



**Inter-American
Development Bank**

VPS / ESG

TECHNICAL NOTE

No. IDB - TN - 352

**Managing the
Environmental and Social
Impacts of a Major IDB-
Financed Road
Improvement Project**

**The Case of the Santa Cruz –
Puerto Suárez Highway in
Bolivia**

John Redwood

November 2012

Managing the Environmental and Social Impacts of a Major IDB- Financed Road Improvement Project

**The Case of the Santa Cruz – Puerto Suárez
Highway in Bolivia**

John Redwood



Inter-American Development Bank

2012

Cataloging-in-Publication data provided by the
Inter-American Development Bank
Felipe Herrera Library

Redwood, John.

Managing the environmental and social impacts of a major IDB-financed road improvement project: the case of the Santa Cruz – Puerto Suarez highway in Bolivia / John Redwood.

p. cm. (IDB Technical Note; 352)

Includes bibliographical references.

1. Environmental risk assessment—Latin America. 2. Inter-American Development Bank—Evaluation. 3. Roads—Design and construction—Social aspects. 4. Roads—Design and construction—Environmental aspects. I. Inter-American Development Bank. Environmental and Social Safeguards Unit. II. Title. III. Series.

Q51, Q56, R42

<http://www.iadb.org>

The opinions expressed in this publication are those of the authors and do not necessarily reflect the views of the Inter-American Development Bank, its Board of Directors, or the countries they represent.

The unauthorized commercial use of Bank documents is prohibited and may be punishable under the Bank's policies and/or applicable laws.

Copyright © 2012 Inter-American Development Bank. All rights reserved; may be freely reproduced for any non-commercial purpose.

This Technical Note was prepared by the Environmental and Social Safeguards Unit (VPS/ESG) of the Inter-American Development Bank (IDB). ESG works to promote the environmental and social sustainability of Bank operations. It collaborates with project teams to execute the IDB's commitment of ensuring that each project is assessed, approved and monitored with due regard to environmental, social, health and safety aspects, and that all project – related impacts and risks are adequately mitigated or controlled. ESG also helps the Bank respond to emerging sustainability issues and opportunities.

This manuscript documents the experience of the Inter-American Development Bank in managing the environmental and social impacts of road paving, rehabilitating and maintaining selected segments of the Santa Cruz-Puerto Suárez highway corridor in eastern Bolivia, and presents lessons and recommendations on how such impacts can best be identified, assessed and addressed in large ecologically sensitive and socio-culturally diverse areas.

This document was prepared under the supervision of Janine Ferretti, Chief of the Environmental and Social Safeguards Unit (VPS/ESG). The principal author was John Redwood III, consultant. Insightful inputs were provided by Colin Rees, Ernesto Monter, Jonathan Renshaw, Graham Watkins, Eloise Canfield, Alberto Villalba, Juan Carlos Paez and Maria da Cunha. Editorial support was supervised and provided by Gabriela Infante and Iona Hawken.

Contents

Acronyms	1
Executive Summary	4
I. The Technical Cooperation Projects.....	6
II. The Santa Cruz-Puerto Suárez Integration Corridor Project (BO-0036)	8
III. Environmental and Social Protection of the Santa Cruz-Puerto Suárez Highway Corridor (BO-0033).....	23
IV. Project Background.....	25
V. Results of the Strategic Environmental Assessment (SEA).....	30
VI. Project Design, Components, and Implementation Arrangements.....	33
VII. Project Feasibility and Risks	41
VIII. Project Implementation and Supervision.....	44
IX. Conclusions and Lessons.....	53

Acronyms

ABC	Bolivian Road Administration
ABT	Forest and Land Inspection and Social Control Authority
AII	Area of Indirect Influence
AID	Direct Area of Influence
ANMI	National Area of Integrated Management
AWPs	Annual Work Plans
CABI	Capitanía del Alto and Bajo Izozog
CAF	<i>Andean Development Corporation</i>
DDRR	Real Property Registry
EU	European Union
EIA	Environmental Impact Assessment
EIAS	Environmental Impact Assessment Study
EIS	Environmental Impact Statement
FNDR	National Fund for Regional Development
FPS	Fund for Social and Productive Investment
FSO	Fund for Special Operations
FUNDESNA	Foundation for the Development of the National Protected Areas System
GADSCZ	Autonomous Departmental Government of Santa Cruz
GEF-II	The Global Environment Facility Project
HPP	Hidrovia Paraguay – Paraná
IIRSA	<i>Iniciativa de Integración Regional de</i>

Sudamérica

INRA	National Agrarian Reform Institute
IUCN	International Union for the Conservation of Nature
LP	Loan Proposal
MDA/DNA	National Direction of Archaeology of the Ministry of Economic Development
MSDP	Ministry of Sustainable Development and Planning
NEDC/UNAR	National Unit of Archaeology of the Ministry of Education, Culture and Sports
OPEC	Organization of Petroleum Exporting Countries
PASA	Environmental Application and Monitoring Plan
PDPI	Development Program for Indigenous Peoples
PDSCZ	Prefecture of the Department of Santa Cruz
PDSCZ/AACD	Competent Departmental Environmental Authority
PLOT	Land Management Plans / Municipal Territorial Zoning Plans
PMACI	Protection of the Environment and Indigenous Peoples
PN	National Park
PNAT	National Program for Land Administration
PO	Plan of Operations
PPM	Prevention and Mitigation Plan

PPM-PASA	Prevention and Mitigation Plan and Environmental Applications and Monitoring Plan
PUMA FOUNDATION	<i>Fundación Protección y Uso Sostenible de Medio Ambiente</i>
ROW	Right of Way
SEA	Strategic Environmental Assessment
SERNAP	The National Protected Areas Service
SDRNYMA	Secretariat of Natural Resource Development and Environment
SIF	Forestry Superintendency
SSA	Socio-environmental Supervision
SNC	<i>Servicio Nacional de Caminos</i> , National Highway Service
TC	Technical Cooperations
TCO	Original Peoples Land Management Plan
TCOs	Lands of Indigenous Origin
TSG	Technical Support Group
UEP	Project Executing Unit
USAID	Agency for International Development of the United States
VMARNDF	Vice-Ministry of Environment, Natural Resources and Forestry Development
WB	World Bank
WCS	Wildlife Conservation Society

Executive Summary

In April 2002, the Bank approved two interlinked loans for the Santa Cruz-Puerto Suárez Corridor in eastern Bolivia. These loans were preceded by two Bank Technical Cooperation grants, the first for US\$ 750,000, approved in October 1999 and completed in December 2000, to finance preparation of a Strategic Environmental Assessment (SEA) for the improvement of this major transportation corridor. The second entailed a grant of US\$ 150,000 (of which US\$ 30,000 was later cancelled), approved in November 2000 and completed in March 2004, to finance an Advisory Panel to oversee construction and other activities along this same highway corridor. The loans, for a total of US\$ 96 million, were for paving, rehabilitating and maintaining selected segments of this highway (US\$ 75 million) and associated environmental and social protection measures along its entire length (US\$ 21 million). The first of these two investment operations was completed in June 2011 while the second is ongoing with roughly 65% of the corresponding Bank loan reportedly having been disbursed by the end of August 2011.

One of the principal defining – and strategic – features of the parallel projects for road improvement and environmental and social protection in the Santa Cruz-Puerto Suárez corridor was that they were to be operationally – and legally – interconnected in an effort to ensure satisfactory progress with respect to the latter prior to proceeding with the former. However, during the course of implementation, because of significant delays in the execution of the agreed environmental and social protection measures, among other factors, they were, de facto, delinked and Bank disbursements for the road improvement part of the program were allowed to go ahead in advance of adequate progress toward the previously prescribed requirements regarding the associated environmental and social management interventions to be taken in the road's area of influence. This single administrative action effectively undermined the initial design of the two deliberately interlinked operations and, in the process, greatly reduced the Bank's leverage with the borrower to ensure that the necessary environmental and social protection measures in the Santa Cruz-Puerto Suárez corridor would be taken in a timely way vis-à-vis the road improvement activities also financed by the Bank, as well as by other donors, including the Andean Development Corporation (CAF) and the European Union (EU).

As a result, the Bank-financed road improvement investments under project along the corridor have now been completed, while many of the associated environmental and social management activities intended to help mitigate the potential direct and, especially, indirect adverse impacts of the road improvements are still not adequately in place. Also, as a consequence, according to an April 2010 supervision mission, the joint projects were not in full compliance with any of the Bank's present environmental and social safeguard policies.

Among the most important conclusions and lessons from a review of these road improvement-related projects in Bolivia are the following:

1. While the SEA did a good job of identifying the potential positive and negative direct and indirect, including induced development, impacts of the proposed road improvement project, it gave insufficient attention to potential cumulative impacts of the road investment and other ongoing or proposed development projects in the road's area of influence; the possible trans-boundary impacts of the road project (i.e. on the neighboring ecologically sensitive Brazilian Pantanal) as the result of increased vehicle traffic resulting from the improved road in Bolivia and any needed additional environmental management and mitigation measures were also overlooked.
2. The fact that there were considerable differences in the scope and cost of the environmental and social management and mitigation measures associated with different versions of the SEA is important because it is essential both that: (i) the territorial and substantive scope of the management and mitigation measures required to address the likely adverse impacts of the road project be adequately identified and assessed and that their associated financial costs be properly quantified and provided for and (ii) they be explicitly considered in the economic analysis of the associated road investments.
3. No matter how well designed a project may be from an environmental and socio-cultural management perspective, at the end of the day what matters is how well the proposed environmental and social measures are implemented and what their actual results are; among other things, this means that their implementation needs to be carefully monitored and supervised and their outcomes need to be thoroughly evaluated.
4. Careful environmental and social monitoring and Borrower and Bank supervision of

major road improvement – and other infrastructure – projects is also essential to ensure that unanticipated impacts are properly identified and addressed during the course of project implementation; when different Bank sector units and both field-based and Headquarters staff are involved in this process, as in the present case, supervision activities also need to be well coordinated.

5. The Bank needs to ensure that its administrative actions during the course of project implementation do not undermine critical aspects of project design, including, as in the present case, operational interconnections and associated legal obligations that were designed to assure adequate protection and mitigation of potential adverse socio-cultural and environmental impacts of major infrastructure investments in their respective direct and indirect areas of influence. Not taking this precaution is also important so as not to effectively “devalue” the prior strategic environmental and social assessment work undertaken as an important part of project preparation and critical input into project design, and, as of July 2006, an unambiguous Bank safeguard requirement.

I. The Technical Cooperation Projects

The Plan of Operations (PO) for the first of the two Technical Cooperation (TC) operations observed that the Bank was “considering the possibility of partially financing” the Santa Cruz-Puerto Suárez Transportation Corridor Project to establish a highway connection between Bolivia and Brazil. The first phase of the project would entail construction of the Pailón-San José Highway Project, which was scheduled for approval in 2000. According to this document, the feasibility study for the corridor, which included the Environmental Impact Assessment (EIA) and the final designs for this segment of the road had been contracted in 1997 “after protracted delays of a process begun in 1994.” However, a review of these reports by the Bank identified “certain areas that needed improvement. In particular, the EIA was based on the environmental considerations applicable at the time the corresponding terms of reference were prepared and would not meet the current requirements for financing the Project.” More specifically, additional studies were needed “to conceive and detail a sound strategy for government and Bank actions aimed at developing an adequate environmental management framework to address the potential impacts of the project and to examine the

developmental possibilities in the area of influence of the Corridor.”¹

The PO stated that consultants were being hired with funds from three complementary Nordic technical assistance operations.² The work to be carried out under the Bank-financed TC, consisting in part of a Strategic Environmental Assessment (SEA) of the proposed project that “would encompass more than just an EIA for the specific highway construction,” would be coordinated with these other activities. The objectives of the TC, more precisely, were described as follows:

*The study to be contracted (SEA and update of the EIA) would conceive and develop in detail an adequate strategic environmental management framework to address all the identified indirect, long term and cumulative potential socio-environmental impacts of the Santa Cruz-Puerto Suarez Transportation Corridor. This framework would then guide the governmental and Bank actions related to the corridor. Also, the consultant would complete the analysis of the direct impacts that were covered in the EIA originally commissioned. The SEA study seeks to promote sustainable regional development, with strong private sector participation, and to maximize the benefits from this development for residents of the project’s area of influence, particularly the lower income population. The study and the integrated consultative process should demonstrate to civil society the awareness of all major socio-environmental issues involved in the project. It will also show the commitments of the Bolivian government and the Bank to address these issues in an adequate and timely fashion, ensuring the informed participation of civil society in all stages of project preparation and execution.*³

The study would be carried out by an international environmental planning and management firm. It was expected to involve a number of specific areas and activities, including, among others: (i) develop and carry out a public consultation strategy that “ensures

¹ Inter-American Development Bank, Bolivia: Plan of Operations – Strategic Environmental Assessment of the Santa Cruz-Puerto Suarez Transportation Corridor (TC 9904003-BO), Washington D.C., October 1999, paras. 1.1-1.3, pg. 1.

² Specifically, consultants financed by the Norwegian Trust Fund would “improve the environmental planning by carrying out the compilation and maintenance of an environmental spatial database,” Danish Trust Fund resources would be used “to support the compilation of the transportation data needed for the studies and implementation of the Corridor investments,” and Swedish trust funds would “assist in defining actions for parcel delimitation and land titling for the indigenous population and other lower income individuals that fall within the area of influence of the corridor.” (Ibid. paras., 1.4-1.6, pp. 2-3)

³ Ibid., paras. 2.1-2.2, pg. 3.

an informed, timely and effective participation of civil society;” (ii) evaluate “all relevant potential socio- environmental impacts” of the proposed Corridor Project; (iii) assess “the synergy of the project with other major existing or planned infrastructure projects in the region, as well as potential conflicts” among them; (iv) evaluate, from an environmental and social standpoint, “all project alternatives considered in the technical and economic feasibility studies” undertaken to date; v) assess the adequacy of the existing national legal and institutional framework “to address the major issues involved in project preparation, execution and post-construction phases;” (vi) identify “sustainable regional economic development” opportunities; (vii) identify the “benefits that would result from sustainable regional economic development, determining the allocation of these benefits among geographical regions, and provide a strategy to ensure that a maximum amount of resulting benefits accrue to communities in the project’s area of influence; and (viii) elaborate an Action Plan “to address all major issues identified to ensure that all relevant actions necessary to sound project implementation are carried out on a timely basis.”⁴

The firm that was to carry out the work briefly described above – and detailed in the corresponding Terms of Reference – was expected to be contracted in October 1999 for a period of 6 to 8 months. The study, which was expected to be completed in April-May 2000, was seen as being “a key element of the critical path for approval during year 2000 of the Pailón-San José road in the Santa Cruz-Puerto Suarez corridor.” It would have two final products, the SEA and the revised EIA, with the definitive version of the latter to be delivered only after public consultation on the preliminary report was concluded.⁵

II. The Santa Cruz-Puerto Suárez Integration Corridor Project (BO-0036)

According to the Executive Summary of the Bank’s Loan Proposal (LP) for this

⁴ Ibid., para. 3.2, pp. 4-5. Other elements to be included were: (i) identify the basic conditions for participation of the private sector, particularly micro, small and medium enterprises, in sustainable regional economic development and provide a strategy to encourage such participation; (ii) evaluate the quality and degree of completeness of the existing EIA and make the necessary modifications to bring it into full compliance with the Bank’s policies and requirements; (iii) summarize the results of the analysis of alternatives and the rationale for the selection of the recommended alternative; and (iv) make the necessary modifications in the existing EIA with special emphasis on the section dealing with proposed mitigation measures (i.e., the Environmental Management Plan).

⁵ Ibid., para. 8.2, pg. 7.

operation, the goal of the larger program (hereafter, the Program), of which this project (hereafter, the Project) was an essential part, was to “improve Bolivia’s integration with the region and international markets, while promoting economic efficiency in the various regions and production sectors by reducing transport costs and travel time, with improved highway conditions and traffic safety.”⁶ Its specific objectives were to: (i) lower transportation costs; (ii) reduce travel times; (iii) guarantee that the highway remains passable from the beginning of construction; and (iv) improve transportation safety for drivers and passengers, and their cargoes along the Santa Cruz- Puerto Suárez Corridor (hereafter, the Corridor). More concretely, the Program consisted of the resurfacing and construction of various sections of the Corridor, including “refurbishing the roadbed and paving of 571 km of highway in two phases, guaranteeing continuous serviceability throughout the corridor.” The PL observed that “environmental strengthening and mitigating measures will be carried out at the same time under a separate program financed in its entirety by the Bank.”⁷ The first phase of the IDB-financed part of the road improvement part of the Program was expected to cost a total of US\$ 90 million, of which the Bank would lend US\$ 75 million, and the second phase, US\$ 87.5 million, including a prospective second IDB loan of US\$ 70 million. Proceeding to the second phase of the Program would be contingent upon meeting certain conditions set out later in the LP (see below).

In addition to enhancing the international flow of goods, the Project, which was expected to benefit “all residents of Bolivia, particularly those living in the Santa Cruz region,” was anticipated to generate the following specific positive results: (i) reduction in transportation costs; (ii) improved access to transportation for passengers and for the shipment of agricultural production, livestock and manufactured goods; (iii) greater safety in the transporting of passengers and freight, lessening the risk of accidents, reducing travel time and improving routes; and (iv) lowering highway maintenance costs. Associated risks, according to this source, were: (i) a complex financing and execution schedule, which requires coordination among various donors with different disbursement periods, procedures and policies; (ii) a sector with a history of excessively long construction periods and cost

⁶ The main text of the LP defines the Project’s main objective in somewhat different terms: “to improve economic integration of Bolivia’s eastern region and support development of the production sector through better communication with domestic and international markets” (Ibid., para. 2.1, pg. 19).

⁷ Inter-American Development Bank, *Bolivia: Santa Cruz-Puerto Suarez Corridor Project, Phase I*, Washington D.C. 2002, Executive Summary, pp 1-2.

overruns; (iii) failure to provide local counterpart contribution on time; (iv) the SNC [*Servicio Nacional de Caminos* or National Highway Service] has yet to complete its institutional reforms; (v) heavy demand on the resources of the Government of Bolivia; and (vi) highly complicated environmental picture due to the indirect effects of the Program.⁸ With regard to management of the project's potential environmental impacts, more specifically, the Executive Summary of the LP affirmed:

The Vice-Ministry of Environment, Natural Resources and Forestry Development (VMARNDF) has granted an environmental permit -- Environmental Impact Statement (EIS)-- authorizing SNC to carry out construction works throughout the corridor. Given the magnitude and complexity of its direct and indirect effects, it was decided during project preparation that it would be best to deal with the social and environmental impact of the works separately. Accordingly, Project BO-0033 was devised in order to mitigate the Program's impact and ensure consistent application of rigorous criteria for environmental protection and mitigation of adverse effects throughout the corridor. Various, increasingly detailed environmental studies were carried out in the course of preparing the highway construction Program and the accompanying Project BO-0033: (i) an Environmental Impact Assessment Study (EIAS), prepared in conjunction with the highway engineering studies; (ii) the Strategic Environmental Assessment (SEA), which reviewed and built upon the findings of the earlier EIAS; (iii) a special study on the system for regulating land ownership in the area; (iv) the Work Plan detailing activities under BO-0033; (v) Report from the Senior Advisory Panel; and (vi) a new EIAS based on the final plans for the highway and submitted by a private consortium. The conservation strategy adopted will work in several directions at once: (i) clarifying property rights and returning to the State large tracts of public land suitable for forest management; (ii) regularizing land settlement claims in the area; (iii) strengthening the management of protected areas, especially protection measures themselves; (iv) reinforcing surveillance in forested areas and controlling unlawful clearance of land; (v) promoting practices to encourage sustainable use of natural resources; and (vi)

⁸ Ibid., pg. 3.

*compensating the losses of persons directly affected by the corridor by improving their quality of life.*⁹

In short, the proposed road improvement project was to be accompanied by a parallel project to address its potential adverse environmental and social impacts, which will be reviewed in further detail in the next section of this report. Efforts to mitigate the project risks identified above, in turn, were expected to include, among others: (i) financing for the first phase of the corridor is virtually assured; (ii) SNC will apply consistent technical and environmental standards throughout the corridor, and will have a Technical Support Group (TSG) to assist with details of the various contracting systems and the rendering of accounts vis-à-vis each financing source; (iii) SNC is making systematic progress in the application of institutional reform measures; implementation of these measures is a condition of eligibility for a loan from the World Bank (WB) for the highway sector, and the WB is monitoring compliance in this area; and (iii) this operation is closely linked to progress under BO-0033; construction work on the corridor will not begin until that project is well under way.¹⁰ Among the special conditions prior to first disbursement, in turn, was that Loan BO-0033 had been declared eligible for disbursement. One of the other contractual conditions was that:

The bidding conditions for construction companies and for the public call for proposals for supervision of the works, and their respective contracts, must include the obligation to adhere to and enforce the procedures for environmental management and control of the works established in the Operating Plan for Project BO-0033, and in accordance with the SNC Executive Resolution No. 10 of 10 March 2002. These requirements shall apply as well to the bidding conditions for the activities of maintenance and rehabilitation of the various gravel sections. Before beginning highway construction works, the SNC shall present evidence that its Socio-environmental Administration and the Vice-Ministry of Environment, Natural Resources and Forestry Development (VMARNDF) of the Ministry of Sustainable Development and Planning has provided environmental training for the Socio-environmental Inspector, the Socio-environmental Supervisor, and the contractor who will be carrying out the work. This training

⁹ Ibid., pp. 2-3.

¹⁰ Ibid., pg. 4. Other risk mitigation measures were: (i) SNC will apply criteria and procedures agreed to in advance with the Bank in the contracting and supervision of work, in order to minimize this risk; (ii) SNC will create a local counterpart trust fund (the FAL) and Santa Cruz Departmental Prefecture (PSC) will make automatic contributions to the fund in a pre-established amount, thereby reducing uncertainty; and (iii) the Government of Bolivia has provided for the counterpart resources and virtually assured the financing for the first phase; however, the highway sector's share of public spending during the Program's execution period could result in a reduction of resources available for other sectors, creating tension over the level of indebtedness and public expenditures.

*will include both general environmental protection information and project-specific instruction on topics indicated in the environmental permit. The pertinent bidding conditions will list these requirements.*¹¹

The conditions for proceeding to the second stage of the proposed Program were also briefly stated in the Executive Summary of the LP as follows: “the primary conditions...have to do with management of the highway system, progress in execution of the Program, highway maintenance, institutional reform and environmental protection. The degree to which they have been attained will be analyzed during the mid-term evaluation of the Program, which will be carried out within 30 months following the start of construction work on the Paraíso-El Tinto section. The Bank will receive a report by no later than June 2005 listing the evidence and documentation required for assessment of these conditions.”¹²

The LP sets out the rationale for the project in further detail by noting initially that, while Bolivia’s Andean highlands, which accounted for one-third of its land, but housed about 70% of its population, “despite the rugged terrain and climate, and a lack of arable land,...

The remaining two-thirds of its territory is made up of tropical savannahs in the Amazon region, the lowlands of the Paraguay River basin, and the Chaco floodplains. Their vastness, moderate topography and variety of natural resources make these regions the natural choice for expansion that would alleviate the demographic pressure on the Andean zone, add new production activities to the national economy and consolidate the progress made to date. Santa Cruz, in particular, has the potential to become a major agricultural and industrial center that could help diversify the country’s economic base, stimulate new industrial development and generate new employment opportunities. In the last decade alone population growth in this department has outstripped the national average, the amount of land under cultivation has grown steadily, and Santa Cruz has become the leading contributor to GDP among Bolivia’s departments, currently accounting for over half of the country’s agricultural production.

However, the lack of connecting routes, both within the region and between this department and other areas of the country as well as foreign markets, is one of the biggest single obstacles to the realization of its economic potential. Improving the Santa Cruz- Puerto Suárez corridor will significantly reduce transportation costs for passengers and freight alike, and avoid the long

¹¹ Ibid., pp. 5-6. Another condition was that “work on the Paraíso-El Tinto section will not be put to tender until work has begun on the rehabilitation and maintenance of gravel roadways in the El Tinto-San José de Chiquitos, Roboré-El Carmen and El Carmen-Puerto Suárez sections” of the highway.

¹² Ibid., pg. 6.

period of total isolation during the region's rainy season, as well as its partial isolation during the rest of the year. It will also give a boost to: (i) employment in the region's productive sector through more intensive and diversified agriculture and growth in the agribusiness sector aimed at export markets; (ii) the forestry sector including industrial processing and exportation of timber products; (iii) the mining of calciferous minerals and manufacture of cement (operators are already in production but lack reliable transport to Santa Cruz and intermediate towns); (iv) operations in the free zone that has been created in Puerto Suárez [on the border with Brazil]; and (v) existing tourist facilities in the Puerto Suárez region and others that could be developed around sites that UNESCO has classified as part of the cultural heritage of humanity.

In addition to linking the local economy, the highway forms part of an East-West corridor connecting countries on the Atlantic coast (primarily Brazil) with Chile and Peru. The corridor itself has been identified by IIRSA (Iniciativa de Integración Regional de Sudamérica) as a vital route with the greatest potential for regional integration, this highway being the final link and thus of great importance for completing the corridor. Specifically, it will strengthen Bolivia's links to MERCOSUR -- especially Brazil and to a lesser degree Paraguay -- and, via the Hidrovía Paraguay-Paraná (HPP), improve access to Argentina, Uruguay and the markets of Europe and North America. Given these considerations, upgrading this highway has a very high priority in the Government of Bolivia's development plans.¹³

The LP observed that Bolivia's road network consisted of some 56,500 km, 10,500 km of which were part of the "basic highway system" under the responsibility of SNC. There were also some 4,200 km of secondary or feeder roads for which the departmental prefectures were responsible and 41,800 km of "country roads" under municipal jurisdiction. Much of this network, however, was located in the Andean and southwestern parts of the country. In addition, there was an existing railway between Santa Cruz and Puerto Suarez. However, the document affirmed that it "cannot replace the highway system or match the services that this system provides, particularly in terms of personal mobility and the movement. These services are currently being provided by the railway at loss, tying up scarce resources (right of way, rolling stock and personnel) which could be applied elsewhere more efficiently." It goes on to argue that:

the railroad is a highly specialized mode of transport for moving very large-scale traffic which it is better equipped to handle (just four products currently account for 76% of the

¹³ Ibid., Main report, paras. 1.2-1.4, pp. 1-2.

volume of the trade carried by train), especially where it moves these products from virtually one end of the line to the other (an average distance of 609 km in this case). All of which means that the railway is poorly equipped to meet the demand from existing communities along its route, much [less] the requirements to which expanding agricultural production is expected to give rise. Consequently, the railway and highway system will have complementary, rather than competitive roles to play in providing new opportunities for local inhabitants and producers alike.¹⁴

The LP also provides further background information on the proposal to develop the Santa Cruz- Puerto Corridor, noting initially that it had “long been recognized as an important route for promoting regional and international economic integration,” but there had also been problems, especially financial difficulties that had delayed its implementation. After a proposal to improve the road in part by means of a private concession arrangement was rejected, the Bolivian Government “decided that the best option for the country was to carry out the works with public funding only, with the support of the Bank, CAF, the EC, and OPEC.” Thus, the Program was expected to have four different external funding sources, including the Andean Development Corporation (CAF), which was one of the Bank’s partners in support of IIRSA, the European Commission, and the Organization of Petroleum Exporting Countries (OPEC), in addition to the Bank.¹⁵

The document then describes the Program, the Project and its proposed phasing in general terms, including the reasons for the complex financing arrangements, with the more specific division of labor among various funding sources for different segments of the road summarized in Box 1 below:

The Santa Cruz-Puerto Suárez corridor extends some 632 km and links the country’s fastest growing area -- in terms of economic and demographic growth alike -- with the largest domestic

¹⁴ Ibid., para. 1.12, pg. 4. More specifically, according to this source, the railway “links the cities of Santa Cruz and Puerto Suárez, and, taking a southward branch from Santa Cruz, also links that city with the town of Yacuiba and the northern tip of Argentina. Proceeding west from Puerto Suárez, the rail line reaches the Brazilian town of Corumbá. Despite its international connections, this railway primarily serves Bolivia’s foreign trade sector by providing a link to the Hidrovía Paraguay-Paraná and, to a lesser extent, aiding trade with Brazil in particular. Built between 1948 and 1967, the railway has some 700 km of track within the corridor area and has been operated by a private company since 1996. Its passenger service plays an important role since it is the only form of transportation available to people living in smaller communities along the corridor in towns such as Roboré, San José de Chiquitos, etc., who benefit from cross-subsidization with its freight services.”

¹⁵ Ibid., paras. 1.35-1.38, pp. 11-12.

consumer centers and with export markets. Its construction, however, is no easy task. The first obstacle to be overcome is its very size, continuous nature, importance and cost. Past studies demonstrate that construction of the highway is feasible throughout its length, and that demand would be relatively high, requiring a paved highway built to technical standards. This, in turn, increases costs to a point where the funding required represents several years of the SNC's investment budget.

The Program consists of building the corridor. To make a project of this size feasible, the Government of Bolivia has attracted the interest not only of the Bank, but also of other donors (EC) and bilateral and/or multilateral financing institutions (OPEC and CAF).

However, construction of this magnitude takes time, so that a system has been designed for carrying out the work in two phases. The Bank, the EC, and the CAF will participate in the first phase, while only the Bank, OPEC, and CAF have offered financing for an eventual second phase. The funding formula adopted is that of parallel financing, with sections of the highway distributed among participants according to each one's financing capacity and periods for approval and contracting of construction works, all of which will be carried out in accordance with the same set of technical and environmental standards defined by the SNC and agreed upon by the Bank during preparation of the operation.

The first phase of the Program calls for paving the Paraíso-San José de Chiquitos-Roboré (346 km) section; rehabilitating the gravel-surfaced Roboré-El Carmen (139 km) section on the existing route; and carrying out maintenance work on the various gravel sections (88 km). The second phase will complete paving of the entire corridor through construction of the Roboré-El Carmen-Puerto Suárez (227 km) section on the new roadbed, and performing routine maintenance on the sections built in the first phase until completion of the corridor.

The Project is the combination of works and activities that the Bank will partially finance. Its first phase will include construction of the Paraíso-El Tinto section, rehabilitation of the gravel-surfaced Roboré-El Carmen section and routine maintenance on the El Tinto- San José de Chiquitos and Roboré-El Carmen-Puerto Suárez sections until paving work can be carried out on them. The second phase will finance construction of the Roboré-El Carmen section and provide post-construction maintenance on the sections already paved.¹⁶

¹⁶ Ibid., paras. 2.3-2.6, pp. 19-20. The Project would also include technical supervision of execution of the sections for which the Bank is responsible, as well as technical and management support for execution of the Program, three special studies, and the outside auditing.

Box 1. Construction and Financing Arrangements for the Santa Cruz-Puerto Suarez Road

Santa Cruz-Pailón-Paraiso section (61 km): this section, which is paved throughout, is part of the corridor covered by this Project but *will not be the site of any construction work*.

Pailas Bridge: a new 1,404 meter bridge over the Grande River and its access roads forms part of the Santa Cruz-Pailón section. Motor vehicle traffic currently uses the railway bridge, sharing that structure with trains and having to halt traffic in alternate directions to allow a single lane to cross, causing major delays and conflict with the railway, which is the principal mode of transportation in the corridor at present. The new bridge will be built with a loan (already approved) from the Economic Development Fund administered by *EXIMBANK of Korea* for (US\$ 23.0 million) and a counterpart contribution of US\$ 4.6 million.

Paraiso-El Tinto section (124 km): part of the Paraiso-San José de Chiquitos section (207 km), this will be *financed by the Bank*. This is the section with the highest demand since it moves through an agricultural area of consolidated landholdings and great potential for expansion. It also serves a major livestock-raising area which produces for the consumer market in Santa Cruz.

El Tinto-San José de Chiquitos section (82 km): together with the foregoing section this stretch completes the connection to the rural center of San José de Chiquitos. The financing for this operation comes via a *donation from the EC* (US\$ 47.5 million). This section will receive routine maintenance services paid for with resources from the Bank until work begins on construction, which is expected to occur in mid-2004.

San José-Roboré section (140 km): part of the San José-Puerto Suárez stretch, the longest and least used section of the corridor. Together with the last two sections, this completes the portion to be improved to the pavement level during the first phase. The financing for this will be *handled by CAF*.

Roboré-El Carmen section (139 km): *using the Bank's resources*, improvements will be made to the gravel surface and in routine maintenance performed on this section during the first phase to ensure continuous access and serviceability in all kinds of weather. During the first phase as well, all major bridges will be built on the new route for this section, using *resources from the EC*. This section is scheduled for paving in the second phase.

El Carmen-Puerto Suarez section (88 km): recently rehabilitated up to gravel roadway standards, this section provides adequate service for passenger vehicles and trucks. Routine maintenance services will be provided *with the Bank's resources* in the first phase. Further rehabilitation and full paving is scheduled for the second phase.

Source: IDB, Loan Proposal document (*my emphasis*)

The PL also indicates that financing had been arranged for both phases of the Program, with that for the first phase consisting of a combination of grants and concessional and commercial funding. IDB resources would come from the Fund for Special Operations (FSO). The main source of financing for the first phase of the Program, however, would be CAF, which was expected to provide “a maximum of US\$ 100 million under commercial terms and conditions,”¹⁷ with the Bank lending US\$ 75 million and the EC providing a grant of US\$ 47.5 million. The second phase would be financed primarily by the Bank, OPEC, and CAF. Counterpart funding for both phases would come from the Bolivian Government, including a contribution from the Prefecture of Santa Cruz.¹⁸ The document also reiterates the interdependence between the Project and the parallel BO-0033 operation, affirming that:

in effect, its activities are dependent upon showing that significant progress has been made in the various activities designed to mitigate the direct and indirect effects produced by the operation. The Program, which involves other financial agencies, has a more distant relationship to BO-0033. However, under Resolution No. 10 adopted by its Board of Directors on 10 March 2002, SNC ordered that certain measures be applied to the Program, i.e. in all of the sections where construction works would be carried out, regardless of the source of financing. These measures have to do mainly with the effort to mitigate direct effects on the environment (environmental cleanup and regularization of encroachments on the ROW), the responsibilities of the works supervisor and contractor vis-à-vis the environment, and the environmental monitoring capacity of SNC and VMARNDF.¹⁹

The main text of the LP also provides further details regarding the conditions or “triggers” to be met by the Program before moving to the second construction phase. With respect to program execution, these included the following: (i) updated engineering designs for the sections to be built during the second phase. In case of substantial change in the initial designs, the designs must include an updating of the means for mitigating the direct environmental impact of construction on those sections; (ii) satisfactory progress has been made in the works carried out with resources from other co-financing agencies, in accordance with the schedule agreed upon with the Bank, with a maximum delay of six (6) months, including the application of measures to prevent or mitigate adverse environmental effects of

¹⁷ The table on the next page, however, indicates a CAF loan of US\$ 90 million for the first phase.

¹⁸ Ibid., para. 28., pg. 21.

¹⁹ Ibid., para. 2.11, pg. 22 with ROW referring to Right of Way.

those works.²⁰ There were also conditions related to highway management, maintenance and institutional aspects, as well as with regard to “environmental matters.” The latter, more specifically, were as follows:

- all of the land in the municipalities of Pailón, San José de Chiquitos, Roboré, El Carmen Rivero Torres, Puerto Suárez and Puerto Quijarro, as well as the entire surface of the protected areas of San Matías, Otuquis and Kaa-Iya, which are part of the Area of Indirect Influence of the highway, have been registered in the Real Property Registry (DDRR), whether as public or private lands and except for cases currently in litigation;
- all payments of monetary compensation, the replacement of housing and socio-economic rehabilitation of all properties and families affected by the claiming of ROW throughout the entire length of the highway have been completed, except in the case of expropriation through legal proceedings;
- the mitigation measures have been completed and compensation provided for environmental impact on communities, and the operation has been transferred to municipalities and/or communities as appropriate;
- Land Management Plans (PLOT) have been completed for the municipalities of Pailón, San José de Chiquitos, Roboré, El Carmen Rivero Torres, Puerto Suárez and Puerto Quijarro;
- the Original Peoples Land Management Plan (TCO) has been drawn up;
- at least 6,000 urban lots have been registered with the Land Registry in the six capital districts of Pailón, San José de Chiquitos, Roboré, El Carmen Rivero Torres, Puerto Suárez and Puerto Quijarro;
- the consulting firm hired to prepare the Global Proposal for Regional Development has begun work;
- SERNAP [the National Protected Areas Service] has successfully completed the activities set out in the Annual Work Plans (AWPs), according to the reports of

²⁰ Ibid., para. 2.24 (b). In addition, there was a need to present a financial plan “which shows that sufficient resources are available-- either own or outside resources -- to complete the construction of the corridor, plus audited financial statements have been submitted as required and any recommendations from the independent auditor or the Bank have been implemented.”

the Socio-environmental Auditor;

- the Forestry Superintendency (SIF) has successfully completed the activities set out in the AWP, according to the reports of the Socio-environmental Auditor;
- the Environmental Supervision Office of SNC has performed in accordance with the Operating Plan for BO-0033 and been an effective presence at the work site, and the environmental management procedures have been complied with by the parties during the work;
- the Socio-Environmental Inspection Office of the VMARNDF has performed in accordance with the laws of Bolivia and the commitments agreed to with the Bank, according to the reports of the Socio-environmental Auditor; and,
- the Socio-Environmental Auditor has issued reports on the degree of environmental impact and nonconformity in the execution of the works, approving them.²¹

The document went on to state that the indicators to verify progress with respect to the various “environmental issues” mentioned above were presented in the Logical Framework of Project BO-0033 and included, “by way of example: (i) the number of hectares in each of the six municipalities and the three protected areas that are part of the area of indirect influence of the highway have actually been titled and registered in the DDDR; (ii) the number of hectares in the three protected areas that are kept from illegal deforestation and outside incursion; and (iii) the number of individuals actually compensated and paid.” Finally, it observed that “to present the evidence and documentation required to demonstrate fulfillment of the conditions established as targets for the second phase, SNC, in coordination with the Ministry of Sustainable Development and Planning, must implement information and monitoring systems on the use and status of the corridor that will make it possible to analyze the issues underlying these conditions.”²²

The LP also contained a specific section on social and environmental feasibility and associated recommendations. It begins by affirming that “given the nature of this project (virtually a greenfield operation), with a highway to be built over a very broad geographical

²¹ Ibid. para. 2.24 (e), pp. 27-28. For a definition of the Program’s Areas of Direct and Indirect Influence see the next section.

²² Ibid., paras. 2.25-2.26, pg. 28.

area which is highly vulnerable, both socially and environmentally, has only a very basic level of development with little consolidation, yet also enjoys enormous economic potential, the preparation of this initiative has had to take account of both its direct and indirect impact, and its cumulative and long-term effects.” It added that, considering the extent and complexity of the operation’s likely indirect effects, “it would be best to separate the financing of its construction works from efforts to mitigate its environmental impact, by preparing an independent project to deal with the latter.” Hence, the BO-0033 project was prepared in parallel. More specifically,

*the construction and upgrading of the Santa Cruz-Puerto Suárez corridor will lead to a major expansion of the agricultural frontier and the forestry sector. These and other effects can only be seen as positive developments when adverse social and environmental effects are controlled and mitigated. This is what BO-0033 is designed for, and for this reason it is essential that the programs set out in BO-0033 be implemented on the dates and in the form described. BO-0033 includes all of the environmental mitigation activities, and covers the corresponding costs, for mitigation of the indirect effects (Plan of Action) caused by improvements made to the corridor. With regard to direct effects (the PPM-PASA program), BO-0033 includes environmental mitigation activities, and covers the costs corresponding to the first phase of the Highway Project. Mitigation of direct effects during the second phase will have to be financed by BO-0036, following criteria consistent with those adopted for this Project.*²³

To deal with indirect effects, the Plan of Action for BO-0033 calls for developing the following programs: (i) regularization, titling and registering of land; (ii) indigenous program; (iii) environmental conservation (managing protected areas and protection of forests); (iv) institutional strengthening and sustainable development for municipalities; and (v) communications. BO-0033 calls for the investment of US\$ 15.4 million.

To deal with the direct effects, the PPM-PASA of BO-0033 will develop the following programs and activities: (i) replacement of losses (replacement of housing, economic compensation and socioeconomic rehabilitation of the affected population, mitigation and compensation for the socioeconomic impact of construction on neighboring communities); (ii) protection and rescue of cultural and architectural heritage; (iii)

²³ Ibid., paras. 4.14-4.17, pp. 54-55. It then states that “the cost of mitigating environmental impact is an integral part of the budget for construction of each section, and includes the measures and works required by in the Highway Project’s EIA, in accordance with environmental technical standards and the Code of Conduct of the workers.”

*information and social interaction; (iv) supervision and socio-environmental monitoring of the work; and (v) socio-environmental inspection of the competent environmental authority. The PPM-PASA calls for an investment of US\$ 5.0 million.*²⁴

In terms of the conditions to be included in the contract for this road improvement operation, finally, the LP indicates that, in order for the first disbursement for the loan to occur, the parallel loan for BO-0033 must be eligible for disbursement. And as a condition to be met prior to awarding a contract for construction work on the Paraíso-El Tinto section of the highway, SNC, on behalf of the Borrower, “must present to the Bank's satisfaction a report describing the progress made in executing BO-0033.”²⁵ Among the specific evidence that needed to be included in this report are the items listed in Box 2 below (see also the next section). The document also observed that, with respect to clearing the Right of Way (ROW) for the road, the parallel project “specifies the following objectives: (i) clear the areas of the ROW required for improvements or construction of the highway as soon as possible; (ii) replace or provide adequate compensation for the loss of land, improvements, housing and facilities affected by the creation of the ROW; (iii) mitigate and compensate the various socioeconomic effects that construction, or the presence and operation of the highway will have on neighboring communities; and (iv) ensure that socioeconomic rehabilitation is provided for the affected population.”²⁶

²⁴ Ibid., paras. 4.18-4.19, pg. 55. On this basis an environmental license was granted.

²⁵ Ibid., para. 4.26, pg. 56. According to the LP, this report would result in “a joint administration mission by the Project Teams of BO-0033 and BO-0036, and the Country Office (representatives from CAF, the EC, and other financing entities may also be invited on this mission).”

²⁶ Ibid., para. 4.27, pg. 57. Here it also refers specifically to para. 2.33 of the Loan Proposal for BO-0033.

Box 2. Required Reporting Requirements Prior to Award of Contract for Paraíso-El Tinto Section

- That clearance of the ROW of the Paraíso-El Tinto section has been completed, for which: (i) the replacement, payment of compensation or total indemnification of losses of land, improvements and facilities affected by creation of the ROW, and, in the case of housing, that the replacement of same has been finalized or, for those where the process has not concluded, that such persons be deemed to be in "protected" status; and (ii) socio-economic rehabilitation has been initiated for the land, families and individuals affected by the authorization of the ROW.
- That the individual consultants have been hired for the Socio-environmental Supervision of the SNC, and the consultants for Socio-environmental Inspection under the VMARNDF and the Socio-environmental Auditor have been hired; and that they have received training in the topics and environmental characteristics of the Program, particularly matters referred to mitigation of direct effects and the responsibilities of the contractor and works supervisor vis-à-vis the environment.
- That the activities of the Social Action and Management of the Loss Replacement Program are being carried out.
- That the Ministry of Sustainable Development and Planning has disbursed the resources for establishing the three Trust Funds administered by the Fondo para el Desarrollo de los Pueblos Indígenas de América Latina y el Caribe (Fondo Indígena), Fundación para el Desarrollo del Sistema Nacional de Áreas Protegidas (FUNDESNA), and Fundación Protección y Uso Sostenible de Medio Ambiente (Fundación PUMA).
- That the regularization, titling and registration of land activities are under way in the municipalities of Pailón, San José de Chiquitos, Roboré, El Carmen Rivero Torres, Puerto Suárez and Puerto Quijarro, and in the Protected Areas of San Matías and Otuquis under the direction of the specialized firms hired for this purpose.

Source: IDB, Loan Proposal document

In short, the Bank loan for the Santa Cruz-Puerto Suárez Integration Corridor and that for Environmental and Social Protection of the Santa Cruz-Puerto Suárez Highway Corridor were directly linked, with implementation of the physical construction part of the former (i.e., of the Paraíso-El Tinto segment of the road) being conditioned to effective start-up of the latter. The last paragraph in the LP for the road operation, in fact, states, under the heading of "risks," that "the Project presents a high degree of environmental complexity owing to the indirect effects that it will generate," noting further that "adequate measures...to offset those effects" are taken under BO-0033.²⁷

²⁷ Ibid., para. 4.30 (f), pg. 58. The five other risks mentioned are: execution and financing scheme; construction; counterpart; institutional; and fiscal.

III. Environmental and Social Protection of the Santa Cruz-Puerto Suárez Highway Corridor (BO-0033)

According to the Executive Summary of the respective Loan Proposal, the objectives of this Project are “to minimize, control, counteract and compensate for all direct, indirect, cumulative, long term or synergic socio-environmental types of impact caused by the implantation and operation of the Santa Cruz-Puerto Suárez highway corridor.” The Project, which included an additional US\$ 3 million in co-financing from the Nordic Trust Fund, would also “promote environmental conservation and a process of sustainable social and economic development in the area of influence, in accordance with Bolivian law and Bank standards.” More specifically, it would involve mitigation of: (i) indirect impacts of the associated road improvement project “through titling and registry of lands in the Direct Area of Influence (AID) of the Corridor, important supportive actions for indigenous communities, for protected areas and forests, for institutional strengthening and promotion of municipal development in the six municipalities within the AID, and actions which help to incorporate the affected population or those interested in development of the Highway project as well as environmental conservation;” and (ii) its “direct impact through repayment for losses caused because of cession of the right of way and the protection of archeological and cultural Heritage, as well as dissemination of information on the project and establishment of channels for dialogue with local actors.”²⁸

It is interesting to observe the similarities and differences in the Bank’s approach to addressing the environmental and social impacts of this road improvement operation with that for the paving of a portion of the BR-364 highway in the Amazonian state of Acre, Brazil, which was approved at almost the same time (May 2002) in the form of the Acre Sustainable Development Project. This followed an earlier major Bank-financed project for pavement of another section of the same highway between the state capital cities of Porto Velho (Rondônia) and Rio Branco (Acre), approved in 1985 and closed in 1997, which had an innovative special component for environmental and indigenous peoples’ protection

²⁸ Inter-American Development Bank, Bolivia: Environmental and Social Protection in the Santa Cruz-Puerto Suárez Corridor (BO-0033), Washington D.C. 2002, Executive Summary, pp. 1-2. In addition, “actions for environmental supervision and auditing are also planned within the Project to cover activities involved in the public works, and periodic audits to guarantee execution in accordance with environmental standards.”

(PMACI).²⁹ The major differences between the two approaches were that, in the Bolivian case: (i) the road improvement and environmental and social impact management parts of this larger program of Bank-supported activities were contained in separate projects; and (ii) national rather than state government institutions were involved.

For the Bolivian operation, observing that, as an environmental project, it was “obvious” that its actions would benefit the environment -- but would not be produced in the case of non- execution – according to the Executive Summary of the LP, its expected benefits were:

(i) an improvement in the administration of property rights for lots and regulation of land use; (ii) greater legal security due to incentives to promote more sustainable use of soil resources while assuring the property rights of small farmers and indigenous landholders; (iii) an improvement in systems of registration and titling of real estate that will permit greater efficiency in collecting property taxes; (iv) the return to the state of large extensions of land suitable for forestry management; (v) organization of territorial occupation; (vi) strengthening of auditing of forests and control of illegal clearing and logging; (vii) strengthening of management of protected areas; (viii) promotion of practices for sustainable use of natural resources; (ix) training of municipal governments so that they can show greater leadership in terms of meeting new social demands and responsibilities; (x) training for social organizations to improve the quality of citizen participation; (xi) promotion of the conservation of archeological and cultural heritage; and (xii) repayment of losses to those directly affected by the Highway project at a higher rate than under current conditions.³⁰

The project risks, identified in the same place, were: (i) the weak institutional capacity of public bodies and private executors and co-executors; (ii) possible lack of interest in project execution on the part of the incoming administration; (iii) social or environmental incidents/disasters with serious international repercussions; (iv) the legal framework is

²⁹ For a more detailed discussion of this experience, see John Redwood III, *Managing the Environmental and Social Impacts of Major IDB-Financed Road Improvement Projects in the Brazilian Amazon: The Case of BR-364 in Acre*, consultant’s report, Washington D.C., July 2011 and Mary Allegretti, Carlos Ramirez, and Anne Deruyttere (editors), *Public Participation and Sustainable Development in the Amazon: The Case of PMACI*, Inter-American Development Bank, Washington D.C., December 1998.

³⁰ IDB Loan Proposal, *op. cit.*, pg. 3.

modified in a way that conflicts with project objectives; (v) institutional instability with changes in the principal executing bodies; and (vi) the Project is not carried out or postponed, and the right of way that has been registered as state land is occupied yet again by invaders.³¹ The Project, which is institutionally very complex, also had a large number of legal conditions which will be discussed further below, as will its proposed institutional arrangements. In addition, it had an execution period of ten years, representing an exception to Bank policy, “with disbursement dating from the effective date of the Loan Contract, with the objective of allowing the execution of the following subprograms during this same period: Indigenous Organizational Development, Management of Protected Areas and Forest Conservation, and disbursements for activities related to the control and supervision of utilization of resources disbursed specifically for these subprograms.”³²

IV. Project Background

The main text of the Loan Proposal (LP) provides additional background information regarding the Corridor improvement Program, observing initially that “the Bolivian government has decided to build the highway project by sections, pave integrally and assure permanent transit through the construction period. Direct building costs are around US\$ 331 million dollars, and will be financed by the IDB, European Union, CAF and others. Given the lack of concessional resources to finance the construction of the highway in just one phase, the BO-0036 operation will be structured in two phases, with a Bank loan of US\$ 70 million for each one.” It was likewise affirmed that the Government and the Bank had “agreed that measures to mitigate socio-environmental impact will be applied based on

³¹ Ibid., pp. 3-4. According to this document, these risks would be mitigated, respectively, by: (i) specific actions to strengthen the pertinent institutions; (ii) establishing clauses in the Loan contract for the parallel highway project which conditions project disbursements to compliance with goals of the present operation in advance; (iii) mechanisms will be established to prevent and resolve conflicts before they get out of hand (iv) contractual commitments override potential changes in legislation; and (v) establishment of program goals that are linked to disbursements.

³² Ibid., pg. 9. The Executive Summary of the LP goes on to state that “the Bank usually does not permit these types of terms and disbursements as regards the duration of specific projects and traditional global loans (GN-750-1, paras. 1.05 (a) and 2.08 (a) and GN-2085-2, Section III. B). With this in mind, the following is proposed as regards execution of these subprograms: (a) that the execution period previously indicated also apply to Fiduciary funds that will be set up to finance the three subprograms; and (b) that nearly the total amount of resources assigned to these subprograms be disbursed at one time; that the interest earned from these resources be used for the execution of these subprograms; and that the period of justification for the utilization of the totality of these disbursements also be ten years.”

uniform criteria along the Corridor’s entire extension, no matter what scheme is implemented for building and financing.” This approach was justified in the following terms: “despite necessity, economic importance, local social support and the prioritization of the national government, the Corridor project has proceeded at a very slow pace over the past decade. In addition to budgetary limitations, the Highway project has been the subject of controversy due to concerns within the national and international communities as regards social and environmental matters. This is why an approach that considers socio-environmental aspects is needed in order to achieve international financial approval for this project.”³³

The LP describes the Program’s area of influence, defined in terms of the “spatial extension” of the highway project’s “impacts as they affect socio-environmental components.” As a result, three levels of areas of influence were defined “in accordance with the amount of territory covered:

The **Area of Intervention** covers work sites, including the Right of Way (ROW), dumps, borrow pits, access roads, work camps, industrial plants and other installations or auxiliary areas that will be utilized during the construction phase. This area is made up of a long and narrow stretch of territory (100 meters wide and 570 km long), with smaller areas close by.

The **Area of Direct Influence (AID)** covers all areas that are affected or directly influenced by the ROW and by the highway’s construction and operation, as well as all other related effects. The physical-biotic environment is contained in an area that is a strip several kilometers long, running along each side of the ROW. In terms of socioeconomic aspects, the entire municipal territory is included, as the corridor passes through six municipalities – Pailón, San José de Chiquitos, Roboré, El Carmen Rivero Torres, Puerto Suárez and Puerto Quijarro -- covering a surface of 65,180 km², with a population of 86,500.

The **Area of Indirect Influence (AII)** is made up of all of the areas that are *indirectly affected due to new accessibility and development resulting from the*

³³ Ibid., paras. 1.8, 1.10, and 1.12, pg. 2. As noted above, however, the actual Bank loan for the first phase of the road improvement project was US\$ 75 (rather than US\$ 70) million.

improved highway, and synergy with other projects. The AII covers a very large extension of land that includes much of the Santa Cruz department because it includes the following: existing or proposed protected areas, the continuity of some extensive ecosystems (the Chaqueño Forest, Chiquitano Forest, Bañados de Otuquis, Pantanal), indigenous communities, and the spatial expansion of projects that have potential synergy with the highway, particularly the natural gas pipeline to Cuiabá, the waterway and the Santa Cruz - San Matías - Cuiabá road. A study area has been defined covering nearly 226,000 km² (2/3 of which belong to the department of Santa Cruz and 1/5 is national territory), that covers 15 municipalities (some partially) and a total population of 240,000. A large part of this study area includes the area exposed to the most significant impacts, and that is the target of this Project's actions.³⁴

One of the main problems affecting the Program's area of influence is the very confused local land tenure situation, which is further described in the LP as follows:

*the current land tenure situation is mainly the result of a titling process that took place during the agrarian reform from 1953 to 1993. During this period there was a proliferation of titles and great inconsistency in the titling process, affecting nearly 35% of the lands in Santa Cruz. This is the principal reason why many lots do not have clearly defined property rights. Titles given out during this period did not contain an adequate physical description and so today it is difficult to know the exact size and geographic position of the lot. At the same time these titles were not backed up legally because they were not registered in the country's general property registry, resulting in multiple titling problems for the same lot. As a result of these problems, nearly 40% of the lots are tied up in legal disputes.*³⁵

The picture regarding the land rights of indigenous peoples and with respect to forestry concessions was, if anything, even more complex. According to the LP document, "in Bolivia, historically the property rights of indigenous peoples and rights to communal lands have been ignored. Lands grants for indigenous communities have not been backed up legally, with the result that many lots have been sub-divided and sold informally. In the case

³⁴ Ibid., paras. 1.13-1.16, pp. 2-3. Emphasis in italics mine.

³⁵ Ibid., paras. 1.17-1.18, pp. 3-4. It goes on to say "as in the rest of the country, legally-acquired private lands in Santa Cruz also suffer from great insecurity as regards property rights. It is estimated that approximately 70% of urban lots and 10% of rural lots have registered property titles. Legal insecurity is caused both by the current rudimentary registration system in the DRRR, that makes it difficult to track the historic sequence of property transactions, as well as the lack of an adequate land census (cadastre) in the country, which means there is no complete graphic archive of lots."

of protected wilderness areas and forestry concessions, the state has awarded lands to individuals in these areas despite laws prohibiting the titling of these lands. All of these cases have worsened the problem of land tenure throughout the country.” In the mid-1990s, however, the Government had begun to reform the land and institutional framework in order to rationalize land administration, including approval of agrarian reform legislation that created the National Agrarian Reform Institute (INRA), an Agrarian Court, and an Agrarian Superintendency “to control and regulate land use management.”

In the words of the LP, “this new legal framework provides the foundation to normalize and consolidate agrarian property rights, and will allow owners to obtain registered titles that are geographically referenced. The procedure utilized for titling will help resolve current conflicts over possession, help obtain legal titles for legal possession, will annul bad titles, provide recognition for property rights, provide a legal register of real estate and registry of agrarian property in the Registry of Real Rights (DDRR). At the same time, the legal framework will allow the establishment and titling of Lands of Indigenous Origin (TCOs) that will be carried out in areas where indigenous peoples live.”³⁶ This process was reportedly affecting nearly 2.2 out of a total of 37) million hectares in Santa Cruz, while in the case of indigenous lands, “since 2000, INRA has been handling over 8.5 million hectares of the TCO belonging to 11 communities in the department of Santa Cruz, with the support of the Development Program for Indigenous Peoples (PDPI) and Danish bilateral support.”³⁷ Other activities were being supported with resources from another Bank loan and the World Wildlife Fund.³⁸

The LP also briefly describes the various environmental studies carried out in connection with preparation of the associated road improvement project, more specifically: (i) a first EIA, carried out jointly with road engineering studies; (ii) a Strategic Environmental

³⁶ Ibid., paras. 1.19-1.21. The World Bank was funding these tasks through the National Program for Land Administration (PNAT), approved in 1995 and receiving supplementary funding in 2001, and through the Nordic Development Fund.

³⁷ Ibid., para. 1.22, pg. 5.

³⁸ Specifically, “with operational resources from the Institutional Strengthening component of the Ministry of Sustainable Development and Planning (MSDP) (929/SF-BO), the following activities are being financed: (i) the production of basic maps and densification of the geodesic system and (ii) the definition, identification and establishment of perimeters of the urban zone of the six municipalities within the AID. A diagnostic study of land tenure in the protected areas of San Matías and Otuquis is also being carried out with financial support from the WWF. This project will permit preliminary zonification (sic) in order to identify problems with property lines between the titling areas and forestry concessions, and areas of human intervention.”(Ibid., para. 1.24, pg. 5).

Assessment (SEA) and the revision/ supplementing of the previous EIA; (iii) a special study on the Regulatory System for Land Tenure; (iv) an Operations Plan for the present Project; (v) the participation of a high level Advisory Panel; and (vi) a new EIA based on the highway's final design and presented by a private consortium.³⁹ As noted above, items (ii) and (v) were financed by two earlier Bank Technical Cooperation operations, while (iv) is a normal part of Bank project preparation. The SEA, in particular, contained the following, according to the LP, as the result of which, together with the revised EIA, "a broad-reaching Action Plan was formulated to serve as a guide for future actions in terms of territorial and socio-environmental management:

*(i) an environmental diagnostic study that covers diverse areas of influence within the project; (ii) a broad process of public consultation and interaction with the national government and diverse social sectors; (iii) the analysis of the Project's impact, both the direct effects of the highway's construction and operation as well as all indirect, synergic, cumulative and long term consequences that result from the Corridor's development in interaction with other projects; (iv) the construction and evaluation of long-term scenarios that help to visualize the future of the region given different hypotheses for action; (v) the design measures to prevent, mitigate and compensate for consequences; (vi) the organization of these measures in a series of programs that enable planning; and (vii) the design of a participatory system of institutional program management.*⁴⁰

As concerns the Action Plan, however, the LP affirms that, due to "budgetary restrictions, the national government and Bank agreed to limit the Project's scope to a series of priority measures, all considered as absolutely critical to insure the Highway project's feasibility and within the country's financial capacity." This suggests that not all of the proposed actions recommended as part of the Plan were, in fact, incorporated among the environmental and social management and mitigation measures, in practice, to receive funding under this Project. The LP goes on to state that "these measures were implemented through the elaboration of a Project Operations Plan, and this facilitated: (i) the establishment of priorities

³⁹ Elsewhere, the LP indicates that "during the first semester of 2001, the CVI Consortium prepared a new EIA for the Highway project on the basis of the engineering for the final design for the highway's entire extension." (Ibid., para. 1.30, pg. 6)

⁴⁰ Ibid., para. 1.26, pp. 5-6.

and adjusting the Action Plan to financial restrictions; (ii) detailed coordination of programs with future executing entities; and (iii) readjusting programs and establishing a detailed operative plan for implementation.”⁴¹ It also informed that:

*the Bank hired the International Union for the Conservation of Nature (IUCN), with the goal of securing independent advice for both the Bank and Bolivian government as regards strategies, priorities and opportune actions to insure environmentally and socially sustainable implementation of the Highway project. This will be provided by a high level Advisory Panel made up of four international experts and coordinated by the Director of the Office of the Ombudsman’s International Center for the Environment and Development (a joint initiative with the Land Council and the IUCN), and by the IUCN’s Regional Director for Latin America. Panel activities include: (i) revision of all studies; (ii) field visits, dialogue with affected communities and officials; and (iii) a Final Report with recommendations on priorities and strategies for Project implementation. The Panel validated the SEA’s conclusions and indicated priority actions thus far in the Operations Plan, and also made recommendations on how to strengthen initiatives to support sustainable development at the municipal level.*⁴²

V. Results of the Strategic Environmental Assessment (SEA)

According to the LP, the SEA confirmed that the “concerns over the environmental and social impact of the highway were fully justified.” More precisely, it found that “the area of influence includes an enormous forest mass, still relatively untouched, and with very valuable ecosystems, such as the Chiquitano Dry Forest, the Chaqueño Forest, Sabanas Arboladas (closed) and the Pantanal.”⁴³ In addition, outside the large area of good land within the Area of Expansion,⁴⁴ agricultural use is limited in the rest of the territory with high

⁴¹ Ibid., para. 1.27, pg. 6.

⁴² Ibid., para. 1.28-1.29, pg 6. In addition, the Bank “hired a consultant on Normalization of Land Tenure who prepared the following: (i) an exhaustive diagnostic study of the legal framework and procedures; (ii) short-term recommendations on how to perfect the system and make adjustments before beginning the titling process; and (iii) a detailed version of the Titling and Land Registry Program.”

⁴³ The Pantanal, which lies mainly in neighboring Brazil, but also includes smaller areas in both Bolivia (about 10 percent of the total area of some 140,000-210,000 square kilometers) and Paraguay, is the world’s largest wetlands. See, Frederick A. Swarts (ed.), *The Pantanal: Understanding and Preserving the World’s Largest Wetlands*, Paragon House, St. Paul, Minnesota, 2000, especially Chapter 4, Carlos B. Aguirre, *Wetlands in Bolivia: Pantanal Preservation and Sustainable Development*, pp. 43-53.

⁴⁴ Although the LP does not define what it means by “the Area of Expansion,” it does provide a footnote right after mentioning it that states “the rapid conversion of forests into agricultural areas was caused by a zone approximately 100 km to the east of the Grande River where the Lowlands Project was financed by the World Bank,” referring to an earlier agricultural development project in the region.

environmental vulnerability.” It goes on to state that the SEA portrayed “a fragile environmental and social situation in the area of influence of the Santa Cruz-Puerto Suárez Corridor,” and that, in environmental terms, “global experience in the past decades with the building or improvement of highways in isolated regions and with natural vegetation has had grave consequences: *greater accessibility throughout the year and the reduction of transport costs causes a rapid expansion of the economic frontier (agriculture, extensive cattle-ranching and logging), which in turn results in massive deforestation, degradation of ecosystems and a loss of biodiversity.*” In social terms, the SEA described “the region’s poverty and ethnic and social diversity: the majority of the population living in urbanized areas are poor, the indigenous peoples (Chiquitanos, Ayoreos and Izoceño- Guarani), small farmers and landholders that have come from other regions, the Mennonites, small landholders, day laborers, as well as large farms and cattle ranches.” The aforementioned lack of land tenure security and rural poverty were seen as “the central factors contributing to vulnerability.” Furthermore,

*the development that the highway will bring is going to cause conflict between modern production systems linked to global markets and traditional systems of subsistence agriculture. The rise in land value and the “permeability” of the Chiquitanas communities and small farmers who will join the population attracted by the project, will exacerbate existing social differentiation and private appropriation of communal lands. Up until now, the relative isolation of the region has somewhat ameliorated these factors, but this will change when the highway is improved. The difficult access helped to keep down pressure on the land and minimized the impact on ecosystems and the most vulnerable population. The new greater accessibility will increase land value and will extend the economic frontier, as well as exacerbate conflicts and the impact on society and the environment.*⁴⁵

⁴⁵ IDB Loan Proposal, op. cit., paras 1.31-1.32 and 1.35-1.36, pp. 7-8 (emphasis mine). The adverse environmental effects of previous road projects refer primarily to the experience in the Brazilian Amazon in the 1980s and 1990s, especially pavement of the BR-364 highway between Cuiabá and Porto Velho, capitals of the states of Mato Grosso and Rondônia. See, for example, Adrian Cowell, *The Decade of Destruction: The Crusade to Save the Amazon Rain Forest*, Henry Holt and Company, New York, 1990. This negative experience also strongly influenced the Bank’s approach to its subsequent road improvement projects in Acre, as described in Redwood, op. cit.

On the positive side, the SEA identified recent government efforts to “designate large territorial extensions as protected areas...containing valuable ecosystems of global importance,” including: (i) the National Park (PN) and the National Area of Integrated Management (ANMI) Kaa-Iya of the Gran Chaco, with 3.4 million hectares; (ii) the National Park (PN) and ANMI Pantanal of Otuquis, with 1 million hectares; and (iii) the San Matías ANMI, with 2.9 million hectares. But, even in this regard, despite external assistance, progress to date had been limited and significant risks persisted:

*Thus far, advances in implementation of management mechanisms have only been made in Kaa-Iya, under the administration of the organization of the Guarani People -- Capitanía del Alto and Bajo Izozog (CABI). This has been achieved with the support of the Wildlife Conservation Society (WCS), the Agency for International Development of the United States (USAID), and resources for compensation from the Bolivia-Brazil Natural Gas Pipeline Project, which was partially financed by the Bank. Administration in San Matías is incipient and there are still almost no administrative mechanisms in Otuquis. The Global Environment Facility Project (GEF-II), a World Bank initiative begun in January 2001, will support the implementation of basic management structure in these two areas, but with an insufficient number of park-guards and resources in order to effectively protect areas of this size. **There is still the concrete risk that the improvement of accessibility will cause an irreversible occupation, and the fragmentation and degradation of these ecosystems.**⁴⁶*

The LP also described the direct impact of construction of the road and obtaining the corresponding ROW, which would be 100 meters wide along the entire Pailón-Puerto Suárez section of the corridor, thus requiring the purchase or expropriation of an estimated 5,150 hectares. It was also expected to “affect 17 indigenous communities, 7 farming communities, 3 cooperatives 2 Mennonite colonies, 2 public institutions nearby and nearly 440 individual properties.” It goes on to state that “since the highway crosses the area of greatest human occupation, the affected universe is significant within a regional context.”⁴⁷ Other “socio-economic consequences” of the road project requiring mitigation, according to the LP, were: (i) the segmenting of territory and interference with productive activity; (ii) physical destruction of some communities; (iii) the risk of accidents and social

⁴⁶ Ibid., paras. 1.33-1.34, pg. 7 (emphasis mine).

⁴⁷ Ibid., para. 1.37, pg. 8. It then states “the portion of property affected is proportionally small in the majority of cases, although there are some lots occupied by vulnerable groups that will be seriously affected. The total number affected is: 67 rural homes (the majority very precarious), power lines, lands prepared for cultivation, 2 cemeteries, 2 commercial installations, and an important number of fruit trees and minor installations.”

problems derived from living alongside operations and workers; (iv) loss of an advantageous position for some communities engaged in important commercial activity; (v) reorientation of growth for some communities; (vi) reorientation of labor on the part of some representatives selected by each of the indigenous communities; (vii) tension and conflict in communities resulting from economic pressure, migration and cultural changes; and, (viii) the risk of accidents with the frequent crossing of people and livestock.⁴⁸

The SEA also assessed the pertinent national legal and institutional frameworks, concluding that the resulting picture was “ambiguous.” It affirms, for example, that “on the one hand, the country has a somewhat advanced legal framework, the fruit of recent reform efforts: the Law of the Environment, the INRA law, the Forestry Law, the Law of Popular Participation, and its respective regulations; as well as the zonification (sic) of the Santa Cruz Plan for Land Use and the General Regulations for Protected Areas. The country has also progressed in terms of creating institutions charged with implementation of these laws and their management. However, institutional capacity to actually carry out these tasks is pretty weak in general, and institutional presence in the countryside is limited.” To this, it adds that:

the evaluation of the legal framework and structure of these bodies showed that the principal legal instruments needed for social and environmental management of the described processes and risks does exist, at least in theory. There are very few cases where new laws are needed or where existing laws need to be modified (Law of Conservation of Biological Diversity). However, there are numerous and essential cases where regulations need to be perfected and legal dispositions need to be implemented. The most fundamental problem, however, is that, given institutional limitations, the state generally is not capable of effectively enforcing the laws and supervising and guiding the development process.⁴⁹

VI. Project Design, Components, and Implementation Arrangements

According to the LP, the Project was designed to meet the needs identified in the conclusions of the SEA, “particularly as regards the need to implement a series of environmental protection measures and measures to ensure regional sustainable

⁴⁸ Ibid., para. 1.38, pg. 8.

⁴⁹ Ibid., paras. 1.40-1.41, pp. 8-9.

development that will: (i) assure that works to improve the Santa Cruz-Puerto Suárez Corridor are carried out within the framework of a process of regional occupation that is planned and controlled and that does not pose risks to socioeconomic relations and natural ecosystems; (ii) assures that benefits of agricultural development and forestry that result from the road works will benefit all inhabitants of the area of influence as well as minimize any negative impacts on biodiversity and environmentally fragile zones, and that rights acquired by indigenous and small-farming communities are respected by carrying out a broad program to register and provide titles for land; and (iii) contribute to socioeconomic development in the zone of influence of the Santa Cruz-Puerto Suárez Corridor, optimizing the use of natural resources.” It goes on to affirm that “all of the above requires that: (i) the prevention and compensation programs that are high priorities in the SEA (concession of property titles for land, protection of vulnerable zones, etc.) should be in place before the works begin; and (ii) the Bank’s future loan to improve the highway include conditions that link disbursements to progress in the mitigation of the project’s environmental impact.”⁵⁰

The LP recognized, appropriately, that some of the indirect environmental and social impacts of the road improvement project would only be felt over the longer term, well beyond the construction phase, such that that “some mitigation programs must be continued in order to achieve balanced development in the area of influence.” Arguing that institutional and financial mechanisms should be established to permit continuation of required mitigation activities, it affirmed that three subprograms would need a longer implementation phase than the first construction phase, estimated at ten years, specifically: (i) the Subprogram for Indigenous Organizational Development, which would seek to strengthen “indigenous coalitions so that they can defend the interests of indigenous peoples and participate in the development process of the zone;” (ii) the Subprogram for Management of Protected Areas, for which the executing agency, SERNAP, needed to “be equipped with the resources and sufficient personnel in order to counteract additional pressure on the land that is caused by the highway, particularly once the highway is operational;” and (iii) the Subprogram for Forest Conservation, for which the Forestry Superintendency (SIF) needed to “be provided with resources to counteract additional pressure on the land that the highway will bring to forested areas within the Area of Indirect Influence, particularly once the highway is

⁵⁰ Ibid., paras. 1.51-1.52, pp. 10-11.

operational.”⁵¹

The LP likewise observed that current conditions in Bolivia meant that “the country does not have enough financial resources (neither loans, nor counterpart) to cover the total costs of mitigation programs. This is why it is necessary to design creative financial mechanisms in order to generate sufficient resources to cover these costs and ensure sustainability of investments.” The solution encountered was to set up three fiduciary funds with “reputable” civil society organizations, which “should assure technical capacity and transparency in the channeling of resources.”⁵² The entities selected to manage these resources were the Indigenous Fund,⁵³ and two private foundations, FUNDESNAP⁵⁴ and PUMA,⁵⁵ “all of which receive fiduciary funds to utilize for activities that are contemplated within international accords.”

According to a Bank staff member who is very familiar with the original SEA and how the project evolved during its preparation phase, the scope and cost associated with the management plans initially proposed by the consultants who carried out this assessment were, in fact, many times higher than the amounts eventually financed under BO-0033 and BO-0036. This was apparently due in good measure to the fact that the consultants had originally considered a much larger geographic area – reportedly the size of Ecuador -- to be the

⁵¹ Ibid., paras. 1.53-1.54, pg. 11.

⁵² Ibid., paras. 1.55-1.57, pp. 11-12. The LP noted further that “the decision to propose setting up these funds was also based on the following considerations: (i) the need for a mechanism to administer funds independently that will contribute to eliminating political interference in the execution of subprograms; (ii) in order to avoid Bolivian legislation which requires that government funds be deposited in the national currency, with the high risk that these funds lose their dollar value because of periodic devaluations of the Bolivian peso; (iii) so that commitments will be complied with after negotiations with representatives of indigenous organizations, the government, NGOs, and other interested entities; and (iv) in order to fulfill the specific petition of indigenous communities that they be able to manage resources through entities that represent their interests.”

⁵³ According to the LP, “the Fund for the Development of the Indigenous Peoples of Latin America and the Caribbean, Indigenous Fund, is a multilateral development organization that was created in 1992 through an agreement signed by 23 countries and ratified by 20 of them [as of the time the LP was drafted]. The IDB handles the financial administration of resources of the Indigenous Fund as a fiduciary fund, and participates in the General Assembly as an observer.”

⁵⁴ The Foundation for the Development of the National Protected Areas System (FUNDESNAP) is a private non-profit foundation...created with World Bank and international support in order to channel foreign aid to protected areas. Its goals include attracting resources to invest in operations and projects in protected areas. and to administer its own resources and resources of third parties (it can set up fiduciary funds). Foundation resources are channeled to finance SERNAP and other entities in order to benefit the National System of Protected Areas. FUNDESNAP is in charge of administering the Fiduciary funds established by the GEF-II program (GEF resources channeled through the International Development Association) dedicated to financing recurring management costs of protected areas.

⁵⁵ The Foundation for the Protection and Sustainable Use of the Environment (PUMA) is a private entity with joint public-private management that administers USAID funds to support environmental programs in Bolivia.

indirect area of influence of the road, which the Bank found to be both inappropriate and unmanageable. As a result, the size and costs of the environmental and social management measures were subsequently pared down to a figure considered much more realistic by the Bank. Even after this occurred, however, the scope and total cost of the environmental and social protection measures to be financed through BO-0033 and BO-0036 were, at first, still expected to be substantially larger than those that were finally included in these projects, largely due to the financial constraints mentioned above. In fact, according to this same source, the main reason why the road improvement investments and the associated environmental and social protection interventions along the Santa Cruz-Puerto Suárez corridor were eventually financed by the Bank as two separate, although legally interlinked, projects, rather than as parts of a single operation – as had been the case with the Acre Sustainable Development Project in neighboring Brazil that was approved by the Bank at roughly the same time⁵⁶ – was because the initial size of what was to become the actual BO-0033 had been considerably larger. The limited availability of the “softer” Special Operations Funds (FOE) for Bolivia was apparently also a relevant constraint at the time. These various decisions were reportedly taken in consultation with Bolivian Government authorities primarily during the course of regular Bank programming missions to Bolivia in the early 2000s.⁵⁷

The Project that the Bank eventually financed has three components (with the associated anticipated total costs):

- (i) The **Action Plan**, with the goal of preventing, controlling, mitigating and compensating for indirect, cumulative and long-term impacts caused by development spurred by the Corridor project, as well as to promote a more equitable distribution of the project’s benefits. The Action Plan (US\$ 15.3787 million) includes the following

⁵⁶ See Redwood, *Managing Environmental and Social Impacts of Major IDB-Financed Road Improvement Projects in the Brazilian Amazon*, op. cit.

⁵⁷ The author thanks Juan Carlos Paez Zamora, who had been a specialist in the Bank’s Bolivia office and now continues to supervise BO-0033 from Peru, for this information. Apparently, the original cost of the management programs associated with the SEA were on the order of US\$ 600 million, and the initially pared down version of what was to become BO-0033 together with parts of BO-0036 was still on the order to US\$ 85 million, which was more than the Bank was planning to provide in the way of financing for the road improvements per se (i.e., roughly US\$ 70 million).

programs: (i) Titling and Registry of Lands (US\$ 5.1 million); (ii) Indigenous (US\$ 3.156 million); (iii) Environmental Conservation (US\$ 4.3195 million); (iv) Institutional Strengthening and Sustainable Municipal Development (US\$ 668,200); and (v) Communications (US\$ 135,000).

(ii) The **Prevention and Mitigation Plan and Environmental Applications and Monitoring Plan** (PPM-PASA) (US\$ 5.0848 million), which SNC must comply with as stipulated by Bolivian legislation to control, mitigate and compensate for indirect impacts of the highway's construction and operation. The PPM-PASA includes the following programs and activities: (i) Compensation for Losses (US\$ 2.418 million); (ii) Protection of Archeological and Cultural Heritage (US\$ 77,600); (iii) Information and Social Interaction (US\$ 205,700); (iv) Mitigation of Impacts in Construction Operations (costs included in construction works for each section); (v) Environmental Supervision of Construction (the responsibility of the SNC) (US\$ 1.132 million); and (vi) Environmental Auditing (which is the Environmental Authority's responsibility) (US\$ 1.1115 million).

(iii) A **Socio-Environmental Management System** (US\$ 3.013 million) to coordinate and supervise program actions.

According to the LP, "the Project will finance: (i) all programs within the Plan of Action; and (ii) PPM-PASA programs related to the first work phase of the highway, which should conclude by 2006; and (iii) a Socio-Environmental Management System for the first phase during which the Project Executing Unit (UEP) will be working with a full staff. At the same time the Project will finance the UEP with a reduced staff and independent financial and technical-environmental auditing, between 2007 until the first trimester of 2012." It also affirms that "PPM-PASA actions related to the second phase will be financed by the second phase of the Project BO-0036. During the final construction phase (projected for 2007-2008), the environmental component of the Highway project with the implementation of the Action Plan will not differ from a typical highway project which does not require a specific loan operation nor a special management system."⁵⁸

Brief descriptions of some of the most important programs and subprograms

⁵⁸ Ibid., para. 2.4, pp. 15-16.

mentioned above are provided below; they and the other project activities are described more fully in the LP.

- The **Titling and Registry of Land Program** will finance the titling and registry of approximately 8,800 rural lots in an area of 7.2 million hectares, and will support this same number of families in six municipalities within the highway's AID (Pailón, San José de Chiquitos, Roboré, Carmen Rivero de Torres, Puerto Suárez and Puerto Quijarro). This activity will also include titling and registry in the San Matías and Otuquis protected areas.
- The **Indigenous Program** includes three subprograms: (i) Organizational Development; (ii) TCO management Plans; and (iii) Production Initiatives, managed by a Technical Management Unit with the principal goal of supporting organizational strengthening of indigenous peoples, environmental management and sustainable use of their territories.
- The **Environmental Conservation Program** seeks to: (i) strengthen management of protected areas within the area of influence, protecting them from the pressure of occupation produced by improving access; (ii) assure the recomposition of biological corridors and ecological reserves traversed by the highway through restoration of native vegetation; (iii) strengthen regulation and forestry control in order to conserve and promote rational and sustainable use (financial, environmental, and social) of larger and virtually untouched forested land extensions in the region; and (iv) coordinate efforts to halt deforestation, fragmentation of forests, and the pressure of occupation on areas of high ecological value, in particular the Chiquitano Forest, the Garn Chaco, and the Pantanal. This program has two "synergic" subcomponents: (i) the Management of Protected Areas Subprogram (US\$ 2.2464 million), which has the objective of consolidating management of three protected areas (San Matias, Otuquis, and Kaa-Iya), permitting the gradual improvement of the level of protection and park administration; and (ii) the Forest Conservation Subprogram (US\$ 2.0731 million), which was established with the goal of strengthening forestry regulation and control in the road's area of influence in order to control illegal logging, promote the economically sustainable use of forestry resources, and contribute to the conservation of forests and biodiversity.

- The **Institutional Strengthening and Municipal Sustainable Development Program**, which seeks to strengthen management capacity in the six municipalities in the AID at the territorial, urban, cultural, and environmental levels. It is expected that this would help local governments “to act efficiently as regards management of their territory and to faces the challenges of new social and environmental demands resulting from the development that the Corridor will bring” as well as providing support for local social organizations and public participation and “coordination between different social sectors.” This program contained six subprograms: (i) Municipal Territorial Zoning Plans (PLOT) and Training for Environmental Territorial Management; (ii) Showcase Projects; (iii) Urban Planning; (iv) Urban Register of Real Estate; (v) Respect for Cultural Heritage; and (vi) a Global Proposal for Regional Development, which, as noted above, are described in greater detail in the LP. It would be undertaken in coordination with IDB Loan 1075/SF-BO (for the Local Development and Fiscal Responsibility Project) “in order to avoid duplication of efforts and so that municipalities can access resources from national funds: National Fund for Regional Development (FNDR) and the Fund for Social and Productive Investment (FPS) based on projects that are technically sound.”
- The **Losses Compensation Program**, whose objectives were to: (i) free up the areas of the Right of Way (ROW) needed to improve the highway; (ii) replace and/or adequately compensate for the loss of lands, homes, and installations affected by creation of the ROW; (iii) mitigate and compensate for “diverse socio-economic impacts that the construction, presence and operation of the highway will cause in neighboring communities; and (iv) assure the socio-economic rehabilitation of the affected population. The ROW would be established and this program would be implemented along the entire extension of the Corridor during the first phase of the highway improvement project.
- **Environmental Supervision during Construction** would verify compliance with technical environmental norms foreseen in the EIA for the highway project in relation to construction procedures, installation, operation and clean-up of work camps, utilization and recovery of quarries and dumps, the quality of environmental work by the contractors, implementation of mitigating measures, and the monitoring

of construction activities. Specialized consultants, including environmental inspectors and social promoters, would be hired for these purposes, with emphasis placed on “the prevention of impacts and coordination with those in charge of technical supervision of the Highway project” along the entire Corridor during the first work phase.

- **Environmental Auditing of the Highway**, which is the responsibility of the Vice Ministry of the Environment, Natural Resources and Forest Development (VMARNDF), would entail verification of “compliance with environmental legislation and all prerequisites established in the EIA and in the Environmental License conceded to the SNC. The project would provide financing for this activity during the first phase and along the entire Corridor for: (i) a specialized team of consultants in environmental auditing; and (ii) the operating expenses of Auditing Committees, composed of representatives of the neighboring communities that would support inspections outside the work areas.
- The **Management System and Socio – Environmental Management** of the Project was reportedly designed to coordinate and supervise all of the actions contained in the first two components and would provide funding for the Project Executing Unit (UEP) that would coordinate, supervise and provide technical supports for those components, together with external financial audits, an independent Socio-Environmental Auditor, and “the functioning of entities which support coordination and promote social participation. This component would be headed by the Ministry of Sustainable Development and Planning (MSDP) “since the majority of executing institutions of the Project are linked to this Ministry.”⁵⁹

Even though MSDP and the UEP within it would be primarily responsible for the project, a large number of other agencies, including SNC, INRA and SERNAP, indigenous peoples’ organizations, and other entities, such as FUNDESNAP and Fundación PUMA, would also be involved in its implementation. Thus, it is very complex institutionally. As noted above, the operation would also have an independent Socio-Environmental Auditor, who would “periodically verify: (i) that the participants respect the agreed socio-environmental standards and procedures; (ii) the advance of the established activities and

⁵⁹ Ibid., paras. 2.6-2.43, pp. 16-24.

actions and the results achieved; and (iii) the level of satisfaction of the various social players involved in terms of the implementation of the highway work and the components of the Project.” The Auditor would be hired with project resources, be selected by MSDP with the Bank’s no objection, and would report both to the Ministry and the Bank.⁶⁰ SNC’s contractors would be responsible for taking the mandatory “measures required to mitigate the impact of the construction,” the cost of which would be “charged to the construction budget for each section.”⁶¹ The UEP would provide resources for the training of all environmental supervision personnel, which would be undertaken by a specialized consulting firm specifically hired for this purpose and to “prepare the technical instruments for the environmental management of the construction work.”⁶²

VII. Project Feasibility and Risks

The last chapter of the LP addresses project’s feasibility, which merit quoting at some length because of their more general applicability to similarly ecologically and socio-culturally diverse and sensitive situations elsewhere in Latin America, particularly in the Amazon Basin and parts of Mesoamerica (e.g., southern Panama). It begins by pointing to the unusual nature of the operation:

The characteristics of this Project are unique in that they include a group of actions intended to offer environmental and social support to an environmentally sensitive region. The region will be affected by a project involving the creation of infrastructure and the repair and construction of the Santa Cruz-Puerto Suárez Highway, which will in turn open up the frontier to agricultural and forest operations. The environmental and social impact of the project will be positive if the scheduled programs are implemented as planned. This Project includes all of the actions

⁶⁰ Ibid., paras. 3.17-3.18, pg. 31. Implementation arrangements, including the proposed chronogram, which will not be further discussed here, are summarized in Chapter III of the LP (pp. 24-44) and set out in greater detail as in the Project Operations Plan, which was “prepared in collaboration with the various administrative and co-executing agencies [and] provides details on the implementation of all programs in the Action Plan, in the PPM-PASA and in the Socio-Environmental Management System,” as agreed between the Bank and the Bolivian Government.

⁶¹ Ibid., para. 3.58, pg. 45.

⁶² Ibid., para. 3.59, pg. 45.

required to mitigate the environmental impact and covers all of the costs relative to the direct impact of improving the Santa Cruz-Puerto Suárez Highway. With regard to direct impact (the Prevention and Mitigation Plan-Environmental Applications and Monitoring Plan programs), this Project includes all environmental impact mitigation actions and covers all of the costs relative to the first phase of the Highway Project. The mitigation of direct impacts during the second phase of the work will be financed by the Second Phase of the BO-0036 Loan, following the same standards as those applicable to this Project.

*The SEA of the Corridor identified positive impacts associated with the implementation of this Project. The Action Plan will have structural repercussions on the region of the Santa Cruz-Puerto Suárez Corridor. The aim is to contribute to the recovery of the affected environment and to promote sustainable development in the region. This will be done through the social and environmental development programs that **will precede the highway construction work and help to organize the region's growth**. Furthermore, **the area of influence includes socially and economically fragile populations that will benefit from the territorial organization proposed by the Project.***

The highway repair and construction will have localized negative impacts on the region's biodiversity and natural resources by causing erosive phenomena, changes in the use of the land, deforestation and the extinction of wild fauna in the area directly affected by the highway. The mitigation of these negative impacts, identified in the Highway's EIA, were also considered in the Project's programs.

*In short, the proposed Project will contribute to: (a) **ensuring land ownership by indigenous communities, peasants and small landowners, precluding the risk of social exclusion**; (b) guaranteeing territorial zoning and preventing the possibility of conflicts over land ownership and the use of natural resources through proper titling and property zoning; (c) **disciplining the expansion of the frontier of economic activity, reducing the potential for deforestation induced by the highway and protecting sensitive areas and critical habitats**; (d) substantially improving the mechanisms for protecting and administering protected areas and the sustainable management of forest resources; (e) **providing greater incentives and an***

appropriate regulatory framework for the sustainable use of natural resources;
(f) notably improving the ability to coordinate and manage socio-environmental aspects within a broad participatory framework and (g) ***promoting the self-management and long term sustainability of the entities responsible for administering the protected areas and the forest.***⁶³

The LP goes on to discuss the technical, socio-economic, institutional, and financial viability of the Project as well as its potential (positive) impact on poverty,⁶⁴ then briefly assesses the risks associated with its implementation. It affirms that “the execution of the programs included in the Project does not pose any particular technical or managerial difficulty.”⁶⁵ This notwithstanding, the LP does recognize that “the execution of all of the plans will require a much better capacity for response from many of the governmental and social entities than what they are able to offer at this time.” But it then argues that “the hiring of specialized personnel and consultants to support the implementation of the planned activities will help to ensure the necessary coordination and technical training throughout the different stages of the Project.”⁶⁶

However, given the intricate institutional arrangements referred to above, these statements would appear to *underestimate* – and perhaps significantly so -- ***the actual complexity of the operation***, not to mention – which the LP does not -- the ***national, regional, and local political economy elements and dynamics that could adversely affect the timely implementation and ultimate effectiveness*** of both the project’s proposed land use planning/zoning and its land tenure regularization activities,⁶⁷ and, thus, achievement of its environmental management and indigenous peoples’ protection objectives more generally.⁶⁸ These potential constraints are especially important in ***active natural resource***

⁶³ Ibid., paras. 4.1-4.4, pg. 52. (emphasis mine).

⁶⁴ Ibid., paras. 4.17-4.22, pg. 55. It argues, for example, that “the Project will have an extremely positive impact on the most vulnerable social sectors as it acts on diverse fronts to fortify society’s ability to respond to new challenges. This Project should therefore be considered to qualify as one that promotes social equity.”

⁶⁵ Ibid., para. 4.14, pg. 54.

⁶⁶ Ibid., para. 4.24, pg. 56.

⁶⁷ With respect to the ultimately complex political, as well as technical, nature of land use zoning activities and associated legal measures in areas such as that where the Project will take place, for example, see Dennis J. Mahar, *Agro-Ecological Zoning in Rondônia, Brazil: What Are the Lessons?*, in Anthony L. Hall (ed.), *Amazonia at the Crossroads: The Challenge of Sustainable Development*, Institute of Latin American Studies, University of London, London, 2000.

⁶⁸ This was the World Bank’s experience, for example, in relation to the earlier POLONOROESTE program in Northwest Brazil, see John Redwood III, *World Bank Approaches to the Brazilian Amazon: The Bumpy Road Towards Sustainable Development*, in Anthony L. Hall (ed.), *Global Impact, Local Action: New Environmental*

rich agricultural frontier areas, such as eastern Bolivia (and much of the Amazon Basin), which also tend to be characterized by extremely *weak governance*.⁶⁹

Thus, it would also appear that *some of the risks* identified as being associated with the Project *may also have been understated and/or the proposed mitigation measures insufficient*. The first such risk, for instance, is the “lack of institutional capacity of the public (and private) entities in charge of carrying out the different activities,” which was to be mitigated by “specific actions for institutional reinforcement ranging from supplementing the institutions’ technical and administrative staffs to the physical conditions required for the performance of their duties.”⁷⁰ The second one was that “the next government may not be as determined to execute the Project, especially once the road construction resources have been secured,” which was to be “minimized by: (i) concentrating the execution of the principal socio-environmental measures prior to or during the first months of the construction work; and (ii) including clauses in the BO-0036 loan agreement that link disbursements to making reasonable progress toward achieving the goals of the socio-environment programs.” Both of these risks could well prove to be very significant ones, and the latter, in particular – i.e., very different levels of government political commitment to road improvement versus environmental and indigenous peoples’ protection objectives and activities -- contributed significantly to the World Bank’s earlier negative experience with the POLONOROESTE Program in Mato Grosso and, especially, Rondônia in the Brazilian Amazon Region in the 1980s and 1990s.⁷¹ More importantly, the *regional and local political economic and governance risks* mentioned in the previous paragraph, which are perhaps, the most challenging and difficult to manage and mitigate of all, were essentially ignored by the LP.

VIII. Project Implementation and Supervision

Both external observers and Bank supervision missions have pointed out significant

Policy in Latin America, Institute for the Study of the Americas, London, 2005.

⁶⁹For a discussion of frontier region political economic and governance challenges more generally, see Robert R. Schneider, Government and Economy on the Amazon Frontier, World Bank Environment Department Paper No. 11, Washington D.C., August 1995.

⁷⁰IDB, LP, op. cit., para. 4.32, pg. 57

⁷¹ See Redwood, World Bank Approaches to the Brazilian Amazon, op. cit, and John Redwood III, World Bank Approaches to the Environment in Brazil: A Review of Selected Projects, Operations Evaluation Department, World Bank, Washington D.C., October 1993.

problems with implementation of the Santa Cruz – Puerto Suárez road corridor and environmental and social protection projects. One external source, for example, has criticized both the Bolivian Government and the Bank for a lack of transparency – including falling short in terms of earlier commitments to grant the public adequate access to information -- in reporting on the project and for insufficient accountability in the management of some of its environmental and social impacts, especially those involving certain indigenous communities, thereby representing potential human rights violations.⁷² Recent IDB supervision missions for the Environmental and Social Protection Project (BO-0033) in April 2010 and February 2011, discussed below, have also identified numerous implementation-related shortcomings regarding the Borrower's and Bank's management of the environmental and social impacts of this project,⁷³ as has an independent social and environmental audit of this operation, whose most recent report covered the second semester of 2010 and first semester of 2011.⁷⁴

The project was also initially subject to considerable delays in meeting the effectiveness conditions for BO-0033 and, thus, initiating road improvement works under BO-0036, as well as to significant institutional changes after President Morales took office in 2006, leading both to further delays and several alterations in administrative arrangements requiring three separate amendments to the respective Bank legal agreement. The first such alteration, however, occurred in late 2004/early 2005 (i.e., prior to Morales assuming the central Government), when the executing agency for the project was changed from the Ministry of Sustainable Development and Planning (MSDP) in La Paz, as per the original legal agreement signed in 2002, to the Prefecture of the Department of Santa Cruz (PDSCZ), with a corresponding change in the location of the Project Executing Unit (UEP) from the former to the latter. In addition, the *Fondo Indígena* was to take over the functions

⁷² See a March 2010 article by Katu Arkonada and Henkhan Laats of CEADDESC (or the Center of Applied Studies on Economic, Social, and Cultural Rights) entitled *Transparencia, Un Desafío en la Construcción de Megaproyectos: El Caso de La Carretera Puerto Suarez-Santa Cruz en Bolivia*, reproduced by the Bank Information Center (BIC), a Washington-based watchdog NGO that gives particular attention to environmental and social impacts and management of investment projects financed by multilateral financial institutions such as the World Bank and IDB.

⁷³ IDB, *Bolivia: Protección Ambiental y Social Santa Cruz-Puerto Suárez – Informe de Supervisión Ambiental*, April 2010 and *Bolivia: Misión Ambiental Especial – Reporte de Misión*, February 2011.

⁷⁴ POYRY Infra AG, *Proyecto de Protección Ambiental y Social del Corredor Vial Santa Cruz-Puerto Suarez: Auditoria Social y Ambiental Independiente – Informe Parcial de Segunda Auditoría Ejecutor Directo UEP Segundo Semestre 2010 – Primer Semestre 2011*, September 2011.

and responsibilities previously assigned to FUNDESNAPE and Fundación PUMA.⁷⁵

The second modification of the legal agreement occurred in February/March 2007 and changed implementation responsibilities for the subproject of Replacement of Losses (“*Programa de Reposición de Pérdidas*”) of the Prevention and Mitigation Plan (PPM) and the Environmental Application and Monitoring Plan (PASA) from the National Road Service (SNC) with the participation of INRA and the Prefecture of Santa Cruz to the Bolivian Road Administration (ABC) with participation of the same two agencies mentioned in the original contract. It also made ABC, instead of SNC, the executor of the Archaeological and Cultural Patrimony Protection subproject with participation of the National Direction of Archaeology of the Ministry of Economic Development (MDA/DNA), instead of the National Unit of Archaeology of the Ministry of Education, Culture and Sports (NEDC/UNAR), and of the Information, Social Interaction and Environmental Supervision subproject, while the Environmental Inspection and Control (“*Fiscalización*”) of the Road Project remained the responsibility of the Departmental Direction of Natural Resources and Environment of the Prefecture of Santa Cruz, to which it had previously been decentralized from the Vice Ministry of Environment of MSDP under the first modification of the legal agreement in early 2005.⁷⁶

The third modification came in October 2009, which essentially made ABC and the National Institute of Agrarian Reform (INRA) direct co-executors of the operation together with the Prefecture of Santa Cruz, rather than subordinating the parts of the project for which the two former agencies were responsible to the latter, as had been the case prior to this time. Overall, project administration was, thus, effectively split into three. INRA, more specifically, would take over direct responsibility for implementation of BO-0033’s “sanitation,” titling, and land registration subproject and ABC would take over direct responsibility for implementation of the aforementioned Replacement of Losses, Archaeological and Cultural Patrimony Protection, and Information, Social Integration and

⁷⁵ See IDB, Contrato Modificatorio entre la República de Bolivia y el Banco Interamericano de Desarrollo – Proyecto de Protección Ambiental y Social en el Corredor Santa Cruz-Puerto Suárez, signed by the Manager of Region 1 on behalf of the Bank on December 7, 2004 and by the Ministry of Finance of Bolivia on January 10, 2005.

⁷⁶ See IDB, Contrato Modificatorio No. 2 entre la República de Bolivia y el Banco Interamericano de Desarrollo – Proyecto de Protección Ambiental y Social en el Corredor Santa Cruz-Puerto Suárez, signed by the Manager of Region 1 on behalf of the Bank on February 2, 2007 and the Minister of Development Planning of the Bolivian Government on March 7, 2007.

Environmental Supervision subprojects, while the Prefecture of Santa Cruz would continue to be directly responsible for the Environmental Protection, Institutional Strengthening and Sustainable Municipal Development, Communication, and together with the *Fondo Indígena* in collaboration with numerous local indigenous peoples' organizations, Indigenous subprojects. Responsibility for the Environmental Inspection and Control of the Road Project would also remain that of the Prefecture of Santa Cruz through the redenominated Competent Departmental Environmental Authority (PDSCZ/AACD). This amendment to the loan contract also extended the implementation period for all of the subprojects -- other than for the UEP and the external financial audits and the socio- environmental audit that was part of the Socio-Environmental Management component, together with the Organizational Development, Protected Areas Management and Forest Conservation subprojects, which would continue to have a ten year implementation period -- to the end of December 2011 rather than the four and a half years following signature of the original contract as had been stipulated in that document.⁷⁷

More generally, the two Bank projects, and especially BO-0033, were caught up in the increasing political struggles and differences between the Morales Government, which gave priority to the nationalization of important national assets and indigenous peoples' rights in the much poorer Bolivian highlands, and local development – and separatist -- aspirations in the more prosperous lowlands where the agricultural frontier was rapidly expanding, centered around the city of Santa Cruz, which nearly led to the country splitting into two. As a result, other parts of the road improvement program, particularly the segments financed by CAF, which were not subject to the same environmental and social management conditions as the IDB- financed sections, moved ahead much more quickly than that to be financed under BO-0036, which was legally contingent upon the prior effectiveness of and Government compliance with other legal conditions for BO-0033. In addition to implementation delays in the Bank-supported projects, these sharp political differences between the central and departmental governments led to significant budget, including counterpart funding, restrictions which only further exacerbated the implementation problems and eventually also resulted in considerable Government pressures on the Bank to relax the

⁷⁷ See IDB, Contrato Modificatorio No. 3 entre la República de Bolivia y el Banco Interamericano de Desarrollo – Proyecto de Protección Ambiental y Social en el Corredor Santa Cruz-Puerto Suárez, signed by the Ministry of Development Planning of the Bolivian Government on October 22, 2009 and the Bank's Representative in Bolivia.

legal obligations linking implementation of the road improvement works to the conditions in relation to BO-0033, to which it eventually agreed.

Other factors have also significantly affected project implementation including the need to change the pavement surface of the road, from concrete to asphalt, as a result of the Bolivian Government's blockage of soybean exports from Santa Cruz to Chile, as part of the broader political dispute between the departmental and central governments. Originally, the project was expecting to import cement from Chile to take advantage of the return of empty trucks that had taken soybeans to Chile, but when this possibility was impeded by the central government, it was no longer cost-effective to use concrete for the pavement, which was then switched to asphalt. In addition, the US\$ 3 million in co-financing from the Nordic Development that had originally been part of the project's financing plan, mainly to support the Land "Sanitation," Titling and Registration subproject, was considerably delayed, thereby also resulting in a substantial delay in this component's implementation. This was partially rectified, however, by applying some of the resources allocated under another Bank project for land administration, the Land Regularization and Legal Cadastre Project (BO-0221), whose loan for US\$ 22 million (1512/SF-BO) was approved in December 2003, with INRA as the executing agency, to the project area. A third critical element was the fact that, due to the aforementioned delays in the implementation of BO-0033, CAF decided to finance some of the local assets that had been lost as the result of the improvement of that portion of the Santa Cruz-Puerto Suárez highway which it had financed, and which were originally to have been financed under the Replacement of Losses subproject of the Bank's project. However, these were apparently of poor quality and not up to the IDB's standards, thereby requiring additional remedial actions on the Bank's part.⁷⁸

As a result of these and other accumulated delays and shortcomings, the Bank's April 2010 supervision mission reached a number of troubling conclusions about the status of project execution, including that the road improvement (BO-0036) and Environmental and Social Protection (BO-0033) Projects were essentially being managed independently rather than as closely linked interventions as had been the Bank's attention, which was clearly manifested both in the respective Loan Proposals and associated legal agreements. In this

⁷⁸ The author is grateful to Juan Carlos Paez Zamora for these observations as well as for pointing out the various changes in project implementation arrangements, as reflected in the three amendments to the project's original legal agreement between the Bank and the Bolivian Government mentioned in the preceding paragraphs.

regard, the mission affirmed that there was a need to correct the current situation by conditioning future loan disbursements for the road project to satisfactory implementation of BO-0033 as had been foreseen in the respective legal documents.⁷⁹ More generally, the supervision mission concluded that the project was in violation of the Bank's legal requirements in a number of ways, including with respect to the contracting of an independent environmental and social audit, which had still not occurred, and the failure to satisfactorily execute key environmental mitigation and land regularization components of the Environmental and Social Protection Project among others.⁸⁰

This was, in fact, the third such supervision mission carried out by the Bank, and the corresponding report stated that, as a result of them, it was possible to confirm that "various of the direct and indirect social and environmental problems generated by the Project had become persistent and were being systematically repeated without an adequate response by the executors." For this reason, the planned specific environmental and social audit was necessary in order to "identify and inventory all the impacts, deficits, and risks (including both those originally foreseen and not mitigated and new ones that have occurred as a result of the non- implementation of the management plans) and to propose concrete solutions." The report also concluded that the Bank's "routine supervision" of the projects had been "insufficient and not capable of anticipating adverse situations, nor reacting in a timely way when they arise, thus requiring the adoption of more intense supervision mechanisms" by both Bank transport and environmental and social safeguards staff. Finally, it observed that, "even though the Bank's current environmental and safeguard policies had not yet gone into effect at the time these two interrelated projects had been approved, when their current implementation situation was compared with the requirements of these policies, the operations were not in full compliance with any of them, nor with the project-specific environmental and social management plans."⁸¹

This supervision mission also pointed to the same shortcomings regarding public information and consultation identified by the external observers indicated above, concluding

⁷⁹ Apparently this requirement had been waived by the Bank's resident representative in Bolivia at the request of the Bolivian Government at some point without the prior knowledge of Bank safeguards staff, thereby effectively delinking implementation of the two projects from a legal standpoint, which had been an important element in their original design.

⁸⁰ See April 2010 supervision mission report, pg. 7.

⁸¹ Ibid., pg. 7.

that “the non-implementation of the participation mechanisms foreseen for the program has exacerbated the dissatisfaction of the affected populations and weakened its self-management capacity.” The mission likewise made a number of specific recommendations to help address the problems encountered, including the need to update the road project’s environmental license, to improve the management of wetlands, protected areas, and special interest sites, speed-up restoration works, improve mechanisms to attend to the concerns of the affected, including indigenous, populations, seek additional resources for these purposes, and, last but not least, to “relink” disbursements for the road improvement project to the satisfactory implementation of the environmental and social protection operation.⁸²

The February 2011 supervision mission confirmed that while the independent environmental and social audit had finally been contracted in June 2010, there were still quite a number of specific “matters of preoccupation” with regard to project implementation, including “execution of the land titling component without any coordination with the municipalities, which could cause incompatibilities when the municipal rural [land] cadastre is generated,” among others.⁸³ In addition to recommending that coordination be improved in this regard, the mission recommended increasing project resources to support new productive initiatives for indigenous peoples and to expand the coverage of the urban cadastres in the municipalities along the road corridor, as well as to seek ways to simplify procurement procedures in order to facilitate – and thus accelerate -- the acquisition of smaller items, which had represented a significant bottleneck in the past.⁸⁴

The independent environmental and social audit report for the period from July 1, 2010 through June 30, 2011 was undertaken by Poyry Infra Ltd., an engineering firm based in Zurich, Switzerland with a local representative in La Paz. While the auditors’ overall assessment regarding implementation of planned project activities, including that of the “indigenous program,” during the period under review, was positive, as concerned the environmental conservation program, they noted that delays in the initiation of both the protected areas and forest conservation subprograms had resulted in slow implementation and management deficiencies, which had been witnessed during their first visit (in August 2010), and were reflected in the “slight involvement and participation of the co-executors,” the

⁸² Ibid., pp. 15-16.

⁸³ See February 2011 environmental supervision report, pg. 1.

⁸⁴ Ibid, pg. 13.

National Protected Areas Service (SERNAP) and the Forest and Land Inspection and Social Control Authority (ABT), respectively, although the situation had “substantially improved” more recently. However, both of these agencies had expressed a preoccupation with the future continuity and sustainability of the actions financed by the Bank loan. Similarly, start-up problems had occurred with the institutional strengthening and sustainable municipal development program that had also resulted in delays and management shortcomings, which was due in part to the “political instability” in some of the participating municipalities in the project’s area of influence which led to implementation difficulties. But this situation had reportedly also improved and it was expected that the corresponding subprojects would be “executed normally” until project conclusion⁸⁵

With respect to the environmental inspection and control (*fiscalización*) of the road project, in turn, the audit concluded that good management capacity was in place. However, it also observed that the responsibility to solve the problems encountered was still vested in the socio-environmental supervision (SSA) by the Bolivian Road Authority (ABC), the executing agency of the road improvement project, and that there was need to accelerate the flow of pertinent information to ensure that it arrives in a timely way to SSA and the Project Execution Unit (UEP) in order to guarantee “clear channels of authorization and timely issuing of permits in order not to create obstacles for the construction chronograms and timelines, but to allow that the required permits are always issued before the works start.” It also noted that, even though the articulation between the environmental supervision of the UEP, acting as the “operational arm” of the Secretariat of Natural Resource Development and Environment (SDRNYMA) of the Autonomous Departmental Government of Santa Cruz (GADSCZ), had improved, this relationship should be “further strengthened in order, including, to establish the sanctions foreseen in the applicable environmental legislation and norms, when the risks and environmental impact situations require them.” Finally, as regards the overall socio- environmental management system, the auditors found that, while there was an adequate capacity in principle to lead the project toward the achievement of its objectives, in relation to the “management of instances of social coordination and participation, weaknesses were observed with respect to articulation with other stakeholders, especially at the level of the central government, which have led to non-compliance with the

⁸⁵ Poyry Infra, op. cit., pp. 35-36.

requirements of the loan contract.”⁸⁶

The audit report finishes with the observation that project implementation had improved over the course of the period under review and as compared with the situation encountered at the time of the auditors’ first visit to the project’s area of influence in August 2010, and it had an especially “positive image” in terms of the indigenous and cultural heritage programs, which were further characterized as “programs highly accepted by the population and with good impact and participation.” However, it also provided a number of specific recommendations to improve the ongoing implementation of each of the project’s components and subcomponents. These included, for example, with respect to the protected areas subcomponent, “to seek ways of improving the sustainability of the project considering that there exist fears on the part of the staff of the protected areas with respect to the pressure that the [road improvement] project is generating on these areas and there is insufficient capacity to control all of the affected areas which are quite extensive.”⁸⁷ It is also a matter of concern that, despite the fact that the environmental and social protection project (BO-0033) is well advanced and the road improvement project (BO-0036) is now reportedly completed that the auditors were unable to report on progress with respect to the proposed “global regional development subprogram” of the institutional strengthening and sustainable municipal development program because “it did not apply for the present period audited,” without any explanation as to why this was the case.⁸⁸

One internal organizational factor, finally, has also increasingly complicated Bank supervision of the Santa Cruz-Puerto Suárez road improvement and environmental and social protection projects. This is the fact that three distinct units within the Bank, for transport (STD), agriculture and natural resources (RND), and environment and safeguards (ESG), respectively, have been involved in project supervision activities, often with insufficient coordination among them. An internal division of labor in the supervision of BO-0036 and BO-0033 existed even before the Bank’s realignment in 2008, but became even more complex subsequently.⁸⁹ In addition to the operational units for transport and agriculture and

⁸⁶ Ibid., pp. 36-37.

⁸⁷ Ibid. pg. 38. See pp. 37-39 for the auditors’ other specific “recommendations/opportunities for improvement” as of September 2011.

⁸⁸ Ibid., pp. 6 and 29.

⁸⁹ Prior to the realignment, BO-0036 was supervised by the Infrastructure Division and BO-0033 was supervised by the Environment and Natural Resource Division of Region 1, which was responsible for Bank operations in the

natural resources, which includes rural land tenure and management-related aspects, ESG has needed to become directly involved in project supervision after the realignment because BO-0033 essentially involves the implementation of environmental and social mitigation measures prescribed by the (scaled- down) SEA, and, thus, also entailed important reputational risk considerations for the Bank in relation to application of its environmental and social safeguard policies. There is presently still a need for better coordination across at least two of these three units, RND and ESG, since BO-0036 was closed as of June 2011.

IX. Conclusions and Lessons

One of the principal defining – and strategic – features of the two interlinked projects for road improvement and environmental and social protection in the Santa Cruz-Puerto Suárez corridor was precisely that they were to be operationally – and legally – interconnected in an effort to ensure satisfactory progress with respect to the latter prior to proceeding with the former. However, during the course of implementation, because of the aforementioned significant delays in the execution of the agreed environmental and social protection measures, the two projects were, de facto, delinked and Bank disbursements for the road improvement part of the program were allowed to go ahead in advance of adequate progress toward the previously prescribed requirements regarding the associated environmental and social management interventions to be taken in the road’s area of influence. This single administrative action effectively undermined the initial design of the two deliberately interlinked operations and, in the process, greatly reduced the Bank’s leverage with the borrower to ensure that the necessary environmental and social protection measures in the Santa Cruz-Puerto Suárez corridor would be taken in a timely way vis-à-vis the road improvement activities also financed by the Bank.

As a result, the Bank-financed road improvement investments under project BO-0036 have now been completed, while many of the associated environmental and social management activities intended to help mitigate the potential direct, and especially indirect, adverse impacts of the road improvements under project BO-0033 are still not adequately in

southern cone countries, including Bolivia. With the realignment the three former regional management units, into which the Bank had previously been organized, disappeared and were replaced by two new Vice Presidencies for Countries and Sectors, respectively. The latter Vice Presidency now contains the operational divisions for Transport (STD) and Agriculture and Natural Resources (RND), while a separate Environmental and Safeguards Group (ESG) was created in parallel, all three under the new Vice Presidency for Sectors.

place. Also, as a consequence, according to the April 2010 supervision mission, the joint projects were not in full compliance with any of the Bank's present environmental and social safeguard policies. Thus, among the most important lessons from these two road improvement-related projects in Bolivia are the following:

1. No matter how well designed a project may be from an environmental and socio-cultural management perspective, at the end of the day what matters is how well the proposed environmental and social measures are implemented and what their actual results are. Among other things, this means that their implementation needs to be carefully monitored and supervised and their outcomes need to be thoroughly evaluated.
2. Careful environmental and social monitoring and Borrower and Bank supervision of major road improvement – and other infrastructure – projects is also essential to ensure that unanticipated impacts are properly identified and addressed during the course of project implementation. In the case of the present projects, this was one of the reasons why an independent environmental and social auditor was to be contracted prior to the initiation of road construction works. The failure of the Borrower to do so and of the Bank to insist that this be done prior to the start of new road construction and the disbursement of loan proceeds for this purpose thus represents one of the main shortcomings of their management of these interconnected operations. In addition, when different Bank sector units and both field-based and Headquarters staff are involved in this process, as in the present case, supervision activities also need to be well coordinated.
3. The Bank needs to ensure that its administrative actions during the course of project implementation do not undermine critical aspects of project design, including, as in the present case, operational interconnections and associated legal obligations that were designed to assure adequate protection and mitigation of potential adverse socio-cultural and environmental impacts of major infrastructure investments in their respective direct and indirect areas of influence. This is important not only to help ensure that projects are able to successfully achieve their broader sustainable development objectives, but also to ensure that the Bank's environmental and safeguard policies are properly complied with and, in the process, to avoid –or at least

minimize – the potential reputational risks associated with non- or inadequate compliance with these policies.

4. Not taking the above precaution (i.e., not undermining essential environment and social protection-related aspects of project design) is also important so as not to effectively “devalue” the prior strategic environmental and social assessment work undertaken -- including in this particular case with non-reimbursable grant financing from the Bank through a Technical Cooperation project -- as an important part of project preparation and critical input into project design, and, as of July 2006, an unambiguous Bank safeguard requirement. In short, by a single administrative action, the Bank potentially “overrode” the content and results of much of its own earlier project preparation and appraisal work in a way totally inconsistent with both the spirit and the letter of its own present safeguard policies.
5. Finally, other concerns raised by the project experience under review are the following:
 - While the SEA did a good job of identifying the potential positive and negative direct and indirect, including induced development – impacts of the proposed road improvement project, it gave insufficient attention to potential cumulative impacts of the road investment and other ongoing or proposed development projects in the road’s area of influence; thus, while the SEA appropriately focused on the larger area of influence of the Santa Cruz-Puerto Suárez road corridor within Bolivia, it does not appear to have adequately considered all the new development interventions projected or likely to take place in this region in the years ahead, and their potential collective environmental and social impacts, together with those of the road improvement per se.
 - Nor, considering that the Santa Cruz-Puerto Suárez road was part of a much larger integration road corridor linking Brazil with Bolivia overland, did the SEA consider the possible indirect economic, social and environmental impacts of the increased international traffic made possible by the new road investments in Bolivia on the neighboring Brazilian portion of the Pantanal, the world’s largest and one of the most sensitive wetlands, and elsewhere; in short, the possible trans-boundary impacts of the road improvement project and any needed additional environmental and social management and mitigation measures were totally

overlooked.

- Even within Bolivia, moreover, the Bank's Loan Proposal for BO-0033 explicitly recognized that, due to country financial constraints, it would not be able to support all of the mitigation measures recommended by the Strategic Environmental Assessment (SEA) for the Santa Cruz-Puerto Suárez road improvement project; thus, not all of the measures considered necessary by the SEA were included in the project and no information was provided as to how – or even whether – these additional actions would be funded and implemented.
- The fact that there were considerable differences in the scope and cost of the environmental and social management and mitigation measures associated with the different versions of the SEA, however, is of particular importance for at least two main reasons: (i) it is essential that both the territorial and substantive scope of the management and mitigation measures required to address the likely adverse impacts of the road project be adequately identified and assessed and that their associated financial costs be properly quantified and provided for; and (ii) as these are, de facto, part of the indirect costs of the road improvement project itself, the monetary costs associated with managing, monitoring, remediating and/or compensating for the project's likely direct and indirect, including induced development, environmental and social impacts in its area of influence should be explicitly considered in the economic analysis of the associated road investments in addition to the direct construction costs involved, in order to determine the project's economic feasibility. In the present case, had the environmental and social protection and management costs originally estimated by the SEA (i.e., roughly US\$ 600 million), or, even those later originally included in the considerably pared down version of this management plan (US\$ 85 million) been included in the economic analysis of the road improvement project as a whole, it is likely that its estimated rate of return would have been significantly lower, and perhaps, the actual viability of the project as a whole would have been in considerable question.
- In any event, the relevant general lesson is the need to include all social and environmental costs associated with avoiding, reducing, mitigating, monitoring and

otherwise managing and compensating for the direct and indirect impacts of a major road improvement project, together with their expected benefits, as an integral part of the economic analysis of the road investments per se.

- The pertinent Bank documents, and the SEA, also recognized that many of the potential adverse indirect environmental and social impacts of the road improvement project would only be felt over the long run, thus suggesting the need for additional and/or continued environmental and social protection measures beyond the implementation period of BO-0033; however, there is no indication as to how – or even whether – these measures would be funded and implemented.
- Similarly, the Bank’s April 2010 and February 2011 environmental supervision missions and the recent independent environmental and social audit of project interventions during the second semester of 2010 and first semester of 2011 identified concerns with the sustainability of certain BO-0033 project interventions, including with respect to the strengthening and management of the three protected areas in the road’s area of influence; however, there is no indication as to how – or even whether – the required measures to assure the sustainability of these actions would be funded or implemented beyond the life of the project.
- As noted above, furthermore, the direct and indirect area of influence of the road investments within Bolivia is characterized both by rich natural resources, unique biodiversity and sensitive ecosystems, on the one hand, and high levels of rural poverty and socio-cultural diversity, on the other, while at the same time being a region of weak local institutions and governance; this means that both the short and longer term challenges of promoting and achieving sustainable development are especially daunting. While the road improvements supported by the Bank and other donors, thus, represent a significant opportunity to promote economic and social development in the Santa Cruz-Puerto Suárez corridor, in and of themselves and even assuming that the interventions contained in BO-0033 are successfully implemented over time, they will not be sufficient for this to occur in an environmentally and socially responsible and equitable way over the longer run. As has occurred in the Amazonian state of Acre in Brazil, which has

faced similar challenges, the Bank should, therefore, proactively seek to continue to provide environmentally and socially sustainability-oriented development assistance, including for improved local governance, accountability, and institutional capacity building, to -- and in -- the project's direct and indirect area of influence.

- Finally, particularly in complex projects such as the present one that are intended to support the implementation of environmental and social protection measures associated with major rural road improvement – and/or other large-scale infrastructure – investments in large and ecologically sensitive and socio-culturally diverse areas, such as the lowlands and Pantanal regions of Bolivia (or the multi-country Amazon region), it is essential that there be tight coordination and collaboration between the various units within the Bank that need to be involved in project supervision.