

Document of  
The World Bank

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Report No: 56261-BR

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US\$300 MILLION

TO THE

STATE OF TOCANTINS

WITH THE GUARANTEE OF THE FEDERATIVE REPUBLIC OF BRAZIL

FOR THE

TOCANTINS INTEGRATED SUSTAINABLE REGIONAL DEVELOPMENT PROJECT

June 19, 2012

Sustainable Development Department  
Brazil Country Management Unit  
Latin America and the Caribbean Region

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## CURRENCY EQUIVALENTS

(Exchange Rate Effective June 12, 2012)

Currency Unit = Brazilian Reis  
BR\$ 2.0652 = US\$ 1  
US\$ 0.4842 = BR \$1

FISCAL YEAR  
January 1 – December 31

## ABBREVIATIONS AND ACRONYMS

CdL	Bidding Commission	IRI	International Roughness Index
CPS	Country Partnership Strategy	IRR	Internal Rate of Return
CREMA	Rehabilitation and Maintenance Performance Based Contracts	Naturatins	State Environmental Agency
EIA	Environmental Impact Assessment	NPV	Net Present Value
EMP	Environmental Management Plan	ORAF	Operational Risk Assessment Framework
ESIA	Environmental and Social Impact Assessment	PDO	Project Development Objective
ESMF	Environmental and Social Management Framework	PDRIS	Tocantins Integrated Sustainable Regional Development
FUNAI	National Indian Foundation	PPA	Multi Annual Plan
FUNASA	National Health Foundation	RPF	Resettlement Policy Framework
GDP	Gross Domestic Product	Ruraltins	State Rural Development Agency
GOP/GAP	Operational Management Unit/Administrative Management Unit	SEAGRO	Agriculture, livestock and Agricultural Development Secretariat
HDM	Highway Development and Management System	SECAD	Administration Secretariat
IBRD	International Bank for Reconstruction and Development	SEDUC	Education Secretariat
IFR	Project Financial Reports	SEFAZ	Finance Secretariat
IPDP	Indigenous Peoples Development Plan	SEINFRA	Infrastructure Secretariat
IPPF	Indigenous Peoples Planning Framework	SEMADE S	Environment and Sustainable Development Secretariat
		SEPLAN	Planning and Public Management Modernization Secretariat
		SoT	State of Tocantins
		UGP	Project Management Unit

Regional Vice President:	Hasan A. Tuluy
Country Director:	Deborah L. Wetzel
Sector Director:	Ede Jorge Ijjasz-Vasquez
Sector Manager:	Aurelio Menendez
Task Team Leader:	Eric Lancelot

**Brazil**  
**Tocantins Integrated Sustainable Regional Development Project**

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## PAD DATA SHEET

### BRAZIL

#### Tocantins Integrated Sustainable Regional Development Project

### PROJECT APPRAISAL DOCUMENT

#### LATIN AMERICA AND CARIBBEAN

#### LCSTR

Basic Information			
Date:	June 19, 2012	Sectors:	Roads and highways (70%); Sub-national government administration (15%); General public administration sector (10%); General education sector (5%)
Country Director:	Deborah L. Wetzel	Themes:	Rural services and infrastructure (40%); Municipal governance and institution building (30%); Environmental policies and institutions (15%); Other public sector governance (10%); Education for all (5%)
Sector Manager/Director:	Aurelio Menendez / Ede Jorge Ijjasz-Vasquez	EA Category:	B – Partial Assessment
Project ID:	P121495		
Lending Instrument:	Specific Investment Loan		
Team Leader(s):	Eric Lancelot		
Does the project include any CDD component? No			
Borrower: State of Tocantins			
Responsible Agency: State of Tocantins - Secretariat of Planning and Public Management Modernization (Secretaria do Planejamento e Modernização da Gestão Pública - SEPLAN)			
Contact:	Belizario Franco Neto,	Title:	Diretor Geral de Assuntos Estrategicos, SEPLAN
Telephone	+55 (63) 3212-4400	Email:	belifranco@seplan.to.gov.br
Project Implementation Period: Start Date: July 26, 2012 End Date: September 30, 2018			
Expected Effectiveness Date: September 30, 2012			
Expected Closing Date: March 31, 2019			

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<b>Project Financing Data(US\$M)</b>								
[ x ] Loan	[ ] Grant	Terms: IBRD Flexible Loan with a variable spread, which has a final maturity of 24.5 years, including a grace period of five years. All conversion options were selected, with the Premia for Interest Rate Caps and Collars to be capitalized.						
[ ] Credit	[ ] Guarantee							
<b>For Loans/Credits/Others</b>								
Total Project Cost :		375		Total Bank Financing :		300		
Total Cofinancing :				Financing Gap :				
.								
<b>Financing Source</b>				<b>Amount(US\$M)</b>				
BORROWER/RECIPIENT				75				
IBRD				300				
IDA: New								
IDA: Recommitted								
Others								
Financing Gap								
Total				375				
.								
<b>Expected Disbursements (in USD Million)</b>								
Fiscal Year	2013	2014	2015	2016	2017	2018	2019	
Annual	65.00	75.00	70.00	40.00	30.00	15.00	5.00	
Cumulative	65.00	140.00	210.00	250.00	280.00	295.00	300.00	
.								
<b>Project Development Objective(s)</b>								
The objective of the Project is to foster improved effectiveness of road transport and enhanced efficiency of selected public services, in support of the Borrower's integrated and territorially balanced development agenda.								
.								
<b>Components</b>								
<b>Component Name</b>					<b>Cost (US\$ Millions)</b>			
Component 1 Improving effectiveness of rural transport					240.00			

Provision of support to improve accessibility of the Borrower's remote populations and, at the same time, foster regional economic integration and support the Borrower's competitiveness and social inclusion agendas	
Component 2 Enhanced efficiency of public services Provision of support for institutional strengthening	51.25
Component 3 Project Management Provision of support for Project management in connection with the implementation and supervision of the Project	7.25
Front-End Fees	0.75
<b>Compliance</b>	
<b>Policy</b>	
Does the project depart from the CAS in content or in other significant respects?	Yes [ ] No [ x ]
Does the project require any waivers of Bank policies?	Yes [ ] No [ x ]
Have these been approved by Bank management?	Yes [ x ] No [ ]
Is approval for any policy waivers sought from the Board?	Yes [ ] No [ x ]
Does the project meet the Regional criteria for readiness for implementation?	Yes [ x ] No [ ]
<b>Safeguard Policies Triggered by the Project</b>	<b>Yes</b> <b>No</b>
Environmental Assessment OP/BP 4.01	x
Natural Habitats OP/BP 4.04	x
Forests OP/BP 4.36	x
Pest Management OP 4.09	x
Physical Cultural Resources OP/BP 4.11	x
Indigenous Peoples OP/BP 4.10	x
Involuntary Resettlement OP/BP 4.12	x
Safety of Dams OP/BP 4.37	x
Projects on International Waterways OP/BP 7.50	
Projects in Disputed Areas OP/BP 7.60	
<b>Legal Covenants</b>	
<b>Name</b>	<b>Recurrent</b> <b>Due Date</b> <b>Frequency</b>

<p><b><i>Institutional arrangement</i></b> The Borrower shall, at all times during the execution and until completion of the Project, maintain a unit within SEPLAN to be responsible for the coordination and monitoring of the Project (the “PMU”).</p>	X		
<p><b><i>Cooperation agreement</i></b> Prior to the carrying out of any Project activity which requires the assistance of any given Participating Entity, the Borrower shall enter into a cooperation agreement with said Participating Entity (the “Cooperation Agreement”), under terms and conditions acceptable to the Bank.</p>	X		
<p><b><i>Municipal Road Subprojects</i></b> Prior to approval of municipal works, the Borrower shall furnish to the Bank:</p> <ul style="list-style-type: none"> <li>(a) a copy of the municipality’s development agenda;</li> <li>(b) the priority list of the road sections;</li> <li>(c) a copy of the cooperation agreement between the Borrower and the relevant municipality;</li> <li>(d) if applicable, a copy of intermunicipal consortium agreement;</li> <li>(e) the bidding documents.</li> </ul>	X		
<p><b><i>Environmental and Social Provisions</i></b> The Borrower shall, through SEPLAN, and with the assistance of the pertinent Participating Entity, implement the Project in accordance with the provisions of the Environmental and Social Management Framework and Plans, the Indigenous Peoples Planning Framework and the Resettlement Policy Framework (including the Process Framework) and in a manner acceptable to the Bank.</p>	X		

<b>Other Undertakings</b> The Borrower shall maintain during Project Implementation a procurement specialist for SEINFRA and a procurement specialist for SEPLAN, both under terms of reference satisfactory to the Bank.	X		
<p>By October 31, 2015, or when disbursements have reached 50% of the Loan, whichever is first, the Borrower shall:</p> <p>(a) carry out jointly with the Bank, a mid-term review (Midterm Review) on the progress in the implementation of the Project; and</p> <p>(b) immediately following such Midterm Review, act promptly and diligently to take any corrective action as shall be agreed between the Borrower and Bank.</p>		October 31, 2015 or when disbursement reaches 50%	

### Team Composition

#### Bank Staff

Name	Title	Specialization	Unit	UPI
Eric Lancelot	Sr. Transport Engineer, TTL	Engineer	LCSTR	298491
Gregoire Gauthier	Sr. Transport Engineer	Engineer	LCSTR	326260
Clarisse Torrens Borges Dall'Acqua	Environment Specialist (ETC)	Environment	LCSEN	331593
Jason Paiement	Social Specialist	Social	LCSSO	177686
David Evans	Sr. Economist (Education)	Education	LCSHE	213993
Evelyn Levy	Consultant (Public Sector & Governance)	Public Sector & Governance	LCSPR	319922
Maria de Fatima	Senior Rural	Rural Development	LCSAR	232642

Amazonas	Development Specialist			
João Vicente	Financial Management Specialist	Finance	LCSFM	328583
Miguel-Santiago da Silva Oliveira	Sr. Finance Officer	Finance	CTRLN	260058
Catarina Portelo	Sr Counsel	Law	LEGLA	221750
Marta Elena Molaes-Halberg	Lead Counsel	Law	LEGES	013064
Isabela Manelici	JPA	Engineer	TWITR	370323
Sivan Susan Tamir	ETC	Economics	LCSTR	330189
Hanayo Taguchi	Project Assistant	Administration	LCSTR	274120
Satoshi Ogita	ETC	Engineer	LCSTR	361479
Bernadete Lange	Environment Specialist	Environment	LCDSN	322535
Etel Patricia Bereslawski Aberboj	Senior Procurement Specialist	Procurement	LCSPT	333033

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#### Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Brazil	State of Tocantins	State of Tocantins		X	

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**BRAZIL**  
**Tocantins Integrated Sustainable Regional Development Project**

**PROJECT APPRAISAL DOCUMENT**

**I. STRATEGIC CONTEXT**

**A. Country Context**

1. The State of Tocantins (SoT) is the most recent State in Brazil created under the 1988 constitution when it split from the northern half of the former State of Goiás. Located in the Center-North of Brazil, in the *Cerrado*<sup>1</sup> biome (87% of the State), it has a tropical climate with pronounced seasonality marked by a dry season from May through October. With an area of 277,621 km<sup>2</sup> and a population of 1.38 million (2010), the State density is low (4.98 hab/km<sup>2</sup>). It enjoys unique environmental assets, including large preserved areas among which is the *Bananal* Island on the Araguaia River, the world's largest river islands, and the *Jalapao* region in the State's eastern end. Urbanization in the State has grown at a fast pace since its creation and is now aligned with current Brazilian trends, with 79% of the population in urban areas mainly concentrated in 10 major cities. Most other cities are small to very small, with more than half of the 139 municipalities having less than 5,000 inhabitants.

2. With a GDP close to R\$13 billion (2008) (equivalent to US\$7.1 billion using 2008 average exchange rate) and high growth rates in its early stage of creation of a high 7% growth per year on average over the past 7 years, despite sensitivities to external shocks, Tocantins is one of Brazil's smallest yet fastest growing states. The economy is comprised of the primary sector (20.8%, mainly agriculture), industry (23.6%, notably construction and agro-industry) and services (55.6%) (2008). The State has had large surpluses in its trade balance as a result of impressive export growth as illustrated by 23% increase between 2009 and 2010. However such exports mainly rely on a limited number of agricultural products and overall accessibility and logistics remain a major bottleneck as the centers of production are located at best several hundred kilometers away from the main consumption centers. Successive governments have managed to maintain a healthy financial position through the implementation of fiscal responsibility plans and budgetary policies since the State's creation allowing adequate capacity to take on additional debt. Tax revenues have increased by 20% in 2010 over 2009 and despite the global crisis, revenues still increased by 16% and 26% in nominal terms from 2009 to 2010 and 2010 to 2011, respectively.

3. Although the socio-economic situation has improved since the State's creation, further progress remains to be achieved to bring up social indicators closer to national averages. While GDP per capita has nearly doubled in the past 6 years, (i) it currently stands at a relatively low R\$10,223 per year (2008) (equivalent to US\$5,600 using 2008 average exchange rate), placing Tocantins 16th amongst the Brazilian states; (ii) Human Development Index was 0.756 in 2005 (vs. 0.61 in 1991)<sup>2</sup> yet about 11% (2008) of the population remains below the poverty line; (iii)

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<sup>1</sup> The Cerrado biome is characterized by savanna formations crossed by gallery forests and stream valleys. It is one of the most biodiverse savannas in the world, including a mosaic of ecosystems with 23 types of vegetation consisting mostly of tropical savannas woodland, grasslands and forests.

<sup>2</sup> Defined by the federal government as families with per capita income up to R\$70 monthly

the infant mortality rate (2009) is 26 deaths per 1,000 children under the age of one (22.5 on average in Brazil); (iv) the literacy rate has improved significantly, from 62% in 1991 to 85% in 2007, yet test scores remain well below the Brazil average at both the primary and secondary levels, as does access to early child education. Finally, two vulnerable groups live in Tocantins, including 13,100 indigenous people living mostly on six main indigenous territories (as per FUNAI, IBGE 2010) and about 7,500 residents of Quilombos<sup>3</sup> in 15 dispersed rural communities.

## **B. Sectoral and Institutional Context**

4. Long term development strategies targeted at fostering sustainable development and quality of life for citizens in a perspective of modernization of the State have been prioritized consistently under successive four-year multi-annual plans (*Plano Pluri Anual* - PPA) adopted by different governments over the last 20 years. During the early stages of the State's creation, this translated into a strong focus on building core infrastructure given the relative remoteness of the State and the existence of lagging regions. The State's more recent PPAs have progressively evolved towards supporting a more encompassing, well balanced and integrated development of its territories and citizens. Aligned with this long term strategy, the SoT new PPA (2012-2015) aims at fostering competitiveness for economic growth while ensuring social inclusiveness and environmental sustainability.

5. On the economic front, given its favorable climate and large availability of arable lands, the State is taking advantage of its agribusiness potential to increase its GDP in the context of the worldwide increase in demand for agricultural commodities. As a result, the State development agenda focuses on strengthening regional producers' production capacity while also fostering local economic initiatives (including, inter alia, tourism), and preparing accompanying measures to improve the efficiency of public services delivery considering the relative remoteness of the State and its territories. Improving transport and logistics in an integrated fashion from local to feeder roads to the main transport corridors is key in the State development agenda in order to boost its economic development by fostering integration of the State economic agents into national and international markets. In that perspective, the new federal trunk transport corridors planned or under construction, which have the potential to reduce costly road long distance haulage,<sup>4</sup> are exceptional opportunities the Government hopes to seize by articulating its transport investments with those federal investments.

6. On the social and environmental fronts, the Government development agenda aims at ensuring that the State's growth is regionally well-balanced, socially inclusive and environmentally sustainable. Tocantins is on Brazil's agricultural frontier. Rural areas of the State are characterized by scattered small land owners and remote (and sometimes vulnerable) populations and communities. Mindful of the risks to sustainable development of uncontrolled growth of its territories, the State development agenda aims at fostering economic opportunities by building social capital through decentralization and empowerment of rural populations, capacity building and incentives to local economic initiatives, and strengthened education while

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<sup>3</sup>*Mocambos, Terra de preto, Comunidades remanescentes de quilombos, Comunidades negras rurais, Comunidades de terreiro* are afro-descendent groups which in large part remained after fleeing slavery (Quilombolas). Out of a total estimate of 3000 communities Quilombolas communities in Brazil, 171 have been officially recognized.

<sup>4</sup> The Federal Government is currently constructing the North South Railroad (*Norte Sul*) across the State and finances navigability improvements on the Tocantins river in the North of the State.



implementing cutting edge environmental protection policies<sup>5</sup>. Likewise, improving transport access of those populations to employment opportunities, markets and services, better health care and education are instrumental to support this development agenda.

### **C. Higher Level Objectives to which the Project Contributes**

7. The Bank has been supporting the SoT development on a continuous basis from early in its creation (1990s) with the succession of three operations<sup>6</sup>. This partnership has matured towards a deepening engagement with more encompassing and complex operations. Such deepening engagement is illustrated by the evolution of the features of the Bank's assistance: while the first Project was mainly focused on structuring the State's main road networks, the second Project had focused on a broader regional sustainable development. It notably supported improved access of the State's poorest populations to employment opportunities, markets and services in conjunction with a number of institutional strengthening activities mainly targeted at fostering decentralization and local development while mainstreaming environmental management. This latter operation was complemented by the ongoing Sustainable Cerrado Initiative (P091827/TF096766 financed by a grant from the Global Environment Facility) to increase biodiversity conservation in the Cerrado biome, manage rural productive landscapes through promoting sustainable agricultural practices, and establish conservation policies.

8. Building on previous positive experiences and considering the new challenges, the proposed Project presents new opportunities to scale-up the Bank's support to the State of Tocantins' sustainable development, by supporting initiatives that complement and build upon the transformational impacts of transport investments. In articulation with investments in the transport sector, the Project will support a set of initiatives aimed at improving the State's competitiveness and regional development in a socially inclusive and environmentally sustainable fashion.

9. The proposed Project is aligned with the four strategic objectives of the World Bank Group's Country Partnership Strategy 2012-2015 (Report # 63731-BR) discussed by the Executive Directors on November 1, 2011. It will contribute to (i) increase the efficiency of public and private investments; (ii) improve the quality and expand the provision of public services for low income households; (iii) promote regional economic development through improved policies, strategic infrastructure investments, and support for the private sector in frontier areas; and (iv) further improve sustainable natural resource management and enhance climatic resilience while contributing to local economic development and helping to meet rising global food demand. While the accessibility and transport component of the Project is expected to directly serve the CPS's first, second and third objectives and indirectly the fourth, the institutional development component focusing inter alia on improving the efficiency of the State administration, supporting local and regional development, mainstreaming environmental management and strengthening education, is also expected to advance the dialogue with the State in line with all four of the strategic objectives of the CPS.

10. Finally, by supporting more efficient and safe transport together with activities aimed at strengthening local and regional development in an environmentally and socially sustainable

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<sup>5</sup> PPA 2012-2015

<sup>6</sup> Second State Highway Management Project (P006555-closed in 1999), Tocantins Sustainable Regional Development Project (P060573- closed in 2011), ongoing Sustainable Cerrado Initiative (P091827) /TF096766 – GEF grant

context, the Project will also contribute to strengthening the State's role in Brazil's agribusiness industry and, by extension, the country's contribution to the global market for agricultural commodities. Brazil is already the third largest exporter of agricultural products after the United States and Europe and its role as leader in the global market of agricultural commodities is expected to grow in the future given its strong potential for development, particularly in the central region which includes the SoT which has considerable unrealized agricultural potential.

## **II. PROJECT DEVELOPMENT OBJECTIVES**

### **A. PDO**

11. The objective of the Project is to foster improved effectiveness of road transport and enhanced efficiency of selected public services, in support of the Borrower's integrated and territorially balanced development agenda. The objective will be achieved through fostering (i) improved accessibility of populations and producers to employment opportunities, services, resources, and markets and enhanced connectivity to the State's territories and productive regions, and (ii) institutional strengthening to contribute to modernize public service delivery and management, promote local economic activities, strengthen environmental management, and improve education.

### **B. Project Beneficiaries**

12. Direct beneficiaries will consist of regional populations located in the western half of Tocantins which did not benefit from investments under the previous Project (Tocantins Sustainable Regional Development Project, P060573), as well as populations in other regions specifically targeted by the local development pilots envisaged in the Project. It is expected that about 300,000 people in 72 municipalities will directly benefit from the Project investments in municipal roads as a result of improved road conditions, shorter journey times, increased accessibility, and fewer interruptions, as well as from technical assistance activities related to local production development and education programs such as training, skills improvements and updated tools. More broadly, the overall population of the State is expected to benefit indirectly from the Project, particularly when located in the vicinity of the investments on the State roads, through wider network coverage, lower vehicle operating costs, safer travel conditions and better connectivity and from improvements to State-wide public service delivery under the technical assistance activities. Direct Project beneficiaries will also include government agencies at the state and municipal level benefitting from improvements to environmental management and efficiencies in the administration. Improvements to environmental management and enhancements to institutional policies will provide direct or indirect benefits to the general society.

### **C. PDO Level Results Indicators**

13. During Project implementation, the Bank will monitor the Borrower's delivery of the Project components, while the Project development outcomes will be measured based on improved efficiency on the demand side, i.e. gains accruing to users. The key results indicators that reflect both the investment and institutional strengthening activities across the different sectors, and measure the success of achieving the PDO, are:

- a) Improved transport conditions measured by a) percentage of CREMA State road network in good condition and b) the increase of vehicle-km travelled on State paved roads under good condition;
- b) Improved access to employment opportunities, services, resources and markets measured as the total percentage of the population with access to all-season roads in the western part of Tocantins (core indicator);
- c) Improved public services delivery as measured by substantial achievement of intermediate indicators of Component 2.

14. Results Framework with PDO details and Intermediate level results is included in Annex 1.

### III. PROJECT DESCRIPTION

#### A. Project components

15. The Project, Projeto de Desenvolvimento Regional Integrado e Sustentável no Estado do Tocantins (PDRIS), will support the State development agenda – through a US\$ 375 million Project supported by a US\$300 million Bank loan - that aims at contributing to improved competitiveness and regional integration, social inclusion and environmental sustainability. The Project consists of the following components (see also Annex 2):

**Component 1 – Improving effectiveness of rural transport (Estimated cost US\$304 million of which US\$240 million will be financed by the Bank loan)<sup>7</sup>**

16. Provision of support to improve accessibility of the Borrower's remote populations and, at the same time, foster regional economic integration and support the Borrower's competitiveness and social inclusion agendas, through the carrying out of the following activities:

- 1.1.Improving transport conditions on the municipal roads** (US\$73 million). Improvement of accessibility of rural populations to employment opportunities, services and resources and markets by the elimination of about 2,600 critical spots on selected municipal feeder roads through, inter alia, the design, construction and supervision of concrete hydraulic structures (bridges and culverts) of municipal feeder roads, all to ensure year round traffic (the Municipal Road Subprojects).
- 1.2.Rehabilitating the Borrower's paved network through performance based contracts** (US\$160 million). Improvement of transport conditions on the Borrower's paved roads through the carrying out of: (a) a set of performance based CREMA Contracts on about 1,500 kilometres of identified Borrower-managed paved roads (the State Road Rehabilitation Subprojects I); and (b) if applicable, performance-based CREMA Contracts in selected Borrower-managed paved roads in accordance with criteria acceptable to the Bank (the State Road Rehabilitation Subprojects II);
- 1.3.Improving road and transport safety conditions on Borrower's unpaved roads** (US\$62 million). Improvement of connectivity and transport safety conditions on the Borrower's unpaved roads, through, inter alia (i) the elimination of about 20 critical spots on unpaved feeder roads through the design, replacement and supervision of concrete hydraulic structures of selected deficient infrastructures; and (ii) design, surfacing and

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<sup>7</sup> All amounts of subcomponents include contingencies

supervision of approximately 50 km of unpaved road sections to close the network and facilitate access to the national trunk network (the State Road Improvement Subprojects);

- 1.4. Transport management capacity institutional strengthening** (US\$9 million). Improvement of the Borrower's capacity in transport planning and management, logistics and road safety (all under terms of reference acceptable to the Bank), through the provision of goods, consultants' services, Non-Consulting Services and training for institutional strengthening of SEINFRA in the following areas: (i) transportation planning and logistics management, (ii) road safety, and (iii) social and environmental management.

**Component 2 – Enhanced efficiency of public services (Estimated cost US\$62.25 million of which US\$51.25 million financed by the Bank loan)<sup>8</sup>**

17. Provision of support for institutional strengthening, through the provision of goods, works, training, non-Consulting and consultants' services, through the carrying out of the following activities:

- 2.1. Modernization of the Borrower's administration** (US\$24.75 million). Provision of support to the SEPLAN to improve public services efficiency (all under terms of reference acceptable to the Bank) through, inter alia (i) the introduction of a results-based management methodology, (ii) a de-concentration of Borrower's administrative services to its regions, for purposes of strengthening the municipalities' management capacities, (iii) the improvement of environmentally and socially sustainable land use planning processes and natural resource management policies; and (iv) the improvement of service delivery to users as well as work conditions for the Borrower's civil servants by carrying out rehabilitation and/or construction activities of public premises and/or facilities in accordance with the criteria set forth in the Operational Manual.
- 2.2. Fostered local and regional development** (US\$10 million). Provision of support, through the carrying out of pilot activities aimed towards the promotion of rural businesses and the creation of opportunities to attract sustainable investments in selected Borrower's regions (all under terms of reference acceptable to the Bank), which activities consist of, inter alia (i) to SEAGRO and Ruraltins for the promotion of a more efficient agribusiness sector with social and gender inclusiveness, as well as environmental and economic sustainability in the Borrower's territory, by fostering increased productivity and better access to markets for subsistence production and small and medium producers, and attracting sustainable investments while fostering environment sustainability, (ii) to SEMADES for the preparation of a renewable energy policy for the Borrower, and (iii) to SEPLAN for the development of ecotourism in the Borrower's territory.
- 2.3. Improvement of environmental management** (US\$17.5 million). Provision of support to SEMADES and Naturatins to improve environmental management (all under terms of reference acceptable to the Bank) through, inter alia (i) the improvement of the Borrower's environmental licensing system and its monitoring and enforcement activities (excluding any enforcement police-type activity), and its water rights registration system, (ii) (A) the carrying out of studies on the evaluation of the need for new public policies for the conservation and sustainable use of natural resources and development of biodiversity, and if applicable as determined by the results of said studies, the development of

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<sup>8</sup> All amounts of subcomponents include contingencies

regulatory mechanisms and technical instruments for the conservation and sustainable use of natural resources and development of biodiversity; and (B) the carrying out of pilot activities in support of areas mentioned in (A) herein to be selected in accordance with criteria acceptable to the Bank; and (iii) (A) the carrying out of studies on the evaluation of the need for new public policies in water management, and if applicable as determined by the results of said studies, the development of regulatory mechanisms and technical instruments for a more sustainable use of water; and (B) the carrying out of pilot activities in support of the area mentioned in (A) herein to be selected in accordance with criteria acceptable to the Bank.

**2.4.Improvement of quality, relevance and returns in the education system (US\$10 million).** Provision of support to SEDUC to improve quality in the Borrower's education system in a pilot set of selected Borrower's municipalities with high vulnerability (all under terms of reference acceptable to the Bank), through, inter alia: (i) supporting the selected municipalities in providing quality early child development, (ii) increasing quality of education through identifying strengths and weaknesses in the quality of teaching and providing targeted training to ameliorate weaknesses, and (iii) improving the relevance and returns to schooling through supplementary courses in upper secondary schools and improved education materials.

### **Component 3 – Project Management (Estimated cost US\$8 million of which US\$8 million financed by the Bank loan)**

18. Provision of support for Project management in connection with the implementation and supervision of the Project.

19. The Project integrates its various components on several levels: vertical integration within the road network links municipal and state level roads to provide seamless coordinated logistics across the network. The roads are also prioritized to integrate horizontally with the requirements of several activities under the institutional strengthening component. Such articulation between the investment and institutional strengthening components give momentum to the transformational nature of transport. All municipal and State road sections to be rehabilitated or upgraded or surfaced and the public facilities rehabilitated and/or built under the proposed Project will be reviewed a priori by the Bank and will meet the following criteria: (i) civil works contracts tendered in accordance with procedures described in Annex 2 & 3; (ii) environmental and social impacts identified, prevented and mitigated in accordance with procedures agreed upon with the Bank and described in Annex 3 and more widely, with Bank safeguard policies; (iii) engineering designs and work specification carried out following processes agreed upon with the Bank and included in the Manual of procedures for engineering design and supervision of works agreed with the Bank. In addition, all civil works on municipal and State road sections to be rehabilitated or upgraded under the proposed Project will have an internal rate of return (IRR) greater than 10%.

#### **B. Project Financing**

##### **1. Lending Instrument**

20. The lending instrument is a Specific Investment Loan. Such instrument was selected based on the Government's needs and to leverage the benefits of a Bank financed operation to a broader scope, namely a support to the State's development agenda.

## 2. Project Cost and Financing

**Table 1 – Project Cost and financing**

<b>Project Components (in millions US\$)</b>	<b>Project cost</b>	<b>IBRD Financing</b>	<b>% Financing</b>
1. Component 1 Improving efficiency of rural transport:	304.00	240.00	
a) Subcomponents 1.1, 1.2:	233.00	233.00	100%
b) Subcomponent 1.3:	62.00	0.00	0%
c) Subcomponent 1.4:	9.00	7.00	80%
2. Component 2 Enhanced public services delivery in a set of defined public services	62.25	51.25	
a) Subcomponents 2.1.i, ii, iii, 2.2, 2.3, 2.4	55.00	44.00	80%
b) Subcomponent 2.1.iv	7.25	7.25	100%
3. Component 3 Project Management	8.00	8.00	100%
<b>Total Project Costs</b>	<b>374.25</b>	<b>299.25</b>	
Interest During Implementation	0.00	0.00	
Front-End Fees	0.75	0.75	
<b>Total Financing Required</b>	<b>375.00</b>	<b>300.00</b>	

### C. Lessons Learned and Reflected in the Project Design

21. Holistic approach in Project structuring may better foster regional development. A challenge in the Bank's engagement with the State of Tocantins has been to get the appropriate balance on the agenda – to make sure it was broad enough to appropriately leverage the Bank's intervention to support the State to meet its development challenges, while being focused enough to be practical and implementable within a project's lifetime. The deepening engagement over time could be illustrated by the evolution of the nature of Bank's assistance which, building on previous successes and challenges, would naturally lead to a more encompassing and complex operation (the proposed Project): the first Project (Second State Highway Management Project, P006555) focused on infrastructure support to serve the foundations for a newly created State by focusing on main transport infrastructures; the second Project (Tocantins Sustainable Regional Development Project, P060573) focused on regional development, with support to municipal road infrastructure following an innovative participatory-based approach and a limited number of institutional strengthening activities. While these two projects were very relevant at their time and have supported foundation for solid growth, a more holistic approach, characterized by a more comprehensive and integrated engagement that responds to the broad challenges of a maturing state with more sophisticated needs, such as infrastructure investments at both the state and municipal levels coupled with a range of institutional strengthening targeting a variety of secretariats, is currently required. As a result, the present proposed Project encompasses a multisectoral approach aimed at improving public service delivery to more broadly support the State development agenda.

22. While participatory, bottom-up, demand-driven initiatives can improve the quality and relevance of social and economic investments, successive and complementary mechanisms might further foster full empowerment of populations. The previous Project (P060573) envisioned supporting a series of original participatory mechanisms aimed at fostering ownership of the local development agenda by the beneficiaries. While the engagements in the participatory

processes were a success, both the sustainability of the social empowerment and the follow-on regional development initiatives have mostly fallen short, creating, paradoxically, unfulfilled expectations among the served populations. In reproducing the successful participatory approach in the prioritization process under the Project's local subcomponents, the new operation will also try to tackle the issue by fostering results-based approaches in the relationships between the State and the municipalities, for example requiring state investments in the municipalities to be conditional on the creation of mechanisms to foster sustainability and strengthened responsibility by the beneficiary municipalities (see further details in Annex 2).

23. Mechanisms designed to ensure sustainability of operation in the face of political changes and policy shifts can reduce potential implementation delays. Such political changes impacted negatively the rhythm of implementation of the previous Project (P060573), as well as the preparation of the present proposed operation. Thus Project implementation was carefully planned and the use of particular tools designed into the new operation (such as long term rehabilitation and maintenance contracts, particular attention to the procurement and financing plans, and a realistic 6 year implementation timeframe) in order to mitigate potential negative impacts from political changes and ensure ownership at the highest levels.

#### **IV. IMPLEMENTATION**

##### **A. Institutional and Implementation Arrangements**

24. The State of Tocantins will be the Borrower, represented by its Secretariat of Planning and Public Management Modernization (SEPLAN), and the Federative Republic of Brazil will be the Guarantor. The Project will be executed under the responsibility of the SEPLAN and managed by a Project Management Unit (Unidade de Gerenciamento de Projeto, UGP) with the following implementation responsibilities: centralizing, coordinating and monitoring all project activities, including procurement planning and implementation, as well as safeguards management, scheduling, monitoring and reporting, disbursement and internal controls, maintenance of project accounts and preparation of project management reports, and quality control. The UGP is based on the successful model used under the previous operation (P060573) and includes an operational management unit (Grupo Operacional de Projeto, GOP) functioning as a steering committee composed of representatives from each beneficiary under SEPLAN leadership, and an administrative unit (Grupo Administrativo do Projeto, GAP). Since its creation in early 2011, the UGP/GAP has been staffed with specialists having adequate experience with Bank projects and progressively and successfully managed the final 10 months of the previous operation while ensuring appropriate preparation of the proposed operation.

25. The Project components will benefit the following secretariats: (i) Planning Secretariat (SEPLAN) for modernization of the State administration, (ii) Agriculture Secretariat (SEAGRO) and the State Rural Development Agency (Ruraltins) for fostering local and regional development, (iii) Environment and Sustainable Development Secretariat (SEMADES) and the State Environmental Agency (Naturatins), for improved environmental management, (iv) Education Secretariat (SEDUC) for improved education, and (v) Infrastructure Secretariat (SEINFRA) for improved effectiveness of rural transport. External support from consultants for the preparation, management, implementation and supervision of the Project may be required for each of the beneficiaries.

26. The relationship between these beneficiaries and SEPLAN will be formalized through cooperation agreements that define the obligations of each entity to carry out the Project

activities under their responsibility. These implementation arrangements and reporting requirements are detailed in Annex 3 and 5.

## **B. Results Monitoring and Evaluation**

27. The technical responsibility for preparation, supervision, monitoring and evaluation of Project outcomes and results will be shared between the different beneficiary agencies, in their respective areas of responsibility, under the supervision of the UGP. The diverse Project coordinators at each of the secretariats will be responsible for reporting to the UGP information on, among others, procurement planning, certification of bills, safeguards management, progress in the activities underway and achievement of intermediate outcome indicators.

28. The responsibility for the monitoring of Project outcome indicators will be organized as follows: (i) SEINFRA will monitor the values of the indicators: the percentage of CREMA State road network in good condition, the increase of Vehicle-km travelled on State paved roads under good condition, and the total percentage of the population with access to all-season roads in the western part of Tocantins; and (ii) SEPLAN will monitor the values of the indicator: Improved public services delivery as measured by substantial achievement of intermediate indicators of Component 2 (see Annex 1 for details). Additionally, the Borrower will conduct an evaluation study, which will endeavor to be gender disaggregated, to determine whether the proposed interventions under Subcomponent 2.2. generate a significant and positive impact for the participating rural producers with respect to the following:

- a. market access of participating producers (measured by sales value);
- b. production and productivity (measured by total production and production per hectare);
- c. quality of life and satisfaction of rural producers (measured by access to durable goods, water supply and land value); and
- d. technology adoption by producers (measured by acquisition of productive capital, aggregated value, etc.).

Lastly, an impact evaluation had been conducted in the previous project (preliminary positive results for Project's impacts), and its continuation will be executed for the proposed Project.

## **C. Sustainability**

29. The Project will support the State in improving, in an efficient and sustainable manner, transport management. Project sustainability will build on past successes and challenges, combined with the introduction of new tools and mechanisms, such as: agreements to ensure empowerment of municipalities in the management of the municipal roads in the long term; implementation of long term efficient road rehabilitation and maintenance contracts (CREMA) on the State road network recognized as contributing to improved sustainability of maintenance practices; development of an integrated vision of logistics and transport in the State, including various jurisdictions and transport modes; and support to initiatives in transport safety.

30. Project sustainability will be backed by the institutional strengthening activities envisioned under the Project both upstream and downstream. Through this component, the Project is expected to contribute to building social capital through improved education and through fostering local and regional economic activities and opportunities. Also, by piloting specific mechanisms for improving road connectivity and encouraging complementary production of rural development activities, the Project will attempt to strengthen the institutional relationships



and transport conditions required to foster greater social and economic integration particularly for the State's most vulnerable populations.

## **V. KEY RISKS AND MITIGATION MEASURES**

### **A. Risk Ratings Summary Table**

<b>Risks</b>	<b>Rating</b>
<b>Stakeholder Risk</b>	<b>Moderate</b>
<b>Implementing Agency Risk</b>	
- Capacity	<b>Moderate</b>
- Governance	<b>Moderate</b>
<b>Project Risk</b>	
- Design	<b>Substantial</b>
- Social and Environmental	<b>Moderate</b>
- Program and Donor	<b>N/A</b>
- Delivery Monitoring and Sustainability	<b>Substantial</b>
- Other	<b>Moderate</b>
<b>Overall Implementation Risk</b>	<b>Moderate</b>

### **B. Overall Risk Rating Explanation**

31. With a complex operation in a State that is relatively young and still building technical and financial capacity, an institutional champion to lead the project and ensure activities are implemented, is key. The Secretariat of Planning will be such champion, and it will be supported by a dedicated management unit. Additional measures to mitigate Project overall risk have been put in place. The previous operation has shown that without such a champion, the Project risks delays and requires close supervision. However, in consideration of the Bank's long term partnership and familiarity with the State, the overall implementation risk is considered as MODERATE, as additional measures to mitigate Project overall risk have been or will be put in place, such as suitable financing allocation, qualified staff to supervise safeguards-related issues, qualified staff in procurement, procurement packaging, design flexibility and up front preparation of the investment component during appraisal (see Annex 4).

## **VI. APPRAISAL SUMMARY**

### **A. Economic and Financial Analyses**

32. The Project economic evaluation focuses on the Project investments financed by the Bank, the municipal road improvements and the State road rehabilitation and maintenance. This assessment is expected to provide a conservative, yet representative assessment of Project economic benefits given that those works represent the largest share of the Project's investments. The other two types of works (undefined at appraisal, but which will be selected provided they

trigger a minimum 10% internal rate of return) and the potential benefits resulting from the expected enhancement of social capital from the Project activities, will further contribute to the Project's overall benefits.

33. The economic evaluation was based on a cost-benefit analysis following two distinct analysis tools, one for the municipal road improvement subcomponent and another for the State road rehabilitation and maintenance subcomponent. For the municipal road improvement subcomponent, given the specificity of the interventions, focusing on a network characterized by very low levels of traffic (often <50 vehicles per day) and the absence of alternative routes, a producer surplus approach was used to calculate the benefits from the Project. Over 20 years, the net present value (NPV) at a 12% discount rate and the related internal rate of return (IRR) of the investments in this subcomponent are respectively estimated as US\$48 million and 22.4%. For the State road rehabilitation & maintenance subcomponent, a conventional Consumer Surplus Approach analysis using the Highway Development and Management Model (HDM-4) was conducted. Over 20 years, the net present value (NPV), at a 12% discount rate, and the related internal rate of return (IRR) of the investments in this subcomponent are respectively estimated as US\$176 million and 25%. Overall Project net present value over 20 years and internal rate of return were estimated respectively at US\$224 million and 24%. Details on these evaluations are provided in Annex 7.

## **B. Technical**

34. The Project will support Tocantins' Transport Strategy (see Box 1 in Annex 2) by prioritizing the investments in transport in an integrated fashion within the sector, with interventions from the capillary roads to the feeder roads linking with the trunk national transport network; and across sectors, in an articulated fashion with the other Project activities in order to foster an integrated regional development.

35. Each type of intervention/investment corresponds to a particular type of road:

- a. Municipal roads improvements correspond to the capillary roads (sub-component 1.1). Prioritization will be done by the populations based on a participatory mechanism including discussions on the local/municipal development agenda and selection of the roads. This approach, which proved successful under the previous operation, is expected to foster articulation and coherence between investments in roads and the other development activities supported by the Project. Approximately 2,600 critical spots will be improved on 4,600 km of the municipal network of Western Tocantins (about 15% of the municipal road networks length in the Project area) in order to avert sporadic road interruptions during the 6 month rainy season and ensuring year round trafficability;
- b. State Roads rehabilitation corresponds to the main paved roads (sub-component 1.2). Selection was based on road condition and traffic levels. These roads are the State main feeder and logistics corridors which will link the State municipalities with the trunk national transport corridors. CREMA<sup>9</sup> contracts will be applied to approximately 1,500 km of roads (representing about 1/3 of the state network) in order to ensure that the asset value is not lost as the road condition deteriorates.

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<sup>9</sup> CREMA contracts are performance based rehabilitation and maintenance contracts that foster efficiency in the sector by incentivizing greater accountability from the contractors on the performance. Contracts are of longer duration than traditional approach and design as well as specifications are standardized.

- c. State Roads elimination of critical spots and surfacing of roads correspond to feeder roads (sub-component 1.3). Priority is not yet defined and will be based on evaluations during Project execution such as: State logistics plan, identification of economic potential (including agricultural needs), etc. Approximately 20 critical spots are expected to be improved and 50 km of roads to be surfaced for a total of approximately 300 km of improved unpaved state road to enhance trafficability and safety, as well as foster connectivity and facilitate access to the national trunk network.

36. All works interventions are mostly within the existing Right of Way and will follow methodologies and technical solutions which were optimized during Project preparation, based on accumulated experiences either in the previous operation, or on other Bank operations in Brazil, as well as national and international best practices (see Annex 2 for details).

### **C. Financial Management**

37. The primary fiduciary responsibilities for the Project will be carried out by UGP, under the SEPLAN, and will include: (i) preparing and obtaining approval of Project FM arrangements; (ii) coordinating and supervising Project implementation; (iii) submitting disbursement requests and documentation of expenditures to the Bank; (iv) preparing and submitting Project financial reports (IFRs) to the Bank; (v) preparing and providing all financial documentation and Project reports requested by external auditors and Bank staff; and (vi) preparing, updating and ensuring that all Project executors are in compliance with the Project Operational Manual (see Annex 3).

38. The Project Operational Manual will document these Project processes and serve as an important source for processing steps to be followed during Project implementation. It will contain detailed procedures and guidelines for disbursements, approvals, commitments and payments, accounting, and IFRs. The UGP will be supported as needed by external consultants.

### **D. Procurement**

39. Procurement for the proposed Project will be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated January 2011; "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated January 2011; and the provisions stipulated in the Legal Agreement (including anti-corruption guidelines). A Procurement Plan showing the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and time frame between the Borrower and the Bank was agreed during preparation and will be updated at least annually, or as required, to reflect the actual Project implementation needs. Template bidding documents for International Competitive Bidding, National Competitive Bidding and Request for Proposal documents will be made available online at the Client's website (see Annex 3).

40. The bidding commission of SEPLAN (*Comissao de Licitacao*, CdL) will be responsible for the procurement of goods and services under the Project for all beneficiaries except the road civil works. The bidding commission of SEINFRA will be responsible for the procurement of road civil works. In both cases, the UGP will be supporting the bidding commissions preparing all procurement documentation up to contract award (short lists, bid documents/RFP, evaluation reports, and any other required document), updating and monitoring the procurement plan and has already been delegated attorneys from the State's Attorney's office to support this activity. The UGP will act as liaison between the beneficiaries, the bidding commission of SEPLAN and

SEINFRA and the Bank. Technical teams in each beneficiary will provide the inputs for the preparation of the request for proposals and bidding documents such as technical specifications, terms of reference, and budgets, and will contribute to EOIs, proposals evaluations, award decisions and contracts' supervision. Beneficiaries are expected to provide on-time and quality support to procurement processes (institutional strengthening/investments) for their activities.

#### **E. Social (including safeguards)**

41. The proposed Project's Development Objectives is expected to provide substantial social benefits to the rural populations of Tocantins. Projects of this nature have proved to be a priority for rural populations as demonstrated by the success of the the previous operation. The proposed investments in roads, public service delivery improvement, productive supply chains, environmental management and education are also aligned with a number of the State's most pressing challenges, namely increasing knowledge and innovation for economic competitiveness, reducing poverty and regional disparities and enhancing environmental sustainability. As a result, the social impacts of the proposed Project are expected to be positive. Nonetheless, several of the proposed implementation mechanisms are socially complex and will operate in sensitive social contexts. For instance, support for road improvements at the municipal and indigenous community levels will require considerable public consultations to reach decisions regarding priority investments. In addition, increasing economic development is putting more demand on natural resources.

42. In light of these recognized opportunities and risks, an integrated Environmental and Social Impact Assessment (ESIA) was conducted and an Environmental and Social Management Framework (ESMF) has been prepared. The ESIA and ESMF provide both a thorough assessment of the Project's social and environmental opportunities and challenges and detailed mitigation measures to be undertaken in the event that any particular risks cannot be avoided. Details on policies triggered and documents prepared are provided in Annex 3. The ESIA was submitted to the Bank (December 14, 2011), and has been disseminated in the Infoshop and on the Borrower's web site ([www.seplan.to.gov.br](http://www.seplan.to.gov.br)) on January 17, 2012.

43. While the Project is not expected to require any significant land acquisition nor impose restrictions of access to protected areas, localized impacts are possible, a Resettlement Policy Framework (RPF) has been prepared in agreement with Bank policy OP 4.12. The Indigenous Peoples policy was also triggered as (i) Indigenous Peoples are expected to directly benefit from the municipal roads subcomponent under component 1 and (ii) the statewide scope of several proposed project activities contemplated under Component 2 could potentially affect any of the Indigenous Peoples present in the State. As the exact location of the municipal works and the potential direct and indirect benefits from the Project for these populations remain unknown at appraisal, an Indigenous Peoples Planning Framework (IPPF) has been prepared in accordance with OP 4.10. The RPF and Indigenous Peoples Planning Framework have been disclosed locally and in the InfoShop on January 17, 2012. The UGP will be responsible for ensuring that all Bank safeguards triggered by the Project are complied with and that all works under implementation apply the ESMF, RPF and IPPF, and prepare and carry out the required plans. The institutional capacity of UGP has strengthened and is regarded as being adequate for this Project. Moreover, the Government proactively undertook a number of actions, as further detailed in Annex 3, including a wide consultation process during Project preparation with a large variety of stakeholders, the setting up of consultation and management of the right of way manuals, the creation of specific grievance mechanisms in addition to existing social

representation structures and organizations in Brazil, such as the Ministerio Publico. Finally, gender positive impact is expected for specific activities as detailed in the Project description. Impacts on gender will be evaluated through surveys, as mentioned in IV.B.

#### **F. Environment (including safeguards)**

44. The Project does not entail any potential large scale, significant and/or irreversible negative impacts. It has statewide relevance addressing improved effectiveness of road transport and enhanced efficiency of selected public services in support of the State of Tocantins' integrated and territorially balanced development agenda. As a key benefit, the Project is expected to contribute to increased economic production through increased viability, notably in agriculture, where more land would be used for production, though in relatively limited extension, as a result of improved accessibility, and increased productivity, thanks to lower costs of production. Potential limited direct impacts on land use could be experienced, but most of the proposed investments will take place on roads that pass through existing farming areas that have already been consolidated in the state. Additionally, while the State already has a sound protected area policy framework and monitoring capacity, the environmental management of road works under the Project will be supervised by independent consulting companies, following best practices inherited from other transport projects in Brazil. Details on policies triggered and documents prepared are provided in Annex 3.

45. According to OP 4.01 Environmental Assessment, safeguard policy, the Borrower has addressed safeguard policy issues by conducting an Environmental and Social Impact Assessment (ESIA). An Environmental and Social Management Framework (ESMF) was also prepared to outline the set of guidelines, procedures and criteria to be used for screening activities and ensure that such activities will not cause any potential large scale, significant and/or irreversible negative environmental and social impacts. Specific Environmental Management Plans (EMP) for works identified at appraisal have been prepared accordingly to the ESMF as detailed in the annex 3. The Natural Habitats safeguard policy (OP 4.04) was triggered and the ESIA addresses the safeguard requirements, screens out all subprojects resulting in any significant conversion or degradation of critical natural habitats, and includes provisions to regenerate and reforest degraded areas, as needed

46. The OP 4.11 is triggered since envisioned works and planned activities may affect Physical Cultural Resources (PCR). At this stage, it is however not possible to determine the presence of PCR in the project's area of influence. The OP 4.09 Pest Management was triggered regarding proposed investment under Component 1, mainly as vegetation clearing under road maintenance could use sporadically pesticides/chemical products (theoretically, such case should not occur as it is specifically prohibited for works and services financed by the Project under the Operational Manual), and regarding Component 2.2, where the Project could encourage and support technical assistance including activities requiring particular use of pesticides. A Pest Management Framework was prepared in a satisfactory manner by the Borrower. Other safeguards policies, the OP 4.36 Forests and the OP 4.37 Safety of Dams were also triggered on a precautionary basis (and the pertinent handling instruments defined in the ESIA), in particular for Sub-Component 2.2, as needed, as particular local development activities, unknown at preparation, could imply using forest in a productive fashion and/or using water resources from existing dams.

## Annex 1: Results Framework and Monitoring

### BRAZIL: Tocantins Integrated Sustainable Regional Development

<b>Project Development Objective (PDO):</b> The development objective of the Project is to foster improved effectiveness of road transport and enhanced efficiency of selected public services, in support of the Borrower's integrated and territorially balanced development agenda.													
PDO Level Results Indicators*	Core	Unit of Measure	Baseline	Cumulative Target Values**						Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				YR 1	YR 2	YR3	YR 4	YR5	YR6				
<b>Indicator One:</b> percentage of CREMA State road network in good condition		%	9%		36%		80%		100%	Every other year	SEINFRA road condition survey report	SEINFRA	Road network considered is the one under CREMA contracts, totaling 1500km or 1/3 of total state paved road network. Good condition defined as IRI<3.5
<b>Indicator Two:</b> Increase of vehicle-km travelled on State paved roads under good condition		Veh x km (million)	0.26		1.07		1.75		2.32	Every other year	SEINFRA traffic survey report	SEINFRA	Road network considered is the one under CREMA contracts. Assumption is that of traffic growth rate of 3% pa. Good condition defined as IRI<3.5
<b>Indicator Three:</b> Share of the rural population with access to all-season roads in the western part of Tocantins	√	%	85%	85 %	85%	87%	90%	92%	92%	Data collection and reporting during project implementation. Report by Project end	During consultation of participatory process to select priority roads, the Client will collect population numbers for each area of influence of	SEINFRA	Population = sum of population of 72 municipalities. Assumption is based on an increase of population with all-season access at the rate of 17.4 people/km

											road. Supervision Reports		
<b>Indicator Four:</b> Improved public services delivery as measured by substantial achievement of intermediate indicators of Component 2		Number	0	-	-	3 out of 4 indicators	-	-	3 out of 4 indicators	By Project end	Project Supervision	SEPLAN,	This indicator applies to the first indicators for each subcomponent of the Project listed below. Substantial achievement is a) three out of four indicators are substantially achieved at the year of evaluation, where substantial achievement is defined as 75% of the target value of the indicator of the subcomponent
<b>INTERMEDIATE RESULTS</b>													
<b>Intermediate Result (Component 1):</b> Investment: Improving efficiency of rural transport													
# of eliminated bottlenecks on municipal roads in selected areas		# of hydraulic structures executed	0	0	0	700	1300	1900	2600	Annual	Progress reports, aide memoires, technical visits / monthly supervision reports	SEINFRA	Estimate based on PDRS experience
Km of rehabilitated state paved roads in selected areas	√	km	0	0	0	200	650	1150	1500	Annual	Works Supervision reports	SEINFRA	
<b>Intermediate Result (Component 2: Sub Component One):</b> Modernization of State Administration													
Adoption of the management by result in the staff of the administration		%	0	-	-	10%	-	-	75%	By Project end	Measured through annual surveys. Practice of surveys among staff	SEPLAN, SEFAZ and SECAD	Management adopted by the staff of the Beneficiary institutions subject to the implementation of results based management (SEPLAN, SEINFRA,

n											to be initiated and developed under the project		SEMADES, SEAGRO SEDUC)
Inter-municipal consortium in the road sector		#	0			3 consortia created			3 consortia in operation	Midterm and by Project end	Progress reports, supervision missions	SEPLAN, SEINIFRA	Inter-municipal consortium as a legal entity created by more than one municipality with an aim at undertaking services.
<b>Intermediate Result (Component 2: Sub Component 2): Local Development</b>													
Increase participation of subsistence farmers in agriculture marketplace in selected areas		# of producers	0 baseline TBD by 1 <sup>st</sup> year	10	20	40	80	100	120	Annual	Progress reports, aide memoires, technical visits / reports and study evaluations	SEAGRO	indicator is defined as the number of producers which upgrade from subsistence farming to market farming.
Increase productivity in 2 agricultural products in selected areas		% increase Kg/Hectare	Products & targets TBD by 1 <sup>st</sup> year	0	0	2	4	6	10	Annual	Progress reports, aide memoires, technical visits / reports and study evaluations	SEAGRO	indicator defined as increase in % kg/hectares for 2 products in selected municipalities
<b>Intermediate Result (Component 2: Sub Component 3): Environmental Management</b>													
Reduction in average time to concession environmental licensing for complex State road activities with environmental impact		days	100	-	-	15	-	-	40	Annual	Progress reports, supervision missions.	Naturatins	The environmental licensing average time refers to the time spent within the Naturatins, since the license is required until the license is issued, except for downtime by backlogs of the entrepreneur (environmental assessments, studies, action plans, etc). It is the sum of the



													required time in days to concede (or deny) a license divided by the number of licenses issued by Naturatins officers each year, regarding complex road activities.
Reduction on illegal deforestation in the Cerrado biome, relative to the 2008-2009 average		Hectares / year	Illegal deforestation rate in the Cerrado biome will be defined in 1 <sup>st</sup> year	--	--	--	10	15	20	Annual	Progress reports.	SEMADES	The project will monitor the overall deforestation in the SoT, identifying legal and illegal deforestation. The overall deforestation rate 2008-2009 is 1.311 km <sup>2</sup> , including legal and illegal deforestation (source: LAPIG-GO). The Cerrado deforestation rate 2002-2008 is 12,198 km <sup>2</sup> (source: MMA). Illegal deforestation rate will be defined by deforestation rate discounting legal deforestation (deforestation in compliance with Forest Code and SoT regulations)
Water management pilot project implemented in the SoT priority river basins with committees		number	0	--	1	1	2	3	3	Annual	Progress reports, supervision missions.	SEMADES/Naturatins	River Basin Committees are deliberative stakeholder bodies with decision-making and regulatory powers. Each pilot project will prepare an action plan to be monitored by SEMADES.
<b>Intermediate Result (Component 2: Sub Component 4): Improvement of Education System</b>													
Number of Municipal Education Plans (with Early		Number	0	0	1	3	6	6	6	By Project end	Finalized plans signed by State and Municipal government	SEDUC	Each plan should include a diagnosis of the early child education program, goals for ECE, and activities to achieve those

Childhood Education (ECE) component) agreed with municipalities											and submitted to Bank		goals. The plans are to be submitted to the Bank for approval
Percentage of teachers in state system trained in 6 schools identified by PEC ( <i>Partido da Educação e Cidadania</i> – Education & Citizenship Party)		Percentage	0	0	0%	55%	70%	85%	90%	Annual	Training records and field reports of in-class visits	SEDUC	To qualify, the training must include at least 40 hours of face-to-face training and at least 4 in-class follow-up visits for each professor. Indicator is calculated as number trained (as above), divided by total state-employed teachers in pilot schools.
Reduction of dropout rate in 6 pilot state schools identified by PEC		Percentage	0%	0%	3%	8%	13%	19%	25%	Annual	National school census	MEC	Average dropout rate across entire schools. Data available at the end of March for the following year (e.g., for 2011, data will be available in end March 2012)

**Annex 2: Detailed Project Description**  
**BRAZIL: Tocantins Integrated Sustainable Regional Development**

1. The Project, *Projeto de Desenvolvimento Regional Integrado e Sustentável no Estado do Tocantins* (PDRIS), will support the Borrower's integrated and territorially balanced development agenda - through a US\$ 375 million operation supported by a US\$300 million Bank loan - that aims at contributing to improved competitiveness and regional integration, social inclusion and environmental sustainability. It will consist of the following parts:

**Component 1 – Improving effectiveness of rural transport (Estimated cost US\$304 million of which US\$240 million will be financed by the Bank loan)<sup>10</sup>**

2. Provision of support to improve accessibility of the Borrower's remote populations and at the same time, foster regional economic integration and support the Borrower's competitiveness and social inclusion agendas, through the carrying out of the following activities:

Sub-Component 1.1: Improving Transport Conditions on the Municipal Roads (Estimated cost of US\$73 million of which US\$73 million will be financed by the Bank loan)

3. At the local level, improvement of accessibility of rural populations to employment opportunities, services and resources and markets by the elimination of about 2,600 critical spots on selected municipal feeder roads through, inter alia, the design, construction and supervision of concrete hydraulic structures (bridges and culverts) of municipal feeder roads, all to ensure year round traffic (the Municipal Road Subprojects).

4. The target municipalities will be in Western Tocantins which have not benefitted from similar improvements under the previous World Bank operation (P060573) as well as the Indigenous lands in Western Tocantins. Priority investments will be determined through a participatory process at the municipal level.

5. Complementing the recently closed project (Tocantins Sustainable Regional Development Project P060573), where more than 600 standardized concrete bridges and 1,800 culverts were built on municipal roads in the 67 Eastern municipalities, this sub-component will target the 72 municipalities of the Western part of the State, with similar interventions, as well as the 5 Indigenous lands of Western Tocantins. Building on the success of the previous operation, the subcomponent will:

- a. Allocate a budget to each municipality and Indigenous land, based on its size, population and level of poverty<sup>11</sup>;
- b. Foster empowerment of rural populations in the management of the municipality through a participatory processes in the discussion of the municipal development agenda within the framework of the regional development agenda as well as the determination of priority road investments on the municipal roads;
- c. Comprise works for construction of (i) small concrete bridges (up to 30 m) where infrastructure works are executed by local contractors and bridge deck and superstructure made of standardized beams executed in a central fashion and transported to site, as well as (ii) standardized culverts, (iii) longitudinal drainage and (iv) grading of the road.

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<sup>10</sup> All amounts of subcomponents include contingencies

<sup>11</sup> In the estimation, population and area of the indigenous communities are excluded from municipalities that contain indigenous areas.

6. Prior to the approval by the Bank of any given Municipal Road Subproject, the Borrower, through SEPLAN, shall furnish to the Bank, an application containing the following information and documentation with respect to such Municipal Road Subproject:

- (a) a copy of the relevant municipality's development agenda, including a description of the participatory mechanisms followed for the preparation of such agenda (such as the minutes of discussions on the development agenda by the relevant municipality, the minutes of discussions on the Borrower's Regional Development Agenda);
- (b) the priority list of the road sections to be included in such Municipal Road Subproject, including the minutes of the public discussions held for its preparation, signed by the participants or their representatives;
- (c) an agreement between the Borrower and the relevant municipality detailing the commitments of each party to strengthen such municipality's participatory planning and management capacity, as well as providing for the financing and carrying out by the Borrower of such Municipal Road Subproject, and the collaboration to be provided by such municipality in connection thereto;
- (d) if applicable, a copy of a cooperation agreement amongst the municipalities that share a common border so as to create an intermunicipal consortium for purposes of undertaking maintenance of municipal roads;
- (e) the bidding documents for the pertinent Municipal Road Subproject;
- (f) such other information as the Bank shall reasonably request.

7. Building on past successful experience (see Box 3 below), budget allocation per municipality is based on the following formulae:

$$Q = Q1 + Q2$$

Where

(i) 
$$Q1 = 150,000 + [33.3\% \times P + 33.3\% \times A + 33.3\% \times H] \times (C / N)$$
  
 if  $Q1 > \text{US\$1.75 million}$  then  $Q1 = \text{US\$1.75 million}$ ;

and

(ii) 
$$Q2 = 0 \text{ if } Q1 > \text{US\$1.75 million and}$$
  

$$Q2 = \sum_{\text{if } q1 > \text{US\$1.75 million}} (Q1 - \text{US\$1.75 million}) / n$$

- Q is the amount potentially allocated to each municipality and Indigenous Land (in US\$);
- P is the standardized population of the municipality/IP Land (number of inhabitants in each municipality divided by the average number of inhabitants in a municipality in the project area);
- A is the standardized area of the municipality/IP Land (area in each municipality divided by the average area of a municipality in the project area);
- H is  $1 / \text{standardized IDFM in municipalities/IP Land}$  (where *Índice FIRJAN de Desenvolvimento Municipal* (IDFM) is a proxy of poverty conditions - similar index to the Human Development Index, adopted at the municipal-level);

- N is the number of beneficiary entities, including 72 municipalities and the Indigenous Lands (6 IP lands a priori, as identified during preparation);
- C is the subcomponent value, US\$73 million, deducted from the sum of the collar values attributed to each beneficiary entity

$$C = 73,000,000.00 - 150,000 \times N$$

- n is the number of beneficiary entities with  $Q1 < \text{US\$1.75 million}$ .

8. This formulae allows for a balanced allocation per municipality and, in addition, (i) a fixed term (the above US\$150,000 collar) has been introduced to take into account the wide disparities in terms of population and areas between the municipalities in the regions targeted by the Project and (ii) a ceiling was set to prevent the big and populated municipalities from draining out the main part of the budget allocation.

9. Project design will be carried out by consultants. Design will be tendered following agreed TOR found in the Project's Operational Manual. Technical specifications will be based on agreed standard specifications for critical spots elimination. SEINFRA and SEPLAN will organize the consultation process. SEINFRA will execute the works' supervision, with support of consultants. Independent Social & Environmental supervision will be undertaken by SEINFRA environmental unit with the support of Consultants.

***Box 1 - Prioritization Strategy for municipal roads - Building on the previous operation experience***

The previous project successfully carried out a participatory process to determine which roads will be improved. Public consultations took place at 67 municipalities, development agendas were prepared with the assistance of the Planning Secretariat, and prioritized roads established with guidance from the Infrastructure Secretariat. There was no elite capture of roads since the Government and Secretariat were monitoring the process and considering the envisioned mechanisms ensuring wide participation from the populations. Given that limited financing was allocated to each municipality, not all prioritized roads were addressed. Usually the highest 2-4 first roads were included in the program. Data on satisfaction with this approach is still being collected under an ongoing impact evaluation (as part of the previous project and ongoing at Project preparation), however preliminary results indicate full satisfaction with the process and overall satisfaction with the execution of works. To take into consideration lessons learned from the previous project (see Lessons Learned section) the government has undertaken a dialogue to manage citizens expectations, and this operation will specify clearly the conditions for investment in municipalities, amongst which is the condition to submit the minutes of the development agendas of the municipalities in order to illuminate the linkages between municipal development needs and road investments, and avoid elite capture.

**Sub-Component 1.2: Rehabilitating the Borrower's Paved Network through Performance Based Contracts (Estimated cost of US\$160 million of which US\$160 million will be financed by the Bank loan)**

10. At the regional and State levels, improvement of transport conditions on the Borrower's paved roads through the carrying out of (a) a set of performance based CREMA Contracts on about 1,500 km of identified Borrower-managed paved roads (the State Road Rehabilitation Subprojects I); and if applicable (b) performance-based CREMA Contracts in selected Borrower-managed paved roads in accordance with criteria acceptable to the Bank (the State Road Rehabilitation Subprojects II).

11. CREMA contracts include the design, road rehabilitation works (typically 2 to 3 years) and supervision on sections which have already reached or exceeded their lifetime and which experience higher traffic volumes, poor road conditions, and which are considered corridors for regional development. Works mainly include, as necessary: pavement and shoulders rehabilitation/resurfacing, bridge rehabilitation, drainage and signalization upgrading, road safety measures to reduce risks at dangerous crossroads and accesses upgrading. In addition, CREMA contracts will include initial recuperation and routine and periodic road maintenance works during the contracts' 5 year duration.

12. Building on the success in several other states and at the Federal level, the sub-component will introduce performance-based contracts for rehabilitation and maintenance (CREMA) of State paved roads. CREMA contracts include

- a. rehabilitation works including (i) pavement rehabilitation, paid on the basis of outputs and performance, on sections which have already reached or exceeded their lifetime, through appropriate techniques ranging from local repairs, eventual reshaping and overlay with surface treatment or asphalt concrete, to complete reconstruction; (ii) pavement resurfacing of sections which would otherwise soon reach a level of deterioration requiring extensive rehabilitation, through appropriate slurry seal, surface treatment or asphalt concrete overlay techniques, depending upon traffic levels and material availability; (iii) bridges rehabilitation; (iv) shoulders' rehabilitation and/or surfacing to protect the shoulders' surface from erosion and improve the driving conditions; and (v) upgrading of drainage systems, signalization, and dangerous crossroads and accesses.
- b. road maintenance during the 5 years of the contract, paid on the basis of performance, comprising initial recuperation, routine and periodic maintenance with (i) pavement maintenance and repairs such as crack sealing, pothole patching, edge break repairing, (ii) drainage cleaning, (iii) vegetation clearing, and (iv) signalization maintenance.

13. Seven feeder corridors of the paved State road sections with a total length of 1,500 km in seven regions have been identified as priority for this sub-component. Works will be organized in two phases: a first phase of 395 km, followed by a second phase of 1,103 km a year later (this larger total is planned to consider price escalation). The table below recaps the main features of said contracts.

**Program first phase**

<b>Region 1</b>	<b>Start</b>	<b>End</b>	<b>km</b>
TO-10	Palmas	Lageado	53.3
TO-50	Palmas (JK)	Palmas (rotatória sul)	20.6
TO-50	Palmas (rotatória sul)	Porto Nacional (Saída p/ Monte do Carmo)	40.8
TO-50	Porto Nacional (Saída p/ Monte do Carmo)	Porto Nacional (Saída p/ Silvanópolis)	6.5
TO-255	Porto Nacional (Saída p/ Silvanópolis)	Entr. TO-070/TO-255 (Pinheirópolis)	5.3
TO-255	Entr. TO-070/TO-255 (Pinheirópolis)	Entr. BR-153	57.6

TO-342	Miracema	Miranorte	19.7
TO-445	Miracema	Entr. TO-010/TO-455	20.2
Access	Entr. TO-455	UHE	1.5
Total			225.5

<b>Region 7</b>	<b>Start</b>	<b>End</b>	<b>km</b>
TO-80	Paraíso	Monte Santo	22.1
TO-80	Monte Santo	Divinópolis	34.9
TO-255	Nova Rosalândia	Cristalândia	31.4
TO-255	Cristalândia	Lagoa da Confusão	50.1
TO-354	Pium	Pugmil	31.2
Total			169.7

**Program second phase**

<b>Region 2&amp;3</b>	<b>Start</b>	<b>End</b>	<b>km</b>
TO-222	Filadélfia	Bielândia	46.5
TO-222	Bielândia	Ent. TO-424	32.5
TO-222	Ent. TO-424(Babaçulândia)	Araguaína(Av. Filadélfia)	19
TO-222	Araguaína	Novo Horizonte	14
TO-424	Entr. TO-222	Babaçulândia	37.8
TO-425	Bielândia	Barra do Ouro	37
TO-10	BR-230 (Transaraguaia)	Araguatins	8
TO-10	Araguatins	Entroncamento TO-404	7.1
TO-10	Buriti	São Sebastião	6
TO-201	Sítio Novo	Axixá do TO	14.5
TO-201	Axixá do TO	Augustinópolis	20.4
TO-201	Augustinópolis	Buriti do Tocantins	41.6
TO-201	Buriti do Tocantins	Esperantina	36.8
TO-403	Itauba (Entr. TO-404)	Sampaio	9.7
TO-404	Praia Norte	Augustinópolis	13.6
TO-404	Augustinópolis	Entr. TO-010	20.6
Total			365.1

<b>Region 4</b>	<b>Start</b>	<b>End</b>	<b>km</b>
TO-335	Colinas	Couto Magalhães	100
TO-336	Pedro Afonso	Entº. BR - 153	39
TO-336	Guaraí	Colméia	34
TO-336	Colméia	Goiany dos Campos	14.8

TO-336	Goiany dos Campos	Pequizeiro	12.5
TO-336	Pequizeiro	Couto Magalhães	44.1
TO-336	Couto Magalhães	Divisa TO/PA	11.6
Total			256

Region 5	Start	End	km
TO-280	São Valério	Entr.BR-242 (Km 106.4)	30.6
TO-373	Entº. BR-242	Alvorada	83
TO-373	Alvorada	Araguaçu	96.2
TO-373	Araguaçu	Divisa TO/GO (São Miguel)	17
Total			226.8

Region 6	Start	End	km
TO-40	Dianópolis	Novo Jardim	35.7
TO-40	Novo Jardim	Divisa TO/BA	37
TO-50	Arraias	Divisa TO/GO	16
TO-110	Trevo TO-040	Ponte Alta do Bom Jesus	38.5
TO-110	Ponte Alta do Bom Jesus	Taguatinga	38
TO-110	Taguatinga	Aurora	47
TO-110	Aurora	Lavandeira	17
TO-110	Lavandeira	Combinado	7
TO-110	Combinado	Novo Alegre	13
TO-110	Novo Alegre	Divisa TO/GO	6.5
Total			255.7

14. Engineering project design will be carried out by SEINFRA with the support of Consultants. Design, tendered with agreed TOR, will notably be based on agreed catalogue of technical solutions both found in the Project's Operational Manual. Technical specifications will be based on agreed standard specifications for CREMA. Works supervision will be undertaken by SEINFRA with assistance of contracted-out consultants during the phase of works. Independent Social & Environmental supervision will be undertaken by SEINFRA environmental unit with the support of Consultants.

Sub-Component 1.3: Improving Road and Transport Safety Conditions on Borrower's Unpaved State Roads (Estimated cost of US\$62 million financed by the counterpart)

15. At the regional and State levels, improvement of connectivity and transport safety conditions on the Borrower's unpaved roads, through inter alia (i) the elimination of about 20 critical spots on unpaved feeder roads through the design, replacement and supervision of concrete hydraulic structures of selected deficient infrastructures, and (ii) design, surfacing and supervision approximately 50 km of unpaved State road sections to close the network and facilitate access to the national trunk network (the State Road Improvement Subprojects).



16. Critical spots on unpaved state roads will be eliminated where traffic does not justify surfacing via inter alia the replacement of existing deficient infrastructure by concrete hydraulic structures (bridges, culverts, etc.) and grading the state roads. By replacing narrow infrastructures with new infrastructures with adequate standards for paved roads, the subcomponent is expected to contribute to the elimination of dangerous spots on the road network and contribute to improve traffic safety in the State, while preparing for future pavement.

17. Road surfacing may include (i) localized earthworks and realignments, strengthening of base course and surfacing, using surface treatment or asphalt mix, depending on traffic; (ii) bridges upgrading (replacement, strengthening and/or widening as necessary); (iii) upgrading or implantation of drainage and signalization systems; and (iv) road safety improvements, including critical spots elimination or roads intersections improvements.

18. Designs will be undertaken by SEINFRA with the support of contracted consultants. Design will be tendered with agreed TOR found in the Project's Operational Manual. Technical specifications based on agreed standard specifications for critical spots elimination and surfacing. Work supervision will be undertaken by SEINFRA with assistance of contracted-out consultants. Independent Social & Environmental supervision will be undertaken by SEINFRA environmental unit with the support of Consultants.

Sub-component 1.4: Transport Management Capacity Institutional Strengthening (Estimated cost of US\$9 million of which US\$7 million will be financed by the Bank loan)

19. Improvement of the Borrower's capacity in transport planning and management, logistics and safety (all under terms of reference acceptable to the Bank), through the provision of goods, consultants' services, Non-consulting Services and training for institutional strengthening of SEINFRA in the following areas: (i) transportation planning and logistics management, (ii) road safety, and (iii) social and environmental management.

20. Through the provision of goods, consulting and non-consulting services and training, this sub-component will build on the institutional strengthening activities of the previous Project, comprising, inter alia:

- a. Support to the SEINFRA in the definition of a long term strategy for the Secretariat;
- b. The preparation of the State logistics and transportation masterplan;
- c. The implementation of the State Pavement Management System, including routine and organized data collection (traffic, road condition);
- d. Capacity building on traffic data management and pavement work programming through Highway Development and Management (HDM);
- e. Mainstreamed integration of SEINFRA's IT management systems;
- f. Activities aimed at improving road safety in the State;
- g. Activities aimed at improving environment and social management and efficiency and efficacy of the licensing process;
- h. Activities aimed at strengthening SEINFRA staff technical capacity on design, supervision, procurement, contract management, road asset management;
- i. Procurement of equipment and vehicles.

**Component 2: Enhanced efficiency of public services (Estimated cost US\$62.25 million of which US\$51.25 million financed by the Bank loan)<sup>12</sup>**

21. Provision of support for institutional strengthening, through the provision of goods, works, Training, Non-consulting and consultants' services, through the carrying out of the following activities:

Sub-component 2.1: Modernization of the Borrower's Administration (Estimated cost of US\$24.75 million of which US\$21.25 million will be financed by the Bank loan)

22. Provision of support to the SEPLAN), to improve public services efficiency (all under terms of reference acceptable to the Bank) through, inter alia (i) the introduction of a results-based management methodology, notably with a) strengthened and better integrated planning and budgeting, monitoring and accountability systems and b) addressing human resource management through new incentives, training and communication strategies, (ii) a de-concentration of Borrower's administrative services to its regions, for purposes of strengthening the municipalities' management capacities, (iii) the improvement of environmentally and socially sustainable land use planning processes and natural resource management policies and (iv) the improvement of service delivery to users as well as work conditions for the Borrower's civil servants by carrying out rehabilitation and/or construction activities of public premises and/or facilities in accordance with the criteria set forth in the Operational Manual.

23. To further strengthen overall sustainable land use, this sub-component will in particular support the State's Ecological-Economic Zoning (EEZ) in line with Federal Decree 4,297 of 07/10/2002. The EEZ will broaden the criteria employed in land use decision-making to include socio-economic as well as environmental and physical factors.

Sub-component 2.2: Fostered local and regional development (Estimated cost of US\$10 million of which US\$8 million will be financed by the Bank loan)

24. Provision of support to the beneficiaries as detailed below through the carrying out of pilot activities aimed towards the promotion of rural businesses and the creation of opportunities to attract sustainable investments in selected Borrower's regions (all under terms of reference acceptable to the Bank). This subcomponent will support, in an articulated fashion with the first component investments, inter alia, (i) SEAGRO and Ruraltins in the promotion of a more efficient agribusiness sector with social and gender inclusiveness, as well as environmental and economic sustainability in the Borrower's territory, by fostering increased productivity and better access to markets for subsistence production and small and medium producers, and attracting sustainable investments while fostering environment sustainability, (ii) SEMADES in the preparation of a renewable energy policy for the Borrower, and (iii) SEPLAN in the development of ecotourism in the Borrower's territory.

25. The component will (i) facilitate the development of regional integrated strategies across selected value chains; (ii) identify potential business opportunities to include small and medium producers in the market – institutional and private (business development plans); (iii) build capacity among technical assistance providers to enhance the quality of their services provided to these beneficiaries and (iv) leverage other resources from public and private sectors to integrate investments in the selected areas to achieve results in a timely manner.

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<sup>12</sup> All amounts of subcomponents include contingencies

Sub-Component 2.3: Improvement of Environmental Management (Estimated cost of US\$17.5 million of which US\$14 million will be financed by the Bank loan)

26. Provision of support to SEMADES and Naturatins, in extension of the activities initiated under the previous operation, and in coordination with environmental agencies and the Sustainable Cerrado Initiative (P091827; TF096766), to improve environmental management (all under terms of reference acceptable to the Bank) through, inter alia (i) the improvement of the Borrower's environmental licensing system and its monitoring and enforcement activities (excluding any enforcement police-type activity), and its water rights registration system, (ii) (A) the carrying out of studies on the evaluation of the need for new public policies for the conservation and sustainable use of natural resources and development of biodiversity, and if applicable as determined by the results of said studies, the development of regulatory mechanisms and technical instruments for the conservation and sustainable use of natural resources and development of biodiversity; and (B) the carrying out of pilot activities in support of areas mentioned in (A) herein to be selected in accordance with criteria acceptable to the Bank; and (iii) (A) the carrying out of studies on the evaluation of the need for new public policies in water management, and if applicable as determined by the results of said studies, the development of regulatory mechanisms and technical instruments for a more sustainable use of water; and (B) the carrying out of pilot activities in support of the area mentioned in (A) herein to be selected in accordance with criteria acceptable to the Bank.

27. Typical activities envisaged under this sub-component are: (i) acquisition of equipment and materials, including vehicles, hardware, software and computers accessories/equipments; (ii) rehabilitation and improvements of environmental agencies; (iii) carrying out studies and analyses related to environmental requirements, process flow, register and licensing and water rights procedures, mapping audiences/users, customers; (v) designing and development of web-based application; (vi) training to address environmental laws, standardization, and web-based multi model approach. This sub-component will also support studies that analyze the need for new public policies and/or regulatory standards for the conservation, sustainable use and development of the natural resources; and the design, development and implementation of systems for the environmental monitoring and licensing of rural properties on a statewide basis in the SoT.

Sub-Component 2.4: Improvement of Quality, Relevance, and Returns to the Education System (Estimated cost of US\$10 million of which US\$8 million will be financed by the Bank loan)

28. Provision of support to SEDUC to improve quality in the Borrower's education system in a pilot set of selected Borrower's municipalities with high vulnerability (all under terms of reference acceptable to the Bank), through, inter alia, (i) supporting the selected municipalities in providing quality early child development, (ii) increasing quality of education, through identifying strengths and weaknesses in the quality of teaching and providing targeted training to ameliorate weaknesses, and (iii) improving the relevance and returns to schooling through supplementary courses in upper secondary schools and improved education materials; all in a pilot set of municipalities<sup>13</sup> with high vulnerability, in order to enable individuals to take advantage of economic opportunities created by transport improvements, as well as to mitigate both some of the potential adverse impacts of increased long haulage transport on vulnerable

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<sup>13</sup> Pilot municipalities will be around the Brasilia-Belem road and the reason for their selection is the high statistics of dropouts and social ills.

populations (for example, high-risk activities such as prostitution which often flourish along heavy transport routes).

29. The education sub-component benefits from Component 1 through improved access to schools and safety in said access, supports Sub-Component 2.1 through support to municipal provision of early child education, and supports Sub-Component 2.2 through provision of local technical training courses.

**Component 3 – Project Management (Estimated cost US\$8 million of which US\$8 million financed by the Bank loan)**

30. Provision of support for Project management in connection with the implementation and supervision of the Project.

31. The Project integrates its various components on several levels: vertical integration within the road network links municipal and state level roads to provide seamless movement across the network. The roads are also prioritized to integrate horizontally with the requirements of several activities under the institutional strengthening component. Such articulation between the investment and institutional strengthening components give momentum to the transformational nature of transport. All municipal and State road sections to be rehabilitated or upgraded or surfaced and the public facilities rehabilitated and/or built under the proposed Project will be reviewed a priori by the Bank and will meet the following criteria: (i) civil works contracts tendered in accordance with procedures described in Annex 2 & 3; (ii) environmental and social impacts identified, prevented and mitigated in accordance with procedures agreed upon with the Bank and described in Annex 3 and more widely, with Bank safeguard policies; (iii) engineering designs and work specification carried out following processes agreed upon with the Bank and included in the Manual of procedures for engineering design and supervision of works agreed with the Bank. In addition, all civil works on municipal and State road sections to be rehabilitated or upgraded under the proposed Project will have an internal rate of return (IRR) greater than 10%.

**Box 2 - Tocantins Transport Strategy and Bank past support**

Building on past successes, the State's new transport strategy aims at supporting transport and logistics in a more integrated and sustainable fashion, focusing both on further improving accessibility to remote and sometimes lagging regions and territories, and strengthening its intermediate feeder roads in articulation with the national trunk transport and logistics corridors. Transport and logistics in the State remain strongly based on the road mode, a situation that might endure considering the State's overall low population density, extensive agriculture and isolated production centers for which roads have an undeniable advantage.

The road network's overall characteristics are the reflection of Tocantins' historic, geographic and socioeconomic situations: a relatively low density of Federal highways when compared to states of similar size resulting both from the young age of the State and its relative remoteness in the country, a state road network which has expanded in a sound fashion over the past 15 years, and municipal networks usually composed of earth roads which are impassable during the wet season (see table below).

<b>(Km)</b>	<b>1998</b>	<b>2000</b>	<b>2003</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>Federal</b>	1,318.24	1,342.82	1,378.50	1,468.70	1,468.70	1,346.92	1,457.23
<b>State</b>	2,272.04	2,716.82	3,418.63	4,472.29	4,705.40	4,830.51	5,040.30
<b>Access</b>	60,000	62,000	64,000	65,000	68,000	70,000	73,000
<b>Total</b>	63,590.28	66,059.64	68,797.13	70,940.99	74,174.10	76,177.43	79,497.53

Source: Secretaria da Infra-Estrutura/DERTINS/SEPLAM-TO/DIPES

With time, the State strategy has shifted from trunk and main feeder roads priority towards capillary feeder road networks, including municipal networks (as supported under the recently closed Tocantins Sustainable Regional Development Project P060573<sup>14</sup>) and is now more balanced with an integrated and inclusive vision of transport investments.

32. The Project will improve the efficiency of the road sector practices in the State and municipalities through: (i) the improvement of engineering designs based on a technical solutions catalogue developed during project preparation, intended to enhance efficiency and limit cost escalation during works implementation; (ii) increased commitment of contractors in work execution and a rationalization of work monitoring, through the introduction of globalized prices per solutions and large use of performance based (CREMA) contracts for contract management; (iii) the mitigation of possible environmental impacts of road works and an independent socio-environmental supervision; (iv) the facilitation of proposal evaluation by including standardized formats applicable to all submissions and grouping of contracts to increase size of bid offerings; (v) the facilitation of the supervision of works, focusing on results and quality control, with a substantial reduction of potential areas of conflict in work execution, and thus of contract negotiations; (vi) mechanisms to ensure responsibility in and offer means to the management of municipal roads by the municipalities; and (vii) a holistic approach towards transport and logistics.

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<sup>14</sup> 5,100 km of those municipal access roads have been improved to all weather condition under the Project in 67 municipalities in Eastern Tocantins

**Annex 3: Implementation Arrangements**  
**BRAZIL: Tocantins Integrated Sustainable Regional Development**

**Project Institutional and Implementation Arrangements**

1. The Borrower will be the State of Tocantins, represented by its Secretariat of Planning and Public Management Modernization (Secretaria do Planejamento e Modernização da Gestão Pública - SEPLAN). The Federative Republic of Brazil will act as Guarantor. The Project is expected to be implemented over a six-year period with a completion date of September 30, 2018 and a closing date of March 31, 2019.

***General***

2. Building on the successes of the implementation arrangement under the previous Project as well as other Bank funded Projects in Brazil, the Project implementation will be centralized in a Project Management Unit (Unitario de Gerencamento do Projeto – UGP) under SEPLAN. The UGP will be responsible for the management of all administrative aspects (procurement, financial management and payment, safeguards, administrative and monitoring) for all activities under the Project, including for the other Project State beneficiaries.

3. The main beneficiaries of Project activities will be 5 state government entities: the Secretariat of Infrastructure (SEINFRA) for the first component; under the second component, the Secretariat of planning and modernization of Public Management (SEPLAN) for the first subcomponent, the Secretariat of Agriculture (SEAGRO) for the second subcomponent, the Secretariat of Environment and Sustainable Development (SEMADES) for the third subcomponent and the Secretariat of Education (SEDUC) for the fourth subcomponent. A component/subcomponent coordinator will be identified in each one of those beneficiaries to be the UGP main interlocutor on fiduciary aspects, and Bank specialists' main interlocutor on technical aspects. Secondary beneficiary institutions are expected to be the State agencies Ruraltins, under the coordination of the SEAGRO, as well Naturatins, under the coordination of the SEMADES.

4. The UGP was constituted during Project preparation (State Decree #4388 of September 2, 2011) and strengthened with a number of staff involved in the management of the previous Project. It successfully handled both the Project preparation activities as well as the final 10 months of implementation of the previous Project and can be considered operational. The UGP is composed of a management unit, the GOP (Grupo Operacional do Projeto) functioning as a steering committee constituted by the 5 beneficiary Secretaries or their nominees for strategic decisions related to the Project, and an administrative unit, the GAP (Grupo Administrativo do Projeto) for overall administrative management. The GAP is comprised of 3 clusters respectively specialized in technical questions (including safeguards), financial management and procurement. The UGP/GAP has been staffed with adequate professionals, many of which have already been involved in previous Bank funded operations and have good knowledge of Bank policies (procurement, FM and safeguards). Consultants might be contracted to further strengthen the UGP, notably at early stages of Project implementation and the staff of the UGP, which already benefited from training during preparation, will continue to be trained on Bank fiduciary policies during implementation.

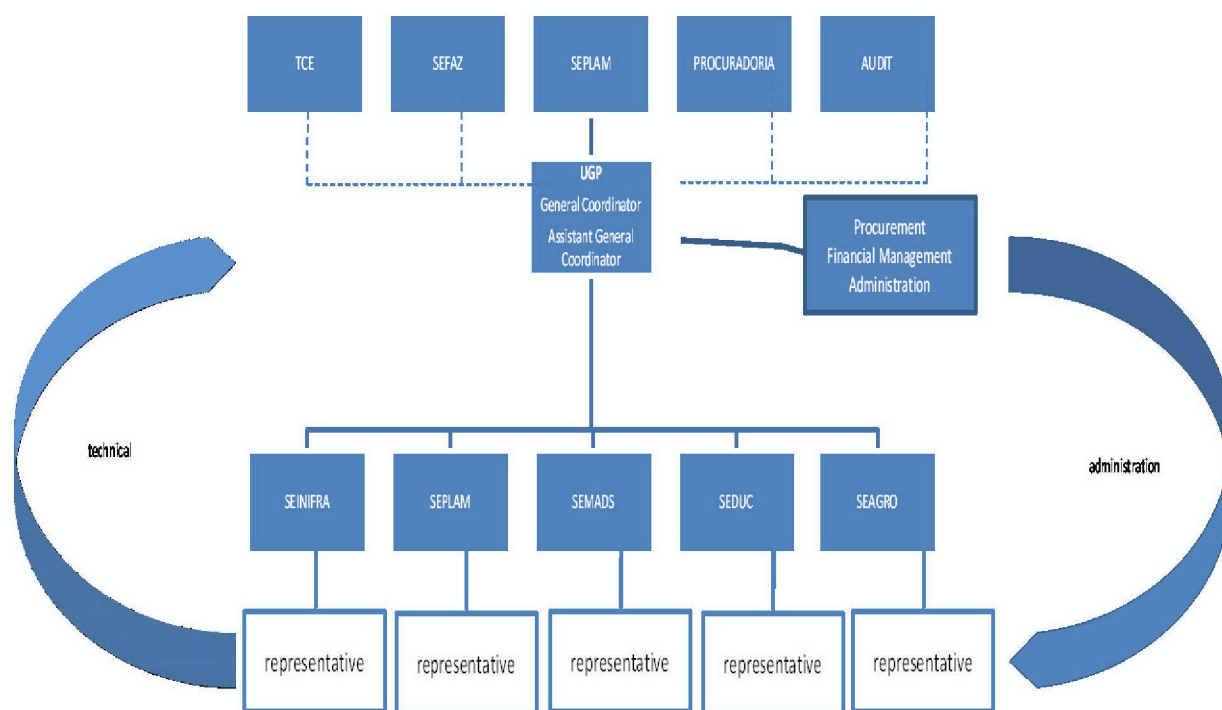
5. ***The UGP*** will be responsible for:

- a. Project's overall management, including liaison with Bank team, preparation and update of Project's activities' planning, overall coordination with each State beneficiary, compliance with Bank fiduciary policies (safeguards, procurement, FM) and coordination with the other relevant government entities, such as the Governor, the Secretary of Finance (SEFAZ), the State Attorney's Office (*Procuradoria Juridica*), Internal Audit (*Auditoria Geral do Estado*), and State Audit Court (*Tribunal de Contas do Estado*) for matters related to general implementation, disbursement of loan proceeds, payment of eligible expenses, approval of bidding procedures, auditing of Project financial documents, etc. The UGP will proactively identify potential obstacles and propose remedies to ensure the Project's satisfactory execution. The UGP will be responsible for archiving all processes and documents under the Project;
- b. Project monitoring and evaluation and reporting. The UGP will monitor Project's implementation towards the PDO and plan and monitor physical and financial progress and performance of Project activities, including activities executed by each beneficiary. The UGP will prepare and consolidate Project progress reports in accordance with agreed deadlines and format, with input from the different beneficiaries;
- c. Assisting the State bidding commissions in handling procurement processes. All procurement activities with the exception of works will be under the responsibility of SEPLAN's bidding commission. The Bidding Commission of SEINFRA will be responsible for the procurement of civil works. The UGP will support the bidding commission(s) in: preparation of the procurement plan, handling of all procurement activities including EOI & Invitation for Bids, preparation of ToRs, specifications, budgets (with respective technical input from Project beneficiaries), preparation of bidding documents/SDP, management of technical and financial evaluation and preparation of bidding evaluation reports, contract negotiations and awards, review and approval by the State Office of Attorney (*Procuradoria do Estado de Tocantins*) and publication of contract awards. The UGP will maintain administrative and procurement records;
- d. Project's Financial Management. The UGP will perform, with support from State Secretariat of Finance (SEFAZ), the financial management of the Project, including planning of expenditures (and ensuring appropriate budgeting for expenditures financed by the State), preparing Project accounts, preparing and submitting the Records/Summary Sheets (SSs) and Statements of Expenditure (SOE), issuing the Project's financial statements from the SIAFEM system. It will review and clear the requests for payments for services and works from beneficiaries, liaise with the SEFAZ to ensure swift payment of cleared expenditures, and maintain the Project's administrative and financial records. Audits will be undertaken according to the procedures detailed in par. 32 to 35 of the present annex 3. Audit will be on an annual basis. The UGP will provide support to and coordinate with both internal and external auditors on an annual basis;

## **Project Beneficiaries**

6. **The Project State beneficiaries** will be responsible for the planning, management and monitoring and evaluation of their respective activities and to provide input to the UGP in the Project overall planning, management and monitoring and evaluation. They will notably be in charge of the preparation of the plan of activities under their respective component and subcomponent, the preparation of technical documentation and input in procurement processes (such as specifications, terms of reference, budget estimates, technical evaluation), the signature

of contracts, the monitoring and evaluation of quality of activities' output, notably the performance of services and execution of works to reach each component's objective, the approval of bills/request for payments and the compliance with Bank safeguards policies. The Project implementation organization is shown graphically below.



### Progress reporting

7. Progress on the a) Project components will be reported to the Bank through a semi-annual progress report; b) Financial Management will be reported to the Bank through quarterly IFRs; c) Progress on planned civil works will be reported to the Bank through Project Reports as needed, and d) Procurement will be reported to the Bank through an annual Procurement Plan and semestral procurement monitoring tables, and in conformity with the Project covenants. The template reporting documentation is included in the Operational Manual.

### Implementation responsibilities of the Bank

8. As part of Project supervision, the Project team will
  - a. provide technical assistance and policy advice to the various Project beneficiaries in the design and implementation of the technical assistance component;
  - b. provide support to ensure, in as much as possible, adequate implementation performance under all Project components, as well as adequate Project reporting;



- c. review and evaluate implementation performance of the different Project State beneficiaries; and
  - d. closely monitor the compliance with safeguard clauses and execution of environmental works during the implementation of civil works contracts.
9. A minimum of two supervision missions a year are planned during the Project implementation period.

### **Financial Management, Disbursements and Procurement**

10. The Bank performed a Financial Management (FM) assessment (in accordance with OP/BP 10.02 and the Financial Management Practice Manual<sup>15</sup> for the Tocantins Integrated Sustainable Regional Development Project at the Secretariat of Planning and Public Management Modernization (SEPLAN/UGP), the Project executing agency, in September and October 2011. The scope of the assessment included: (i) an evaluation of existing financial management systems to be used for program monitoring, accounting and reporting; (ii) a review of staffing arrangements; (iii) review of the flow of funds arrangements and disbursement methods to be used; (iv) a review of internal control mechanisms in place; (v) a discussion in regard to reporting requirements, including the format and content of Interim Financial Reports (IFRs); and (vi) a review of internal and external audit arrangements.

11. The review concluded that the UGP has adequate financial management arrangements that meet the Bank's minimum requirements and that the UGP has adequate staff specialists with adequate experience with Bank managed projects.

12. Overall, the assessment concluded that (a) at the country level, Federal FM laws and regulations applicable to sub-nationals provide a strong FM framework for sub-national governments and their executing agencies; and that (b) the fiscal transparency, accounting, reporting, internal controls and external audit arrangements in the State of Tocantins are generally satisfactory though additional mitigating measures need to be implemented, as detailed in the FM action plan. The assessment also concluded that the key risks faced by the project arise from the following: (a) unfamiliarity with Bank processes at the seven participating entities, resulting in the need for increased inter-institutional coordination, (b) the need to review and adapt the internal controls to strengthen the internal controls, (c) the need to adopt the chart of accounts in SIAFEM (Plano Interno – PI) for the project and to tailor it to the project's needs; and (d) the need to assign regular staff within the co-executing entities as FM specialists to the project.

13. Specific mitigating measures are as follows: (a) the project prepared a Project Operational Manual (POM) with detailed procedures and guidelines and a definition of the roles and responsibilities of FM staff in UGP and the 7 implementing entities, (b) the World Bank FM Specialist will provide support and training to the 7 implementing entities, (c) the internal controls, including the prior review of expenses by UGP and SEFAZ and their post review by the Controladoria do Estado are considered satisfactory; and (d) the Bank will conduct regular FM site supervision missions to review the continuing adequacy of the FM arrangements.

14. The overall conclusion of the FM assessment is that: (a) the financial management arrangements for the proposed Project are considered adequate; (b) the treasury management and

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<sup>15</sup> Issued by the Financial Management Sector Board in March 1, 2010

accounting procedures using the State IT system SIAFEM are considered adequate, (c) the funds flow, disbursements, monitoring, auditing and supervision arrangements are suitable for the project's multi-agency implementation arrangements, and (d) the residual overall FM risk associated with the Project is rated as **MODERATE**.

#### Institutional Arrangements, Executing Agency and Staffing

15. The objective of the Project is to foster improved effectiveness of road transport and enhanced efficiency of selected public services in support of the State of Tocantins' integrated and territorially balanced development agenda. The primary fiduciary responsibilities for the Project would be carried out by UGP, which include: (i) establishing Project FM arrangements; (ii) coordinating and supervising Project implementation; (iii) submitting disbursement requests and documentation of expenditures to the Bank; (iv) preparing and submitting Project financial reports (IFRs) to the Bank; (v) preparing and providing all financial documentation and Project reports requested by external auditors and Bank staff; and (vi) preparing and updating the Project Operating Manual and ensuring that all Participating Entities are in compliance with the Project Operating Manual.

16. Since the primary fiduciary responsibilities for the Project would be carried out by GAP, there will be no transfer of funds to any Cooperating Entities. Each Cooperating Entity will appoint a representative or create a specific internal unit to execute their respective financial management activities responsibilities under the oversight of the UGP.

17. The Project Operational Manual will contain a documentation of the financial management procedures and guidelines that will be followed during Project implementation. These procedures and guidelines will be in respect of disbursements, approvals, commitments and payments, accounting and the preparation of financial reports (including IFRs). It will be prepared by the UGP and submitted to the Bank for review prior to July 31, 2012.

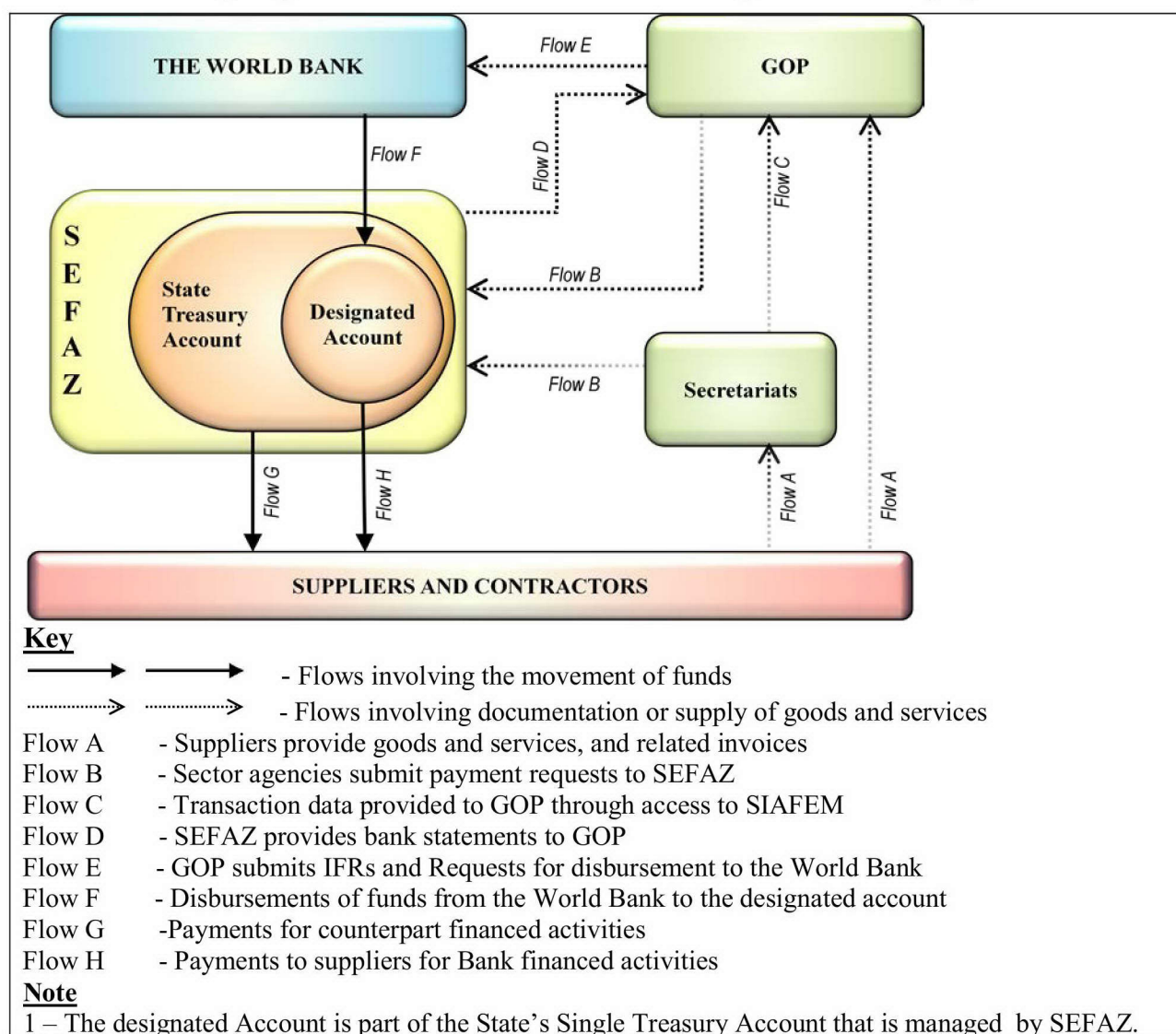
#### Disbursement Arrangements and Flow of Funds

18. The Project would be financed by Bank lending (US\$300 million) completed by counterpart funds (US\$75 million).

19. The disbursement of project funds will be processed in accordance with normal Bank procedures, and as stipulated in the loan agreement. Such funds will be in respect of eligible expenditures incurred or to be incurred under the Project and will be disbursed in accordance with agreed percentages. The primary disbursement method will be Advances. UGP will request such Advances to be made in BRL. In this case, the loan funds will flow from the Loan Account to a segregated Designated Account. It will be denominated in BRL and maintained at the Banco do Brasil in Palmas in the name of the SEFAZ, identifying the project. The Bank will finance 100% of the Project activities under the subcomponents 1.1, 1.2 and 2.1 (iv). Other specifically identified activities (subcomponent 1.3) will be financed 100% with Counterpart funds directly from the Single Treasury account. Institutional Strengthening activities under components 2 except 2.1 (iv) will be financed 80% by the resources of the loan and 20% by the counterpart funds. Finally, Project Management activities under the component 3 will be financed 100% by the Bank loan. After UGP approval, the SEFAZ will make payments to providers of goods, services, training and works incurred by the UGP and co-executors using the State SIAFEM system.

20. During project implementation, the following disbursement methods will be available for use: Reimbursements, Advances, and Direct Payments. The documentation of the uses of Advances and Reimbursement requests will be through Statement of Expenditures (SOE's) and/or Summary Sheets (SS) with Records. Direct payments will be documented by Records. The Minimum Value of Applications for Direct Payment and Reimbursement is United States Dollars (USD) 3,000,000 equivalent, with the exception of the Retroactive Financing Application for withdrawal, which will have no Minimum Value. The Project will have a Disbursement Deadline Date (final date on which the Bank will accept applications for withdrawal from the borrower or documentation on the use of loan proceeds already advanced by the Bank) 4 months after the Closing Date. This "Grace Period" is granted in order to permit the orderly project completion and closure of the Loan Account via the submission of applications and supporting documentation for expenditures incurred on or before the Closing Date. Project expenditures will be reported on after they are approved by UGP and fully documented, ensuring that the loan proceeds were exclusively used for eligible expenditures.

21. The following diagram illustrates the flow of funds arrangements for the project.



22. Before payments are made in respect of activities financed under the loan, the UGP will undertake the verification of the expenditures incurred by itself and Participating Entities. All such expenditures will be documented in withdrawal requests transmitted to the World Bank office in Brasilia.

23. Disbursements by expenditure category are provided in the table below:

<b>Category</b>	<b>Amount of the Loan Allocated (expressed in Dollars)</b>	<b>Percentage of Expenditures to be financed (inclusive of Taxes)</b>
(1) Goods, works, consultants' services and non-consulting services for: (a) Parts 1.1 and 1.2. of the Project; and  (b) Part 1.4 of the Project	233,000,000  7,000,000	100%  80%
(2) (a) Goods, consultants' services and non-consulting services and Training for Parts 2.1 (i) through (iii), 2.2, 2.3 and 2.4 of the Project  (b) Works, consultant's services and non-consulting services under Part 2.1 (iv) of the Project	44,000,000  7,250,000	80%  100%
(3) Goods, Consultants' services, and non-consulting services, Training and Operating Costs for Part 3 of the Project	8, 000,000	100%
(4) Front-end Fee	750,000	Amount payable pursuant to Section 2.03 of the Loan Agreement in accordance with Section 2.07 (b) of the General Conditions
(5) Premium for Interest Rate Caps and Interest Rate Collars	0	Amount payable pursuant to Section 2.07 (c) of the Loan Agreement
<b>TOTAL AMOUNT</b>	<b>300,000,000</b>	

## Accounting Policies and Procedures, FM system, and Internal controls

24. The Project's budgeting and accounting arrangements are part of the overall State FM system and therefore all transactions and accounting records will be maintained using the State accounting system (SIAFEM), following accounting procedures stipulated in the prevailing Law (Lei n.º4.320/64). All payments will be made after compliance with existing requirements for commitment (empenho) and verification (liquidação). Planned transactions will be documented in a Work Plan (Programa de Trabalho) that will be recorded in the SIAFEM. Once incurred, all Project costs will be recorded using the State Chart of Accounts which will be customized for the Project using the state chart of accounts (Plano Interno).

25. The Project's accounts will be maintained on a cash basis, and the same basis will be used for the preparation of the financial reports and statements.

26. The IFRs will reflect the project's transactions in Brazilian Reais (R\$) and dollars (US\$), and expenditures will be stated by quarter and accumulated for the year and for the Project's life. IFRs will be submitted to the Bank within 45 days after the closing of each quarter.

### Reporting and Monitoring

27. The UGP will prepare the financial statements for the project using information provided by the SIAFEM. In doing this, the UGP will develop a chart of accounts that will properly reflect the sources and uses of funds in accordance with the loan agreement.

28. The following quarterly IFRs will be prepared for management purposes and submitted to the Bank:

- I. IFR 1 – Source and application of funds by cost category, cumulative (project-to-date, year-to-date),
- II. IFR 2 – Uses of Funds by project components, cumulative (project-to-date, year-to-date) and for the period, showing budgeted amounts versus actual expenditures, (i.e., documented expenditures), including a variance analysis,
- III. IFR 3 – Disbursements reconciliation with the Bank's Client Connection site (attached with latest Bank Statement),
- IV. Contract above Thresholds (attached with copy of the invoices); and
- V. Notes to the Financial Statements (only for the last year – end quarterly IFR).

29. The counterpart fund contribution for the Project will be specified in the Project Document and the Project Operational Manual and reported in the project's IFRs.

30. The format of the IFRs have been agreed between the Borrower and the Bank during preparation.

31. The POM will contain detailed procedures and guidelines for disbursements, payments, approvals, commitments and payments, accounting, and IFRs and it will be prepared by the UGP.

### External Audit

32. The Project's financial statements will be audited in accordance with the Bank's audit policy and guidelines<sup>16</sup>. The audit report should be delivered to the Bank within six months after end of each calendar year, as stated in the Bank's Financial Management Audit Guidelines (June 2003) and the Loan Agreement. The audit will be conducted in accordance with Terms of Reference (ToR) prepared by the UGP and judged acceptable to the Bank. The latter will provide its no objection to these TOR within two months after signing of the loan, and the TOR will be attached as an annex to the POM. The scope of the audit report will include a full review of the fourth IFR (for each calendar year), and of the UGP's transactions in SIAFEM. The audit report will include an opinion on the Project financial statements and a management letter on the internal control structure. The auditors should have access to all supporting records and be able to make and onsite examination.

33. The project's auditors will be selected to meet the Bank's criteria on independence and competence. The TCE-TO is the state's Supreme Audit Institution, and it has the mandate to audit all state expenditures, including those that will be financed under the project. The TCE had preliminarily expressed interest in conducting the audit, and will formally communicate final position as regards being Project auditor to the UGP. The Bank will review the capacity of the institution to carry out the audit, with expected conclusion within 6 months after Negotiations. In case the capacity of the institution is deemed insufficient and/or the TCE does not confirm interest in being the Project's auditor, the UGP will contract external auditors following Bank procurement procedures if the audit contract is financed by Loan proceeds.

34. All supporting records will be maintained at the UGP for at least (i) two years after the Closing Date; or (ii) one year after the World Bank has received the audited Financial Statements covering the period during which the last withdrawal from the Loan Account was made, whichever is later.

35. Financial management supervision will take place at least twice a year and will include, among others, (i) a review of the IFRs; (ii) a review of the auditors' reports and follow-up of issues raised by auditors in the management letter, as appropriate; (iii) a follow up on any financial reporting and disbursement issues; and (v) an update of the financial management rating in the Implementation Status and Results Report (ISR); and (iv) a discussion with project management on other related matters.

### Action Plan

<b>Activity</b>	<b>Responsible</b>	<b>Date</b>
Budgeting will be improved through budget preparation from each of the beneficiaries, identifying the sources of funds and the project components and disbursement categories, using common chart of accounts, specific for the Project. The project budget will be consolidation by the UGP. The budget will be based on the Annual Operational Plan and procurement plan, showing the	UGP	July 31, 2012

<sup>16</sup> Issued by the FMSB on June 30, 2003 and in accordance with International Standards on Auditing (ISAs) issued by the International Federation of Accountants (IFAC)

project estimated expenses on a quarterly basis.		
Completion of the Project operational Manual (POM) containing flow of funds design, staff functions, accounting policies and procedures, basis of accounting, chart of accounts tailored to include project components, disbursement categories and financing source, internal controls, segregation of duties, fixed assets and records management procedures). Submission of draft Manual to the Bank for review	UGP	July 31, 2012
Customization of the Chart of accounts in SIAFEM (Plano Interno-- PI)	UGP	July 31, 2012
Completion of the preparation of the IFR format	UGP / World Bank	July 31, 2012
Prepare and approve the Terms of reference for the audit of the project	UGP / World Bank	After TCE TO capacity assessment

## **Procurement**

36. Procurement for the proposed Project will be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated January 2011; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated January 2011 and the provisions stipulated in the Legal Agreement. A Procurement Plan showing the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and time frame will be agreed during appraisal between the Borrower and the Bank and will be updated at least annually, or as required, to reflect the actual Project implementation needs and improvements in institutional capacity. In addition, template bidding documents for International Competitive Bidding, National Competitive Bidding and Request for Proposal documents will be made available online at the Client's website.

37. The UGP and the bidding commission of SEPLAN (Comissao de Licitacao, CdL) will be responsible for the procurement of goods, non-consulting services and consulting services under the Project. The bidding commission of SEPLAN will be in charge of publishing the invitations for bids, and the Request for Expression of Interest (EOIs) and signing minutes of opening proposals, while the UGP will be responsible for preparation of all procurement documentation up to contract award (short lists, bid documents/RFP, evaluation reports, negotiation minutes and any other required document) and for updating and monitoring the procurement plan. The UGP will act as liaison between the beneficiaries (SEINFRA, SEDUC, SEMADES, SEAGRO, Naturatins, Ruraltins) and will monitor and ensure the quality and timely delivery of the procurement processes. The CdL of SEINFRA will be solely responsible for the procurement of the civil works, while the CdL SEPLAN will continue with all the other procurement processes. SEINFRA therefore will be in charge of preparing all related work procurement documents (invitations for bids, bidding documents, records of bid opening, evaluation reports, etc.) and of signing the work contracts.

38. Technical teams in each beneficiary will provide the inputs for the preparation of the request for proposals and bidding documents such as technical specifications, terms of reference, and



budgets, and they will contribute to EOIs, proposals evaluations, award decisions and contracts' supervision. The beneficiaries are thus expected to provide on-time and quality support to the procurement processes (institutional strengthening or investments) for their own activities.

#### Procurement Methods

**39. International Competitive Bidding (ICB).** All works, non-consultant services and goods estimated to cost US\$25,000,000 equivalent per contract or more for works and US\$3,000,000 equivalent per contract or more for non consultant services and goods will be procured under contracts awarded on the basis of ICB procedures. SBD will be used for all ICB contracts and these shall be prior reviewed by the Bank.

**40. National Competitive Bidding (NCB).** All works goods and non-consultant services estimated to cost less than US\$25,000,000 for works and US\$3,000,000 equivalent per contract for non consultant services and goods, may be procured under contracts awarded on the basis of NCB procedures and bidding document acceptable and agreed with the Bank. For goods and non-consulting services estimated to cost less than US\$3,000,000 per contract, the procurement method known as *pregão eletrônico* under Law 10,520/02 will be acceptable upon prior approval by the Bank, subject to the following additional procedure, namely, that the bidding documents shall be acceptable to the Bank.

**41. Shopping.** Goods and non-consultant services estimated to cost less than US\$100,000 equivalent per contract and Works to cost less than US\$ 300,000 may be procured on the basis of shopping procedures.

**42. Direct contracting.** Goods and non-consultant services estimated to cost less than US\$100,000 equivalent per contract and Works to cost less than US\$ 300,000 may be procured on the basis on direct contracting under the conditions set forth in the Bank procurement guidelines.

**43. Selection of Consultants.** The majority of the Consulting services will be procured following Quality and Cost Based Selection (QCBS) procedures. The Quality based selection procedure can be adopted if the services are complex or highly specialized as defined in the Guidelines for Selection and Employment of Consultants. Depending on the complexity and standardization, the consulting services costing less than US\$ 300,000 may also be procured following Least Cost Selection (LCS), Fixed Budget-based Selection (FBS), and Consultants' Qualification-based Selection (CQS) procedures. In exceptional cases, Single Source Selection (SSS) may be appropriate, if properly justified.

**44.** Short lists of consultants for services estimated to cost less than US\$500,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Guidelines for Selection and Employment of Consultants. Individual consultants would be selected in accordance to the procedures described in section 5 of the Guidelines.

#### Assessment of the Agency to implement procurement.

**45.** An assessment of the capacity of the UGP and the Bidding Commissions of SEPLAN and of SEINFRA was carried out in May 2011 and October 2011. The assessment reviewed the organizational structure and capacity for implementing the Project and the main findings are as follows:



- **CdL at SEPLAN** is staffed with 16 employees who are very experienced in *pregao eletronico*. The CdL conducts on average 600 e-procurement processes per year and is currently overloaded with the responsibility of managing the procurement processes of 30 government agencies. The CdL has not procured any works contract, and is not considered capable for assuming this responsibility. The capacity of the CdL has been strengthened with the appointment of one procurement specialist to permit the CdL to respond in a timely fashion to the procurement needs of the Project.
- **UGP of SEPLAN** has acquired significant procurement experience through the recent Tocantins Sustainable Regional Development Project and therefore is found capable to deal with the procurement of goods, consulting and non consulting services and to assume the overall procurement responsibility. The UGP's procurement staff has the appropriate procurement exposure to respond satisfactorily to the needs for adequately implementing this Project.
- **CdL at SEINFRA** is staffed with 10 procurement specialists who are very seasoned in the procurement methods of Lei 8666 (*concorrenca, convite and tomada de preços*). The CdL has participated in several large national bidding for works of about R\$80 million each, consequently the procurement of large civil work contract does not seem to be a challenge for the capabilities of the CdL, although it is not familiar with the Bank procedures. Therefore a civil engineer with ample experience in procurement of works will be appointed to CdL SEINFRA to ensure the quality and timely execution of the procurement process, and will be working initially within the UGP in order to benefit from their sound knowledge and experience in dealing with Bank's procurement procedures and processes and later will become the SEINFRA's procurement point of liaison with the UGP. The Bank will need to closely monitor SEINFRA's CdL procurement performance and procurement processes.

46. Overall, the evaluation identified the main following risks: (i) the size of works and consulting contracts expected to be procured are larger than those procured in the recent project. SEINFRA lacks experience in procuring works contracts following the Bank's procurement procedures and SEPLAN does not have sufficient exposure to large consulting services contracts, (ii) possible inconsistent quality of procurement process and evaluation of bids due to the participation of several beneficiaries in the preparation of technical specifications, TORs and proposal evaluation, and (iii) challenges related to record keeping, and quality and delivery of the procurement documents within SEINFRA especially in light of the larger volume of planned procurement activities.

47. Specific mitigating measures have already been taken during preparation including (i) staffing SEPLAN with one procurement specialist dedicated to Bank procurement processes and appropriately staffing SEINFRA CdL to efficiently carry out the procurement activities under this Project (SEINFRA should appoint one dedicated specialist with adequate competencies in Bank's procurement procedures), (ii) The State Attorney's Office (Procuradoria do Estado) should appoint one staff who will take care of the Project's procurement processes, and (iii) training to sector technical teams from the different beneficiaries and to the CdLs to ensure consistency and quality of technical specifications and TORs. In addition, during Project implementation, (i) adequate staffing of the UGP will be verified by the Bank (ii) training to SEPLAN and SEINFRA's CdLs, the Project beneficiaries' staff and the State Attorney's Office staff will continue to be offered on a regular basis by the Bank, (iii) the Bank's team intends to systematically review a priori most procurement processes, (iv) the UGP will play a lead role in coordinating the procurement activities and in ensuring consistency and quality of the

procurement documents, and (v) contract sizes have been enlarged to increase economy and efficiency and facilitate the Project implementation.

48. The overall Project risk for procurement is **MODERATE** due to (i) the need to appoint an experienced civil engineer with exposure to the procurement of large civil work contracts in SEINFRA's CdL, (ii) the concerns about the lack of familiarity of some beneficiaries to prepare adequate terms of reference, technical specification, cost estimates, (iii) SEINFRA CdL's lack of familiarity with the Bank procurement procedures but will be mitigated through abovementioned measures.

#### Advertising

49. Invitations to bid for works and goods under ICB procedures and requests for expression of interests for consultant contracts expected to cost US\$500,000 or more will be advertised in UNDB online, the Official Gazettes of the State of Tocantins as well as in appropriate newspapers with national circulation or electronic portal having free access.

#### Bank Reviews

50. The proposed prior review thresholds for the Project are US\$3,000,000 for goods and non-consulting services, US\$25,000,000 for works and US\$200,000 for consulting services. All ICBs and single-source of consultants, as well as direct contracting for goods, non-consulting and works, shall be prior reviewed by the Bank regardless of the amount involved. The Bank intends to prior review all procurement and consulting processes, more specifically during the first year of the project. At a minimum, the following years the Bank will prior review the first two NCB processes for goods, works and non-consulting services per year. Also, the ratio of Bank reviews shall be no less than one in 20 contracts.

51. In addition to the prior review supervision to be carried out from Bank offices, at least one annual procurement post-review mission will be carried out during Project implementation.

#### Reporting Requirements

52. As part of Project reporting, SEPLAN/SEINFRA through the UGP will submit each semester during the Project implementation period a progress report which will include procurement monitoring tables. Such tables will include the expected and actual timelines of the various steps related to the procurement of each contract included under the Project.

#### Procurement Plan

53. The UGP of SEPLAN will consolidate the procurement needs from all implementing agencies into one project procurement plan. This procurement plan for the first 18 months for project implementation will provide the basis for the procurement methods and it was agreed between the agencies and the Project Team during the negotiation. It will be available in the project's database and in the Bank's external website. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

### ***Details of the Procurement Arrangements Involving International Competition***

#### Goods, Works, and Non Consulting Services

54. List of contract packages to be procured within the first 18 months of Project execution:

Ref. No.	Contract (Description)	Estimated Cost (US\$ million)	Procurement Method	Pre qualification (yes/no)	Domestic Preference (yes/no)	Review by Bank (Prior/ Post)	Expected Bid opening date	Comments
<b>Civil works</b>								
1	CREMA contracts. Regions: R1 (234km) and R7 (188km)	35	ICB	No	No	Prior	02/2012	
2	CREMA contracts. Region: R2/R3 (373km), R4 (299km), R5 (293km), R6 (256km)	99	ICB	No	No	Prior	02/2013	
<b>IT equipment</b>								
4	Vehicles to support SEINFRA	3	ICB	No	N/A	Prior	01/2013	
<b>Non-consulting services</b>								

### Consulting Services

55. List of consulting assignments with short-list of international firms to be contracted within the first 18 months of Project execution:

Ref. No.	Description of Assignment	Estimated Cost (US\$ million)	Selection Method	Review by Bank (Prior / Post)	Expected Proposals Submission Date
1	Environmental Supervision of R1 and R7	0.720	QCBS	Prior	06/2012
2	Technical Supervision R1 and R7	1.4	QCBS	Prior	06/2012
3	Surveys & Designs R2/R3, R4, R5 and R6	2.1	QCBS	Prior	06/2012
4	Environmental Supervision R2/R3,R4,R5ande R6	1.5	QCBS	Prior	06/2013
5	Technical Supervision R2/R3, R4, R5 and R6	3.5	QCBS	Prior	06/2012
6	Technical Designs & Supervision Centre-west	2.2	QCBS	Prior	06/2012
7	Technical Designs &	2.2	QCBS	Prior	02/2013

	Supervision Northwest				
8	Environmental Supervision Central-west	1.1	QCBS	Prior	06/2012
9	Environmental Supervision Northwest	1.0	QCBS	Prior	10/2013
10	Training and coaching activities for the technical group in charge of leading the Results Based Management strategy and the change management	0.6	QCBS	Prior	12/2012

### **Advance contracting and retroactive financing**

56. Retroactive financing will be available for this project. Notwithstanding the provisions of Part A of Section IV of the Loan Agreement, except that withdrawals up to an aggregate amount not to exceed US\$60,000,000 equivalent may be made for payments made prior to this date but on or after February 10, 2012 (but in no case more than one year prior to the date of this Agreement) for Eligible Expenditures.

### **Environmental and Social (including safeguards)**

57. Social. The proposed Project's Development Objective is expected to provide substantial social benefits to the rural populations of Tocantins. Projects of this nature have proved to be a priority for rural populations as demonstrated by the success of the investments to improve the municipal roads under the previous operation. The proposed investments in roads, public service delivery improvement, productive supply chains, environmental management and education are also well aligned with a number of the State's most pressing challenges, namely increasing knowledge and innovation for economic competitiveness, reducing poverty and regional disparities and enhancing environmental sustainability. As a result, the social impacts of the proposed Project are expected to be positive.

58. Nonetheless, several of the proposed activities and implementation mechanisms are socially complex and will operate in sensitive social contexts. For instance, support for road improvements at the municipal and indigenous community levels will require considerable public consultations to reach decisions regarding priority investments. Increasing economic development is putting more demand on natural resources and creating new challenges for the state's residents.

59. In light of these recognized opportunities and risks, an integrated Environmental and Social Impact Assessment (ESIA) was conducted and an Environmental and Social Management Framework (ESMF) has been prepared. The ESIA and ESMF provide both a thorough assessment of the Project's social and environmental opportunities and challenges and detailed mitigation measures to be undertaken in the event that any particular risks cannot be avoided. The ESIA included screening of the seven feeder corridors of the paved state road sections (total of 1,660<sup>17</sup> km) identified for rehabilitation through subcomponent 1.2 during the first year of

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<sup>17</sup> The ESIA screened approximately 1660km of potential roads, though the Project envisions implementing 1500km to take physical and financial contingencies into account.

project implementation. As all proposed civil works under subcomponent 1.2 will take place within the existing roadway or road right of way, these will proceed without any need to acquire land or displace any physical assets. In addition, none of these specific road sections identified for rehabilitation are located in areas occupied or claimed by indigenous peoples.

60. While the Project is not expected to require any significant land acquisition nor impose restrictions of access to protected areas, localized impacts are possible, notably under the surfacing of state unpaved roads subcomponent. The only known locations are for rehabilitation works which do not require any resettlement or land acquisition. As the exact location and design specifications for the remainder of the proposed civil works and policy recommendations are unknown at appraisal stage, a Resettlement Policy Framework (RPF) has been prepared in agreement with Bank policy OP 4.12. Although it is unlikely that any of the activities to be implemented through component 2 will result in restrictions of access to natural resources in parks or protected areas, the RPF includes a Process Framework (PF) that provides policy guidance and procedures to mitigate any such impacts as needed.

61. As several of the proposed project activities contemplated under Component 2 are statewide in scope, they could potentially affect any of the roughly 13,000 Indigenous peoples present in the state. In addition, Indigenous Peoples are expected to directly benefit from the municipal roads subcomponent under component 1. As a result, the Indigenous People policy has been triggered. For the municipal subcomponent, the plan is to treat the five indigenous lands located in the western region of the state independently from the municipalities with which they overlap. The national indigenous agency (FUNAI) is assisting with consultations with indigenous peoples, such that indigenous peoples will select their own priority road works for implementation. A cooperation agreement between the State Government and the Federal supervision authorities, including the Ministerio Publico and FUNAI, defining respective roles and responsibilities will be prepared before activities start in the Indigenous Lands. An initial pilot will be tested in one of the five indigenous lands to refine the methodology for subsequent adaptation to the other territories in case of success. As the exact location of the municipal works and the potential direct and indirect benefits from the Project for these populations remain unknown at appraisal, an Indigenous Peoples Planning Framework (IPPF) has been prepared in agreement with OP 4.10 and plans will be prepared/implemented when required.

62. As of appraisal stage, the exact location of several of the pilot activities proposed for project financing under Component 2 have yet to be identified. Others, for example the education sector activities, will be implemented in a fairly circumscribed area along the Brasilia-Belem road because of the high rates of school dropout and other social ills including the spread of HIV/AIDS. Specific clauses in the contractors' contracts will provide awareness on HIV/AIDS and the requirement is included in the Operating Manual. The Environmental and Social Impact Assessment screened all known project areas for the presence of Indigenous Peoples and confirmed that none of the pilot projects identified to date will affect directly or indirectly indigenous peoples either positively or negatively. Should this evaluation change during project implementation, the IPPF will be applied and site specific Indigenous Peoples Plans will be implemented. The participatory process involving reflections of the local population on the local development open to all western municipalities, including indigenous people, under the municipal roads subcomponent, might constitute an opportunity to identify particular local development priorities. Should such development priorities result in particular activity financed under the Project for Indigenous Populations, the IPPF will apply. The IPPF will assist the

executing agencies to determine whether indigenous peoples are present in any of the project areas, and if so, to ensure that the interested communities support the proposed activities as well as any additional measures required to maximize their culturally appropriate benefits and/or avoid potentially adverse impacts.

63. The Project benefited from ample consultations with representatives from local institutions and the civil society held across the State during preparation, both at concept (3 consultations in SoT regions over the course of 2010) and preparation stages (five consultations in SoT regions both on ToR and outputs of the ESIA) and specifically included representatives of Indigenous Peoples, local residents and municipal authorities, private sector producers, public service providers, NGOs, etc. The ESIA reports that the principal concerns of participants included questions about the overall value of investments, the geographic and technical scope of operations to be supported, the formula for municipal allocations, the prioritization process for municipal works, the implementation calendar, etc. These comments and suggestions were recorded in consultation reports detailing responses provided and attesting to the overall endorsement given to the Project's objectives, components and safeguards instruments.

64. The Borrower also prepared a Public Consultation Manual that describes the consultation process required to prioritize municipal roads investments, and covers the objectives, methodology, and resources required. All the works under the municipal road improvement component will be prioritized and decided on a participatory basis, upon completion of a first set of participatory processes to define the municipal development agenda in an objective to foster greater transparency, accountability and public engagement in municipal affairs. Subsequently, participants will decide on a list of roads to be improved, ranked in order of priority, in conjunction with the development strategy previously discussed. The national indigenous agency (FUNAI) will assist with consultations with indigenous peoples, such that these communities can select their own priority road works for implementation. Although the surfacing subcomponent is expected to be relatively small, a public consultation will be conducted before the beginning of each surfacing subproject with beneficiary communities, nearby towns and road users.

65. The Borrower has also developed a technical note for management of state road rights of ways (ROW). This note provides guidance on how the State road agency (SEINFRA) will monitor occupations and other unauthorized uses of road side areas. The main recommendations include the need to sensitize occupants to the potential dangers due to proximity to the road way, and to coordinate these outreach campaigns with municipal authorities and other government agencies required to design and implement sustainable solutions with the ROW occupants. These tasks will be facilitated through the activities included in the Project's Social Communications Plan.

66. Although the Project executing agencies have experience with World Bank safeguards policies and instruments from previous Bank financed operation, many of these did not require any land acquisition, nor did they operate in indigenous areas. For these reasons, the Project has sought to strengthen measures and systems already in place, such as: Environmental and Social Screening requirements, independent environmental and social supervision contracts, public consultation and participatory decision-making processes, and gender disaggregated social impact assessments, among others. Capacity building for safeguards management has also been an instrumental part of project preparation. For example, the World Bank project team and UGP official participated in a series of workshops on involuntary resettlement and indigenous peoples issues during preparation missions in October and December 2011.

67. The UGP will be responsible for ensuring that all Bank safeguards triggered by the Project are complied with and that all works under implementation apply the ESMF, RPF and IPPF. The UGP will also provide support to the beneficiary agencies on the preparation of specific social assessments, public consultations and preparation of resettlement / indigenous peoples plans, whenever they may be required. To do this, the UGP has hired a qualified social specialist to support project implementation. The Bank team will also continue to work closely with State counterparts to ensure adequate adherence to all Brazilian and Bank social and environmental standards.

68. Finally, to handle any eventual requests for information or grievances regarding Project activities, the State of Tocantins already has a well-developed system for addressing grievances through the intervention of an independent third party, via the State Public Attorney Office. Beyond this, an Ombudsperson linked to the UGP will be set up. SEPLAN will prepare an Ombuds Manual defining timeline and document standards for the handling of public communications. The Ombudsperson will receive and channel suggestions and concerns voiced by the public to the responsible authorities. The Ombudsperson will receive communications through a telephone “hot-line”, advertized on signs posted at all work sites. Comments and questions will also be received through email and the Borrower’s website<sup>18</sup>. The Ombudsperson will ensure that adequate and timely replies are provided to the public. These data will further be analyzed in the Progress Reports, so as to identify any key issues or problems to be addressed during project implementation. These data will be analyzed in quarterly Monitoring Reports, and may also be used by the State Public Attorney Office in the treatment of disputes at the state level, wherever such measures are found to be necessary.

69. Gender: positive impact is expected for specific activities as detailed in the Project description. Impacts on gender will be evaluated through surveys, as mentioned in Monitoring and Evaluation section of the PAD.

70. Environment. The Project does not entail any potential large scale, significant and/or irreversible negative impacts. It has statewide relevance addressing improved effectiveness of road transport and enhanced efficiency of selected public services in support of the State of Tocantins’ integrated and territorially balanced development agenda. As key benefit, the Project is expected to contribute to increased economic production through increased viability, notably in agriculture, where more land would be used for production, though in relatively limited extension, as a result of improved accessibility, and increased productivity, thanks to lower costs of production. Potential limited direct impacts on land use could be experienced, but most of the proposed investments will take place on roads that pass through existing farming areas that have already been consolidated in the state. Additionally, while the State already has a sound protected area policy framework and monitoring capacity, the environmental management of road works under the Project will be supervised by independent consulting companies, following best practices inherited from other transport projects in Brazil.

71. While most direct impacts on environment from the Project are expected to be limited in time and localized near the interventions sites, cumulative impact with potential pressure on the environment might result from the regional economic growth expected as an outcome of the Project. Notwithstanding, the Project will encompass a wide environmental institutional strengthening subcomponent building on the successes of the previous operation (see box 2

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<sup>18</sup> SEPLAN/SEPLAN - PDRIS website address: <http://www.seplan.to.gov.br>

below)<sup>19</sup> expected to generate sustainability in the State economic growth, in areas such as: biodiversity protection, sustainable land use management, environmental monitoring strengthening, sustainable hydrological resources management.

**Box 3 – Tocantins Sustainable Regional Development Project (P060573)  
environmental & social achievements and Successes**

The Project supported cutting edge innovative practices in environmental and social management.

On the environmental front, the Project supported the setting up of the State environment policy and regulatory framework in biodiversity protection, land use management, environmental supervision and licensing, and water resource management and initiated the implementation in operational terms of some of those policies. This translated into an impressive number of studies and institutional strengthening activities and allowed the initial development of cutting edge practices such as: ecological corridors, integrated management strategies for water particularly in semi-desert areas, a number of watershed masterplans and orientations for basin committees, studies on land cover and fauna and flora, studies for 16 new protected areas, etc. The Project activities in environment have been further supported by the recent Sustainable Cerrado GEF Initiative (P091827/TF096766).

On the social front, the previous Project has fostered empowerment of rural poor populations through original participatory mechanisms both to incentivize peoples' deliberation on the municipal development agendas and to carry out initial actions through the execution of works on municipal road accesses following priorities determined by the populations. Those works have undeniably improved accessibility to employment opportunities, schools, and services (including social services) for some of the poorest in Tocantins. The Project also supported specific pilot activities to support inclusiveness, for example, by fostering support to particular fragile and remote populations such as *Quilombolas*, fostering the development of new activities such as ecotourism in remote municipalities with potential, etc.

*Finally*, an impact evaluation has been undertaken in the Project to better assess the Project outcomes for the main direct and indirect beneficiaries and, while the evaluation was still underway at the time of the current proposed Project preparation, initial results showed a positive feedback from the targeted populations as well as an overall positive outcome of Project activities. The proposed project intends on capitalizing on such successful experiences.

72. From Component 1, the proposed interventions in the municipal road networks will contribute to improve access to schools and health facilities in several regions of the State. All the proposed interventions are on existing municipal and state roads, with no planned opening of new roads. There are a number of notable benefits expected from carrying out works on existing roads, with direct actions improving road safety, elimination of dangerous and critical spots, improving traffic conditions. The most significant potential for adverse social and environmental impacts (ex: degradation of natural resources including water, injuries from collisions with vehicles, etc.) is expected from the surfacing of approximately 50 km of unpaved State roads.

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<sup>19</sup> For instance, the demarcation of protected areas has proven to be an effective tool in curbing deforestation.



Potential impacts on land use could be experienced, but it should be noted that roads are selected as a network, taking into account conservation priority areas, as one of the assumptions adopted from the previous operation (Quintero, 2007 – “Mainstreaming Conservation in Infrastructure Projects”, The World Bank).

73. While some of the proposed activities will operate in sensitive environmental and social contexts, the participatory mechanisms envisioned in the decision process for investments at municipal level might contribute to better address the management of those social and environmental issues. Some studies prepared by the SoT, also supported by the World Bank under the previous project, indicate that the improvement of road circulation should not significantly change the spatial pattern of conversion of native vegetation in the state. The proposed investments will take place on road sections that traverse existing farming areas which had already been consolidated in the state, and thus are expected to increase productivity and occupation of lands which are already in use. In parallel, other studies were performed by the SoT, such as the EEZ - Ecological-Economic Zoning and by the implementation of Management Plans for Protected Areas. The demarcation of protected areas has proven to be an effective tool in curbing deforestation. Some studies have also demonstrated that deforestation was significantly lowered inside Conservation Units (UCs) than outside those areas, reinforcing the clear effect that protected areas have for preventing deforestation. Still, existing (or in preparation) environmental management plans for conservations units in Tocantins indicate the need for strengthening of state institutions, especially NATURATINS, to promote continuous and more efficiently actions.

74. According to OP 4.01 Environmental Assessment, mandatory safeguard policy, the Borrower has addressed safeguard policy issues by conducting an Environmental and Social Impact Assessment (ESIA) from which the Environmental and Social Management Framework was prepared (ESMF) to outline the set of guidelines, procedures and criteria to be used for screening activities and ensure that such activities will not cause any potential large scale, significant and/or irreversible negative environmental and social impacts. Specific EMPs for rehabilitation road works identified at appraisal were prepared accordingly to the ESMF, as detailed in paragraph 78 below.

75. In order to effectively minimize or mitigate these potential impacts, the ESIA has developed screening procedures, mandatory Action Plans and institutional strengthening measures. The ESIA identified for each proposed Component and Sub-Component the type of interventions expected, with a description of technical issues (design, project, dimension and needs), as well as, for each one, an environmental screening. Four different types of interventions have been identified, three for Component 1: (i) elimination of critical spots on unpaved roads, at the local and state levels; (ii) rehabilitation works (CREMA); (iii) surfacing unpaved state roads; and one for Component 2; (iv) fostered local and regional development.

76. The most commonly expected negative impacts would arise from the construction phase under Component 1, which includes works interventions mostly within the rights of way of existing roads with no opening of new roads. Impacts from these interventions are expected to be limited, transitory and of short duration. In this sense, the social and environmental risks associated with this project are limited due to the nature of the proposed interventions, which will mostly take place within the existing rights-of-row of the road and in sites associated with

road projects. The EMP specifies guidelines and procedures to be followed by the construction contractors, covering aspects such as location of construction camps, clearance of vegetation, noise, traffic control, safety signaling, disposal of construction debris and waste material to be incorporated in the bidding documents for civil works, among others. Compliance with the practices outlined in the Project Operational Manual will be a contractual obligation of the contractors.

77. To better address issues that arise from the ESIA, the Borrower prepared a set of mandatory Implementation Manuals to be applied for all four types of interventions: Works Environmental Manual (Annex 5 of the ESIA); Social Communication Plan (Annex 6 of the ESIA), Environmental Education and Social Responsibility Plan (Annex 7 of the ESIA), and also a Monitoring and Supervision Plan (Annex 9 of the ESIA). The ESIA report comprises three main parts: (i) Part A: an Environmental and Social Assessment, (ii) Part B: an Environmental Management Plan; and, (iii) Part C: an Institutional Strengthening Program to support demands coming from the project. Finally, the Borrower incorporated in the EISA a Right of Way management framework (Annex 8 of the ESIA). This framework will result in specific programs aimed at improving the management of the use of the state's roads' right of way. The ESIA (final draft) was submitted to the Bank (December 14, 2011), and has been disseminated in the Infoshop and on the Borrower's web site ([www.seplan.to.gov.br](http://www.seplan.to.gov.br)) (January 17, 2012).

78. In particular, the proposed Environmental Manual for Works includes recommendations already contained in the Operational Manual of Environmental Management adopted by the SEINFRA with environmental control measures aimed at contractors' works and supervision of works. Besides the clauses on conduct and standards that promote the safety of the user contained in the contracts, those higher value contracts also require that the contractor provide insurance for their employees. It is noteworthy that the ESIA's Environmental Education and Social Responsibility proposed to include a set of training and presentations on the topic of health and safety of workers.

79. As the set of interventions for rehabilitation works was already known at appraisal, the Borrower undertook environmental and social screening for each defined sub-project (56 road sections, with 1,660 km) confirming that only a few sub-projects (TO 010, TO 222, TO 404 and TO 407) will be in environmentally sensitive areas: (i) TO-010 (1 road section), an existing state road located in the buffer zone of Lajeado State Park (R1 – Program First Phase); (ii) TO-222 (2 road sections), an existing state road through the protected area named “Monumento das Árvores Fossilizadas” (R2 – Program Second Phase); and (iii) TO-407 and TO-404 (1 road section each) (R3 – Program 2nd phase) – an existing road through a conservation area. For these sub-projects, the SoT carried out specific Management Plans of Protected Areas, and followed the provisions of the Brazilian Forest Code, as well as the mandatory implementation of Environmental Manual for Works, as mentioned in the ESMF (Conclusions and Recommendations post environmental and social screening of sub-projects proposed by Component 1.2 – Rehabilitation Works). Moreover, activities under Sub-Component 2.3 should promote actions to better structure and execute the biodiversity conservation policy of the SoT, especially to promote the effective implementation of these Management Plans of Protected Areas (Plano de Manejo da Área de Proteção Integral).

80. In addition, the screening process has identified a number of serious erosion processes, reaching the rights-of-ways, and as a result Recovery Manuals of Degraded Areas (Plano de Recuperação de Áreas Degradadas), as part of the EMP, were prepared by the Borrower (Annex

14 of the ESIA) and was disclosed prior to appraisal. Proposed technical assistance activities in Sub-Component 2.3 – Improving Environmental Management entail benefits regarding Natural Habitats (see below), with a focus on structuring and executing a biodiversity conservation policy, and structuring and executing water resources management. The other interventions (elimination of critical spots, surfacing, infrastructure and possible building or public facility construction), unknown at preparation, will be subject to specific Environmental Impact Assessment (EIA) under the national legislation for new works before initiation.

81. The Natural Habitats policy safeguard (OP 4.04) was triggered and the ESIA addresses the safeguard requirements, screens out all subprojects resulting in any significant conversion or degradation of critical natural habitats, and includes provisions to regenerate and reforest degraded areas, as needed, as well as Management Plans for Protected Areas. The OP 4.11 is triggered since envisioned works and planned activities may affect Physical Cultural Resources (PCR). At this stage, it is however not possible to determine the presence of PCR in the project's area of influence.

82. The OP 4.11 is triggered since envisioned works and planned activities may affect Physical Cultural Resources (PCR). At this stage, it is not possible to determine the presence of PCR in the project's area of influence. For the set of interventions already identified in Sub-Component 1.2 – Rehabilitation Works, the environmental screening of all 56 road sections shows that there are 2 (two) road sections located in fully protected areas: (i) TO-280 (2 road sections, R5), an existing state road bordering the historic city of Natividade and, (ii) TO-222 (2 road sections, R2), an existing state road through the protected area named "Monumento das Árvores Fossilizadas", both roads included in Program Second Phase (R2 –). For these specific sub-projects, any type of actions involving excavations, earth movements, flooding or other major environmental changes is prohibited. For these specific sub-projects, the SoT has already carried out the Management Plan of Protected Areas (Plano de Manejo da Área de Proteção Integral do Monumento das Árvores Fossilizadas) which includes the implementation of the Environmental Manual for Works as mentioned on the ESMF (Conclusions and Recommendations post environmental and social screening of sub-projects proposed by Component 1.2 – Rehabilitation Works) and guidelines from the national institute for historical and artistic patrimony (IPHAN.).

83. Project implementation is not expected to cause any negative impact on known PCR. Proposed subprojects with expected direct and negative impacts on known archeological, paleontological, historical or other culturally significant sites will not be eligible for financing under the Bank project. The EMP included screening criteria to avoid any known areas with PCR and to address any "chance findings" which may arise during implementation. The "chance findings" procedures are part of the Works Environmental Manual, particularly in regions with PCR sites already mapped by Regional IPHAN. The borrower may engage IPHAN and Secretaria da Cultura with the proven experience to implement "chance findings" procedures. Brazil has a well-developed legislative and normative framework, which is under Federal oversight by the National Institute for Protection of Historical and Archeological Sites (IPHAN). Tocantins also has the State Agency, Regional IPHAN (Superintendência do IPHAN em Tocantins) and Secretaria da Cultura, tasked with the identification, restoration and protection of PCR in the State.

84. The OP 4.09 Pest Management was triggered regarding proposed investment under Component 1, mainly as vegetation clearing under road maintenance could use sporadically pesticides/chemical products (theoretically, such case should not occur as it is specifically

prohibited for works and services financed by the Project under the Operational Manual), and regarding Component 2.2, where the Project could encourage and support technical assistance including activities requiring particular use of pesticides. A Pest Management Framework was prepared by the Borrower in a satisfactory manner. Regarding Component 2.2, where particular subprojects are not yet identified, no investment will occur without detailed prior assessment of actions and activities as well as potential mitigation measures in accordance with the framework. The prohibition to use chemicals for the vegetation clearing under component 1 was incorporated in the Operating Manual.

85. Other safeguards policies, the OP 4.36 Forests and the OP 4.37 Safety of Dams were also triggered on a precautionary basis, particularly focused on Sub-Component 2.2, as needed, as particular local development activities, unknown at preparation, could imply using forest in a productive fashion and/or using water resources from existing dams. Finally, to further mitigate Project environmental risk, a negative list, recorded in the ESIA, was agreed with the Borrower, with types of project activities that will not be supported by the loan as described in the ISDS.

### **Monitoring and Evaluation**

86. The technical responsibility for preparation, supervision, monitoring and evaluation of Project outcomes and results will be shared between the different beneficiary agencies, in their respective areas of responsibility, under the supervision of the UGP. The diverse Project coordinators at each of the secretariats will be responsible for reporting to the UGP, on a quarterly basis, information on, among others, procurement planning, certification of bills, progress in the activities underway and achievement of intermediate outcome indicators.

87. The responsibility for the monitoring of Project outcome indicators will be organized as follows: (i) SEINFRA will monitor the values of the indicators: Vehicle-km travelled on State paved roads under good condition (where good condition is triggered with International Roughness Index (IRI)  $\leq 3.5$ ), and Percent of the State population with access to all-season road; and (ii) SEPLAN will monitor the values of the indicator: Improved public services delivery. Additionally, the Borrower would conduct a study evaluation, which will be gender disaggregated, to determine whether the proposed interventions under the Subcomponent 2.2. generate a significant and positive impact for the participating rural producers with respect to the following:

- a. market access of participating producers (measured by sales value);
- b. production and productivity (measured by total production and production per hectare);
- c. quality of life and satisfaction of rural producers (measured by access to durable goods, water supply and land value); and
- d. technology adoption by producers (measured by acquisition of productive capital, aggregated value, etc.).

88. The following monitoring arrangements are in place for the intermediate result indicator to be provided to the UGP: For Component 1, the SEINFRA will monitor the number of eliminated bottlenecks on the municipal roads and km of rehabilitated state paved roads. For Component 1 subcomponent 1: SEINFRA will monitor the municipal consortiums in the road sector and SEPLAN will monitor the adoption of management by results. For Component 2 subcomponent 2: the SEAGRO will monitor number of farmers participating in the marketplace and increase in productivity in selected areas. For Component 2 subcomponent 3: The Naturatins will monitor

the time reduction required in concessioning environmental licenses while the SEMADES will monitor illegal deforestation reductions and water management pilot projects. For Component 2 subcomponent 4, the SEDUC will monitor number of municipal education plans, percentage of trained teachers in state system, and reduction of dropout rate in pilot schools.

89. Limited additional costs are expected as a result of the Project M&E, as most indicators either result from usual supervision processes (e.g. for works), are immediately available (e.g. implementation of a M&E system, number of training,) or are the result of particular technical assistance of the Project (e.g. M&E in the Naturatins, to monitor efficiency of licensing processes).

90. Finally, the Borrower envisages prolonging the monitoring and evaluation activities undertaken in the previous Project, which was based on an ample household survey of beneficiaries of the municipal works undertaken by SEPLAN, to enrich the assessment of perceived long terms impacts of the regional development initiatives and municipal road investments undertaken by the State.

**Annex 4: Operational Risk Assessment Framework (ORAF)**  
**BRAZIL: Tocantins Integrated Sustainable Regional Development**

<b>1. Project Stakeholder Risks</b>	<b>Rating: Moderate</b>			
<b>Description:</b> Borrower commitment to the Project objective may change given that loan spans more than one government term	<b>Risk Management:</b> Project design is aligned with consensual state development strategy which has been overall consistent since State creation as illustrated in PPAs			
	<b>Resp:</b> Bank	<b>Stage:</b> preparation	<b>Due Date:</b> 2/1/2012	<b>Status:</b> Completed
	<b>Risk Management:</b> Early dialogue with the Tocantins Government have been organized and will continue during Project implementation			
	<b>Resp:</b> Bank & Client	<b>Stage:</b> preparation & implementation	<b>Due Date:</b> 9/30/2018	<b>Status:</b> in progress
	<b>Risk Management:</b> By the time new elections are called, the majority of the loan is expected to be committed			
	<b>Resp:</b> Bank & Client	<b>Stage:</b> implementation	<b>Due Date:</b> 2/1/2015	<b>Status:</b> not yet due
<b>Description:</b> Beneficiary municipalities may not commit to the operation in their jurisdiction	<b>Risk Management:</b> Municipalities (beneficiaries) have confirmed interest for operation during preliminary meetings with Governor. Sustainable improved maintenance practices on the municipal roads remain however a challenge			
	<b>Resp:</b> Client – Municipalities	<b>Stage:</b> preparation & implementation	<b>Due Date:</b> 9/30/2018	<b>Status:</b> in progress
	<b>Risk Management:</b> Agreements between State and municipalities signed before works execution			
	<b>Resp:</b> Client - (SEPLAN) & municipalities	<b>Stage:</b> implementation	<b>Due Date:</b> 9/30/2018 (works execution)	<b>Status:</b> in progress
<b>Description:</b> Based on the participatory mechanisms used in the Project to select roads under a subcomponent in component 1, and based on the previous operation, there is a risk that some unfulfilled expectations will exist among populations that will be consulted but which works may not be	<b>Risk Management:</b> Preparation of a communication plan as part of the safeguards requirements that has strong rural outreach, including an ombudsperson, 800 numbers, etc.			

carried out due to technical or financial constraints beyond the Project's control				
	<b>Resp:</b> Client - Borrower (SEPLAN/UGP)	<b>Stage:</b> preparation	<b>Due Date:</b> 2/1/2012	<b>Status:</b> completed
	<b>Risk Management:</b> The IA has been advised to manage expectations of the populations during consultation to mitigate this risk			
	<b>Resp:</b> Client-Borrower (SEPLAN and SEINFRA, in charge of the consultations)	<b>Stage:</b> preparation & implementation	<b>Due Date:</b> 2/27/2015	<b>Status:</b> in progress
<b>Description:</b> There have occasionally been disagreements in the past between indigenous peoples and national and sub-national governments and institutions over particular proposed investments or activities to be located on indigenous lands. If specific measures are not taken to ensure culturally appropriate consultation processes, the Project's capacity to implement proposed investments in Indigenous territories may be compromised.	<b>Risk Management:</b> In Brazil the National Indian Foundation (FUNAI) is the institution assigned to issues related to Indigenous Peoples. Specific consultations for the proposed project took place with the FUNAI, and will continue to be carried out including during screening to identify indigenous peoples in project areas and, if relevant, trigger the preparation of Indigenous Peoples Plans to ensure that appropriate consultations confirm broad community support. These measures will be implemented jointly with FUNAI. Additionally, treating indigenous lands as separate entities from the surrounding municipalities under component 1 while applying the same rules of allocation and prioritization as for the municipalities is also expected to help reducing potential disagreements as this will foster more equitable benefits for all the state's citizens. The consultation process might also constitute an opportunity to help identifying other local development priorities in indigenous communities that may be addressed through complementary project activities or other State or National programs.			
	<b>Resp:</b> Client-(SEPLAN/UGP) in liaison with FUNAI and <i>Ministerio Publico</i>	<b>Stage:</b> preparation & implementation	<b>Due Date:</b> 9/30/2018	<b>Status:</b> in progress
	<b>Risk Management:</b> Treating indigenous lands as separate entities from the surrounding municipalities under component 1 will also help to reduce conflicts as this will help to ensure more equitable and appropriate benefits for all the State's citizens			

	<b>Resp:</b> Client – SEPLAN	<b>Stage:</b> implementation	<b>Due Date:</b> 9/30/2018	<b>Status:</b> in progress
<b>2. Implementing Agency Risks (including fiduciary)</b>				
<b>2.1 Capacity</b>	<b>Rating: Moderate</b>			
<b>Description:</b> Capacity of new Implementing Agency to execute large number of Project activities may result in instances where Project is not being executed in full accordance with Bank policies and may cause delays while the probability of occurrence is low, impact might be large	<b>Risk Management:</b> Upgrade the existing IA with competent staff from previous operation to leverage knowledge of Bank processes			
	<b>Resp:</b> Client	<b>Stage:</b> preparation	<b>Due Date:</b> 2/1/2012	<b>Status:</b> completed
	<b>Risk Management:</b> Structure of IA to focus on specialized tasks (procurement, FM, technical)			
	<b>Resp:</b> Client	<b>Stage:</b> preparation & implementation	<b>Due Date:</b> 9/30/2018	<b>Status:</b> in progress
	<b>Risk Management:</b> training & hiring consultants to support IA in relevant issues			
	<b>Resp:</b> Client	<b>Stage:</b> preparation & implementation	<b>Due Date:</b> 9/30/2018	<b>Status:</b> in progress
	<b>Risk Management:</b> Adoption of a strong and comprehensive internal control system.			
	<b>Resp:</b> Client	<b>Stage:</b> preparation & implementation	<b>Due Date:</b> 12/31/2012	<b>Status:</b> in progress
	<b>Risk Management:</b> Ensure the customization and close monitoring of PFM MIS system (SIAFEM)			
	<b>Resp:</b> Client	<b>Stage:</b> preparation & implementation	<b>Due Date:</b> 9/30/2012	<b>Status:</b> in progress
	<b>Risk Management:</b> Provide FM & procurement fiduciary training to regular State entities staff specialists			
	<b>Resp:</b> Client and Bank	<b>Stage:</b> preparation & implementation	<b>Due Date:</b> 9/30/2018	<b>Status:</b> in progress
<b>Description:</b> Unfamiliarity with Bank processes at some of the Project beneficiary secretariats that have not participated in Bank operations, and with new staff at the new government administration	<b>Risk Management:</b> Implementation centralized in existing IA by staff some of which are familiar with Bank processes and which supports and coordinates project activities with secretariats, and guided by the Operating Manual			
	<b>Resp:</b> Client	<b>Stage:</b> preparation & implementation	<b>Due Date:</b> 7/26/2012	<b>Status:</b> completed
	<b>Risk Management:</b> identify and train interlocutors at the beneficiaries to be responsible for execution of TA at beneficiary secretariats and agencies			
	<b>Resp:</b> Client	<b>Stage:</b> preparation & implementation	<b>Due Date:</b> 9/30/2018	<b>Status:</b> in progress



	<b>Risk Management:</b> hiring consultants to support beneficiaries in relevant issues and training by Bank staff in procurement and FM			
	<b>Resp:</b> Client	<b>Stage:</b> implementation	<b>Due Date:</b> 9/30/2018	<b>Status:</b> in progress
<b>2.2 Governance</b>	<b>Rating: Moderate</b>			
<b>Description :</b> Complexity of operation requires strong champion. Implementation may be affected with lack of decision-making (elections during Project lifetime).	<b>Risk Management:</b> Active and committed Governor has strong ownership of Project and is fully committed to the partnership with the Bank			
	<b>Resp:</b> Client	<b>Stage:</b> preparation & implementation	<b>Due Date:</b> 1/1/2015	<b>Status:</b> in progress
	<b>Risk Management:</b> IA has decision making responsibility as granted to it by decree			
	<b>Resp:</b> Client	<b>Stage:</b> preparation & implementation	<b>Due Date:</b> 9/30/2018	<b>Status:</b> in progress
<b>3 Project Risks</b>				
<b>3.1 Design</b>	<b>Rating: Substantial</b>			
<b>Description:</b> The Project's size and complexity may affect Client capacity to achieve Project outcome. It may also strain Bank's resources for supervision.	<b>Risk Management:</b> packaging works contracts to increase efficiency			
	<b>Resp:</b> Client	<b>Stage:</b> preparation & implementation	<b>Due Date:</b> 9/30/2014	<b>Status:</b> in progress
	<b>Risk Management:</b> Bank concentrates most financing in 2 most important subcomponents that will enable disbursements			
	<b>Resp:</b> Bank	<b>Stage:</b> implementation	<b>Due Date:</b> 9/30/2018	<b>Status:</b> in progress
	<b>Risk Management:</b> A flexible approach for institutional strengthening will be adopted to encourage competitive allocation of resources through regular reviews			
	<b>Resp:</b> Bank	<b>Stage:</b> implementation	<b>Due Date:</b> 9/30/2018	<b>Status:</b> in progress
<b>Description:</b> CREMA contracts are a new modality for SoT which may cause Project delays	<b>Risk Management:</b> Adapt CREMA specifications to SoT and have first draft CREMA engineering designs ready by Loan signature.			
	<b>Resp:</b> Client	<b>Stage:</b> preparation	<b>Due Date:</b> 9/30/2012	<b>Status:</b> in progress
	<b>Risk Management:</b> Client had requested CREMA modality showing buy-in			
	<b>Resp:</b> Client	<b>Stage:</b> preparation	<b>Due Date:</b> 2/1/2012	<b>Status:</b> completed
<b>3.2 Social &amp; Environmental</b>	<b>Rating: Moderate</b>			

<b>Description:</b> in the context of a complex project with scattered activities and investments, there may be instances where the Borrower does not fully implement particular Project activities under agreed safeguards policies.	<b>Risk Management:</b> Road works will mostly take place within existing roads' rights-of-way associated sites and responsibility for execution for all works rests with SoT. Moreover, under activities under subcomponent 2.2, the Client will follow Bank policies which had been triggered on a precautionary manner.			
	<b>Resp:</b> Client	<b>Stage:</b> implementation	<b>Due Date:</b> 9/30/2018	<b>Status:</b> in progress
	<b>Risk Management:</b> social/environmental responsibility remains with the implementing entity at SEPLAN which has good safeguards knowledge, and qualified staff. Social/environmental assessment was contracted to consultants and required mitigation measures will be monitored during supervision.			
	<b>Resp:</b> Client	<b>Stage:</b> preparation & implementation	<b>Due Date:</b> 9/30/2018	<b>Status:</b> in progress
	<b>Risk Management:</b> Bank supervision missions including field visits			
	<b>Resp:</b> Bank	<b>Stage:</b> implementation	<b>Due Date:</b> 9/30/2018	<b>Status:</b> in progress
<b>3.3 Program &amp; Donor</b>	<b>Rating:</b> N/A			
<b>Description:</b> N/A	<b>Risk Management:</b>			
	<b>Resp:</b>	<b>Stage:</b>	<b>Due Date:</b>	<b>Status:</b>
<b>3.4 Delivery Monitoring &amp; Sustainability</b>	<b>Rating:</b> Substantial			
<b>Description:</b> Delays in payment of counterpart funds to contractors could derail project implementation	<b>Risk Management:</b> Bank finances 100% of the 2 most important subcomponents that substantially achieve PDO			
	<b>Resp:</b> Bank	<b>Stage:</b> implementation	<b>Due Date:</b> 9/30/2018	<b>Status:</b> in progress
	<b>Risk Management:</b> champion in place			
	<b>Resp:</b> Client	<b>Stage:</b> preparation & implementation	<b>Due Date:</b> 7/26/2012	<b>Status:</b> completed
<b>Description:</b> Inefficiencies in transport management may impact sustainability of Project	<b>Risk Management:</b> Bank financing subject to establishment of intermunicipal consortiums to strengthen capacity for maintenance implementation			
	<b>Resp:</b> Client	<b>Stage:</b> implementation	<b>Due Date:</b> 9/30/2018	<b>Status:</b> in progress
	<b>Risk Management:</b> CREMA, if enforced properly, is a good practice for sustainability			
	<b>Resp:</b> Client	<b>Stage:</b>	<b>Due Date:</b>	<b>Status:</b> in

	implementation	9/30/2018	progress
	<b>Risk Management:</b> TA designed to contribute to improved efficiency of service delivery management, including transport		
	<b>Resp:</b> Client	<b>Stage:</b> implementation	<b>Due Date:</b> 9/30/2018 <b>Status:</b> in progress
<b>Description:</b> Municipalities and local beneficiaries capacity may remain low and might limit the sustainability of Project local development components	<b>Risk Management:</b> TA activities are designed for long term impacts		
	<b>Resp:</b> Client	<b>Stage:</b> implementation	<b>Due Date:</b> 9/30/2018 <b>Status:</b> in progress
	<b>Risk Management:</b> If successful, intermunicipal consortiums could be expanded to include other sectors		
	<b>Resp:</b> Client	<b>Stage:</b> implementation	<b>Due Date:</b> 9/30/2018 <b>Status:</b> in progress
<b>3.5 Other</b>	<b>Rating: Moderate</b>		
<b>Description:</b> Based on the participatory mechanisms used in the Project to select roads under a subcomponent in component 1, and based on the previous operation, there is a risk that some unfulfilled expectations will exist among populations that will be consulted but which works may not be carried out due to technical or financial constraints beyond the Project’s control. These unfulfilled expectations might also sometimes be triggered by particular misinterpretations on Project objective and activities, including in the case of Indigenous Peoples, a situation further compounded when cultural differences exist and communications channels are inadequate or insufficient.	<b>Risk Management:</b> the IA has been advised to manage expectations of the populations during consultation to mitigate this risk. In addition, an ombudsman has been created. The FUNAI will support the implementation of the consultative process helping to improve the quality of the dialogue and per OP 4.10, in Indigenous territories culturally appropriate consultation processes should be carried out to avoid these types of misunderstandings.		
	<b>Resp:</b> Client	<b>Stage:</b> implementation	<b>Due Date:</b> 9/30/2018 <b>Status:</b> in progress
<b>5. Overall Risk</b>			
<b>5.1. Project Overall Risk</b>	<b>Rating: Moderate</b>		

## **Annex 5: Implementation Support Plan**

### **BRAZIL: Tocantins Integrated Sustainable Regional Development**

#### **Strategy and Approach for Implementation Support**

1. The strategy for implementation support has been developed based on the design of the Project and its risk profile, as well as particular measures required during implementation. The strategy describes the implementation support of the risk mitigation measures identified in the ORAF (Annex 4). The Strategy remains a flexible tool that may be amended during project supervision in response to the Client's changing needs.

2. This is the third loan to the State in the transport sector in the context of a continuous partnership between the State and the Bank. Building on this rather exceptional experience and previous successes, the Project has also been designed to mitigate some of the shortfalls/flaws observed during previous operations, while also attempting to address most of the key challenges identified in this rather more encompassing and complex operation. Implementation Support strategy notably envisages taking advantage of existing knowledge and supporting further strengthening in the course of the Project.

- a. **Overall Implementation:** Centralizing Project implementation in one agency supported by a dedicated unit with adequate staffing and competences has revealed crucial for appropriate implementation of previous operations. For the proposed operation, which encompasses a larger number of activities and beneficiaries, the Government and the team agreed during preparation on the Project's structure of implementation based on a dedicated unit (UGP) under the implementing agency (the SEPLAN), staffed with a sufficient number of professionals in key areas (technical, procurement, safeguards, financial management), with appropriate experience of Bank operations (part of the staff of the UGP was involved in previous operations). It was also agreed that each main Beneficiary institution would identify a coordinator of the Project activities to act as main interlocutor with the Bank (on technical questions) through the UGP (on fiduciary questions).
- b. Staff from the UGP as well as some of the beneficiaries and the State Attorneys' Office have been trained on procurement and financial management during preparation and the participation to further training during implementation will be fostered, both through on-the-job training during Bank semi-annual supervision visits, and through participation to specific trainings in procurement, financial management and safeguards organized sporadically by the Bank in Brazil. Moreover, administrative support to the UGP from a complementary Consultant (rather than a substitute in order to maximize knowledge transfer to the State) is envisioned in the first years of Project implementation, in line with the practice undertaken in the recently closed operation. Likewise, technical support to Beneficiaries will be provided through the contracting of specialized consultants for the activities envisaged in the Project, following terms of references expected to be amply discussed with Bank.
- c. Finally, while the objective and scope of the new operation are clearly defined, flexibility in Project implementation will also be sought to adapt to eventual rising needs during implementation with final distribution of allocations between Beneficiaries following a competitive approach or to cover contingencies, as needed.

- d. **Technical:** While the Client managed to successfully handle traditional works (under the Project P006555) and an original approach for works on municipal roads (under the P060573 Project), the proposed Project will also encompass new contractual modalities with the implementation of output and performance based contracts for rehabilitation and maintenance of the State roads (CREMA). Building both on previous experience, notably the P060573 for the municipal road subcomponent, and Bank overall experience supporting CREMA approach in the management of road networks in other States and at the Federal level, a detailed manual of processes for works including specifications for design, works, technical and environmental supervision has been finalized. While the agreed manual is technically sound, it will still receive further improvement during Project implementation as needed, to adapt to eventual particular situation not envisioned at preparation.
- e. Contract packaging of the CREMA contracts follows best practices, with contracts covering corridors and their main feeder, also covering a larger extension than traditional rehabilitation and maintenance contracts. Likewise, packaging of the municipal road improvement subcomponent has been designed with larger contracts, to improve competition and reduce the burden of heavy supervision as experienced under the previous operation, based on individual contracts per municipality (67 contracts). Moreover, while the component under the previous operation aimed at improving accessibility of rural populations on municipal roads was overly successful, expected empowerment of municipalities to the management of the municipal network did not occur with the expected success. The proposed operation will attempt to further strengthen such empowerment by setting results agreement between the State and the served municipalities before works are initiated.
- f. A set of activities under the institutional strengthening components is expected to support the various beneficiaries in improving overall efficiency of public service delivery, as well as introduce and mainstream best practices, in the different fields of activities covered by the Project. Several of those activities should be targeted at improving the State M&E capacity.
- g. During implementation, the Bank team will work closely with the implementing agency to ensure that (a) the manual of processes for works is followed, (b) technical and environmental/social supervisors provide appropriate oversight and feedback to the Client and mitigation measures are carried out, (c) external support by experts is provided for institutional strengthening when the need arises.
- h. **Environmental and Social Safeguards:** Tocantins benefits from a rich environmental and social context, and appropriate management of environmental and social questions is key for success of implementation. The Project will build upon the rich institutional and technical dialogue initiated during previous operation to further mainstream social and environmental management in the State and will be further articulated with the ongoing Sustainable Cerrado Initiative (P091827/TF096766). On the social side, it will benefit from the experience accumulated from previous operations, notably on participatory mechanisms designed under the previous operation to strengthen empowerment of the rural populations. Articulated in two phases, such mechanisms will encompass: participatory processes to define the municipal development strategy; then participatory process to define the municipal road investment priorities. Moreover, based on previous successful experience in transport operations in Brazil, the environmental and social

management of works under the Project will be supervised closely through independent environmental consultants. An environmental and social assessment has been contracted to an independent consultant during preparation, which recommendations for implementation are outlined in Annex 3 and will be taken into account.

- i. During implementation, the Bank team will (a) supervise the implementation of the agreed Environmental and Social Frameworks as triggered by the Project, (b) address concerns from the Client or other stakeholders on safeguards policies, and (c) employ or cause to be employed environmental and social consultants to further support the Implementing Agency, as the need arises. Regular training to main counterparts on Bank safeguard policies will also be fostered.
- j. **Procurement:** Based on previous experience, it is considered that the implementing agency, which will prepare, evaluate and submit key procurement documents on behalf of all beneficiaries, has adequate competency with Bank procurement processes. Further support will be provided by the Bank team to review such documents to ensure the processes are carried out in accordance with agreed procedures and that Bank templates have been used. In addition, as is the practice on other transport Projects in Brazil, it is envisioned that all procurement processes will be prior reviewed. Given the challenge this implies to supervision, the team proposes the following support measures:
- k. Support has included training in procurement during previous loans as well as Project preparation and will continue to provide training to the Implementing Agency and staff within the beneficiary institutions, as well as relevant staff of the control institutions of the State such as the State Attorneys' Office, the State Court of audit (*Tribunal das Contas do Estado* TCE) and the State internal audit.
- l. One procurement specialist has been delegated to the SEPLAN CdL and another will be contracted for the SEINFRA CdL (see Annex 3).
- m. Increasing the size of the works contracts (relative to those in the previous Project) in order to simplify procurement reviews.
- n. **Financial Management:** The implementing agency has adequate experience with Bank's financial management requirements from previous loans, yet the Bank team has provided and will provide further financial management training to the Implementing Agency. The supervision will review the Project's financial management system, including but not limited to accounting, reporting and internal controls.

### Implementation Support Plan

3. Considering the Project overall complexity, the level of technical support needed for implementation is considered high on the technical side, average on the fiduciary side and moderate on the environmental and social sides. The Bank team will conduct semiannual supervision missions, desk reviews and field visits to follow-up on Project implementation, supported by financial management, procurement and social & environmental specialists as well as experts in transport, administration reform, local development, environment and education to support the Institutional Strengthening components. Detailed inputs from the Bank team are outlined below.

- a. **Technical.** Experts in transport, administration reform, local development, environment and education on the Bank team will (a) engage and orient, based on known national and international best practices, the technical and institutional dialogue with the respective beneficiaries, (b) advise on the design of activities envisaged in their respective sub-

components, including in the preparation of terms of reference, budget and procurement processes of specific studies to support the technical assistance, (c) participate in project supervision and field visits to advance the dialogue with the Client and review progress, and (d) engage with the Client to enable knowledge transfer and guidance.

- b. **Fiduciary requirements and inputs.** A financial management and procurement assessment during Project appraisal has analyzed the technical capacity of the Implementing Agency in financial management systems and procurement processes, respectively (see Annex 3) and concluded that such capacity is categorized as Adequate for FM and Satisfactory for procurement. FM and procurement specialists will conduct annual reviews of the Client, including reviewing of requisite reports as per the Loan Agreement, checking for compliance with agreed procurement and FM procedures, indentifying potential capacity gaps including staffing, and evaluating adequacy of documentation, record keeping arrangements and systems. Training will be provided by the Bank's FM and procurement specialists before commencement of the Project and during project implementation. Continuous support will be made available by the Bank when identified or required by the client.
- c. **Environmental and Social Safeguards.** The Project environmental & social assessment was contracted to a Consultant based on terms of references agreed with Bank environmental and social specialists. During project appraisal the Bank's social & environmental specialists reviewed all safeguards requirements with the external consultant performing the Project's Environmental & Social Assessment and reviewed the final outputs which were considered adequate (see Annex 3). The environmental and social specialists on the task team will monitor and evaluate the implementation effectiveness of the agreed Environmental and Social Frameworks (and other documents as needed). Continuous support will be made available by the Bank when identified or required by the client.

The main focus of implementation support is summarized in the table below.

Time	Focus	Skills Needed	Resource Estimate
First twelve months (sw/year)	Procurement implementation support & training		Procurement specialist 6 SW
	FM implementation support & training		FM specialist 3 SW
	Safeguards implementation support & compliance		Environmental Specialist 5 SW, Social Specialist 5 SW
	Education & learning		Education specialist 5 SW
	Administration and results management		Administration specialist 5 SW
	Local Development and production center		Local Development specialist 5 SW
	Environmental programming and monitoring		Environmental Specialist 5 SW
	Project management, implementation support,		Task Team Leader/Co-TTL 12 SW ETCs 24 SW

	supervision		
12-72 months (sw/year)	Procurement process reviews, implementation support		Procurement specialist 4 SW
	FM field reviews & audit review		FM specialist 2 SW
	Safeguards review, compliance, environmental/social technical assistance studies' development and review		Environmental Specialist 5 SW, Social Specialist 5 SW
	Education technical assistance studies' development & review		Education specialist 4 SW
	Environmental institutional strengthening activities development & review		Environmental Specialist 4 SW
	Local Development and production center technical assistance studies' development & review		Local Development specialist 4 SW
	Project management, implementation support, supervision		Task Team Leader 10 SW ETCs 20 SW

Note: SW – Staff-Week

## II. Skills Mix Required

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Procurement specialist	3 SW in first year, then 2 SW annually	Semi Annual mission	Country office based
FM specialist	3 SW in first year, then 2 SW annually	Semi Annual mission	Country office based
Environmental Specialists	10 SW in first year, then 6 SW annually	Annual mission	Country office based
Social Specialist	5 SW in first year, then 3 SW annually	Annual mission	
Education specialist	2 SW annually	Annual mission	
Administration specialist	2 SW annually	Annual mission	Country office based
Local Development specialist	2 SW annually		
Task Team Leader	12 SW in first year, then 10 SW annually	Semi annual mission, field visit as required	
ETCs	24 SW in first year, then	Semi annual	



	20 SW annually	mission, field visit as required	
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**Annex 6: Team Composition**  
**BRAZIL: Tocantins Integrated Sustainable Regional Development**

**World Bank staff and consultants who worked on the project:**

<b>Name</b>	<b>Title</b>	<b>Unit</b>
Eric Lancelot	Senior Transport Engineer, TTL	LCSTR
Gregoire Gauthier	Senior Transport Engineer	LCSTR
Clarisse Torrens Borges Dall Acqua	Environment Specialist (ETC)	LCSSEN
Jason Paiement	Social Specialist	LCSSO
David Evans	Senior Economist (Education)	LCSHE
Evelyn Levy	Consultant (Public Sector & Governance)	LCSPPR
Maria de Fatima Amazonas	Senior Rural Development Specialist	LCSAR
João Vicente	Financial Management Specialist	LCSFM
Miguel-Santiago da Silva Oliveira	Finance Officer	CTRLN
Etel Patricia Bereslawski Aberboj	Senior Procurement Specialist	LCSPT
Catarina Portelo	Senior Counsel	LEGLA
Marta Elena Molares-Halberg	Lead Counsel	LEGES
Isabela Manelici	JPA	TWITR
Sivan Susan Tamir	ETC	LCSTR
Hanayo Taguchi	Project Assistant	LCSTR
Satoshi Ogita	ETC	LCSTR
Bernadete Lange	Environment Specialist	LCDSEN

## **Annex 7: Economic Analysis**

### **BRAZIL: Tocantins Integrated Sustainable Regional Development**

#### **Summary of Methodology and Results:**

1. This annex summarizes the cost-benefit analyses of the Project Rural road component (Component 1), for the subcomponents: (i) Municipal roads improvement by eliminating critical points, (ii) State paved road rehabilitation and maintenance with performance-based contracts, and (iii) State unpaved roads improvement by eliminating critical points.

2. In the case of the municipal road improvement subcomponent, given the specificity of the interventions, focusing on a network characterized by very low levels of traffic (often less than 50 vehicles per day) and the absence of alternative routes, a producer surplus approach was used to calculate the benefits from the Project. The key benefit that is expected to accrue from these investments is an increase in total economic (primarily agricultural) production due both to increased viability and productivity of the lands served by the roads. An analysis was conducted for municipality whereby a ‘typical’ increase, resulting from the sub-component’s investments<sup>20</sup>, of the volume and value of production net of production costs was tracked through: (i) assessing the zone of influence of the improved roads as 3km on each side of the road; (ii) deriving the average characteristics of farms and main types of production within the area of influence of the road from data at the level of each municipality, assuming similarity of characteristics; (iii) computing the Producer surplus on each type of product based on historical series and previous experiences. Over 20 years, the net present value (NPV) at a 12% discount rate and the related internal rate of return (IRR) of the investments in this subcomponent are respectively estimated as US\$48 million (R\$88 million) and 22.4%.

3. In the case of the State road rehabilitation & maintenance subcomponent, a conventional Consumer Surplus Approach analysis using the Highway Development and Management Model (HDM-4) was conducted. This model measures benefits accruing principally to existing users in terms of reduction of vehicle operating costs and time cost for passengers and freight. For the paved State road rehabilitation subcomponent, rehabilitation and periodic maintenance works on the sections of the Project were analyzed by assessing the stream of benefits to road users and savings on maintenance costs (as compared to a ‘without project’ case) net of the costs of the proposed road works. Over 20 years, the net present value (NPV), at a 12% discount rate, and the related internal rate of return (IRR) of the investments in this subcomponent are respectively estimated as US\$176 million (R\$321 million) and 25%.

4. As for the third subcomponent, road sections have yet to be identified. However, due to the similarity of works with the first and second subcomponents, and more traffic on most state roads than municipal roads, this subcomponent is considered to have enough economic return. The Bank will only approve subprojects which have an estimated economic internal rate of return of at least 10% based on a satisfactory cost-benefit analysis using the RED or HDM model.

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<sup>20</sup> For a standard road improvement; The calculation was then expanded for the entire West Tocantins

5. Under those assumptions, Subcomponents 1 and 2 net present value is estimated to yield R\$409 million (US\$224 million) and internal rate of return (IRR) 24%.

### **Municipal Road Improvement Sub-Component**

6. Experience shows that, while rural road improvements directly contribute to foster local economic growth by improving access to employment opportunities and markets, non-measurable cumulative positive impacts also lay on the social side. Indeed, improved rural transport contributes to improved access to schools and health facilities, which, in turn, contribute to increasing productivity and income of the rural population, with an important impact on reducing poverty and improving well-being. While such social benefits are expected to have substantial positive impact on the economic evaluation, they are not easily quantifiable ex-ante and have thus not been taken into account in the economic appraisal of the investments.

7. By allowing all-weather/all-year round transport, improvements on the municipal road networks are expected to contribute to increase agricultural and livestock production and productivity in the road's area of influence. Such increase is estimated through the "producer surplus" method and is calculated as the increase, resulting from the sub-component, of the value of production net of production costs. It was assumed that the component would have negligible impact on local consumption of local produce.

8. The overall methodology of the economic evaluation in this sub-component follows the previous project (P060573). However, some changes have been taken into account based on lessons from the previous project.

#### Impact of the Improvement on agricultural and livestock production in Tocantins

9. Agricultural production in the Western part of the State of Tocantins is dominated by six products: rice, sugar-cane, corn, soy-beans, pineapple and cassava. Two products were included for livestock and for derived products, considering their respective weight in the total production: meat and milk.

10. Improvement to all weather conditions of the municipal feeder roads are expected to result in: (i) reduction of overall costs of production, notably, reduction of costs of transporting inputs and outputs of production, decrease of stocks, reduction of losses both during transport and stocking; (ii) productivity gains differentiated depending on the products thanks to increased number of harvests; (iii) increased size of cultivated areas; and (iv) faster change towards more productive agriculture in areas where available land is scarce.

#### Evaluation of benefits and costs

11. The producer surplus was calculated as the increase in the value of production net of production costs, resulting from the investments, within the area of influence of the road. The following methodological hypotheses were taken: (i) investments have negligible impact on local consumption of local goods; (ii) investments have negligible impact on global market prices;; and (iii) impacts on cost of road maintenance resulting from possible traffic growth were not taken into account.

12. The producer surplus evaluation is based on the following steps: (i) the area of influence of the improved roads was estimated; (ii) the average characteristics of farms and main types of productions within the area of influence of the road were identified (iii) the computation of the value-added on each type of product in both with-project case and without-project case was

based on historical series and previous experiences; (iv) “producer surplus” was estimated as a difference in value-added between with and without project cases; and (v) NPV and IRR were obtained based on the estimated surplus and project costs.

13. The area of influence is limited to 3 km on each side of the road segment plus a semicircle at the end of the segment. Assuming the total length under the sub-component is 3,960km and an average length of each segment is 15km, the total area of influence is 2,749km<sup>2</sup>, which accounts for 18.5% of the area of all 72 municipalities in Western Tocantins.

14. Agricultural production was derived from data at the level of each municipality. The total production in the base year of 2012 was estimated based on the statistics in 2009 with an assumption of 2% annual increase between 2009 and 2012.

#### Estimated Agricultural Production in Base Year of 2012

Crops	72 Municipalities			Within Area of Influence		
	Area (ha)	Production (t)	Value (R\$10 <sup>^3</sup> )	Area (ha)	Production (t)	Value (R\$10 <sup>^3</sup> )
Sugar-cane	2,440	150,253	13,528	451	27,774	2,501
Cassava	11,159	217,097	26,456	2,063	40,130	4,890
Corn	38,437	87,685	46,718	7,105	16,208	8,636
Soybean	147,996	13,944	324,024	27,357	2,578	59,895
Pineapple	2,284	49,127	73,302	422	9,081	13,550
Rice	98,151	330,759	245,368	18,143	61,140	45,355
Total	300,466	848,866	729,396	55,541	156,911	134,827

Livestock	72 Municipalities	Area of Influence
Cattle (head)	5,812,338	1,074,390
Annual harvest (head/year)	1,046,221	193,390
Milk production (1,000 liters/year)	155,436	28,732
Value (R\$ 1,000/year)	1,271,605	235,052

15. The Project is assumed to contribute to the following improvements in production: i) area of cultivation for all type of crops will increase annually at 7.7% in 2012-2014 and 3.6% in 2014-2019; (ii) productivities of all crops (production per area) grows at 1% per year in 2014-2019; and (iii) production of livestock goes up at 1% annually in 2013-2019. Meanwhile, in the without-project case, 2% growth of crop production area is assumed every year through 2019 and productivity of crops and production of livestock stay with the same level of 2012.

16. Value-added of each production was obtained by subtracting costs from production values. The costs of production were based on the existing statistics. While the Project is assumed to reduce the costs of production for all crops and livestock at 5% in total between 2012 and 2019, the costs do not change in the without-Project case.

17. Lastly, producer surplus was estimated as a difference in value-added with the project and without the project. The net benefit flow was also calculated by subtracting investment from the

total surplus. A salvage value in 2031 is obtained as 20% of the total investment. The table below summarizes the surplus and the net benefits.

**Producer Surplus and Net Economic Benefits (R\$ 10<sup>3</sup>)**

Year	Surplus Crops	Surplus Livestock	Total Surplus	Investment	Net Flow
2012	-	-	-	34,000	(34,000)
2013	3,090	282	3,373	51,000	(47,627)
2014	7,260	2,325	9,586	34,000	(24,414)
2015	10,880	4,407	15,287		15,287
2016	14,755	6,526	21,282		21,282
2017	18,901	8,685	27,586		27,586
2018	23,331	10,884	34,215		34,215
2019	28,062	13,123	41,185		41,185
2020-2030	28,062	13,123	41,185		41,185
2031	28,062	13,123	41,185	-23,800	64,985

## Results

18. Computed on a 20-year period, the net present value (NPV) of the subcomponent, at a 12% discount rate, is estimated at R\$88 million (US\$48 million) and the internal rate of return (IRR) yield 22.4%. The analysis included all of the 72 municipalities comprised in the Project.

19. Sensitivity tests have been conducted using 20% variation on:

- The total production surplus
- The construction costs

As shown in the below table, the results indicate that both NPV and IRR remains positive, even under the worst case scenario.

**Economic Results of the Sensitivity Tests on the Consolidated Project**

	Base Case	-20% of Surplus	+20% of Costs	-20% of Surplus & +20% of Costs
IRR	22.4%	18.5%	19.2%	15.6%
NPV(R\$10 <sup>3</sup> , 12%)	87,679	51,594	69,130	33,045

## State Paved Road Rehabilitation Sub-Component

20. The main benefits stemming from the investments included in this sub-component are the savings to be made by road users on vehicle operating costs and passenger time. Additional benefits to road users, which have not been quantified, include reduced accidents (which will gradually lead to reduced insurance costs), and improved driving and riding comfort. The costs to the road agency are the works costs. The benefits and costs of the works were estimated using the Highway Development and Management Model (HDM-4), which simulates highway life cycle and vehicle operation conditions and costs for multiple road design and maintenance alternatives.

### Road Sections

21. Out of 1,500 km of road sections targeted by the sub-component, the analysis focused on the 11 sections included in the first expected contracts (R1 and R7), which detailed road condition data were available at Appraisal. The sections consist of the following roads:

Section	Road	Start	End	Project length (km)
R1-1	TO-010	Palmas	Lageado	53.4
R1-2	TO-050	Palmas dupsul	TO-040	16.0
R1-3	TO-050	TO-040	Porto Nacional	24.7
R1-4	TO-255	Porto Nacional	TO-070	11.8
R1-5	TO-255	TO-070	BR153	57.4
R1-6	TO-342	Miracema	Miramorte	20.0
R1-7	TO-445	Miracema	Balsa	25.0
R7-1	TO-080	Paraíso	Monte Santo	24.0
R7-2	TO-080	Monte Santo	Divinópolis	36.0
R7-3	TO-255	Cristalândia	Lagao da confusao	55.0
R7-4	TO-354	Pium	Pugmil	31.0
TOTAL				354.3

### Road Conditions

22. Pavement strength (FWD) was surveyed by SEINFRA in 2011. FWD was converted to strength coefficient (SN) through HDM. The following table demonstrates FWD in each section.

Section	Road	Start	End	FWD (1/100mm)	IRI
R1-1	TO-010	Palmas	Lageado	0.634	3.11
R1-2	TO-050	Palmas dupsul	TO-040	0.556	2.89
R1-3	TO-050	TO-040	Porto Nacional	0.556	2.89
R1-4	TO-255	Porto Nacional	TO*070	0.477	3.51
R1-5	TO-255	TO*070	BR153	0.597	3.50
R1-6	TO-342	Miracema	Miramorte	0.685	3.55
R1-7	TO-445	Miracema	Balsa	0.522	3.78
R7-1	TO-080	Paraíso	Monte Santo	0.674	2.36
R7-2	TO-080	Monte Santo	Divinópolis	0.629	2.50
R7-3	TO-255	Cristalândia	Lagao da confusao	0.563	4.16
R7-4	TO-354	Pium	Pugmil	0.782	4.61

Source: SEINFRA

23. Other road conditions, such as cracks and potholes, and rutting, are not available. Therefore, the following values are assumed for all sections based on the current FWD and IRI:

Distress	Condition
All Cracks (%)	20
Wide structural cracks (%)	10
Thermal Cracks (%)	0
Ravelling (%)	2
Potholes (number/km)	5
Edge Break Area (m <sup>2</sup> /km)	5
Rutting (mm)	5
Rut Standard Deviation (mm)	1
Texture depth	0.5
Skid Resistance	0.4
Drainage	Fair

#### Road Work Costs

24. The following table presents typical solutions of rehabilitation works and the most recent average estimated unit costs of road works in Brazil (2012 base year). The types of rehabilitation works were identified based on the results of the network survey in each section and the CREMA specifications agreed between the SEINFRA and the Bank.

Region	Solution	Unit Cost (R\$/m <sup>2</sup> )	Extension (km)	%
R-1	Reconstruction	36.93	34.9	15%
	Micro 2 with CB	14.67	139.5	58%
	Micro 2	10.97	48.7	20%
	Micro 1	5.25	16.8	7%
	Total	23.50	239.9	
R-7	Reconstruction	36.93	21.2	11%
	Micro 2 with CB	14.67	31.8	16%
	Micro 2	10.97	125.0	64%
	Micro 1	5.25	18.0	9%
	Total	19.70	196.0	

Note: Micro2+CB: Micro asphalt surfacing with two layers and blanket course (20mm)

Micro2: Micro asphalt surfacing with two layers (15mm)

Micro1: Micro asphalt surfacing with one layer (8mm)

#### Vehicle Operating Costs (VOC)

25. The following table presents typical road user unit costs. These unit costs were determined by referring costs used for economic evaluations in several other states in Brazil and in most cases the lowest number were chosen to make the estimation conservative. Also tax is excluded from these costs.



Vehicle Type	New vehicle cost (R\$/u)	New tyre (R\$/u)	Fuel (R\$/l)	Lubrication Oil (R\$/l)	Maintenance Labour (R\$/h)	Crew Cost (R\$/h)
Car	20,000	105	1.22	9.1	8.0	0
Medium Truck	73,500	483	1.57	9.1	8.0	8.0
Heavy Truck	108,500	483	1.57	9.1	8.0	8.0
Semi-trailer	178,500	483	1.57	9.1	8.0	8.0
Bus	140,000	483	1.57	9.1	8.0	6.0
Road Vehicle Train (Rodotrem & Treminhão)	271,600	588	1.57	9.1	8.0	8.0
Trailer	281,400	588	1.57	9.1	8.0	8.0

26. For the purposes of the analysis, the value of working time was estimated by the SEINFRA as R\$ 6/hour for car passengers and R\$3/hour for bus passengers. The value of non-working time was estimated as 50% of the working time for both car and bus passengers, similar to other evaluations in Brazil.

#### Traffic Data

27. The traffic volumes (Average Annual Daily Traffic) in each section in 2011 are exhibited in the following tables. Since the breakdown of buses and three types of super heavy trucks were not classified in the traffic survey, it is assumed that bus represents 2% of the total traffic and the three types of super heavy trucks equally exists. Growth rates per annum. were estimated as 3% for commercial vehicles and 4% for cars. No induced traffic was factored in.

Vehicle Type	R1-1	R1-2	R1-3	R1-4	R1-5	R1-6	R1-7
Car	2373	3556	3194	871	871	2242	1995
Medium Truck	180	179	215	53	53	188	102
Heavy Truck	123	159	183	54	54	146	90
Semi-trailer	421	157	163	84	84	4	20
Bus	63	84	77	22	22	53	45
Road Vehicle Train (Rodotrem)	1	14	0	1	1	4	1
Trailer	1	14	0	1	1	4	1
Road Vehicle Train (Treminhão)	1	14	0	1	1	4	1
TOTAL	3163	4177	3832	1087	1087	2645	2255

Vehicle Type	R7-1	R7-2	R7-3	R7-4
Car	900	945	448	495
Medium Truck	58	71	64	60
Heavy Truck	62	62	57	92
Semi-trailer	16	43	25	12
Bus	21	23	13	13
Road Vehicle Train (Rodotrem)	0	4	14	0
Trailer	0	4	14	0
Road Vehicle Train (Treminhão)	0	4	14	0
TOTAL	1057	1156	649	672

### Network Rehabilitation and Maintenance Strategies

28. The following scenarios were evaluated on a 20 year period; benefits of the project were calculated as the difference between the two scenarios on a) vehicle operating costs and b) passenger time.

#### Rehabilitation (with-project case)

29. With the project, the following rehabilitation and maintenance activities are planned:

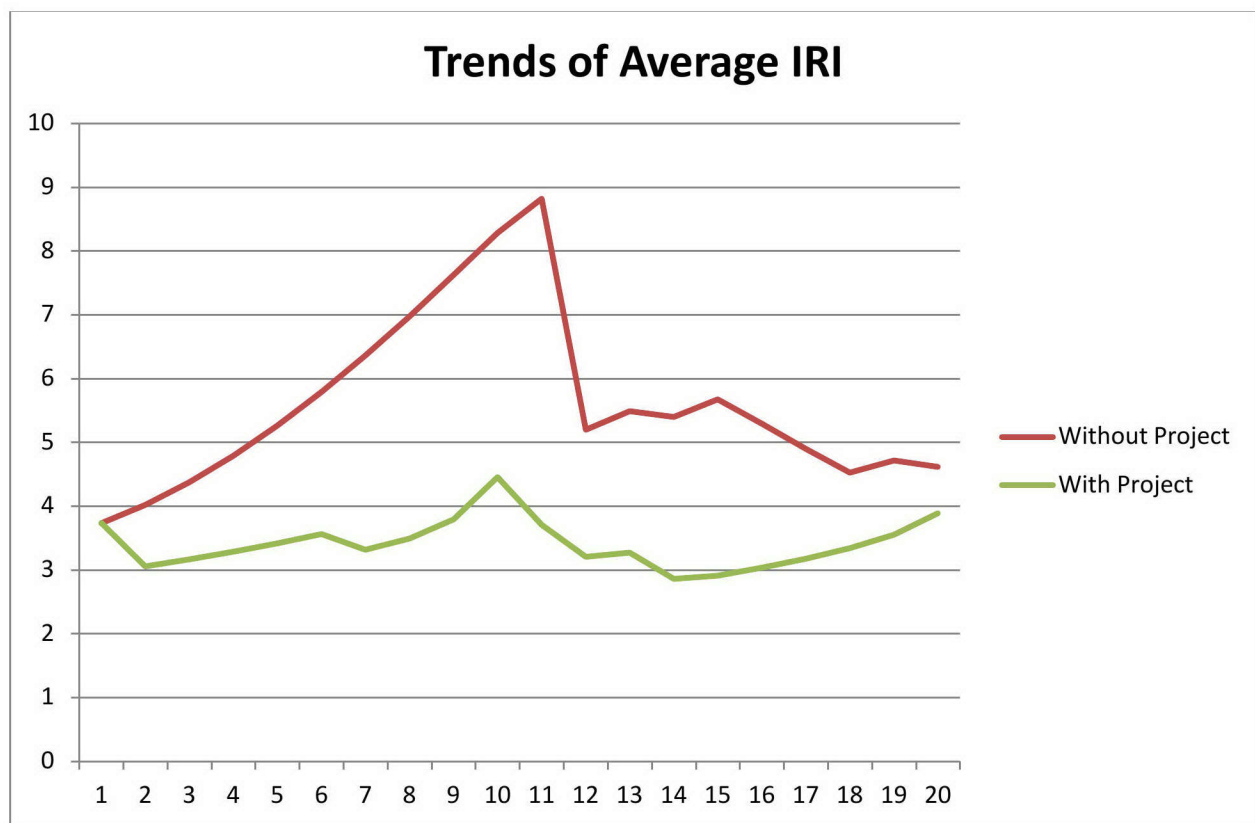
- a. Rehabilitation in Year 1: The pavement rehabilitation will be completed according to the technical details in the catalogue for solutions and are scheduled to take place in 2012. For R1, the main solution was Micro2+CB that has been applied for all sections, with the average project cost of 23.5 R\$/m<sup>2</sup>. For R7, Micro1 has been used at average cost of 19.6 R\$/m<sup>2</sup>. The rehabilitation will upgrade roads condition without altering their geometry. The IRI after the works have been completed has been estimated by the model ('automatically derived') see graph at the end of this section.
- b. Patching: Patching is carried out after rehabilitation as soon as potholes appear, however the quantity of material has been limited.
- c. Routine maintenance: This lump sum annual amount covers the road side maintenance, maintenance of assets and usual road operation. Routine maintenance costs used are at the same level for all road types, and would have been impacted by the scheduled rehabilitation and the base case scenario.
- d. Future Overlay of 50mm if IRI > 5: This is considered as the main future periodic maintenance activity, repeated at regular intervals (8-10 years) on the new sections, to maintain it in suitable condition before requiring additional rehabilitation. Along with the overlay, regular patching is carried out if the pavement surface is damaged before reaching the roughness threshold. This maintenance strategy allows the pavement to be continuously in good condition as maintenance works are triggered before the roughness deteriorates.

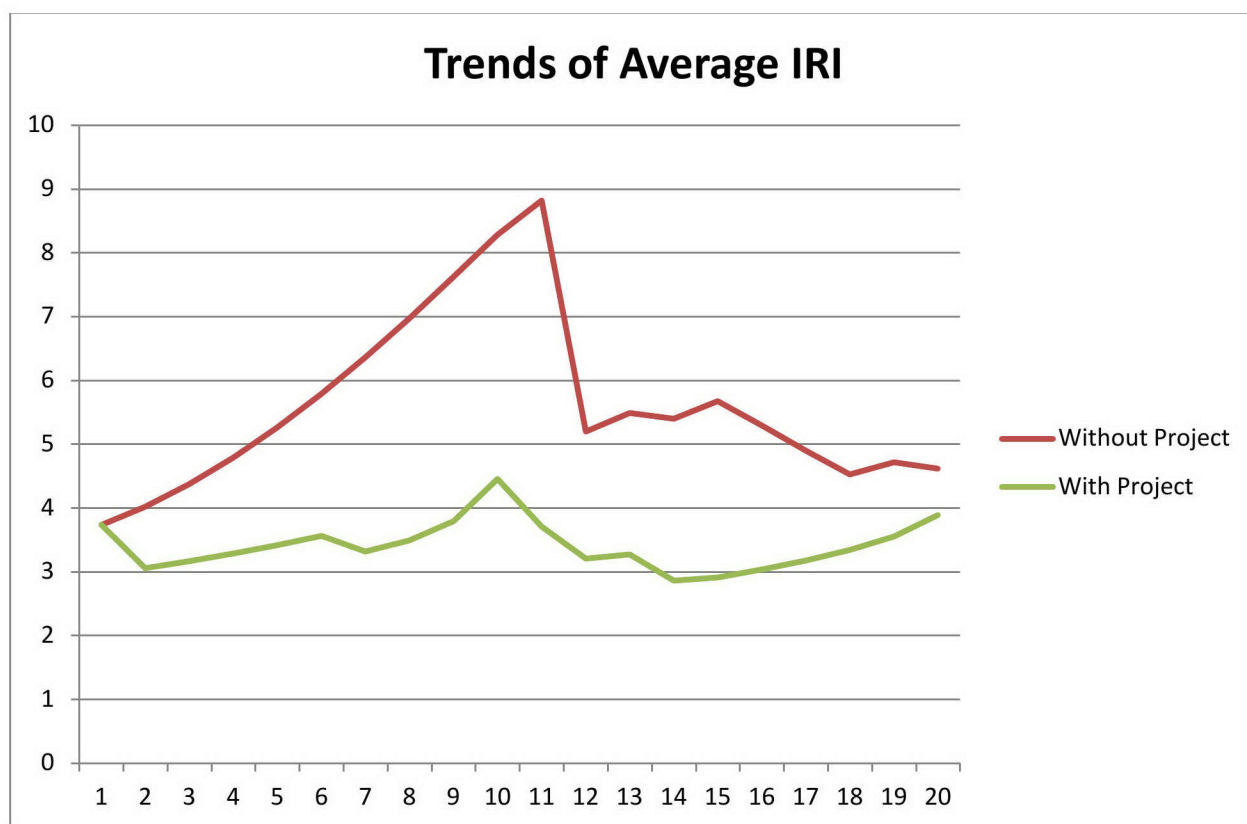
### “Without Project” or Base case

30. On the “base case” scenario, which is without the project, the maintenance strategies are proposed as follows:

- a. Reconstruction in the future: For the “DO-MINIMUM” scenario, the maintenance strategy is limited to routine maintenance and patching, and a full reconstruction when IRI reaches 9, but not before the year 2022; meaning 10 years after the present triggered works. It consists of a full rehabilitation, based on the full reconstruction cost.
- b. Routine Maintenance and Repair: Even for the base case, it is assumed that routine maintenance and repairs are carried out. The same interventions and costs as above have been assumed.

31. The following graph illustrates trends of IRI on the 11 sections with and without the project. With rehabilitation, IRI decreases just after the project starts and stays low for the entire period. On the other hand, without the project, IRI continues to increase until 10 years after.





## Results

32. The present values of the flow of net economic benefits generated by the sub-component over 20 years on the first phase are estimated at about R\$134 million at a 12% discount rate, and its economic internal rate of return is estimated at 34%.

### Economic Results of the Sensitivity Tests

Sensitivity Test	IRR	Total NPV of Benefits (MR\$)
Cost + 20%	30.9	129.55
Traffic AADT – 20%	25.5	71.08

## Evaluation for the whole subcomponent

33. Detailed pavement conditions and traffic data for the remaining sections which were not included in the above analysis were unavailable at Appraisal. Therefore, the evaluation for the whole component was conducted by expanding the above result to the other sections with an assumption of proximity. According to the road condition survey, majority of pavements on remaining sections were classified into “regular” among the 6 categories in total. The average traffic volume on the remaining sections is around 1,000 per day. Based on these facts, it is assumed that characteristics in the other sections targeted by the Project are similar to the average of the sections of R1-4, 1-5, 1-6, 1-7, 7-3, and 7-4 above, which had more than 3.5 for IRI and around 1,100 for the average traffic volume.

34. Under the above assumptions, the total subcomponent NPV would yield R\$321 million (US\$176 million) and IRR 25%. After detailed surveys on road conditions and traffic are completed, the Bank will refine the evaluation and ensure that these sections have enough IRR.

## Annex 8: Map of Tocantins

