Assessment (B)	Partial Assessment (B)

#### Organizations

Borrower	Implementing Agency
State of Rio Grande do Sul, Brazil	SPGG/DECAP, SEPLAN/DECAP

#### Project Development Objective (PDO)

##### Original PDO

The Project Development Objective is to improve public investment planning and implementation by strengthening the capacity of the state planning agency and selected sector secretariats. These are in education, science & technology, economic development and infrastructure. The Project will provide cross-cutting technical assistance in public investment and human resource planning, procurement management, contract management, impact assessment, environmental and disaster risk management and citizen participation in decision-making. It will also support, through eligible expenditure programs, investments in education (technological modernization and buildings repair), transport (highway rehabilitation and maintenance), private sector development (cluster programs, industrial extension services and technology parks) and public sector management (public asset management.)

## FINANCING

	Original Amount (US\$)	Revised Amount (US\$)	Actual Disbursed (US\$)
<b>World Bank Financing</b>			
IBRD-81550	480,000,000	480,000,000	476,264,677
<b>Total</b>	<b>480,000,000</b>	<b>480,000,000</b>	<b>476,264,677</b>
<b>Non-World Bank Financing</b>			
Borrower/Recipient	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Project Cost</b>	<b>480,000,000</b>	<b>480,000,000</b>	<b>476,264,677</b>

## KEY DATES

Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
01-May-2012	01-Oct-2012	01-Dec-2014	30-Jun-2017	31-May-2019

## RESTRUCTURING AND/OR ADDITIONAL FINANCING

Date(s)	Amount Disbursed (US\$M)	Key Revisions
18-Jan-2016	207.25	Change in Implementing Agency Change in Results Framework Change in Loan Closing Date(s) Change in Procurement
23-Nov-2017	350.37	Change in Results Framework
26-Feb-2019	454.83	Change in Loan Closing Date(s)

## KEY RATINGS

Outcome	Bank Performance	M&E Quality
Moderately Satisfactory	Moderately Satisfactory	Modest

## RATINGS OF PROJECT PERFORMANCE IN ISRs

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US\$M)
01	29-Jul-2012	Satisfactory	Satisfactory	0
02	24-Apr-2013	Moderately Satisfactory	Moderately Satisfactory	31.25
03	08-Jan-2014	Moderately Satisfactory	Moderately Satisfactory	70.30
04	12-Aug-2014	Moderately Unsatisfactory	Moderately Satisfactory	70.30
05	23-Dec-2014	Moderately Unsatisfactory	Moderately Satisfactory	159.90
06	29-Jun-2015	Moderately Unsatisfactory	Moderately Satisfactory	159.90
07	28-Dec-2015	Moderately Unsatisfactory	Moderately Satisfactory	207.25
08	16-Jun-2016	Moderately Unsatisfactory	Moderately Satisfactory	207.25
09	30-Jun-2016	Moderately Satisfactory	Moderately Satisfactory	207.25
10	31-Dec-2016	Moderately Satisfactory	Moderately Satisfactory	276.40
11	27-Jun-2017	Moderately Satisfactory	Moderately Satisfactory	276.40
12	19-Dec-2017	Moderately Satisfactory	Moderately Satisfactory	397.24
13	05-Jul-2018	Moderately Satisfactory	Moderately Satisfactory	404.93

## SECTORS AND THEMES

### Sectors

Major Sector/Sector	(%)
<b>Public Administration</b>	<b>13</b>
Sub-National Government	13
<b>Education</b>	<b>26</b>
Other Education	26



<b>Transportation</b>	<b>46</b>
Other Transportation	46
<b>Industry, Trade and Services</b>	<b>15</b>
Other Industry, Trade and Services	15
<b>Themes</b>	
<b>Major Theme/ Theme (Level 2)/ Theme (Level 3)</b>	<b>(%)</b>
<b>Private Sector Development</b>	<b>33</b>
Enterprise Development	33
MSME Development	33
<b>Finance</b>	<b>13</b>
Financial Infrastructure and Access	13
MSME Finance	13
<b>Public Sector Management</b>	<b>6</b>
Public Finance Management	3
Public Expenditure Management	3
Public Administration	3
Transparency, Accountability and Good Governance	3
<b>Human Development and Gender</b>	<b>26</b>
Education	26
Access to Education	13
Education Financing	13
<b>Urban and Rural Development</b>	<b>25</b>
Rural Development	25
Rural Infrastructure and service delivery	25
<b>Environment and Natural Resource Management</b>	<b>3</b>
Climate change	3
Adaptation	3



**ADM STAFF**

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## I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

### A. CONTEXT AT APPRAISAL

#### Context

##### *Country and State Context*

- 1. At the onset of the project, Rio Grande do Sul (RGS) was the fourth largest economy in Brazil with per capita income 14 percent above the national average and a correspondingly high level of human development.** Economic activity, driven by sizeable exports, high-productivity agribusiness, and a well-developed manufacturing sector, benefited from more recent investments alongside the discovery of the ‘pre-sal’ oil reserves off Brazil’s southeastern coast.<sup>1</sup>
- 2. Despite these advantages, the state’s relative position in the national economy was declining.** Its share of national output was down from 8.9 percent (1996) to 6.5 percent (2010). The economy was more volatile relative to other states, with large expansions followed by deep recessions due to a high reliance on primary goods. During the 2014/15 crisis, RGS was one of the first states demonstrating a problematic fiscal situation. Before the project, the state demonstrated tremendous vulnerability to extreme weather patterns, with resulting economic losses close to US\$7 billion.<sup>2</sup> Additionally, appreciation of the Brazilian real negatively affected exports. The national fiscal crisis of the mid-2000s also led to sharp cuts in services and public investment with a disproportionately negative impact on the poor.
- 3. Before the project, the state’s fiscal position slightly improved, partly as a result of the assistance provided and compliance with targets set by the World Bank’s Fiscal Sustainability for Growth Loan (P106767)(2008).** In 2007, RGS faced the most difficult situation of any Brazilian state with a shrinking tax base, sharply rising personnel expenditures, and a large structural deficit in the state’s pension system. The state failed to comply with requirements of the Fiscal Responsibility Law, facing difficulties in meeting fixed spending obligations, particularly with respect to debt service, pension payments, and the maintenance of public infrastructure.
- 4. The Government, elected in 2007, took strict measures to control personnel expenditures and raise tax collection rates to reach a sustained primary surplus.** The debt restructuring associated with the previous World Bank operation lowered the state’s borrowing costs and improved its maturity profile. As a result, net debt fell from 280 percent of net current revenue (2003) to 214 percent (2010), while debt service reduced by almost 3 percentage points from 17 percent of net revenue. These improvements allowed borrowing from the Federal Government to resume for the first time since renegotiation of its debt with the union in 1997.
- 5. Nonetheless, serious challenges persisted.** Despite improvements in fiscal sustainability and debt restructuring that allowed the state to reach the ceiling agreed under the Fiscal Responsibility Law and amass higher revenues than in any other Brazilian state, net debt was expected to fall below the required

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<sup>1</sup> These deep-sea deposits, so called because they lie underneath a layer of salt up to 2 km thick, are thought to extend from off the coast of Santa Catarina in the south to Espirito Santo in the northeast.

<sup>2</sup> According to Civil Defense data, RGS experienced 1,645 extreme weather events between 2003 and 2009, which affected more than 90 percent of the cities. The resulting economic losses were close to US\$7 billion.



200 percent of net current revenues by end-2012. Further, almost no progress was made in increasing efficiency and improving the quality of public sector investment and service delivery in the lead-up to the project. Though the state has since passed new social security legislature, much work remained in social security reform and public sector modernization. This need for support on fiscal sustainability was the primary driver for the public sector management activities and investments under the program to reinvigorate public institutions and services, upgrade public management and oversight, and strengthen the state's capacity for investment.

#### *Sectoral and Institutional Context*

6. **The Government's primary focus on fiscal consolidation, in a large part achieved through cuts to public investment, resulted in a decline in national rankings in educational and infrastructural quality.** Emergency construction and repairs had been prioritized over a preventive priority-based approach. Additionally, many of the state's investment projects suffered from poor selection criteria, failed procurement processes, delays in post-contract execution, and cost overruns. While some progress was made to establish monitoring systems for investment projects under the previous World Bank operation, this did not extend to rigorous project selection and corrective action based on project monitoring.

7. **The incoming administration shifted priorities toward stimulating economic growth despite the tight fiscal environment and enhancing the delivery and quality of public services,** with a new strategy centered around four objectives: (a) stimulate investments and growth and raise income and employment rates, (b) promote regional development, (c) eliminate extreme poverty, and (d) strengthen civic participation.

8. **With these objectives in mind, the Government of RGS approached the World Bank to request support in establishing integrated institutions for selecting, prioritizing, and implementing public investments.** The underlying logic was that these institutions would help select well-targeted, green, growth-oriented interventions in transport, education, and private sector development paralleled by improvements in public sector management, environmental management, and public service delivery. The project would also support the administration in evaluation and impact assessment.

9. **The sectors of focus (transport, education, and private sector development) were chosen to fill gaps between other programs financed by the Brazilian Government, Inter-American Development Bank (IDB), and the National Economic and Social Development Bank (*Banco Nacional de Desenvolvimento Econômico e Nacional, BNDES*).** These gaps included road rehabilitation and maintenance, educational investments, and support to private sector development. Furthermore, the World Bank was asked to improve the efficiency of the state programs in the abovementioned areas. RGS had a strong tradition of collaborative and, at times, interventionist policies in public sector management and private sector development. The Government viewed these mechanisms as important tools to stimulate growth; however, at the same time, it was concerned about the efficiency and effectiveness, as many of these policies dated back to the early 1990s and were in need of evaluation and modernization. An important contribution of the project would be to recommend on and support their adaptation.

#### *Rationale for the Use of the Results-based Financing and Sectorwide Approach*

10. **The World Bank's lending in Brazil has been increasingly concentrated in multisector operations at the state and municipal government level, with a focus on policy design and implementation.** This

aligned with the World Bank Group’s Country Partnership Strategy of the time, along with the current Country Partnership Framework (CPF). Table 1 documents the Government’s priorities on which the program was built.

**Table 1. Government Priorities on Which the Program Was Built**

1	Improved fiscal and public sector management and more effective private sector development policies.
2	Better quality education and access to health care for the poor, stronger social protection, and expanded access to affordable housing
3	Improved transport and logistics, expanded access to basic sanitation, and greater supply of clean and efficient energy
4	Integrated water resource management, expanded sustainable agriculture, improved disaster risk management, and improved environmental and biodiversity management.

11. **The objective of this operation and the policies and programs it supported were closely aligned with the abovementioned strategy.** The financial instrument incorporated results-based financing and a sectorwide approach (SWAp) under Component A. This instrument was chosen to support the state and strengthen the capacity of the Government of RGS to plan and execute public investments in education, private sector development, and transport while preserving fiscal discipline and improving environmental and natural resource management.

#### **Theory of Change (Results Chain)**

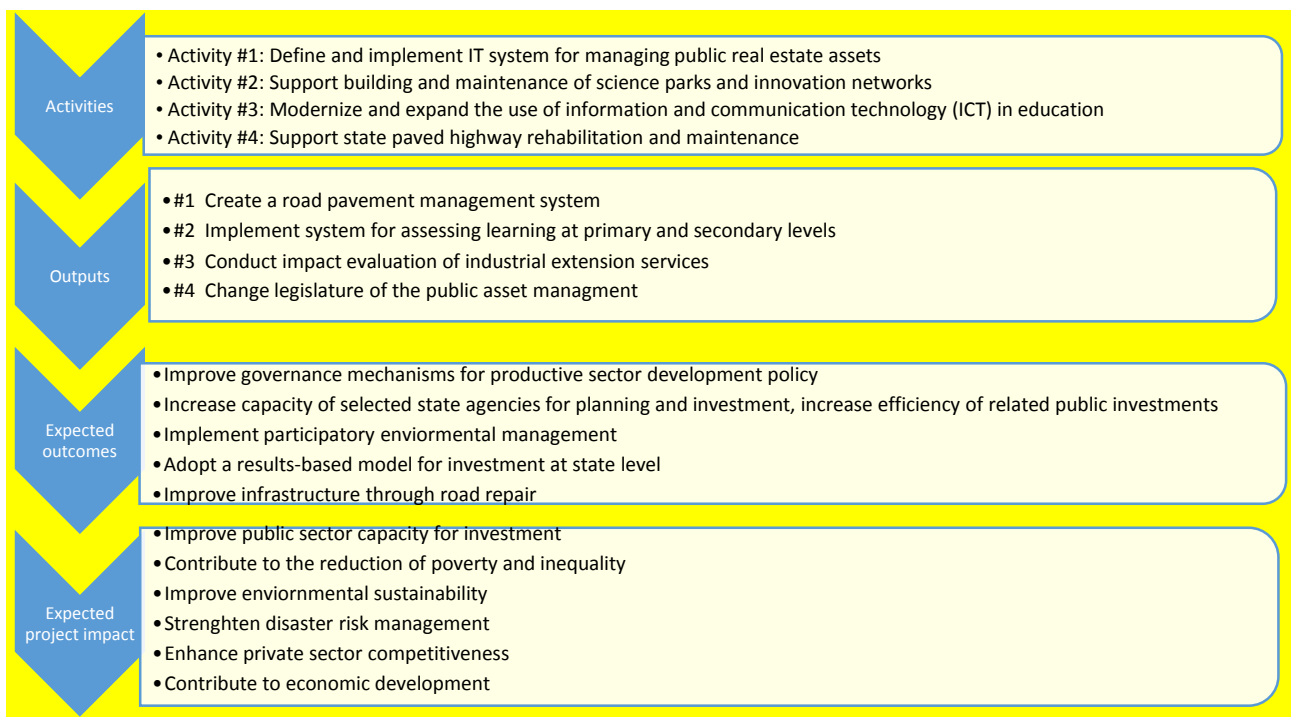
12. **The theory of change focused on improving public investment planning and implementation for the state while strengthening capacity of specific key sectors and their respective implementing agencies.** The operation selected its main projects in the areas of infrastructure, education, science and technology, and the public sector. The focus on these areas, along with the overall focus on public planning, was expected to have a strong impact on economic development, efficiency in spending, and equitable social development. Road and transport investments were targeted at removing infrastructure bottlenecks and improving access to remote communities. Educational activities in information technology (IT) modernization and school refurbishment focused on their ability to improve efficiency and quality in education. Private sector activities on cluster governance, industrial extension services, and support to science parks were aimed at better public-private sector links and strengthening management within beneficiary companies. Finally, the public asset management and umbrella capacity-building activities focused on strengthening human resource (HR) and public investment planning, procurement, and contract management, as well as environmental management activities. These capacity improvements were designed to address the state’s inherent shortcomings in project selection, contract execution, informed policy making, and performance-based management.

13. **The rationale behind the underlying principle of the operation, along with the usage of a SWAp instrument, was to reinforce a results-based culture while fostering additional planning and governance improvements.** Through the use of a results-based framework alongside umbrella technical assistance across sectors to improve capacity, the program aimed to (a) shift the focus to results (as opposed to budget execution), (b) assess the impact of outcomes on social objectives, and (c) adjust the content of policies where appropriate (to reflect the results of impact evaluations). The program also provided incentives for public agencies to improve dialogue and coordination for intersectoral public planning and effective budget execution. Finally, the program set out to enhance investment planning and



implementation capacity while improving efficiency through technical assistance (TA) to the Department of Planning and Management (*Secretaria do Planejamento e Gestão, SEPLAG*) and other state agencies. This support also helped improve efficiency, especially within the context of the state’s resource limitations. The Theory of Change (TOC) shown in Figure 1 was constructed as part of the Implementation Completion and Results Report (ICR) evaluation rather than developed during the program’s design. The process of developing this theory of change highlights an important point: the link between activity or investment supported by the program and the broader desired impact was poorly understood both by the Government and World Bank at the onset of the project. As such, the lesson to be gleaned is that future operations should make sure that this link is clearly defined to ensure that the operation is supporting the most relevant investments and activities.

Figure 1. Theory of Change



Note: Prepared by ICR authors.

### Project Development Objectives (PDOs)

14. The PDO was to improve public investment planning and implementation by strengthening the capacity of the state planning agency and selected sector secretariats. These were in education, science and technology, economic development, and infrastructure. The Project also aimed to provide cross-cutting technical assistance in public investment and human resource planning, procurement management, contract management, impact assessment, environmental and disaster risk management and citizen participation in decision-making. The Project also supported, through eligible expenditure programs, investments in education (technological modernization and buildings repair), transport (highway rehabilitation and maintenance), private sector development (cluster programs, industrial extension services and technology parks) and public sector management (public asset management.)



15. The program provided cross-cutting TA in public investment and HR planning, procurement management, contract management, impact assessment, environmental and disaster risk management, and participative decision making. The project supported investments in transport (among others, highway rehabilitation and maintenance); education (among others, technological modernization and buildings repair); and private sector development for small- and medium-size enterprises (among others, cluster programs, industrial extension services, and technology parks) through eligible expenditure programs (EEPs).

### Key Expected Outcomes and Outcome Indicators

#### PDO-level Results Indicators

16. **The PDO-level results indicators included** (a) implementation of road pavement management system, (b) implementation of a system for learning assessment at primary and secondary levels, (c) completion of impact evaluation of industrial extension services, and (d) submission of draft public asset management law to state legislative assembly.

#### Disbursement-linked and Performance Indicators

17. **Disbursement-linked indicators (DLIs) and performance indicators (PIs) measured the progress of investments (EEPs) in transport, education, and private sector development, along with some of the TA activities under the program** (see annex 1). In addition to their role in monitoring and evaluation (M&E), DLIs were used to monitor the program's performance as follows:

- (a) **For transport.** The cumulative percentage of the state paved highway network under performance-based maintenance and repair contracts (*Contratos de Reabilitação e Manutenção*, CREMA)
- (b) **For education.** The number of school construction projects completed
- (c) **For private sector development.** The number of agreements signed or renewed with clusters, extension service providers, and operators of science parks
- (d) **For fiscal performance.** The primary fiscal balance, investment expenditures, and revenue from tax on circulation of goods and services on Tax on Circulation of Goods and Services (Imposto sobre operações relativas a circulação de mercadorias e prestação de serviços de transporte interestadual e intermunicipal e de comunicação, ICMS).

18. **Additionally, a set of 12 PIs was used to measure more specific interventions in each of the four thematic areas.** The definition and targets of the PDO, DLIs, and PIs were revised by the Government and the World Bank during the midterm review and in the first two level-two restructurings to accommodate the project's implementation needs.



## Project Components

19. The operation in question was a Specific Investment Loan (SIL) with a sector-wide approach (SWAp) under Component A in the amount of US\$480 million executed by the State of RGS with the guarantee of the Federal Government of Brazil.

20. **The program had two components: a cross-cutting public sector management component comprising TA of US\$55.3 million (Component A) and an EEP component of US\$423.5 million (Component B).** The technical assistance (Component A) was aimed at strengthening capacity of the Government and executing agencies to plan and execute the EEPs (Component B). The detailed project component descriptions are included in annex 6.

### B. SIGNIFICANT CHANGES DURING IMPLEMENTATION (IF APPLICABLE)

21. **The program was approved on May 1, 2012, and became effective on October 1, 2012, with the original closing date scheduled for June 2017.** Throughout its seven-year operations, the program underwent three level-two restructurings that included (a) revisions to the Results Framework and revisions to timing and targets of the Disbursement-linked Indicator (DLI) along with their baselines (Restructuring 1); (b) budget reallocations between subcomponents, a 20-month extension (Restructuring 1 and 2), and additional revisions to the timing and targets for fiscal DLIs (Restructuring 2 and 3); and (c) a final three-month extension (Restructuring 3) through May 2019, the program's actual closing date. Most of the major revisions to the targets of the PDO indicators and their associated timing were made during the first restructuring, while the second restructuring focused on revisions to targets of DLIs #1–3 related to fiscal balance. Table 3 in Annex 6 provides an overview of the accomplishments and changes made to the PDO results indicators and DLIs

#### Revised PDOs and Outcome Targets

22. **Despite three restructurings, the PDO and PDO indicators remained unchanged with limited adjustments to specific targets. As such, the program maintained focus of the operation on improving public investment planning and implementation by strengthening the capacity of the state planning agency and the education, science and technology, economic development, and infrastructure sectors.** The project also continued to provide cross-cutting TA in public investment and HR planning, procurement management, contract management, impact assessment, environmental and disaster risk management, and citizen participation in decision making, albeit with minor modifications to specific activities.

23. **The main changes carried out in the first restructuring of FY2015 included adjustments to targets for the DLIs linked to transport investments, along with changes to their corresponding closing dates due to initial delays in implementation.** The original closing date was extended by 20 months from June 30, 2017, to February 28, 2019, to allow for completion of the five-year road maintenance and rehabilitation contracts CREMAs. These CREMAs were financed by the project under the transport **Eligible Expenditure Program** (EEP), the implementation of which started with a two-year delay. The delays resulted from bureaucratic hurdles, especially between implementing agencies (Autonomous Department of Roads [*Departamento Autonomo de Estradas de Rodagem*, DAER] in particular) and audit bodies (State Supreme Audit Body [*Tribunal de Contas do Estado*, TCE]), in addition to poor scoping of subprojects and activities. These initial issues highlight deficiencies in capacity for planning and prioritization, especially at DAER. A lack of familiarity with contractual regulations and preparation of terms of reference and





bottlenecks in contracting also contributed to the delays, discussed in more detail in subsequent sections. Other minor changes under this restructuring included revisions to methodologies for calculating fiscal, education, and private sector development targets, along with minor adjustments to the PI indicators (see table 2).

24. **The second restructuring (FY2017) included revisions to the fiscal DLIs (DLIs 1–3), while also carrying out minor reallocations between subcomponents.** DLIs#1–3, aimed at improving RGS’ fiscal position and strengthening revenue and investment controls, did not reach their targets in 2016, compromising project disbursements. The deep recession in Brazil’s economy in 2015 was one of the primary reasons that the program failed to reach these targets. Given this fallback, the program prepared an Action Plan to revise the DLI targets, adjusting the methodology to calculate and revise the targets. The program was allowed to follow targets negotiated with the Federal Government within the Fiscal Adjustment Plan (*Plano de Ajuste Fiscal*, PAF). Given that the investment expenditure evolution (DLI#2) and revenue from ICMS (DLI#3) suffered several challenges to verify and attain the initially stated results, their targets and the underlying evaluation methodologies were revised, allowing for the eventual completion of both goals. As for DLI#1, its targets were eased, aligning them more closely to the Action Plan negotiated with the Federal Government within the PAF at that time. Also, it is worth highlighting that using annual nominal targets for fiscal DLI targets did not properly capture the achievements of the program, because these are not attributable to government actions—a design flaw that remained unchanged through the first restructuring and was only partially corrected during the second restructuring.

25. **The third and last restructuring only included a three-month extension** to allow for completion of the pavement system under PDO 1, along with finalization of ongoing activities under the EEP component and full use of the program’s resources.

**Revised PDO Indicators**

26. **The first restructuring included revisions to the methodology used for the PDO-level indicator in the education program (PDO 2, Implementation of system for learning assessment at primary and secondary levels).** Even though the PDO and its targets did not change, the underpinning M&E system was updated and revised due to difficulties experienced while using the previous system. Additionally, three of the four PDO-level indicators incurred minor delays in achieving their targets.

**Revised Components**

27. **No qualitative changes were made to the components, except for limited reallocations to move resources away from underperforming to performing components.** Some of these budget reallocations also allowed for funds from the TA component to be used by the EEPs due to process-related challenges and implementation delays for the TA activities (e.g., terms of references for many took longer than anticipated to prepare). Despite these reallocations, most TA activities were implemented or replaced with more appropriate ones based on the results of the midterm evaluation. Table 3 reflects the program’s budget reallocations between components.

**Table 2. Changes in Costs per Component**

	Project Financing (US\$, millions)	Revised Amount (US\$, millions)

<b>Component A:</b> Technical Assistance	55.3	40.0
<b>Component B:</b> Eligible Expenditure Programs	423.5	438.8
<b>Total (with front-end fees)</b>	<b>480.0</b>	<b>480.0</b>

### Other Changes

Not applicable.

### Rationale for Changes and Their Implication on the Original Theory of Change

28. **The FY2015 project restructuring was driven by delays in executing EEPs in the transport sector under Component B.** Additionally, progress toward three of the four PDO-level indicators, including the implementation of the road pavement management system, preparation of public asset management law, and the impact assessment of industrial extension services was not satisfactory during the midterm evaluation.

29. **As noted earlier, most of the delays in disbursement leading to the 2015 restructuring can be attributed to bureaucratic hurdles between the audit and implementing agencies in the transport sector, along with difficulties in operating the CREMAs.** The preparation and execution of CREMA contracts encountered major planning, contracting, and execution delays at the onset of the program. Restructuring allowed for financing and implementation of these contracts within the life of the project, ultimately producing positive results.

30. **Challenges in preparing TA activities also contributed to the initial two-year delay, especially due to a tremendous lack of implementation capacity.** These included the lack of a stable management team at DAER and frequent changes at the Transport Secretariat, compounded by uncertainties in the project scope. These uncertainties were due to the absence of initial planning, lack of previous experience in preparing terms of reference, incompatibilities between the World Bank and state procurement rules, and modifications to the initial project scope. Changes in the state government, in 2015, created additional bottlenecks for project implementation despite the incumbent government's commitment to the project objectives, especially in the road rehabilitation and public asset management components.

31. **The second restructuring (FY2017) took place to address challenges in achieving some of the DLI targets, especially those related to the state's fiscal status (DLIs 1-3), originally designed to provide incentives for the state to maintain realistic revenue and investment targets. Given the deep recession that hit the country in 2015, the targets, which were projected during an economic boom, became unrealistic, especially those related to the state's tax collection goal and public investment.** Despite the efforts to promote fiscal consolidation by the Government, Tax on Circulation of Goods and Services (*Imposto Sobre Operações relativas a Circulação de Mercadorias e Prestação de Serviços de Transporte Interestadual e Intermunicipal e de Comunicação*, ICMS) tax and investment levels could not reach their targets. Due to the fiscal situation of the state at that time, the World Bank, before agreeing on an action plan with the state discussed the revision of the DLI with the representatives of the guarantor (Brazil Secretariat of Treasury and **Ministry of Economy General Attorney** (*Procurador Geral da Fazenda Nacional, PGFN*)). The revised targets and methodologies were presented and approved by the World Bank with an action plan including an outline of respective goals.



## II. OUTCOME

### A. RELEVANCE OF PDOs

#### Assessment of Relevance of PDO and Rating

32. **Relevance of the PDO is determined by assessing the relevance of each of its composite parts: the overarching goal of improving planning and implementation of public investments, along with the relevance of EEP investments in (a) transport, (b) education, (c) private sector development, and (d) state planning.** All program actions and result areas were selected in accordance with the priorities established by the Government within the Multiyear Plan 2012–2015 and the World Bank Group’s CPF, both of which aimed to strengthen RGS’ capacity in planning and executing public investment projects in the selected sectors.

33. **All of the EEP projects under Component B (improving implementation of public investments) were considered high priority by the Government.** The World Bank’s CPF (2018–2023) centers on three pillars, all of which were reflected in the program. These include (a) fiscal sustainability and improved service delivery, (b) productivity growth and investments by the private sector, and (c) inclusive and sustainable development. In addition to these objectives, the TA component intended to strengthen the quality of service delivery by building technical capacity for informed decision and policy making. Further, TA activities, executed under Component A, supported execution of the EEPs by building technical capacity for informed decision and policy-making.

34. **The World Bank operation was prepared in close coordination with other government programs, financed by the IDB and BNDES.** While the IDB programs focused on developing industrial parks, constructing municipal access roads, and modernization of regional airports, the BNDES programs focused on strengthening capacity for fiscal management. Interventions of this World Bank operation were intended to pair overarching support for public sector management with the Government’s sector-based strategy and ongoing programs to create a sustainable impact.

35. **Improving public sector efficiency and effectiveness to support fiscally responsible development policies and the related capacity building within each sector were relevant at appraisal and continue to be so; therefore, this aspect of PDO relevance is rated Substantial.** RGS has been in a precarious fiscal position for much of its history and has dealt with inefficiencies in public asset management, investment, contract and HR management, procurement, and technological deficiencies. All these areas were directly addressed by the program. The program also helped improve capacity for informed policy making and a more results-based culture; both of which were of high importance at appraisal and were addressed by program activities or in-built incentives.

36. **The education, transport, and private sector development result areas selected by the program were relevant to enhancing economic development and are rated Substantial.** These result areas were in line with the state’s development priorities and stood to deliver significant aggregate impact through the interventions supported by the program. However, institutional capacity was inadequate to fully support the program investments in these areas, especially at the onset of the project. This issue was magnified with the complex SWAp mechanism, resulting in delays in identifying, prioritizing, and executing actions within the program. Project selection and prioritization were addressed throughout the



program and showed marked improvements; however, insufficient capacity for both project selection and prioritization continues to be a challenge for RGS.

37. **Finally, relevance of the DLIs is rated Moderate.** Three of the eight DLIs focused on fiscal and economic development goals although the program did not specify corresponding direct actions to achieve these goals. Poor performance of these DLIs before the midterm evaluation created further difficulties in their use. However, even after two restructurings, these three DLIs were only revised, not canceled. Additionally, none of the DLIs measured progress within public sector management, despite this area encompassing some of the most critical actions within the program. These actions also ultimately achieved some of the most transformational and long-lasting institutional improvements observed in the context of the program. Despite these shortcomings, the remaining five DLIs were of strong relevance and served as an important tool to incentivize M&E. These DLIs also supported better adherence to the time line and scope of the actions proposed by the project.

38. **Based on evaluating relevance of the separate PDO areas in the context of the World Bank's CPF (2018–2023), and their combined importance for the state's sustainable growth, the overall relevance of the PDO is rated Substantial.** The PDO itself was broad and not well formulated or linked to clear PDO indicators with alignment to specific project subcomponents/activities. As such, the PDO was unable to provide clear guidance on the choice project activities at both the design and implementation stages. The overall direction of the PDO and its focus on improving public sector efficiency did, however, fit well with both the Government and World Bank priorities. In sum, the lack of clarity on specific outcomes that the project could achieve within the context of such a broad PDO has led to downgrading this rating.

## B. ACHIEVEMENT OF PDOs (EFFICACY)

### Assessment of Achievement of Each Objective/Outcome

39. **Program efficacy is assessed against the accomplishments of its overarching goal of improving public investment planning and implementation as well as its more specific objectives of strengthening the capacity of the technical areas of the PDO, that is, of the state planning agency, and the education, science and technology, economic development, and infrastructure sectors.** Evaluation of these PDO areas is based on a quantitative analysis of the Results Framework paired with a qualitative assessment of each area and a discussion of important results not captured by the selected indicators.

40. **Both TA under Component A and the EEPs under Component B are assessed against their specific achievements measured by a set of indicators,** integrating achievements within each thematic area given their complementarity. Component B and some of Component A activities were measured by a set of 4 PDO indicators, 8 DLIs, and 12 PIs, all of which are used in this analysis. Additionally, a number of outputs and outcomes (especially within the TA component) not included in the Results Framework are used in the evaluation due to their contribution to achievement of the PDO and the sustainability of project actions. These outputs and outcomes are analyzed within their respective thematic sections.

41. **The analysis uses an integrated evaluation rather than a split evaluation, despite three restructurings which revised the Results Framework, since the program maintained both its original scope and the PDO.** These project restructurings refined results measurements and facilitated the



accomplishment of project goals within a changing political-economic environment, rather than changing the program's scope.

### Results Area 1: Infrastructure Sector (Transport)

42. **Almost half of the program's investment was allocated to the transport sector, with US\$236.4 of US\$480 million in EEP transport investments to finance rehabilitation and maintenance of the state's paved highways, along with support to DAER's modernization under Component A.** The goal of PDO 1 (Results Area 1) was to strengthen the planning and implementation capacity of the infrastructure sector. Because conditions of the road network had worsened due to lack of investment and poor maintenance, these road network investments were aimed to enhance governance with performance-based management mechanisms, improve access to remote communities, and contribute to economic development through improved logistics and transportation.

43. **To achieve the abovementioned goals, the project aided the state highway maintenance program by supporting implementation of CREMAs through DAER.** Performance-based contracts, considered a best practice, demonstrated considerable efficiency gains in the region, along with strong improvements in their management. Additionally, the program supported TA projects to assist DAER in long-term infrastructure planning, HR management, and agency modernization.

44. **This area is assessed against results of the corresponding PDO-level indicator (PDO 1) that set out to implement a road pavement management system, as well as a related DLI and two PIs.** Despite initial hurdles, the IT system financed by the project to modernize and upgrade the RGS road agency's pavement management system (PDO 1) was completed and adopted by the end of the program (within the second extension). This system laid the groundwork for substantial productivity gains, road quality improvements, and capacity building through more efficient contract management.

45. **The use of CREMAs, five-year management contracts (two restoration and three management), introduced a number of important improvements, notably increasing the incentive for delivery of high-quality road rehabilitation.** Additionally, PIs that lay at the foundation of the CREMAs enforced results-based financing and more effective management. Software purchased under the project included measures for a more objective assessment of road projects replacing the politicized process that had previously driven program selection.

46. **As a result of this activity, almost 1,200 km of the state's paved roads were managed under CREMAs (DLI#1) by the end of the project.** The revised target of 14 percent of cumulative percentage of the paved road network under CREMA contracts was surpassed by 2 percentage points with 16 percent of roads using CREMAs by the end of the program. During the 2015 restructuring, this target was reduced from 20 percent to 14 percent cumulative as a result of the initial implementation delays. However, despite this reduction in the target, the use of CREMAs has already facilitated important gains in productivity and improved quality. Additionally, the Government has plans to conduct a thorough impact evaluation study to understand the efficiency gains and considers CREMAs as a model to be adopted on a wider scale.

47. **Finally, two additional PIs (PI#5 and PI#6), used within this area of the program, implementation of pavement management system (PI#5) and cumulative kilometers rehabilitated (PI#6), provide further evidence of its achievements.** By the end of the operation, the program had financed



rehabilitation of 1,557 km of pavement, surpassing the revised target of 1,500 km (up from the original 1,400 km). The management system has now been adopted, enhancing both the quality and productivity of road management. Additionally, an unintended improvement associated with this activity is the utilization of road infrastructure safety surveys to provide DAER with a tool to manage and improve road safety.

48. **Despite these achievements, the poor capacity for prioritization and planning in the first two years of implementation hindered progress in this result area.** Bureaucratic hurdles, bottlenecks in contracting, and budget overruns (due to exchange rate depreciation and underestimated budgets) contributed to the two-year delay in implementation, the main culprit of the first 2015 restructuring. Initial limitations in the availability of data for modeling and prioritization proved to be a major setback as well, along with a bureaucratic stalemate between DAER and the regulatory agency. For example, to prioritize potential projects under CREMA, DAER had to conduct the first of its kind economic viability study, which necessitated upgrading the previously inefficient data collection system. Upgrading this system delayed the initial project progress, but also became an important milestone for a state with a history of politicized decision making for large infrastructure projects. As such, this upgraded data collection system has become an important tool for informed and accountable policy making.

49. **Environmental and indigenous safeguards, triggered for this project area, also initially created an implementation bottleneck given the state agencies' lack of familiarity with the World Bank's relevant processes.** The initial idea for new highway construction was abandoned in part due to the World Bank's safeguards restrictions, which differed dramatically from the local legislature by requiring provisions for displaced families to be placed in a similar or better situation. With the new focus on road restoration, the safeguard manual was prepared with participation from a number of affected indigenous communities. This accomplishment helped enable better project actions, including the selection of adequate bus stops, provisions for traffic security education within indigenous schools to help avoid accidents, and the initiation of a long-term communication channel not previously available to these communities.

50. **The restructuring of DAER and its improved HR capacity are program accomplishments not included in the Results Framework.** Even though the restructuring did not de facto take place, the evaluation financed under the TA component catalyzed important improvements in HR management, such as better communication between and within agencies responsible for decision making and implementation. The TA component also supported capacity development through trainings on works and quality maintenance conducted with over 100 engineers and fiscal authorities.

51. **Based on an assessment of the transport area that used the quantitative analysis of the Results Framework, in conjunction with a qualitative analysis of the TA component, PDO Area 1 is rated Substantial.**

## Results Area 2: Education Sector Capacity Building

52. **Although RGS had always been a top performer in the Brazilian education system, the state educational system has suffered from inefficiency and poor management in the last decade.** These shortcomings were manifested by some of the highest repetition rates in the nation, poor governance of the sector, and dilapidated infrastructure with an inefficient works/repair contracting and management process. Many schools, especially those outside of the capital, were in a precarious state and required





urgent improvements at the onset of the project, having been neglected for years due to lack of investment and adequate management.

53. **To address these issues, the program co-financed four EEPs, which aimed at supporting technological modernization and school refurbishment, while instituting a participatory evaluation system and supporting the capacity of the State Department of Education (*Secretaria de Estado de Educação, SEDUC*) staff.** School refurbishment and repair constituted the largest portion of the investment in financial terms (US\$60.4 million) and focused on refurbishing 65 schools that were priority and included some indigenous schools. Further, IT modernization focused on improving access to Internet, computer lab modernization, and a one-laptop per child pilot. Another goal set out within this area was to improve participatory evaluation due to the lack of systematic data collection by instituting an evaluation system. Finally, TA in the form of third-party consultancies was provided to SEDUC to conduct an HR diagnostic to improve information flows and automatization of inefficient and manual processes.

54. **This area's accomplishments are analyzed by evaluating results of the corresponding PDO-level indicator (PDO 2) that set out to implement a system for learning assessment at primary and secondary levels in addition to progress of a respective DLI and two PIs.** Implementation ran into a number of difficulties at the beginning of the project, primarily in preparation of terms of reference as well as acquisition and contracting processes. Additionally, the initially planned system, the Participatory Appraisal Education System (*Sistema de Educação para Avaliação Participativa, SEAP*), proved to be ineffective for the evaluation, with a subsequent switch to the Evaluation and Results System (*Sistema de Avaliação e Resultados, SAERS*), a system using the current statewide student evaluations rather than a school-led participatory approach. Though the change caused a delay, the current system is in place and allows SEDUC to analyze and prioritize policy based on results—an important milestone for governance and improved informed policy making. For instance, the new data analysis showed that gang activity in some schools was partially causing the low rates in participation, while perverse incentives in maintaining registered students, who were no longer attending, resulted in what appeared to be high repetition rates (highest in the country). Correcting these problems, which are not always directly related to educational quality or under the jurisdiction of SEDUC, will be critical to enhance efficiency and positively influence results in education. Evaluations that were previously feared by schools have become demystified as a result of the program activities and are now part of the culture in the participating schools.

55. **The abovementioned goal was only able to reach its objective in conjunction with a TA consultancy, hired to assist the team in processing and analyzing the data received within the system.** The consultant was hired to support SEDUC in analyzing large amounts of data, cross-checking, understanding results, and using data for policy making—on the whole to enhance capacity for informed policy making. The improvements in data processing led to improvements in governance and the quality of results in learning (PI#8). The recent evaluation showed important improvements with a 3.9 percent increase in Portuguese ratings and 3.2 percent in Math in Grade 6, as well as 7.8 percent in Portuguese and 5.2 percent in Math in the first year of high school, results that surpassed the revised goal by 10 percent. Despite these accomplishments, the initially planned HR capacity-building TA activity was not carried out, a fact that might compromise the sustainability of improvements in informed policy making and the modest gains in education quality.

56. **School modernization focused on acquisition of equipment, including computer lab improvements, increasing Internet access, as well as a one-computer-per-child program pilot; however, systematic and institutional improvements in areas such as HR and contract management lagged.** The



project made some important contributions to the state's school infrastructure and resources. Socially vulnerable schools were given priority through the creation of 30 nuclei with teacher capacity building and the purchase of 2,300 tablets and other digital equipment, such as routers and projectors in over 300 schools. Over 60,000 students benefited from the program, especially in places where the use of technology was almost nonexistent, and the success of the project was used to argue for an expansion of the project to the rest of the state. The project also contributed to creating a virtual continued-education platform, made possible with the technological advances, improved staff capacity, and new equipment supported by the project. However, the state's financial hardships put the sustainability of these actions in jeopardy, indicating that less ambitious activities with longer-term financing possibilities could be more impactful goals for future operations.

57. **Finally, the school repair activity, which was the largest component of this area in financial terms, measured by the cumulative number of construction and school refurbishment projects undertaken (DLI#5), showed marked progress with 387 projects being completed, 27 percent higher than the revised target.** Despite this, the activity ran into a number of challenges, including initial difficulties in coordination between SEDUC and the Public Works Secretary (*Secretaria de Obras, SEOBRAS*), and discrepancies between the World Bank and RGS Data Processing Company (*Cia de Processamento de Dados do Estado do Rio Grande do Sul, PROCERGS*). Overall, contracts were poorly managed with an exaggerated number of schools per contract, leading to poor quality and delays in completion of works. No improvements were made in the contract management processes or HR capacity, compromising sustainability of actions within this subsection. As a result, most of the works under this category were not started and procured as originally planned, which necessitated a reallocation of over US\$50 million to other sectors. This reallocation potentially affected 320 schools expecting to benefit from funds that were originally assigned to refurbishments. Despite these shortcomings, the project contributed to the repair of some of the most vulnerable schools, enhancing their security and contributing to improved quality and governance with a new decree for governance from 2017. Additional improvements were made by decentralizing the construction process, especially in cases when safeguard mechanisms required consultations with indigenous communities to align repairs with local needs.

58. **These repairs and the improvements in evaluation scores resulted in important improvements in the quality of educational infrastructure.** As shown by PI#7, there was a 67 percent reduction in schools' self-rating as 1 in quality (1 being the worst rating on a scale of 1–5). This result surpassed the revised goal of 40 percent improvement, which was at 20 percent before restructuring.

59. **According to the assessment of the sub-areas under the educational area, PDO Area 2 is rated Modest,** given the limited impact of the project on HR capacity, management, and sustainability, along with the fact that financing for this sector continues to present dire insufficiencies. Most of the equipment purchased under the school modernization activities do not have sufficient funds to be maintained, while some of the schools originally targeted for refurbishments were required to return their funds to the project due to substantial delays in planning and procurement activities.

### **Results Area 3: Science and Technology Sector Capacity Building (Private Sector Development)**

60. **Private sector development challenges, especially those considered to be major constraints to economic growth, were the focus of investments and activities under this area of the program.** Although RGS boasted a well-functioning network of private development services with cluster programs, publicly funded extension services, and innovation networks, many were poorly used and needed



evaluation/adjustments. The program identified the limited use of modern management and production techniques as the main culprit for hindering private sector growth. As a result, the project focused on the responsiveness of services offered to meet private sector demands, strengthening internal management and external monitoring of cluster programs, and improving cooperation between the private and public sectors.

61. **To these ends, the private sector development area of the program set out to support (a) economic cluster programs, (b) industrial extension services, and (c) expansion of science parks and innovation networks.** The first objective supported a study to guide the regional development policy, along with the development of a strategic plan and management training of clusters. Funding of extension services to benchmark and evaluate impact was meant to support small- and medium-size enterprises. The second objective co-financed the creation of new science parks and strengthening the existing ones as well as supporting university-business innovation networks (*Polos tecnológicos*) to stimulate technology adaptation and diffusion.

62. **The evaluation of this area is based on the results of the corresponding PDO indicator, which set out to complete an impact evaluation of industrial extension services (PDO 3), along with the performance of three DLIs and four PIs.** Under this area, the program enabled the construction of several technological parks, along with strengthening 3 innovation networks and supporting the creation of 15 incubators with both enterprise and individual beneficiaries (detailed in table 4). An impact evaluation for industrial extension services (PDO 3) was only designed and carried out toward the end of the project due to initial challenges in obtaining data, and a lack of planning in M&E. As such, a complete assessment of the full range of results of this component for the life time of the project could not be done. However, the impact evaluation unit that carried out the evaluation was finally set up at the State Secretary of Economic Development and Tourism (*Secretaria de Estado de Desenvolvimento Econômico e Turismo, SEDATUR*) (the restructured implementing agency), contributing to the institutionalization of an M&E culture. This unit produced an evaluation of results of this program area from the second half of project implementation.

**Table 3. Individuals and Enterprises Benefiting from the Program**

	<b>Networks (<i>Polos</i>)</b>	<b>Technological Parks</b>	<b>Incubators</b>
Construction	3	3 (14) parks	15 (27)
Companies benefited	315 companies +1,736 rural producers trained	700 + 5 new (47 rural)	270 + 233 new created
Jobs created	n.a.	19,825	n.a.
Labs	199	5 modernized	73
People trained	15,196	378	6,996
Courses/events realized	396	15	244
Publications	370	n.a.	n.a.

63. **These later evaluations of SEDATUR showed some positive results. For example, the establishment of six (relative to a target of five) new triple helix alliances (DLI#8) strengthened coordination between municipalities, universities (triple helix), and businesses as a means to support private sector development.** Under this activity, the program financed three new technology parks and supported several others in strengthening their competitive advantage. Given these improvements, almost 20,000 new jobs were generated as a result of the three consolidated parks (PI#11) based on the state's estimates. This was 70 percent more than the target of 15,000, even after the upward revision



from the original target of 10,000 and more than double the baseline of 8,200. However, the project was unable to carry out a full diagnostic study of the parks due to changes in government and shifting policy priorities.

64. **This program area also supported improved governance and monitoring of economic clusters.** Five pilot clusters were selected based on their contribution to regional development, while others were chosen during the project. For each cluster, the program supported a strategic plan to address necessary improvements in governance, capacity building, technology and innovation, sustainability, and market development. The program targets were met with 20 agreements signed with APLs (DLI#6), and a 56 percent increase in the number of collective actions among cluster participants (PI#9). Due to governance milestones, including the creation of regional entities for cluster management and the increased capacity for funding, this program has become a public policy in the state and a national reference in Brazil. However, although the program did put in place a monitoring instrument to measure impact in this area, this did not include rigorous impact evaluations. This program area also faced difficulties in sustained fundraising because of state economic challenges, along with government, agency, and legislature changes. Moreover, the overall design of this activity and its later execution failed to incorporate incentives for ascertaining stronger links with the private sector and private finance, thus compromising the financial sustainability of the program.

65. **The program provided support to small- and medium-size enterprises by strengthening provisions for extension services, allowing for improved productivity and efficiency in manufacturing and production.** The program conducted over 7,000 consultations with a renewed methodology across 380 municipalities on benchmarking, strategic planning, loss reduction, and innovation and sustainable production; this resulted in investments of over R\$10 million in enterprise improvements by participating enterprises. After being revised downward from the original goal of 20, the program surpassed the goal to sign and renew at least nine agreements with extension services by signing 10 agreements (DLI#7). The reduction was due to a methodological change and the exclusion of medium-sized enterprises from the target beneficiary group. The quality of services offered, measured by percentage of firms subsequently contracting other upgrading services (PI#10), was partially achieved with a 21 percent increase, falling short of the revised goal of a 30 percent increase (20 percent original goal). The impact evaluation for this activity showed a 5 percent increase in income, 70 percent increase in firm survival, and 4 percent increase in links for participating companies, along with the creation of almost 4,000 new jobs.

66. **Despite significant results discussed earlier, poor M&E throughout the life of the project, absence of data from the first half of project implementation, and the poor financial sustainability of program interventions under this area partially compromise accomplishments of the program's investments in this sector.** Based on our analysis of the program actions, a quantitative analysis of the SWAp Results Framework, and a qualitative assessment of the TA activities, along with the fact that this results area experienced the most downward revisions in targets, our assessment of this PDO area yields a Modest rating.

#### **Result Area 4: Improving Public Investment Planning and Implementation (Public Sector Management)**

67. **The focus of this results area was to have an umbrella effect, including a wide range of cross-cutting TA projects to improve public investment planning and implementation capacity.** Specifically, these TA investments supported public investment, HR planning, procurement and contract management, impact assessment, environment, as well as citizen participation. Most projects in this area were executed



under the TA component; however, the program did support a priority EEP within this sector area through SEPLAG to build capacity in public asset administration and management, an area which presented a number of shortcomings and consequent inefficiencies for the state. The remaining goals within this sector were addressed through a set of TA projects with SEPLAG, as well as some sectoral agencies such as DAER and SEDUC. Some of these sectoral TA projects were discussed earlier, while others and those specifically related to planning are addressed in this section.

68. **Our assessment of this area is based on evaluating results of the corresponding PDO-level indicator that set out to submit a draft public asset management law to the legislative assembly (PDO 4) in addition to three DLIs and four PIs.** In addition to these quantitative measures, the assessment revealed that the Results Framework was not adequately set up to document and assess accomplishments of this portion of the PDO. For this reason, a higher weight is given to the specific TA projects that heavily influenced accomplishments within this area relative to other subsections of the PDO.

69. **One of the discrepancies that made assessing this area more challenging was the use of three fiscal/economic PIs to evaluate the public sector management component.** The goal to improve public sector investment and implementation had three corresponding DLIs triggered 37.5 percent of disbursements, including primary fiscal balance (DLI#1), investment expenditures (DLI#2), and revenue from ICMS (DLI#3). However, while reducing fiscal imbalances and strengthening public investments and revenues continue to be relevant to the state's overall performance, these indicators fall under the purview of the State Secretary of Economic Development (FAZENDA), which was not part of the program. On the other hand, activities under this project area did address issues that would yield gradual long-term improvements in economic development, such as strengthened asset management and capacity building for public investment. That said, attributing the results of these indicators to the program is tenuous given the long-term and indirect nature of impact of these activities. These three DLIs also ran into serious challenges due to the dramatic deterioration of the national economy—directly affecting performance of these indicators and compromising project execution. Given this, these indicators are analyzed in a complementary section 5, even though this section is not considered a separate PDO area.

70. **The following analysis, therefore, focuses mostly on qualitative accomplishments under the public sector area of the PDO, alongside PI indicators and a quantitative assessment of the PDO.** Our assessment places a greater weight on TA projects that supported positive and sustainable improvements in governance and capacity building, thus contributing to accomplishments under this portion of the PDO. As such, these TA projects helped lay a foundation for improving the state's public sector performance, and supporting overall economic development.

71. **One way in which the program supported improvements in planning and implementation of public investments was to improve the management of public assets through a system (previously nonexistent) for managing and disposing of public real and non-real estate assets.** The lack of an inventory of state assets not only created a challenge in managing real and non-real assets, but also contributed to inflated and often inefficient public spending for the state. To address this issue, the TA component financed a software purchase and contracting of an IT company to analyze and cross-check the inventory. This activity involved all of the state agencies, and resulted in the cumulative number of real estate assets in inventory (PI#2) reaching 5,844 assets, just short of the revised 8,000 goal. Although the project didn't reach this specific target, it did streamline the process (from two to three years to three months). Additionally, the project corrected a number of inconsistencies and irregularities, promoting efficiency in the purchase and sale of assets, communication between state agencies, and gains in



productivity and time savings. The current database is fully operational and institutionalized with the successful submission of a draft public asset management law to the legislative assembly (PDO 4). The sustainability of this process is also strengthened by the creation of the Sub-Secretary of Patrimony within SEPLAG, with capacity-building trainings conducted for over 100 staff. Additionally, increased availability of public asset data has contributed to better transparency.

72. **In addition to the EEPs, the program also included a number of TA activities to address public sector inefficiencies and enhance the state's capacity to plan, implement, monitor, and evaluate public investment.** To address the state's need for enhanced investment, the program also envisioned investing in HR planning, strategic planning, and contract management.

73. **Fiscal deficit and public investment have long suffered in the State of RGS; this operation incorporated support to strengthen the state administration of pensions, the largest state expenditure, while improving investment capacity within SEPLAG.** At the onset of the program, the \ State Pension Management Institute (*Instituto de Previdência do Estado do Rio Grande do Sul-IPERG*) was also responsible for the management of health care and several other areas, taking away its ability to focus on the largest area, pensions. Therefore, separation of the agency, reducing the number of administrative staff, and automating the processes related to pension administration were the first critical steps to increasing effectiveness, reducing HR costs, enhancing resource efficiency, and saving time. These automations included digitalization and the purchase of almost 150 pieces of equipment. However, only reductions in communications spending resulted in costs savings of between R\$3–R\$4 million per year. That said, legislative changes to facilitate investments in the private market helped improve the overall administration of funds. Additionally, TA helped the agency strengthen investment planning, turning PROGESTÃO into the largest investment fund in the state, now considered best practice in the country due to efficiency gains in investment management.

74. **Moreover, intersectoral coordination across and within each sector, first seen as a potential risk, was in large part successfully implemented with the supervision of the Project Implementation Unit (PIU); this proved to be an important contribution of the program.** Adherence to the SWAp instrument strengthened governance and communication between government agencies, creating incentives for results-based informed policy making and strengthening data management.

75. **The program addressed the goals to strengthen investment planning and HR management through a number of trainings and benchmarking within SEPLAG.** SEPLAG's Department of Resource Management (*Departamento de Gestão de Recursos, DECAP*), which was also the PIU, received over 80 hours of in-company trainings in HR management, high impact leadership, and public project and process management. The program also supported exchanges and educational trips to improve benchmarking, build a project database, create a methodology for investments, and develop the ability to analyze the socioeconomic viability of future projects. Finally, after a thorough analysis of IT needs, the program financed the purchase of strategic equipment to improve planning capacity, reduce inefficiencies, and allow for effective acquisition.

76. **Additionally, the program included activities under the Acquisitions Center (*Central Licitações, CELIC*) to improve public contract management. These activities ran into several challenges, unable to have the contract management data system operational (PI#4) in time.** The primary challenge arose from the need to integrate and coordinate the activities of two agencies (FAZENDA and CELIC), which proved to be politically unacceptable and technically difficult to implement. However, with the new



government in place, the project has regained momentum and is currently being adapted, with plans to become operational by December 2019. Despite this challenge, acquisition of the management data system (an activity without a corresponding indicator but one that has brought strategic improvements for the state), is now fully operational and has resulted in dramatic improvements in data processing, increased productivity of acquisitions, and allowed for cross-data analysis and reducing irregularities. Additionally, the program supported six capacity-building trainings for staff, along with the construction of a dedicated training room.

77. **Disaster risk management and environmental sustainability were considered priority areas to be addressed under this results area by the TA component including** (a) setting up an environmental licensing and public communication system, (b) developing an ecological-economic zoning system, and (c) creating a disaster risk monitoring system and situation room. The first activity was successfully accomplished by reducing the average time for the request for environmental regulation through **State Foundation for Environmental Protection (*Fundação Estadual de Proteção Ambiental-FEPAM*)** (PI#1) from 826 days to 421 days, almost double the target of 620 days. This is an important accomplishment despite the changed indicator (from number of days for issuing an environmental license), which better reflected the specific challenge to reduce inefficiency of processing within FEPAM. Automating previously manual processes for the purchase of equipment, along with increased process digitalization, resulted in gains in productivity and transparency. Despite this progress, the program abandoned the original goal to develop an integrated system for environmental regulation (Integrated System for Environmental Regulation - Sistema integrado de regularização ambiental, SIRAM), because of incompatibilities between systems used by different actors and the need for additional time to integrate the systems.

78. **The second portion of this project focused on environmental zoning to improve environmental protection/sustainability by systematizing environmental management and incentivizing prevention and social control.** Under the TA component, the program financed a survey of environmental, socioeconomic, and institutional data as part of a diagnostic study. This survey led to strategic guidelines for influencing policy making and corporate actions that have a potential impact on the specific environmental zone. The information obtained was used to feed rich data into the new software that is currently available online and has already influenced policy making, such as in mapping out new indigenous and family fishery areas.

79. **The third and final activity within this component supported improvements in disaster risk management, which was in a large part accomplished with the formulation of a disaster risk policy (PI#3).** The challenges associated with this activity initially originated from lack of ownership, exemplified by three changes in the implementing agency in the first two years of the project. Once the Environmental Secretary assumed responsibility, the next challenge was in the limited time remaining for implementation along with the need to work closely with Civil Defense, with whom there was little previous cooperation. The originally-planned center of operations was not built, while resources were allocated to using and upgrading the existing monitoring room within the Environmental Secretary with the purchase of appropriate equipment (such as drones). Despite these challenges, the platform and app (State Risk and Disaster Management System [*Sistema Estadual de Gestão de Riscos e Desastres*, SEGIRD]) for risk management, disaster alerts, logistics, and process analysis is currently being tested. At the same time, communication and joint decision making between the actors have improved and the state's environmental policy and response to disaster have acquired a slant toward better risk prevention and effective management.



80. **Lastly, a TA activity that was not part of the original program but was included during the 2015 restructuring, State Platform for Special Data (*Infraestrutura Estadual de Dados Especiais, IEDE*), proved to be one of the most important additions to the program to enhance effectiveness of data management and contribute to informed policy making and transparency.** In partnership with the army, the program supported systematic updates to imaging and cartography, which were then fed to an online system that currently integrates geopolitical, social, health, education, transport, and environmental data. This database and software allow for inputting raw data from all the participating secretaries and cross-referencing it with large amounts of data, creating a visually appealing dashboard, providing transparency, and strengthening communication and policy making across agencies. Over 100 people from across the state and different sectors were trained in the use of the software. The recently inaugurated system already had access from around the world with more than 7,000 users per month. With the decree passed in 2015, the system is institutionalized and the remaining secretaries and the city will be adding their data to the system.

81. **PDO Area 4 is rated Substantial based on the assessment above paired with the quantitative analysis of the Results Framework of the SWAp component in conjunction with a qualitative analysis of the TA component.**

#### Results Area 5: Contributing to Economic development

82. **Given the long-standing issue in running deficits and the resulting inability to borrow and invest, RGS has a history of anemic economic development and fiscal imbalances.** However, given that no specific activities were selected by the program to directly address fiscal and economic development, except for those that were related to public sector management, as described earlier this area is not directly included in the analysis. Rather, the goal of economic development is discussed within the context of public management and not specifically related to fiscal improvements. As mentioned earlier, the three DLIs (DLI#1–3) that were set out to specifically measure improvements in fiscal stability are incorporated into the quantitative analysis and discussed below; however, no causal links can be attributed to project activities for these goals. The primary fiscal balance (DLI#1), investment expenditure evolution (DLI#2), and revenue from ICMS (DLI#3) indicators whose targets were defined during a period of strong economic growth, suffered a number of challenges in reaching their initial goals and were directly influenced by the deep recession of 2015. The first indicator had to be dramatically reduced, anchoring the goals to the Action Plan negotiated with the Federal Government within the PAF. The program redefined targets for the latter two indicators and adjusted their calculation to become cumulative during the FY2017 restructuring. These adjustments allowed for the completion of both goals: R\$4,862 in investment from the R\$1,047 baseline, and R\$150,138 in revenues in ICMS tax from the R\$22,500 baseline. While these goals served as an important milestone for the state as a whole and were used for triggering program disbursement, they do not constitute a solid measure for evaluating the accomplishment of the PDO.

#### Rating of Overall Efficacy

83. **The overall efficacy of the program is rated Substantial based on the analysis of the four PDO areas discussed earlier paired with an overall quantitative analysis of the Results Framework and a qualitative review of the TA component** (see Table 5 and complete analysis in the annexes). All PDO areas and DLIs reached their targets, though some only did after the reductions in goals and/or revisions to calculation methodologies. As for intermediate results (performance) indicators, all but three achieved or surpassed their targets and two of the remaining were partially achieved (see table 5). The qualitative



analysis of the 19 TA projects of Component A, of which only one was not accomplished, while two partially reached their objectives, showed significant accomplishments in reaching the PDO, despite the initial difficulties.

**Table 4. Efficacy Rating per PDO Area**

Efficacy per PDO	Ratings Based on Achievement of Indicators
PDO 1	Substantial
PDO 2	Modest
PDO 3	Modest
PDO 4	Substantial
<b>Overall Rating</b>	<b>Substantial</b>

### Justification of Overall Efficacy Rating

84. **The overall efficacy rating is justified by the fact that the program accomplished the majority of its goals and contributed to advancement of the PDO, as discussed in the analyses earlier.** This is summarized in table 6.

**Table 5. Results Framework Indicator Accomplishments Overall Efficacy Rating (2012–2019)**

	PDO Indicators	DLIs	PI
<b>Surpassed (+100%)</b>	4	6	6
<b>Achieved (+85%)</b>		2	3
<b>Partially achieved (65%–84%)</b>			2
<b>Not achieved (&lt;64%)</b>			1
<b>Total</b>	4	8	12
<b>% surpassed</b>	100	75	75
<b>Total rating</b>	83.33%		
<b>Final rating</b>	Substantial*		

Note: \*Rating scale of target achievement: Negligible (0–40%); Modest (41–65%); Substantial (66–85%); High (86–100%);

## C. EFFICIENCY

### Assessment of Efficiency and Rating

85. **As part of ICR preparation, our assessment includes an economic and financial analysis to estimate the economic rate of return (ERR) of the project, where applicable.** Based on an analysis limited to transport investments, the net present value (NPV) is estimated at US\$254.6 million at a 15 percent discount rate<sup>3</sup> with an ERR of 33 percent for the full program implementation period. This analysis is based

<sup>3</sup> Discount rate: Discussions on what discount rates should be used for World Bank economic analyses vary widely especially given the low interest rates associated with IDA loans. However, to account for some of the risk and volatility (that is, Beta) associated with investments in developing countries, the NPV analyses used 15 percent given both the low opportunity cost for World Bank capital to be deployed elsewhere and the high risk associated with investments in Brazil.

on improved road access for populations along rehabilitated roads and cost savings due to CREMAs and is discussed in further detail in annex 4.

86. **Although the valuation estimates noted earlier demonstrate a strong positive impact of the project, the program has limited details on the impact of other project areas, specifically education and private sector development.** For example, the program did not keep track of revenue data for most firms that were beneficiaries of the private sector development investments. As such, it is not possible to estimate the ERR for these project areas. What is worth noting here though is that the program design was not focused on short-term economic returns; instead the design centered on public sector efficiency gains in terms of improved planning and greater efficiency in administering public investments. Such investments are likely to have considerable long-term impacts but are difficult to quantify in the short term.

87. **In addition to the impacts discussed earlier, the efficiency analysis must also account for the large delays in disbursement at the onset of the project.** Of the seven years within the project period, the first two were essentially lost due to delays discussed in detail in other sections of this ICR. **As a result, and in light of the project's three restructurings and challenges experienced under the education and TA expenditure categories, a Modest rating is applied to the overall project efficiency.**

#### D. JUSTIFICATION OF OVERALL OUTCOME RATING

88. **The integration of the analyses of relevance, efficacy, and efficiency result in a Moderately Satisfactory overall rating of the project** as shown in table 7.

Table 6. Outcome Rating Based on the Three-dimensional Analysis

PDO	Public Sector	Transport	Education	Private Sector	Overall
Relevance	Substantial	Substantial	Substantial	Substantial	Substantial
Efficacy	Substantial	Substantial	Modest	Modest	Substantial
Efficiency	Modest				Modest
Outcome Rating					<b>Moderately Satisfactory</b>

#### E. OTHER OUTCOMES AND IMPACTS (IF ANY)

##### Institutional Strengthening

89. **The operation contributed to building institutional capacity of public sector actors in RGS primarily through capacity building, technological advances, and improvements in governance.** Many of the most impactful activities had an accompanying legislature that is either passed or has been submitted for review, ascertaining a stronger sustainability in a setting where government changes often reverse or weaken actions of the project. The actions implemented within public asset management, pension administration, investment governance, and disaster risk management all constitute important aspects of institutional strengthening, which will show positive results in the years to come. Further, most of the secretariats and agencies involved had their capacity strengthened with HR management consultancies, strategic planning, investment capacity building, strengthening of data analysis, and the





use of a results-based investment approach. The results of these activities have shown important improvements that will need to be observed in the long run to gauge their full impact. Additionally, many of the actions contributed to stronger mechanisms for social engagement in public policy, making important improvements in transparency, and also contributed to informed decision and policy making. These positive impacts are especially visible within the institution of IEDE, public asset inventory realization, and pension administration project, which now made previously unavailable information accessible to the public.

### Poverty Reduction and Shared Prosperity

90. **Three of the four PDO areas supported by the program contributed to poverty reduction.** Within the education component, schools that were refurbished and/or participated in the one-computer-per-child program gave preference to vulnerable populations and impoverished areas of the state, including border municipalities known to have a larger share of vulnerable populations. Many schools and beneficiary students and teachers have gained access to the Internet and technology, which were not previously available, and received improvements in school infrastructure for the first time. Vulnerable populations, including indigenous people and small fisher communities benefited from the school refurbishment projects, along with improved channels of communications to influence public policy as a result of the safeguards activities. The transport thematic area also benefited these vulnerable populations by improving accessibility and adjusting construction projects in accordance with requirements put forth by indigenous groups through the safeguards process. Improvements in road safety and security contributed to shared prosperity for the population at large within the same component. Finally, private sector development activities helped support small- and medium-sized enterprises and start-ups; most of these businesses would not have had access to private investment and business development opportunities otherwise, especially in remote municipalities with limited access to public services and fundraising opportunities. The resulting job creation and private sector investments helped boost the overall economy, further enhancing the effect of the program on shared prosperity.

## III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME

### A. KEY FACTORS DURING PREPARATION

91. **Most of the implementing agencies and secretariats, except for DAER, had no previous experience in World Bank operations nor in the use of the innovative SWAp mechanism.** While the program design attempted to incorporate lessons learned from projects in the region that used this instrument, the timeline for preparation was rushed due to pressure from both the Government and the World Bank. That said, selection of the DLIs and their targets, along with development of the PDO, was based on detailed stakeholder discussions. However, while most PDOs and DLIs were designed to directly reflect the achievement linked to the actions of activities of the program, some, mainly the first three DLIs, suffered from design flaws given their inability to measure project actions directly or show causality. Selection of these DLIs was based on the history of fiscal imbalances dealt with under previous operations of the World Bank and their inclusion in the Results Framework was meant to incentivize fiscal responsibility within the operation. However, this did not produce the desired results, because the project was unable to directly influence the fiscal situation, but instead compromised project disbursement and created challenges to properly assess the program accomplishments.



92. **Additionally, the program agencies received limited technical support and had insufficient time to offset their limited capacity at the onset of the program.** None of the agencies had any previous experience in project design or preparation of terms of reference and did not have a clear understanding of the World Bank’s contractual, procurement, and fiduciary rules and regulations. While the program did support training for agency staff after signing, they were neither timely nor extensive enough to reduce the delays resultant from the limited capacity in the first two years. This lack of knowledge was a major setback for all the sectors involved and in part resulted in three restructurings, reallocations, cancellations of some parts of the funding, inefficiencies in the use of available funds, poorly defined priorities, and the inability to reach the desired results in some cases. Despite these flaws in design, many gaps were corrected during implementation, albeit with some delays and reductions to targets.

## B. KEY FACTORS DURING IMPLEMENTATION

93. **A key exogenous factor that negatively affected program implementation was the economic crisis of 2015 and 2016.** RGS’ recession mirrored developments at the country level, but its drop in economic activity was more pronounced. At the end of 2016, RGS went bankrupt (declared a state of ‘fiscal calamity’) in part because it was unable to carry out any fiscal adjustments. This deep macroeconomic crisis directly affected program implementation, requiring reductions in several indicator targets, mainly DLI#1–3. Moreover, the political economy of the state and the lack of commitment to fiscal adjustments at the state assembly level made it difficult for the project to work on its fiscal sustainability objectives throughout.

94. **Additionally, poor institutional capacity, two government changes including shifts in priorities, a series of restructurings at agency level throughout the project’s lifetime, and changes in technical teams negatively affected program implementation.** The lack of institutional capacity extended across all implementing agencies, including DAER, and had serious implications on adherence to timelines. Further, there were disagreements between DAER and other government agencies, as well as dysfunctional channels of communication among many of the institutions whose cooperation was critical for project implementation. Some of the secretariats, such as SEPLAG, suffered more than three restructurings, with other secretariats and departments being incorporated into its structure, producing shifts in teams and strategy and budget and process changes. Moreover, and also as an extension of the poor quality of entry, many of the implementing teams were not formed at the onset of the project and changed on several occasions, producing lack of ownership, delays, and changes in direction of activities.

95. **Despite these challenges brought forth by the macroeconomic context, the political economy of the state, and institutional capacity,** the World Bank team was always actively engaged with a highly proactive PIU, offsetting some of the exogenous factors and contributing to the successful if challenging implementation of the project activities (see section IV C below for further details).

## IV. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME

### A. QUALITY OF MONITORING AND EVALUATION (M&E)

#### M&E Design



96. **The PDO remained unchanged throughout the project, with a Results Framework which included 4 corresponding PDO indicators, 8 DLIs, and 12 PIs to complement monitoring. However, the original M&E framework and the vaguely formulated PDO did not effectively guide this project.** Given the results-based approach under the SWAp, the M&E design was of considerable importance to stimulate the desired focus on results and M&E in the participating agencies. The task team also strove to ensure strong alignment of the Results Framework and its indicators with the Government's own M&E systems to facilitate data collection. The responsibility for monitoring and reporting the program was placed with SEPLAG's DECAP, which played an essential role in ensuring adherence and timely monitoring. However, as discussed in other areas of this ICR, the M&E design was flawed, with poor links drawn between the indicators themselves and the overall PDO, along with a lack of baseline data at the design stage. The project has not provided adequate focus or resources for a rigorous M&E design during preparation, which was framed by a vague and broad PDO, and incorporated inappropriate DLIs, such as those on fiscal targets, which the project could not truly account for and the state could not realistically commit to.

97. **While many of the PDOs and DLIs were designed to directly reflect attributable achievements of the program activities and actions of implementing agencies, a significant portion was not strong or clear enough.** Too many PDO-level indicators depended on binary yes/no answers and failed to measure and evaluate gradual progress. Moreover, some of the DLIs and intermediate indicators were neither measurable nor attributable. For example, the first three DLIs, focusing on fiscal sustainability, were inappropriate, given their inability to measure project actions directly. The design of the M&E framework was also inadequate to measure and quantify accomplishments of the TA components. The Results Framework mostly applied to the EEP component and did not provide a framework for monitoring and evaluating the 19 TA projects, which proved important as shown in the qualitative discussion on these. This made evaluation of the program's accomplishments incomplete, placing a greater weight on actions completed within the SWAp component, especially those measured by DLIs. There were also originally no efforts made to incorporate impact evaluations across different program categories, especially for the private sector development and education results areas. **As a result of these, the quality of M&E at design is assessed as Negligible.**

#### **M&E Implementation and Utilization**

98. **Shortcomings in the Results Framework became apparent during the first years of project implementation and were partially corrected during the first two restructurings.** The yes/no nature of the PDO indicators made it difficult to measure gradual progress of the program. Some of the DLIs required major changes in baselines and goals given the inadequate baseline information available at the onset of the project. Additionally, though the PIs were initially used in design and showed important accomplishments within the project, the World Bank team did not document or use them for measuring progress consistently. In fact, none of the official World Bank documents, except for the Project Appraisal Document, document these 12 indicators throughout the life of the program. This ICR had to rely on reporting of these indicators provided by the PIU of the program.

99. **Most of the indicators were ultimately used with some success, in part due to the changes and improvements introduced to the methodology for some.** Given the initial difficulties in initiating activities, some of the indicators were recalculated as cumulative during restructuring to allow for them to accomplish their goals. One such example includes DLI#4 on the percentage of the paved road network under CREMAs. Also, many of the baselines had to be revised given the lack of complete information at the beginning of the program design. Finally, some discrepancies exist between the state's and the World



Bank's Results Framework reporting, given the timing of calculations of accomplished results. While the World Bank used the fiscal year, the state calculated its figures at the end of the calendar year, resulting in the first three DLIs suffering the most discrepancies. Despite the restructurings, which adjusted many of the goals and forms for calculating accomplishments, no changes were made to the discrepancy in the timing of recording the results. **Based on this evaluation, the quality of implementation & utilization of M&E is rated as *Modest*.**

#### **Justification of Overall Rating of Quality of M&E**

100. **While the M&E framework ultimately made some important contributions to monitoring in the state and strengthened the results-based framework culture within the program agencies and the state at large, it had some important shortcomings at design and throughout the life of the project.** Improvements in monitoring, recording, and providing technical support throughout project implementation mitigated many of the challenges and inconsistencies described earlier, and in a large part, made the accomplishments of the project possible. However, M&E for this project remained one of its weakest aspects throughout the project's lifetime. Based on these considerations the quality of M&E is rated Modest.

### **B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE**

#### *Social Rating*

101. **The social rating for this project was initially Low given that the program was not expected to generate negative impacts for indigenous communities, but rather provide positive social impacts by fostering social inclusion and community empowerment.** However, early on in 2017, this rating improved to Substantial because the construction of civil works of schools and roads serving indigenous communities was delayed, running the risk of not being able to finish public works by project closing.

102. Social safeguards compliance was Satisfactory at the onset. The RGS SWAp is a category B project (P120830). It triggered OP/BP 4.10 Indigenous Peoples and OP/BP 4.12 Involuntary Resettlement at project design. The Project has adopted extensive corresponding frameworks and measures in the context of these two issues, as well as in other affected areas throughout its implementation and these are discussed in detail in Annex 6.

#### *Social Safeguards Performance*

103. Despite good social safeguards performance by the client since 2013, the project was rated Moderately Unsatisfactory since September 2018, given that the construction works of the four Indigenous schools and the maintenance/improvements of four roads in Indigenous territories were not expected to be concluded by project closing (extended to May 31, 2019).

104. Addressing these issues, during a safeguard supervision mission, in September 2018, the following mitigation measures were put in place to cause the least possible harm to affected communities and remediate a potential noncompliance issue with social safeguards:



- (a) The World Bank requested from the RGS Governor a written commitment to complete the agreed works, using local funds, thus honoring the agreed commitments with indigenous peoples and reducing the World Bank's reputational risk.
- (b) The 2019 State Government Budget Proposal went to the State House of Representatives on September 14, 2018, including the provision of such funds. On October 2, 2018, the World Bank received a letter from the Governor of RGS (Mr. José Ivo Sartori), with a commitment of the State of RGS to comply with the IPPs (prepared under Contract BIRF 8155-BR) to complete all agreed works in the four Indigenous schools and the road maintenance works in four Indigenous Lands, using state resources (after project closing).
- (c) All communities affected were duly informed in 2018 and made aware of the procurement shortcomings and the commitment by the state government to complete all the agreed works using local funds. According to an SPGG report, as of October 14, 2019, works continue to be implemented as agreed by SPGG-DAER-SEDUC to the satisfaction of the affected indigenous communities.

105. To summarize, despite satisfactory performance by client agencies in preparation and implementation of social aspects of safeguards OP/BP 4.10 (that is, informed consultations with the Guarani and Kaingang communities and CEPI throughout the life of the project and particularly for the different projects' architectural designs), delays in contracting of the works led the project civil works in indigenous lands remaining incomplete at the project's closing date. Mitigation measures were put in place on time and implementation of the agreed civil works continues, financed with state funds and supervised by the client agencies.

### C. BANK PERFORMANCE

#### Quality at Entry

106. **The multisectoral operation was designed based on thorough discussions with all the respective sectors of the program and in close coordination with a highly dedicated and capable PIU.** Preparation of the operation drew on lessons learned from the implementation of previous SWAps, which had introduced a results-based methodology in the region. The design of the program reflected lessons learned and included an extensive TA component, aimed at building capacity in governance, M&E, and other more specific technological and sector-specific skills. As required for a SWAp operation, an operational plan of measures to be taken by the Government was devised at preparation.

107. **Despite these, however, the project design and preparedness were critically flawed.** The project design suffered greatly from a limited time allotment for preparation combined with an unreasonably broad scope, an underdeveloped and arguably unsuitable lending instrument, and a weak M&E framework, all of which did not pair well with the limited implementation capacity of the line agencies involved in the project. Overall, the project was designed in record time across a multisector agenda with very ambitious goals that corresponded to the state's needs and priorities owing to the intense and dedicated efforts of the task team and the task team leader at the time. As a result, the de-facto preparation time was later absorbed by the first two years of the project, during implementation. However, the PDO was too complex and broad and proved to be partially incongruent with the activities selected under the project (that is, economic development and fiscal responsibility goals without having



activities that would contribute to those goals in the short to medium terms). Some of the activities and their accomplishments were also not properly encapsulated in the Results Framework (many improvements in data management and governance were accomplished, but not reflected in the project description). Time and budget constraints placed on the original task team rushed the selection of activities and projects, resulting in a design that lacked clear scope, clarity, and sometimes ownership, including targets based on inaccurate estimates which required subsequent revisions.

108. **Although many of the risks were adequately identified, mitigation measures fell short, exacerbated by the absence of adequately defined and capacitated state programs before project effectiveness.** Additionally, the institutional capacity for design was severely limited, which should have been recognized at the design stage. The overall program risk was rated Substantial at appraisal while country-level risk was rated Low. These ratings reflected an understanding of the lack of familiarity of the state with World Bank operations and the weak capacity of the agencies to successfully execute the subprograms. Technical risks also stemmed from the novelty of the SWAp instrument for both the RGS Government and the World Bank. Selection of SWAp as the financial instrument was arguably not fully appropriate for the program, given the lack of clearly defined EEPs before signing. While mitigation measures were put in place, including the selection of a strong PIU and an overarching TA capacity-building component, they proved to be inadequate at resolving many of the challenges, especially in the first two years of implementation. Additionally, country-level risks were underestimated and proved to exert the strongest negative impact on the operation.

109. **In 2011, a social assessment was carried out within the program's geographic area and indicated the presence of 33,000 indigenous peoples, that is, 0.3 percent of the population of RGS.** Within those, four indigenous groups were registered: Kaingang, Guarani, Chaarrua, and Xokleng. The social safeguards instruments (IPP and RPF) were prepared by the client, consulted with communities, approved by the World Bank, and published in 2012. Biannual supervision missions included a social specialist who provided TA to strengthen the social development skills of the client institutions—SEPLAG, DAER, and SEDUC—to integrate a social team that would oversee the implementation of the social safeguards of the project.

110. **Based on the factors discussed above the quality at entry is rated Moderately Unsatisfactory.**

### Quality of Supervision

111. **Project progress was monitored and documented with limited but later improved consistency, after the first restructuring.** Between 2012 and 2019, 13 Implementation Status and Results Reports (ISRs) were issued. However, the ISRs and Aide Memories had some shortcomings in documentation during the first half of project implementation, such as a failure to monitor and report progress of the PIs and focused fully on PDO indicators and DLIs. Similarly, recording of the restructurings had shortcomings as well, with limited detail or scattered documentation to account for all the reallocations and changes to the Results Framework.

112. **Supervision was conducted with a multidisciplinary supervision team that was well involved throughout project implementation, including strong engagement with the PIU and implementing agencies.** However, three changes in the project supervision with four task team leaders managing the program and some changes in specialists throughout its lifetime created some shortcomings in supervision. The changes in specialists responsible for financial management and procurement led to





misunderstandings and setbacks. One such example is in the devolution of funds from schools that had received resources for refurbishment projects but did not undertake the related activities in time to produce the adequate documentation showing their accomplishments (completed activities showing incurred expenditure). This was in part due to a lack of adequate communication in the financial management guidelines that applied to a project of this kind.

113. **Project supervision and M&E improved over time.** Overall, the task teams have been commended by the implementing agencies for exhibiting strong leadership, unwavering involvement, and strong flexibility in administering the program through initial hardships, two government changes, and priority shifts, as well as technical capacity limitations that became apparent early on. Three restructurings were proposed and implemented, largely offsetting the limitations and enabling the program to reach all its main objectives and their targets. Despite consistent and improved supervision however, the World Bank team did not adequately reassess the Results Framework during the different restructurings (both in the indicator design and targets). This would have addressed limitations arising from the project's design.

114. **Based on the factors discussed above the quality of supervision is rated Moderately Satisfactory.**

#### Justification of Overall Rating of Bank Performance

115. **With the quality at entry rated Moderately Unsatisfactory and quality of supervision rated Moderately Satisfactory, this ICR rates overall World Bank performance as Moderately Satisfactory.** The rating reflects the innovative but, in part, overly ambitious program design, considering its first time use in the state that lacked familiarity with World Bank operations in general and with a SWAp in particular. The rating also takes into account all the supervision improvements that have been put in place, which were positively evaluated by the counterparts and eventually contributed to the largely positive project outcomes in a very cross-cutting and challenging context, as well as the lack of adequate resources for preparation and some shortcomings in the Results Framework design and reporting which were progressively offset later by implementation support.

#### D. RISK TO DEVELOPMENT OUTCOME

116. **Risks to the development outcome are rated Substantial.** Risks were reviewed throughout the implementation period and were systematically assessed by supervision missions as Moderate; however, the dysfunctional political environment and multiple institutional changes are considerable impediments to the sustainability of project activities and investments. The macroeconomic instability of the country as a whole and fiscal imbalances of the state present a major challenge to the sustainability of the results achieved, especially as related to public investments with their reliance on the Federal Government. In fact, during the operation itself, the state was forced to declare a fiscal calamity (essentially bankruptcy), making it difficult for institutional improvements to continue in the long term. Government changes and high staff turnover could also present risks to the governance improvements and informed decision-making changes made at the state level, as well as the technical capacity gains achieved through the TA component. Despite these persistent challenges, the sustainability of governance was greatly strengthened by legislative changes and HR capacity building and modernization of the agencies that, in many cases, were institutionalized. Additionally, technological advances, including software and system



upgrades and data analysis improvements within state systems, and a strong government commitment to World Bank collaboration reduce these risks.

## V. LESSONS AND RECOMMENDATIONS

117. **Adequate time, and appropriate technical and financial resources should be allocated for project design and to maximize implementation readiness.** Many of the failures in the project design, which persisted through implementation, resulted from a task team with limited experience being required to meet an unrealistic deadline for delivery. The selection and design of priority activities and appropriate underlying subprojects, including precise scoping and well-defined deliverables, should be a primary focus of both the design and implementation phases of a program. At the design stage, this entails the use of tools such as a finalized Project Preparation Advance (PPA) and other planning tools to prepare the program. Pressures for project approval, along with inadequate time, limited staff, and lack of sufficient mechanisms to offset limits in capacity, are likely to create delays and compromise project implementation. For complex or innovative programs such as this one, additional financial and technical resources should be provided to the task team at preparation, especially in settings where no previous World Bank operations have been carried out.

118. **The project scope was vast, incorporating the transport sector, education sector, private sector, and public sector all together. Future operations, especially in the political and capacity context that was present in RGS throughout this project, should consider more focused support and simplify the project design to incorporate fewer institutions, sectors, and implementation agencies.** Moreover, when capacity is limited, additional mitigation measures should be put in place to address gaps during project preparation and ensure a full understanding of World Bank procurement/fiduciary requirements to avoid delays and devolutions. These capacity gaps especially relate to basic operational matters, such as preparation of terms of references and contractual agreements.

119. **Risks should be evaluated with candor and well-understood prior to operation.** Given the political instability of the RGS Government, program sustainability was compromised from the start, a risk that should have been better analyzed at the design stage. Properly acknowledging this risk at design could have led to a more long-term focus and stronger measures to mitigate this risk, or a different program design altogether.

120. **Supporting EEP investments with strong TA activities can help produce sustainable improvements across all result areas.** High-quality TA delivered to the agencies engaged in carrying out the EEP investments was critical to facilitate progress toward the PDO targets. These TA activities also helped enhance program sustainability by institutionalizing the underlying changes in public sector management (for example, new systems for choosing subprojects, and so on) and incorporating powerful legal and technological tools for ascertaining long-term changes. Incorporating more indicators to measure the progress of TA would enhance the design and achievement of these activities.

121. **A robust M&E framework that effectively measures key project activities, including those under the TA component, is critical.** Additionally, all indicators should be clearly linked to the PDO to make sure links between the project activity and outcome are clearly drawn. Indicators and their measurement methodologies should be conducted with the participation of all key technical staff with adequate expertise and experience to fully reflect government priorities and the local reality and avoid indicators





with limited measurability. The Results Framework for the program partially failed to account for and measure some important results and outcomes, especially those accomplished within the TA component. Incorporating TA-linked outcomes and outputs into the Results Framework would have enabled a clearer evaluation and better communication of important program achievements. Additionally, annual nominal fiscal targets should not be used for DLIs.

**122. Frequent personnel changes at the state level and in the World Bank team can create challenges for project implementation.** Sustained government ownership and commitment are critical for successful implementation and should be measured by whether there is (a) a long-term strategy/plan/legislative agenda into which the project fits; (b) strong leadership for project oversight and management; and (c) critical institutional/implementation arrangements in place (for example, a functional dedicated Project Management Unit, whether composed of government staff or consultants, with an explicit mandate to work on the project). Leadership changes associated with four different task team leaders over the seven-year life of the project also contributed to some difficulties in implementation.

**123. Procurement processes for works contracts should incorporate local rules and realities.** Works contracts used under the program proved to be poorly defined and failed to account for local contracting rules, translation needs, and other elements of the local reality. Such contracts should be clearly defined and focus on creating ownership for implementation. Operations manuals should make sure to include these elements so that they are helpful during project implementation rather than serve only as a required task to meet effectiveness requirements.

**124. Sustainability of program actions should to be incorporated into the design of the project.** Some program activities—such as the one-computer-per-child program and free of charge extension services—thought to be successful during the life of the Program, are now likely unsustainable given RGS' limited financial resources. A less ambitious project design that incorporated sustainability mechanisms such as royalty or other continued funding schemes could produce more meaningful and long-lasting results and stronger impact. For instance, providing less equipment to a larger population of students, requiring a co-payment could have produced a more sustainable program result, or focusing on larger scale technological changes could have made a stronger impact.

**125. Impact evaluation activities should be given a more central focus and included during design stage.** Design of an appropriate M&E system for the program as a whole along with each specific area could amplify the project's success, especially in the long term. Impact evaluations within each sector should be encouraged, while technical staff should receive training on how to better design and implement such evaluations. Additionally, a more rigorous independent midterm evaluation should be carried out within and across the different project areas. This would help ensure that the program properly identifies appropriate adjustments when activities are not achieving the desired results and/or impact.



## ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

### A. RESULTS INDICATORS

#### A.1 PDO Indicators

**Objective/Outcome:** Improve public investment planning & implementation by strengthening capacity

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Implementation of road pavement management system	Yes/No	N 31-Dec-2012	N 31-Dec-2015	N 15-Jun-2018	Y 15-Jun-2018
<b>Comments (achievements against targets):</b>					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Completion of impact evaluation of industrial extension services	Yes/No	N 31-Dec-2012	N 31-Dec-2015	N 15-Jun-2018	Y 15-Jun-2018
<b>Comments (achievements against targets):</b>					



Improvement public investment planning

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Submission of draft public asset management law to legislative assembly	Yes/No	N 31-Dec-2012	N 31-Dec-2015	N 15-Jun-2018	Y 15-Jun-2018

**Comments (achievements against targets):**  
Improvement public investment planning

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Implementation of system for learning assessment at primary and secondary levels	Yes/No	N 31-Dec-2012	N 31-Dec-2015	N 15-Jun-2018	Y 15-Jun-2018

**Comments (achievements against targets):**  
Improve public investment



## A.2 Intermediate Results Indicators

**Component:** Technical assistance state capacity to design, implement, monitor and evaluate public investments

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Revenue from ICMS	Number	22500.00	23500.00	138127.00	150137.00
		31-Dec-2014	31-Dec-2014	31-Dec-2015	31-Dec-2017

**Comments (achievements against targets):**  
Revenue from ICMS

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Investment expenditures	Number	1047.00	1200.00	3946.00	4864.00
		31-Dec-2014	31-Dec-2014	31-Dec-2015	31-Dec-2017

**Comments (achievements against targets):**  
Indicator Name



Investment expenditures

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Primary fiscal balance	Text	N/A	-2439	PAF target	793
		30-Jun-2013	30-Jun-2013	31-Dec-2015	31-Dec-2017

**Comments (achievements against targets):**

**Component:** EEP: help restart economic growth in transport, infrastructure, education, private sector develop't

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Cumulative percentage of paved road network under CREMA contracts	Percentage	0.00	20.00	14.00	16.00
		30-Mar-2012	30-Mar-2012	15-Jun-2015	15-Jun-2018

**Comments (achievements against targets):**

percentage of paved road network under CREMA contracts



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Cumulative number of construction and refurbishment school projects undertaken	Number	75.00 11-Sep-2013	240.00 11-Sep-2013	320.00 15-Jun-2015	387.00 15-Jun-2018
<b>Comments (achievements against targets):</b> help restart economic growth in transport,					
Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Agreements signed/renewed with APLs	Number	0.00 11-Sep-2012	20.00 11-Sep-2012	19.00 15-Jun-2015	20.00 15-Jun-2018
<b>Comments (achievements against targets):</b> help restart economic growth in transport					
Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised	Actual Achieved at Completion



				Target	
Agreements signed/renewed with extension centers	Number	0.00	20.00	9.00	10.00
		11-Sep-2012	11-Sep-2012	15-Jun-2015	15-Jun-2018
<b>Comments (achievements against targets):</b> help restart economic growth in transport					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
New triple helix alliances implemented	Number	0.00	5.00	5.00	6.00
		11-Sep-2012	18-Sep-2012	15-Jun-2015	15-Jun-2018
<b>Comments (achievements against targets):</b> restart economic growth in transport					





**ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION**

**A. TASK TEAM MEMBERS**

<b>Name</b>	<b>Role</b>
<b>Preparation</b>	
Thomas Kenyon	Task Team Leader(s)
Frederico Rabello T. Costa	Procurement Specialist(s)
Eduardo Franca De Souza	Financial Management Specialist
Ximena B. Traa-Valarezo	Social Specialist
Gunars H. Platais	Social Specialist
Micky O. Ananth	Team Member
Mariangeles Sabella	Counsel
Tiago Carneiro Peixoto	Team Member
<b>Supervision/ICR</b>	
Tugba Gurcanlar, Gregoire Francois Gauthier	Task Team Leader(s)
Frederico Rabello T. Costa	Procurement Specialist(s)
Miguel-Santiago da Silva Oliveira	Financial Management Specialist
Lucas Falcao de Resende	Team Member
Monica Moura Porcidonio Silva	Team Member
Frederico Ferreira Fonseca Pedroso	Team Member
Gabriela Grinsteins	Counsel
Andrea Patton	Team Member
Fabio Sola Bittar	Team Member
Flavia Nahmias da Silva Gomes	Team Member
Maria Bernadete Ribas Lange	Team Member
Evelyn Levy	Team Member



Michele Martins	Team Member
Zelia Brandt de Oliveira	Team Member
Roland N. Clarke	Team Member
Michael Drabble	Team Member
Alberto Coelho Gomes Costa	Social Specialist
Paula Marcela Houser	Team Member
Gunars H. Platais	Environmental Specialist

**B. STAFF TIME AND COST**

Stage of Project Cycle	Staff Time and Cost	
	No. of staff weeks	US\$ (including travel and consultant costs)
<b>Preparation</b>		
FY11	12.978	101,686.41
FY12	46.235	368,709.13
FY13	-522	-2,198.86
<b>Total</b>	<b>58.69</b>	<b>468,196.68</b>
<b>Supervision/ICR</b>		
FY12	0	5,826.24
FY13	26.279	205,179.43
FY14	15.871	194,467.65
FY15	45.985	297,207.53
FY16	32.447	203,886.26
FY17	27.389	196,234.80
FY18	29.596	210,807.08
FY19	30.664	172,775.76
FY20	2.625	45,799.49
<b>Total</b>	<b>210.86</b>	<b>1,532,184.24</b>



### ANNEX 3. PROJECT COST BY COMPONENT

Components	Amount at Approval (US\$, millions)	Actual at Project Closing (US\$, millions)	Percentage of Approval
Technical Assistance on Public Sector Management	55.30	40.00	11.5
Eligible Expenditure Program (EEP)	423.50	438.80	88.2
Front-end fee	1.20	1.20	
<b>Total</b>	<b>0.00</b>	<b>480.00</b>	<b>100.0</b>

## ANNEX 4. EFFICIENCY ANALYSIS

1. This annex provides an economic and financial analysis for this project as part of the ICR. To the extent possible, this analysis is based on actual data gathered as part of the M&E efforts of the program. Because the program was extended several times, thus modifying the parameters of the original economic and financial analyses developed at project design and during additional financing, the team has focused on the full period of implementation rather than comparing the current estimates for the program valuation with those generated during the design stage.
2. Across the project components as shown in the following paragraphs, the total project NPV is estimated at US\$254.6 million at a 15 percent discount rate<sup>4</sup> with an ERR of 33 percent.
3. Because of the difficulty in separating the impact of TA activities from those of the DLI component, a combined analysis is presented here. Additionally, quantifying the impact of the program activities to support private sector development, public sector management, and education, the analysis focuses on the transport investments financed by the program.
4. **Transport activities.** As discussed earlier, the program supported activities to finance an improved road pavement management system and the implementation of CREMAs. The valuation estimate is based on the road rehabilitation investments supported under the program, with key assumptions as follows:
  - (a) **Number of beneficiaries, by type.** The potential number of beneficiaries has been estimated as 1,000 households per kilometer rehabilitated for urban road investments and 500 households per kilometer rehabilitated for rural road investments.
  - (b) **Growth rate additionality.** The analysis assumes that beneficiaries will experience an additional 4 percent growth rate for one year following the urban and rural road investments. Following this additionality, a return to original growth rates afterward is estimated, which has been extrapolated based on available interviews conducted during preparatory missions.
  - (c) Additional assumptions are provided in table 4.1.

**Figure 4.1. Additional Assumptions**

	<i>Urban roads</i>	<i>Rural roads</i>
Avg number of infra beneficiaries (HHs /	1,000	500
Number per HH	5	5
Number of individuals per km	5,000	2,500
Average HH annual income (US\$)	5,000	1,000
w/o Project Growth rate	1%	1%
Project additionality	4%	4%
Number of years of additionality	1	1

<sup>4</sup> Discount rate: Discussions on what discount rates should be used for World Bank economic analyses vary widely especially given the low interest rates associated with IDA loans. However, to account for some of the risk and volatility (that is, Beta) associated with investments in developing countries, percent the NPV analyses used 15 percent, given both the low opportunity cost for World Bank capital to be deployed elsewhere and the high risk associated with investments in Sub-Saharan Africa.



5. The sensitivity analysis is as follows:

- Reducing the estimated number of urban and rural beneficiaries by 50 percent reduces the ERR estimate to 6 percent .
- Increasing the estimated number of urban and rural beneficiaries by 50 percent increases the ERR estimate to 56 percent.
- Reducing the estimated income growth additionality from 4 percent to 3 percent reduces the ERR estimate to 21 percent . Increasing the estimated income growth additionality from 4 percent to 5 percent increases the ERR estimate to 45 percent.

6. The literature studying the impact of financing infrastructure supports the investments under this project. While the exact additional impact depends on the location and sector, the following studies demonstrate the impact of infrastructure improvements, in support of the key assumptions:

- (a) Dorosh et al. (2010)<sup>5</sup> find that agricultural production is highly correlated with proximity (as measured by travel time) to urban markets. Likewise, adoption of high-productive/high-input technology is negatively correlated with travel time to urban centers. Total crop production relative to potential production is 45 percent for areas within four hours' travel time from a city of 100,000 people. In contrast, it is just 5 percent for areas more than eight hours away. Low population densities and long travel times to urban centers sharply constrain production. Reducing transport costs and travel times to these areas would expand the feasible market size for these regions.
- (b) Dorosh et al (2010)<sup>6</sup> using the estimated regression coefficients simulate changes in travel times to cities of 50,000 people or more per pixel. They find that improvements in the national corridor raise total crop production by 24 percent and maize production by 33 percent and investments in rural feeder roads raise national crop production by a further 131 percent and maize production by a further 146 percent. These estimates hold for microscale investments where increases in production would not greatly affect the total market supply, similar to those that are suggested by this program, which further reinforces the potential gains of alternative road investments on productivity and farm incomes.
- (c) Diao et. al. (2003) explores the implications of improving market access on agricultural income gains in Africa. It finds that over a 12-year period real agricultural income gains are twice as high with total factor productivity growth in transport.
- (d) Similarly, an International Food Policy Research Institute model simulating the effects of market access and transport improvements, along with improvements in productivity, finds that better market access increases smallholder farmers' income growth to 1.4 percent annually instead of 0.3 percent–0.4 percent average growth.

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<sup>5</sup> Dorosh, P., H. Wang, L. You, and E. Schmidt, E. 2010. "Road Connectivity and its Impact on Crop Production." Consultative Group on International Agricultural Research (CGIAR).

<sup>6</sup> Dorosh, P., H. Wang, L. You, and E. Schmidt. 2010. "Crop Production and Road Connectivity in Sub-Saharan Africa." Policy Research Working Paper 5385. World Bank, Washington.



## ANNEX 5. BORROWER, CO-FINANCIER AND OTHER PARTNER/STAKEHOLDER COMMENTS

On November 8, 2019, the World Bank team presented the overall findings and ratings of this ICR to key government stakeholders at the *Secretaria de Planejamento, Orçamento e Gestão*. The following paragraphs provide a summary of the key lessons and recommendations arising from these discussions.

1. **Public planning and management.** The team discussed the importance of incorporating technology solutions into the public management process early on, especially when related to intersectoral and interagency coordination. As part of the planning process, the team also highlighted the importance of identifying and designing subprojects earlier in the process to improve selection and efficiency of these investments. Analysis of these subprojects should include cost-benefit and social/economic impact analyses to ensure an informed choice when choosing projects. During the implementation phase, the team emphasized that interim project evaluations should be incorporated into the design, with the focus extending beyond disbursement to efficacy of spending, short-term outcomes, impacts, and so on. Additionally, public investment planning should incorporate a focus on sustainability (including financial sustainability), including exploration of alternative sources of funding beyond standard public investment and business models which incorporate self-generating revenue sources.

2. **Design.** At the design stage, project investments and activities should be clearly defined to avoid delays and bottlenecks associated with this decision-making process. Further, the design should be set based on properly measured baselines.

3. **Implementation arrangements.** The team outlined the importance of ongoing evaluation as part of the implementation process, with the midterm review being particularly rigorous and allowing for resets to implementation procedures. Additionally, having a small but dedicated PIU was underscored as an important lesson, rather than a larger PIU where the staff also work on additional projects. The discussion also emphasized the importance of consistency in project implementation staff, especially the project manager at both the PIU and World Bank.



## ANNEX 6. DETAILED PROJECT COMPONENTS, Safeguard activities and Changes to Project Targets in Restructurings

### Component A: Technical Assistance on Public Sector Management

- 1. The TA component focused on strengthening the state's capacity to design, implement, monitor, and evaluate public investments.** This component was targeted to improve investment and HR planning, along with contract and public asset management using the following actions: (a) carrying out a review of the borrower's current project planning process and developing terms of reference to develop the relevant procedures and manuals, (b) developing a methodology and providing training in project preparation, (c) providing support for long-term integrated transport and logistics infrastructure planning, (d) carrying out a diagnostic study of SEDUC's human resources system, (e) developing and implementing a contract management information system, (f) developing and implementing a bidding management system, and (g) setting up a system for managing public assets and disposing of surplus real estate assets.
- 2. To facilitate improvements in M&E and impact assessments, the project included the following activities:** (a) setting up a multichannel system for public service evaluation and (b) providing training in firm-level benchmarking technology.
- 3. Within the area of environmental and disaster risk management, the project focused on** (a) setting up an environmental licensing and public communications system, (b) setting up an ecological-economic zoning system, (c) developing a disaster risk management coordination system, (d) setting up a disaster risk information and monitoring system, (e) establishing a disaster risk management situation room, (f) carrying out a feasibility study for industrial symbiosis, and (g) providing training in firm-level waste reduction techniques.
- 4. TA was also offered to enhance the mechanism for public-private consultation by** (a) designing an **Information and Communication Technology (ICT)** strategy, systems, and implementation support; (b) designing and implementing a multichannel participatory budgeting platform and participation portal; and (c) drafting a proposed new legal framework on participatory procedures and third-party monitoring, supporting its application to organizational processes, and providing training to strengthen third-party monitoring.
- 5. Additionally, the TA component provided financing to cover high-value TA including** (a) providing TA to economic clusters on, among others, marketing strategies; (b) surveying new entrepreneurs and recently established firms to understand constraints on firm formation and foster coordination among private sector development interventions; (c) carrying out a critical point survey road program and developing a bridge management system; (d) providing support for modernizing management of the borrower's pension system; (e) providing support to institutional strengthening and institutional modernization of DAER; and (f) providing support to the management of Rio Grande do Sul State Development and Investment Promotion Agency (*Agência Gaúcha de Desenvolvimento e Promoção de Investimentos*, AGDI) throughout the first year of the project.

### Component B: Eligible Expenditure Program (EEP)

- 6. The second component of the project was set up to finance selected EEPs (table 6.1) identified for the program to help restart economic growth in the following areas:** (a) transport and infrastructure,





(b) education, and (c) private sector development. Additionally, the project supported EEPs that focused on investments to modernize the public asset management system.

*Sector 1: Transport (US\$236.4 million)*

7. **The activities in this portion of Component B supported the state's efforts in the rehabilitation and maintenance of paved highways.** To accomplish this goal, the program included the modernization and management of personnel and administrative costs of DAER in addition to financing the organization's administrative costs, especially those associated with highway inspections and maintenance (US\$84.6 million). The program also financed the implementation of CREMAs for up to 1,600 km of the state highway network, a priority for economic growth and regional integration (US\$151.8 million).

*Sector 2: Education (US\$112.6 million)*

8. **This second area of Component B supported the Government's efforts to strengthen the education sector by investing in technological modernization and school refurbishment, implementing a participatory evaluation of the state education system, and partially funding personnel expenses of SEDUC.** The project's financing focused on upgrading IT laboratories in schools within the one-computer-per-child pilot program (US\$21.0 million), as well as refurbishing school facilities (US\$60.4 million). In addition, the program supported the introduction of a web-based participatory evaluation system for compiling and analyzing data on student, teacher, and director performance for informed policy making (US\$10.2 million). Finally, the component also financed SEDUC's personnel expenses (US\$21 million).

*Sector 3: Private Sector Development (US\$65.3 million)*

9. **This third area of Component B provided support to economic cluster programs, industrial extension services, and the expansion of science parks and innovation networks.** The program financed a study with the purpose of guiding regional development policy and supported the preparation of a strategic plan and management training for each of approximately 20 clusters (US\$6.2 million). Additionally, it co-financed fund extension services (for example, for benchmarking and lean manufacturing) for enterprises, as well as a rigorous evaluation of their impact on firm performance (US\$23.5 million). The last part of the program investment focused on financing the existing science parks and creating up to seven new parks through a competitive bidding process (US\$21.6 million), in addition to supporting the existing networks for university-business innovation (*polos tecnológicos*) to stimulate technology adaptation and diffusion (US\$14.0 million).

*Sector 4: Public Sector Management (US\$9.3 million)*

10. **The fourth and final area of Component B supported an EEP priority project to develop systems for managing and disposing of public estate assets (US\$9.3 million).**

*Lending Instrument*

11. The Program used a Specific Investment Loan with a SWAp under Component B. The SWAp instrument had never been used in the State of RGS; however, the design did draw upon positive examples from neighboring regions including successful models previously implemented in the States of Ceará, Minas Gerais, and Pernambuco, as well as Brazil's Federal District. The instrument's main advantage is its

ability to combine support for public sector management while financing selected sector programs, while incentivizing a results-based approach. Following the Fiscal Sustainability DPL (P106767), which aimed to increase efficiency of public investment while maintaining fiscal discipline, the SWAp was deemed the appropriate financial mechanism for continuing financial support to the State of RGS.

**Figure 6.1. EEPs Identified for the Program**

Component	Sector	INDICATOR	Unit of Measure	Frequency	Initial Data		(2012-2015)		Project Restructuring		After Restructuring	
					Original Baseline (2012)	Original End Target	Results Achieved (FY 2015)	Actual Achievement-restructuring (2015)	Revised Baseline	Revised End Target	Results Achieved	Final Achievement Rate (2015-2019) (%)
<b>Project Development Objective (PDO) Indicators:</b>												
EPP	Transport	PDO 1: Implementation of road pavement management system	Yes/No	Single occurrence	N	Yes	N	0%	N	Y	Y	100%
EEP	Private sector development	PDO 2: Implementation of system for learning assessment at primary and secondary levels	Yes/No	Single occurrence	N	Yes	N	0%	N	Y	Y	100%
TA	Public sector management	PDO 3: Completion of impact evaluation of industrial extension services	Yes/No	Single occurrence	N	Yes	N	0%	N	Y	Y	100%
EEP	Education	PDO 4: Submission of draft public asset management law to legislative assembly	Yes/No	Single occurrence	N	Yes	N	0%	N	Y	Y	100%
<b>Disbursement-linked Indicators (DLI):</b>												
TA	Public sector management	DLI 1: Primary fiscal balance	BRL millions	Annual	N/A	PAF target (-2439)	-1022	42%	N/A	PAF target	793 ou 25	100%
		DLI 2: Investment expenditures	BRL millions	Annual	882	1200	2704	573%	1047	3946	4864	132%
		DLI 3: Revenue from ICMS	BRL millions	Annual	19503	23500	26168	167%	22500	138127	150137	110%
EEP	Transport	DLI 4: Cumulative percentage of the paved road network under CREMA	Percent	Annual	0	20%	2.7%	14%	0	14	16	114%
	Education	DLI 5: Cumulative number of construction school refurbishment projects	Units	Annual	75	240	284	127%	75	320	387	127%
	Private sector development	DLI 6: Agreements signed/renewed with APLs	Units	Annual	0	20	19	95%	0	20	20	100%
		DLI 7: Agreements signed/renewed with Extension Centers	Units	Annual	0	20	9	45%	0	9	10	111%
		DLI 8: New triple helix alliances implemented	Units	Annual	0	5	5	100%	0	5	6	120%
<b>Performance Indicator (PI):</b>												
TA	Public sector management	PI 1: Days to emit an environmental license	Days	Annual	532	319	N/A	0%	826	620	421	197%
		PI 2: Cumulative number of real estate assets in inventory	Units	Annual	0	11000	N/A	0%	0	8000	5844	73%
		PI 3: Disaster risk policy formulated		Single occurrence	0	Policy designed	N/A	0%	0	Policy designed	Policy designed	100%
		PI 4: Contract management data system operational		Single occurrence	0	System operational	N/A	0%	No	System operational	System in adaptation	100%
EEP	Transport	PI 5: Implementation of pavement management system		Annual	0	System ready and 1/3 surveys updated	N/A	0%	No	System ready	System in advanced stage	100%
		PI 6: Cumulative km rehabilitated	Km	Annual	0	1400	143.8	10%	0	1500	1829	122%
	Education	PI 7: Quality of educational infrastructure	1-5 scale	Annual	N/A	reduction of 20% in schools rated '1'	N/A	0%	411	reduction of 40% in schools rated '1'	reduction of 67%	168%
PI 8: Quality of learning outcomes		1-5 scale	Annual	N/A	improvement of 2% in Port. & Math in 5th & 9th grades (base baseline)	N/A	0%	SAERS 2016	improvement of 2% in Port. & Mat. 3rd & 6th grade and 3.2% in Math (base of 1.6th grade)	improvement of 3,9% in Port. and 3,2% in Math	110%	
EEP	Private sector development	PI 9: Number of collective actions among cluster participants	Units	Annual	Initial measure	20% increase	96.6%	483%	5.90%	25% increase	56.17%	263%
		PI 10: Percentage of firms subsequently contracting other upgrading services	Percent	Annual	Initial measure	20% increase	N/A	0%	0	30% increase	21%	70%
		PI 11: Direct jobs generated by three consolidated parks	Units	Annual	8200	10000	14787	366%	8200	15000	19825	171%
		PI 12: Leverage ratio of private to public investment	Percent	Annual	15%	25%	36%	210%	15%	30%	35.6%	137%

**Environmental and Social Safeguards Activities**



126. **OP/BP 4.10 (Indigenous Peoples).** An Indigenous Peoples Plan (IPP #553) was consulted, approved by the SEDUC Regional Coordination of Education together with the Indigenous State Council State Council for Indigenous Populations (*Conselho Estadual dos Povos Indígenas*, CEPI), and published in January of 2012. Free, prior, and informed consultations with the affected indigenous communities were carried out at project onset and at least once a year as part of the monitoring of social management (2014–2019).

127. Six IPPs were prepared, consulted upon, and carried out totally or partially. Four of them referred to activities envisaged by the education sector and two by the transport sector.

128. The IPPs related with the education sector were the following:

- (a) **IPP Karai Nhe Katu.** This dealt with the construction of a Guarani school in the municipality of Viamão (Estiva Indigenous Land). The contract was for R\$3,166,000 and the construction finishing date was August 2019.
- (b) **IPP Kanhranran Fa Luis Oliveira.** This addressed the construction of a Kaingang school in the municipality Erebangó (Ventarra Indigenous Land). The contract was for R\$4,106,501 and the construction finishing date was September 2019.
- (c) **IPP Joaquim Gatén Casemiro.** This dealt with the construction of a Kaingang school in the municipality of Nonoai (Nonoai Indigenous Land). The contract was for R\$4,676,181 and the construction finishing date was November 2019.
- (d) **IPP Anhetengua.** This addressed the construction of a Guarani school in the municipality of Porto Alegre (Anhetengua/Lomba do Pinheiro Indigenous Land). The contract was for R\$3,500,000 and the construction finishing date was December 2019.

129. **All the four schools were built to serve one or more indigenous communities. The school designs were duly consulted with communities, parents, students, and CEPI and the school blueprints were approved between 2015 and 2017. Construction of public works started late in the project, delaying its completion.**

130. **In 2016 and 2017, four roads that affected indigenous lands were identified.** Consultations with indigenous communities indicated that some road alterations would be needed for safety and security of pedestrians in blind points of the roads within indigenous lands, including CREMAS to support rehabilitation and maintenance. The following two IPPs were prepared, consulted upon, and carried out:

- (a) **IPP Cacique Doble and Rio Forquilha** addressing road maintenance and improvements was approved in 2016, but the road improvement designs were approved only in June 2018.
- (b) **IPP Serrinha and Nonoai** addressing road maintenance and improvements was approved in 2016, but the road improvement designs were approved only in August 2018.

131. Road maintenance included road adjustments to ensure safety to community, bilingual signalization and speed bumps, construction of bus stops, and transit education in all communities. These unexpected addenda were needed on the CREMA-ERECHIM contracts, leading to delays in the original



implementation plans. In terms of the roads, by project closing there was 99 percent implementation in Serrinha, 50 percent in Nonoai, and less than 50 percent in the other two affected indigenous lands.

132. Consultations in indigenous languages, citizen engagement, and the gender strategy were rated Satisfactory throughout the life of the project. The Ecological and Economic Zoning (Zoneamento Ecológico-econômico, ZEE) public survey included consultations with vulnerable groups and indigenous peoples usually inhabiting high biodiversity areas. The cartography for natural risk and disaster management included in SIRAM was highly beneficial to indigenous peoples for planning purposes on the use of land and natural resources.

133. **OP/BP 4.12 (Involuntary Resettlement).** A Resettlement Policy Framework (RPF) (1253) was published in January 2012 as a preventative measure given that no land acquisition was foreseen at project onset. However, the RPF included a safeguards clause with instructions for contractors, if roads were to affect indigenous lands or protected natural habitats. Neither land acquisition nor involuntary resettlement took place during the life of the project in non-indigenous or indigenous communities. Road maintenance works were done exclusively on the existing right-of-ways. School rehabilitations and/or constructions were carried out on land previously adjudicated to SEDUC or in areas within indigenous lands that were legally assigned for schools.

#### *Additional Measures*

134. Other social management activities that added value to the project were the following:

- The social inclusion and citizen engagement strategies were implemented by SECAP-SPGG together with other secretariats for all project components. In 2016, DAER developed a grievance redress mechanism to ensure that those affected by roads had a chance to participate and speak up if they had complaints.
- A new indigenous road map for RGS was developed in 2017.
- A road safety manual for indigenous lands and a transit education program were implemented by DAER together with the Transit Directorate in indigenous communities/schools with unprecedented positive results in 2018.
- Institutional strengthening of the teams of SECAP, DAER, and SEDUC took place, upon request by the World Bank, with staff overseeing the preparation and implementation of social safeguards for the road pavement/maintenance, school construction, and ZEE component (2014–2019).



Table 7. Overview of Changes and Accomplishments of the PDO and DLIs

Component	Sector	INDICATOR	Unit of Measure	Frequency	Baseline	Revised baseline		Fiscal year 2013 (01/07/12-30/06/13)	Fiscal year 2014 (01/07/13-30/06/14)	Fiscal year 2015 (01/07/14-30/06/15)	Fiscal year 2016 (01/07/15-30/06/16)	Fiscal year 2017 (01/07/16-30/06/17)	Fiscal year 2018 (01/07/17-30/06/18)	Fiscal year 2019 (01/07/18-31/05/19)
<b>Project Development Objective (PDO) Indicators:</b>														
EPP	Transport	PDO 1: Implementation of road pavement management system	Yes/No	Single occurrence	Nonexistent system	-	original target 2012		System ready					
							restructured target 2015*					System ready		
							Completed							System ready
EEP	Private sector development	PDO 2: Implementation of system for learning assessment at primary and secondary levels	Yes/No	Single occurrence	Nonexistent system	-	original target 2012			System ready				
							restructured target 2015*					System ready		
							Completed					System ready		
TA	Public sector management	PDO 3: Completion of impact evaluation of industrial extension services	Yes/No	Single occurrence	Nonexistent evaluation	-	original target 2012		Evaluation completed					
							restructured target 2015*				Evaluation completed			
							Completed					Evaluation completed		
EEP	Education	PDO 4: Submission of draft public asset management law to legislative assembly	Yes/No	Single occurrence	Nonexistent Bill	-	original target 2012			Draft sent				
							restructured target 2015*				Draft sent			
							Completed					Draft sent		



Disbursement-linked Indicators (DLI):															
TA	Public sector management	DLI 1: Primary fiscal balance	BRL millions	Annual	-	-	original target 2012	552 <i>(original target was 1.483 million but was restructured to 522 millions in PAF)</i>	(-71) <i>(original target was 1.573 million but was restructured to -71 million in PAF)</i>	PAF target (-1.431)	PAF target (-2.439)				
							restructured target 2015*	552 <i>(original target was 1.483 million but was restructured to 522 millions in PAF)</i>	(-71) <i>(original target was 1.573 million but was restructured to -71 million in PAF)</i>	PAF target (-1.431)	PAF target (-2.439)	PAF target (-3.861)	PAF target (-571)	PAF target (-1.937)	
							Completed	1,004	276	-1,022	-1,945	-104	-571	25	
		DLI 2: Investment expenditures	BRL millions	Annual	882	1047	original target 2012	944	1,010	1,100	1,200				
							restructured target 2015*	944	1,010	700	749	847	957	1074	
							restructured target 2017 (cumulated from 2016FY)	944	1,010	1,047	1,671	2,338	3,093	3,946	
	DLI 3: Revenue from ICMS	BRL millions	Annual	19,503	22,500	original target 2012	20,500	21,500	22,500	23,500					
						restructured target 2015*	20,500	21,500	27,900	29,845	31,781	34,008	36,392		
						restructured target 2017	20,500	21,500	22,500	48,614	76,549	106,296	138,127		
								Completed	21,369	23,497	25,854	52,022	83,366	115,299	150,138
	EEP	Transport	DLI 4: Cumulative percentage of the paved road network under CREMA contracts	Percent	Annual	0	-	original target 2012	0	5%	15%	20%			
								restructured target 2015*	0	0	2.5%	5%	10%	14%	14%
Execution								0	2.7%	2.7%	5.1%	16%	16%	16%	
Education		DLI 5: Cumulative number of construction school refurbishment projects undertaken	Units	Annual	75	-	original target 2012	40	60	100	40				
							restructured target 2015* (cumulated number)	40	100	200	240	280	320		
							Completed	47	122	284	337	374	387		
Private sector development	DLI 6: Agreements signed/renewed with APLs	Units	Annual	0	-	original target 2012	10	20	20	20					
						restructured target 2015*	10	20	20	20	20	20			
						Completed	11	20	19	23	22	20			
	DLI 7: Agreements signed/renewed with Extension Centers	Units	Annual	0	-	original target 2012	10	20	20	20					
						restructured target 2015*	10	20	9	9	9	9			
						Completed	10	20	9	10	11	10			
							original target 2012	5	5	5	5				



## ANNEX 7. ADDITIONAL CONTEXT

1. The RGS economy was more volatile than that of other states, with large expansions typically followed by deep recessions due to high reliance on primary goods. Before the project, the state demonstrated tremendous vulnerability to extreme weather patterns, with resulting economic losses close to US\$7 billion.<sup>7</sup> Additionally, appreciation of the Brazilian real negatively impacted exports. The national fiscal crisis of the mid-2000s also had a major effect, toppling economic performance, thus requiring sharp cuts in services and public investment with a disproportionately negative impact on the poor.
2. In 2007, RGS faced the most difficult situation of any Brazilian state with a shrinking tax base, sharply rising personnel expenditures, and a large structural deficit in the state's pension system. Based on its performance, the state failed to comply with several requirements of the Fiscal Responsibility Law, facing difficulties in meeting fixed spending obligations, particularly with respect to debt service, pension payments, and the maintenance of public infrastructure.
3. The debt restructuring associated with the previous World Bank operation lowered the state's borrowing costs and improved its maturity profile. As a result, net debt fell from 280 percent of net current revenue (2003) to 214 percent (2010), while debt service was lowered by almost 3 percentage points from 17 percent of net revenue. These improvements allowed borrowing from the Federal Government to resume for the first time since renegotiation of its debt with the union in 1997.
4. **Nonetheless, serious challenges persisted.** Despite improvements in fiscal sustainability and debt restructuring that allowed the state to reach the ceiling agreed under the Fiscal Responsibility Law and amass higher revenues than in any other Brazilian state, net debt was expected to fall below the required 200 percent of net current revenues by end-2012. Further, almost no progress was made in increasing efficiency and improving the quality of public sector investment and service delivery in the lead-up to the project. Though the state has since passed new social security legislation, much work remained in social security reform and public sector modernization. This need for support on fiscal sustainability was the primary driver for the public sector management activities and investments under the program to reinvigorate public institutions and services, upgrade public management and oversight, and strengthen the state's capacity for investment.

### *Sectoral and Institutional Context*

5. **RGS had a strong tradition of collaborative and, at times, interventionist policies in public sector management and private sector development.** The Government viewed these mechanisms as important tools to stimulate growth; however, at the same time, it was concerned about the efficiency and effectiveness, as many of these policies dated back to the early 1990s and were in need of evaluation and modernization. An important contribution of the project would be to recommend on and support their adaptation.

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<sup>7</sup> According to Civil Defense data, RGS experienced 1,645 extreme weather events between 2003 and 2009, which affected more than 90 percent of the cities. The resulting economic losses were close to US\$7 billion.



6. **The World Bank’s involvement was also strategically important in the context of several other Government programs financed by the Brazilian federal government and other agencies, notably the IDB and BNDES.** At the time, the Federal Government was financing programs in urban transport, basic sanitation, and irrigation, while the IDB was supporting actions to strengthen the Government’s capacity for fiscal management. The BNDES program comprised support for the development of industrial parks, construction of municipal access roads, and modernization of regional airports; the provision of low-income housing; and support for small-scale agricultural producers. The IDB loan, on the other hand, addressed, among others, debt management, tax administration, and internal organization and control systems within the State Secretariat of Finance (*Secretaria de Estado da Fazenda, SEFAZ*). As such, this program was designed to address specific gaps within the portfolio of partner interventions.

**Figure 7.1. Government Priorities on Which the Program Was Built**

1	Improved fiscal and public sector management and more effective private sector development policies.
2	Better quality education and access to health care for the poor, stronger social protection, and expanded access to affordable housing
3	Improved transport and logistics, expanded access to basic sanitation, and greater supply of clean and efficient energy
4	Integrated water resource management, expanded sustainable agriculture, improved disaster risk management, and improved environmental and biodiversity management.

**Theory of Change**

7. **The theory of change focused on improving public investment planning and implementation for the state while strengthening capacity of specific key sectors and their respective implementing agencies.** The operation selected its main projects in the areas of infrastructure, education, science and technology, and the public sector. The focus on these areas, along with the overall focus on public planning, was expected to have a strong impact on economic development, efficiency in spending, and equitable social development. Road and transport investments were targeted at removing infrastructure bottlenecks and improving access to remote communities. Educational activities in IT modernization and school refurbishment focused on their ability to improve efficiency and quality in education. Private sector activities on cluster governance, industrial extension services, and support to science parks were aimed at better public-private sector links and strengthening management within beneficiary companies. Finally, the public asset management and umbrella capacity-building activities focused on strengthening HR and public investment planning, procurement, and contract management, as well as environmental management activities. These capacity improvements were designed to address the state’s inherent shortcomings in project selection, contract execution, informed policy making, and performance-based management.

**Project Components**

8. **Within the area of environmental and disaster risk management, the project focused on (a)** setting up an environmental licensing and public communications system, (b) setting up an ecological-economic zoning system, (c) developing a disaster risk management coordination system, (d) setting up a disaster risk information and monitoring system, (e) establishing a disaster risk management situation room, (f) carrying out a feasibility study for industrial symbiosis, and (g) providing training in firm-level waste reduction techniques.





9. **TA was also offered to enhance the mechanism for the public-private consultation by** (a) designing an ICT strategy, systems, and implementation support; (b) designing and implementing a multichannel participatory budgeting platform and participation portal; and (c) drafting a proposed new legal framework on participatory procedures and third-party monitoring, supporting its application to organizational processes, and providing training to strengthen third-party monitoring

10. **Additionally, the TA component provided financing to cover high-value TA including** (a) providing TA to economic clusters on, among others, marketing strategies; (b) surveying new entrepreneurs and recently established firms to understand constraints on firm formation and foster coordination among private sector development interventions; (c) carrying out a critical point survey road program and developing a bridge management system; (d) providing support for modernizing management of the borrower's pension system; (e) providing support to institutional strengthening and institutional modernization of DAER; and (f) providing support to AGDI's management throughout the first year of the project.

### ***Program Efficacy***

#### *Transport*

11. **The use of CREMAs, five-year management contracts (two restoration and three management), introduced a number of important improvements, notably the increased incentive for high-quality restoration delivery.** Additionally, PIs that lay at the foundation of the CREMAs enforced results-based financing and more effective management. The road system also showed a number of improvements with the purchase of software that included measures for a more objective analysis, including quality of the road, and so on.

12. **Finally, two additional PIs (PI#5 and PI#6), used within this area of the program, implementation of pavement management system (PI#5) and cumulative kilometers rehabilitated (PI#6), provide further evidence to its successful achievements.** By the end of the operation, the program had completed rehabilitation of 1,557 km of pavement, surpassing the revised target of 1,500 km (up from the original 1,400 km). The management system has now been adopted, enhancing both the quality and productivity of management. An unintended improvement associated with this activity includes the utilization of road infrastructure safety surveys to provide DAER with a tool to manage and improve road safety.

13. **Environmental and indigenous safeguards, triggered for this component of the project, also initially created an implementation bottleneck given state agencies' lack of familiarity with the relevant processes.** The initial idea of building new highways was abandoned in part due to the restrictions created by the World Bank's safeguards that differ dramatically from the local legislature by requiring provisions for displaced families to be placed in a similar or better situation. However, even with the new focus on road restoration, the safeguard manual was prepared with participation from a number of affected indigenous communities. This was an important accomplishment that not only created adaptations within the project, such as in the selection of adequate bus stops and providing traffic security education within indigenous schools to help avoid accidents, but also in initializing a long-term channel of communication not previously available to these communities.

14. **One of the positive accomplishments that are not readily measured by the results framework included the efforts within the TA component to restructure DAER and improve HR capacity.** Even



though the restructuring did not de facto take place, the evaluation catalyzed some important improvements in HR management, such as improved communication between and within agencies responsible for decision making and implementation. The TA component also supported capacity development through trainings on works and quality maintenance conducted with over 100 engineers and fiscal authorities.

#### *Education*

15. **School modernization focused on the acquisition of equipment, including computer lab improvements, increasing access to the Internet, and a one-computer-per-child program pilot; however, systematic and institutional improvements in areas such as HR and contract management lagged.** The project made some important contributions to the state's schools' infrastructure and resources. Socially vulnerable schools were given priority through the creation of 30 nuclei with teacher capacity building, and the purchase of 2,300 tablets and other digital equipment, such as routers and projectors in over 300 schools. Over 60,000 students benefited from the program, especially in places where the use of technology was almost nonexistent, and the success of the project has been used to argue for an expansion of the project to the rest of the state. The project also contributed to the creation of a virtual continued-education platform, made possible as a result of technological advances and improved staff capacity and new equipment made available by the project. However, financial hardships inherent to the state and the sector present a considerable challenge for ensuring sustainability of the actions of this project, suggesting a need for rethinking and defining less ambitious, but more impactful goals for future operations.

16. **Finally, the school repair activity, which was the largest component of this area in financial terms, measured by the cumulative number of construction and school refurbishment projects undertaken (DLI#5), showed marked progress with 387 projects being completed, 27 percent higher than the revised target.** Despite this, the activity ran into a number of challenges, including the initial difficulties in coordination between SEDUC and SEOBAS, and discrepancies between the World Bank and state regulations related to the contract management system (PROCERES). Overall, contracts were poorly managed with an exaggerated number of schools per contract and led to poor quality and delays in completion of works. No improvements were made in the contractual management processes or HR capacity building, compromising the sustainability of the actions within this subsection. As a result, most of the works under this category were not started and procured as originally planned, which resulted in over US\$50 million having to be reallocated to other sectors within EEP categories potentially affecting 320 schools that were expected to benefit from the funds that were originally dedicated for refurbishments. Despite these shortcomings, the project contributed to the repair of some of the most vulnerable schools, enhancing their security, while also contributing to strengthening of quality and governance (with a new decree for governance of 2017), management of works, and communication between actors. An additional improvement was made by decentralizing the construction process, especially when the safeguard mechanism required consultations with indigenous communities to align repairs with local needs.

#### *Private Sector Development*

17. **However, later evaluations of SEDATUR showed some positive results. For example, the establishment of six (target was five) new triple helix alliances (DLI#8) strengthened coordination between municipalities, universities (triple helix), and businesses as a means to support private sector**



**development.** Under this activity, the program financed three new technology parks and supported several others in strengthening their competitive advantage. Given these improvements, almost 20,000 new jobs were generated as a result of the three consolidated parks (PI#11) based on the state's estimates. This was 70 percent more than the target of 15,000, even after the upward revision from the original target of 10,000 and more than double the baseline of 8,200. However, a full diagnostic study of the parks was not finally carried out due to challenges that emerged during government change and inherent changes to policy priorities.

18. **This program area also supported improved governance and monitoring of economic clusters.** Five pilot clusters were selected based on their contribution to regional development, while others were chosen during the project. For each cluster, the program supported a strategic plan to address necessary improvements in governance, capacity building, technology and innovation, sustainability, and market development. The program targets were met with 20 agreements signed with the *Local Productive Arrangements (Arranjos Produtivos Locais, APLs)* (DLI#6), and with the number of collective actions among cluster participants (PI#9) more than double with a 56 percent increase. Due to the governance milestones, including the creation of regional entities for cluster management and the increased capacity for funding, this program has become a public policy in the state and a national reference in Brazil. However, although the program did put in place a monitoring instrument to measure impact in this area, this did not include rigorous impact evaluations. This program area also faced difficulties in sustained fundraising because of state economic challenges, along with government, agency, and legislature changes. Moreover, the overall design of this activity, and its later execution, failed to incorporate incentives for ascertaining stronger links with the private sector and private finance, thus compromising the financial sustainability of the program.

#### *Public Sector Development*

19. The goal of improving public sector investment and implementation had three corresponding DLIs, which triggered 37.5 percent of disbursements, including primary fiscal balance (DLI#1), investment expenditures (DLI#2), and revenue from ICMS (DLI#3). While reducing fiscal imbalances and strengthening revenue and public investment were and in a large part continue to be very relevant to the state's overall performance, the abovementioned indicators are in general under the responsibility of the State Secretary of Economic Development (FAZENDA), which was not part of the program and did not have any direct activities within the program. On the other hand, the project also addressed issues that would show gradual improvements in economic development, such as strengthened asset management and capacity building for public investment. That said, attributing accomplishments of these indicators to the program is tenuous given the long-term and indirect nature of impact of these activities. In addition to these challenges, these three DLIs ran into serious challenges due to the dramatic deterioration of the national economy—directly affecting the performance of these indicators and compromising project execution. Therefore, these indicators are analyzed in a complementary section 5, even though this section is not considered a separate PDO area.

20. **Additionally, the program included activities under Acquisitions Center (*Central de Licitações-CELIC*) to improve public contract management. These activities ran into a number of challenges, unable to have the contract management data system operational (PI#4) in time.** The primary challenge arose from the need to integrate and coordinate the activities of two agencies (FAZENDA and CELIC), which proved to be politically unacceptable and technically very difficult to implement. However, with the new government in place, the project has regained momentum and is currently being adapted, with plans to



become operational by December 2019. Despite this challenge, acquisition of management data system (an activity without a corresponding indicator but one that has brought strategic improvements for the state), is now fully operational and has resulted in dramatic improvements in data processing, increased productivity in acquisitions, and allowed for cross-data analysis and reducing irregularities. Additionally, the program supported six capacity-building trainings for staff, along with the construction of a dedicated training room.

21. **Under public service management, disaster risk management and environmental sustainability were considered priority areas to be addressed within the TA component by** (a) setting up an environmental licensing and public communication system, (b) developing an ecological-economic zoning system, and (c) creating a disaster risk monitoring system and situation room. The first activity was successfully accomplished by reducing the average time for the request for environmental regulation through FEPAM (PI#1) from 826 to 421, almost double the target of 620 days. This is an important accomplishment despite the changed indicator (from number of days for the issuing of an environmental license), which better reflected the specific challenge of reducing the inefficiency of the processing within FEPAM. Automating previously manual processes for the purchase of equipment, along with increased process digitalization, resulted in gains in productivity and transparency. Despite this progress, the original goal to develop an integrated system for environmental regulation (SIRAM) under the program was abandoned due to the incompatibility of systems used by the different actors and the need for additional time to integrate the systems.

22. **The second portion of this project focused on environmental zoning to improve environmental protection/sustainability by systematizing environmental management and incentivizing prevention and social control.** Under the TA component, the program financed a survey of environmental, socioeconomic, and institutional data as part of a diagnostic study and, consequently, strategic guidelines for influencing policy making and corporate actions that have a potential impact on the specific environmental zone. The information obtained was used to feed rich data into the new software that is currently available online and has already influenced policy making, such as in mapping out new indigenous and family fishery areas.

23. **The third and final activity within this component supported improvements in disaster risk management, which was in a large part accomplished with the formulation of a disaster risk policy (PI#3).** The challenges associated with this activity initially originated from the lack of ownership, exemplified by three changes in the implementing agency in the first two years of the project. Once the Environmental Secretary assumed responsibility, the next challenge was the limited time remaining for implementation along with the need to work closely with Civil Defense, with whom there was little cooperation previously. The center of operations that was originally planned was not built, while resources were allocated to using and upgrading the existing monitoring room within the Environmental Secretary with the purchase of appropriate equipment (such as drones). Despite these challenges, the platform and app (SEGIRD) for risk management, disaster alerts, logistics, and process analysis is currently being tested. At the same time, communication and joint decision making between the actors have improved and the state's environmental policy and response to disaster has acquired a slant toward better risk prevention and effective management.

24. **Lastly, a TA activity that was not part of the original program but was included during the 2015 restructuring, IEDE, proved to be a very important addition for enhancing effectiveness of data management and contributing to informed policy making and transparency.** In partnership with the

army, the program supported systematic updates to imaging and cartography, which were then fed to an online system that currently integrates geopolitical, social, health, education, transport, and environmental data. This rich database and software allow for inputting raw data from all the participating secretaries and processing it with cross-referencing of large amounts of data and big data, creating a visually appealing dashboard, providing transparency, and strengthening communication and policy making across agencies. Over 100 people from across the state from different sectors were trained in the use of the software. The recently inaugurated system already had access from around the world with more than 7,000 users per month. With the decree passed in 2015, the system is institutionalized and the remaining secretaries and the city have expressed interest and will be adding their data to the system, which has become a reference in the country.

**Figure 7.2. EEPs**

Program name and budget line number	FY 2013 (BRL m)	FY 2014 (BRL m)	FY 2015 (BRL m)	FY 2016 (BRL m)	Total (BRL m)	Total (US\$ m)	IBRD Financing (US\$ m)
<b>Transport:</b>							
CREMA – 3252	0	146.7	248.5	225.0	620.2	354.4	222.2
<b>Education:</b>							
Construction and refurbishment of facilities – 6344	192.5	122.0	121.1	78.7	514.2	293.8	95.6
Technological modernization – 1909	41.9	35.8	34.5	19.3	131.4	75.1	21.0
Participatory evaluation system - 5791	6.2	6.2	6.3	0.3	19.1	10.9	10.2
<b>Private sector development:</b>							
Cluster governance and monitoring – 3342/3335	4.7	5.1	4.5	4.1	18.5	10.6	6.2
Industrial extension services – 3334	6.6	12.3	12.3	11.9	43.1	24.6	23.5
Science parks & innovation networks – 6704	33.2	32.1	32.6	19.7	117.6	67.2	35.6
<b>Public sector management:</b>							
Public asset management - 8089	5.2	4.3	3.7	5.2	18.4	10.5	9.2
<b>TOTAL</b>						<b>847.1</b>	<b>423.5</b>

Note: US\$ = 1.75 BRL