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**MANAGEMENT REPORT AND RECOMMENDATION**  
**IN RESPONSE TO THE**  
**INSPECTION PANEL INVESTIGATION REPORT**

**ARGENTINA**  
**SANTA FE ROAD INFRASTRUCTURE PROJECT**  
**(LOAN NO. 7429-AR)**

AUGUST 13, 2009

**MANAGEMENT REPORT AND RECOMMENDATION  
IN RESPONSE TO THE INSPECTION PANEL INVESTIGATION REPORT  
OF THE  
ARGENTINA: SANTA FE ROAD INFRASTRUCTURE PROJECT  
(Loan No. 7429-AR)**

Pursuant to paragraph 23 of the Resolution Establishing the Inspection Panel (IBRD Resolution 93-10 and IDA Resolution 93-6), attached for consideration by Executive Directors is Management's Report and Recommendation in response to the findings set out in the Investigation Report No. 49110-AR dated July 2, 2009, of the Inspection Panel on the captioned Project (Argentina: Santa Fe Road Infrastructure Project, Loan No. 7429-AR).

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IN RESPONSE TO THE  
INSPECTION PANEL INVESTIGATION REPORT NO. 49110-AR**

**ARGENTINA  
SANTA FE ROAD INFRASTRUCTURE PROJECT  
(Loan No. 7429-AR)**

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## **ABBREVIATIONS AND ACRONYMS**

AADT	Annual Average Daily Traffic
BP	Bank Procedure
DNV	National Road Directorate
DPV	Provincial Road Directorate
ESMP	Environmental and Social Management Plan
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IIRSA	Initiative for the Integration of Regional Infrastructure in South America
IPN	Inspection Panel
ISR	Implementation Supervision Report
Km	Kilometer
Mercosur	Southern Common Market
NPV	Net Present Value
OP	Operational Policy
PAD	Project Appraisal Document
PID	Project Information Document
PIU	Project Implementation Unit
PSF	Province of Santa Fe
RAP	Resettlement Action Plan
ROW	Right of Way
TOR	Terms of Reference
US\$	United States Dollar

## **LIST OF OPERATIONAL POLICIES, OPERATIONAL DIRECTIVES, OPERATIONAL MANUAL STATEMENTS, AND OPERATIONAL POLICY NOTES**

- OP/BP 4.01 Environmental Assessment
- OP/BP 4.12 Involuntary Resettlement
- OP/BP 13.05 Project Supervision
- World Bank Policy on Disclosure of Information

## EXECUTIVE SUMMARY

### *Summary of Request and Investigation*

1. On October 19, 2007 the Inspection Panel registered a Request for Inspection, concerning the Argentina Santa Fe Road Infrastructure Project. This Request for Inspection is the third that the Panel has received concerning this Project. The First and Second Requests were received on August 28, 2006 and September 21, 2006, respectively, during the initial stages of project preparation. The Requesters claimed that the Bank had failed to comply with its policies and procedures; specifically they were concerned about the adequacy of the compensation for land to be taken under the project, issues regarding the adequacy of the highway design, concerning in particular the water drainage aspects, and the adequacy of the communication and consultation process. The Panel found that issues raised in the First and Second Requests were resolved to the satisfaction of the Requesters. Management submitted its response to the claims in the Third Request to the Panel on November 20, 2007. The Panel found the Third Request eligible and recommended an investigation, authorized by the Executive Directors on May 2, 2008.

2. The Panel issued its findings from the investigation on July 2, 2009. The Panel found that during project preparation there were some instances of non-compliance with some provisions of Bank policies on Environmental Assessment (OP 4.01) and Involuntary Resettlement (OP 4.12). The Panel found that these instances of non-compliance were addressed during the final stages of project preparation and during initial project implementation. The Panel found compliance with the Bank policy on Project Supervision (13.05). The only remaining instance of non compliance with OP 4.01 found by the Panel refers to the lack of an adequate analysis of the Project's potential impact on flooding of the areas located downstream of the road to be upgraded under the project.

### *Summary of Project and Project Status*

3. The Santa Fe Road Infrastructure Project supports the upgrading of National Road 19, a strategic corridor that links the Province of Santa Fe to regional and international markets. Specifically, the project will transform 130 kilometers of National Road 19 in the Province of Santa Fe (between the City of Santo Tomé and the City of San Francisco on the frontier with the Province of Córdoba) into a four lane highway. Total project cost is US\$ 173.1 million, of which US\$ 126.7 million is being provided by the Bank loan and the remaining US\$ 46.4 million by the Province of Santa Fe. The Bank loan, approved by the Board of Directors on February 13, 2007, is guaranteed by the Republic of Argentina.

4. The execution of the project is proceeding according to the set time plan. There have been no major delays in the implementation of project components. Construction works began in May 2008. As of July 2009, total loan disbursements had reached US\$ 36.16 million.

***Summary of Management Report and Recommendation in Response to Investigation Report.***

5. From the early stages of project preparation, the main objective of the project team was to ensure that the Province of Santa Fe completed high-quality engineering designs and a comprehensive Environmental and Social Management Plan, capable of identifying all the possible impacts of the road on the environment. The guidance of the project team focused on the need to propose clear mitigation measures for all risks and impacts identified and to develop a thorough communication and consultation process to address the concerns raised by Project Affected People.

6. The communication and consultation program is a central component of the Environmental and Social Management Plan and was devised and implemented to receive feedback and address the concerns raised by all Requesters, regardless of who presented the concern, how it was presented, or the issues raised. The consultation and communication program has included community meetings in the project area, project-specific email address, physical mailboxes and community information centers. Several changes to the engineering designs have been made as a result of the consultation process. In this regard, Management acknowledges the Panel's reporting about the positive outcome of the First and Second Requests, which were resolved to the satisfaction of the Requesters. This clearly indicates that the communication and consultation program has worked.

7. The consultation process has paid particular attention to the field based knowledge and experience of farmers and landowners. After the unprecedented rainfall of March 2007, which exceeded 500 millimeters (a record for the official statistics in the project area), the Province of Santa Fe organized several meetings along Road 19. The outcome of the consultation was an extensive review of the engineering designs, which prompted the Province to include several new drainage facilities. Management considers that the consultation process as well as the elaboration of the engineering designs has to be considered as an evolving process, which receives inputs from all relevant stakeholders and prioritizes areas of work as the reality on the ground changes. The Environmental and Social Management Plan designed for this project provides the necessary flexibility and has proven to be an adequate tool to incorporate the concerns of Project Affected People. Management agrees with the Panel that there were delays in the hiring of a communication expert and appreciates the Panel's recognition of staff's efforts to address this issue through intense supervision. The Action Plan proposed by Management supports enhanced project supervision, to guarantee that the involvement of Project Affected People will continue to be an important element of the project's implementation.

8. The Panel considered that the methodologies used by engineering consulting firms to assess flood risks were not homogeneous and that the evidence presented in the studies did not allow for the conclusion that the upgrading of Road 19 will not cause harm to Project Affected People. Management considers that the quality control process for the hydrological and hydraulic studies embedded in the project design and carried out during project preparation and implementation has been appropriate and consistent with Bank policies. The quality control process involved several reviews by Bank experts as

well as by the Provincial and National road agencies – with their experienced cadre of highway engineers – and the Provincial Ministry of Hydrological Affairs, all of which were formally responsible for the approval of the final designs for the project. To overcome any hesitation about the robustness of the hydrological studies, the project team and the expert consultant hired by the Panel engaged in an open and constructive dialogue. The outcome of this engagement was a new round of studies carried out by the Province of Santa Fe, which led to the Panel's finding that the assessment of potential impacts upstream of Road 19 was appropriate and in compliance with OP 4.01. Based on this experience and with the objective of addressing the Panel's finding of non-compliance regarding the downstream area, the Action Plan proposes to conduct a downstream analysis similar to that conducted for the upstream area of Road 19.

9. In its Investigation Report, the Panel considered that the initial hydrological studies prepared by the engineering consulting firms could not be easily understood by Project Affected People. This problem was addressed by the latest studies completed in February 2009 for the upstream areas of Road 19. The results of the studies for the downstream areas will be presented following the same scheme used for the upstream study. The study proposed will include environmental mitigation measures if the results identify negative impacts associated with the project. The results of the upstream and downstream hydrological and hydraulic studies will feed into the Strategic Environmental Strategy that the Province of Santa Fe will carry out, which has as its main objective the elaboration of a methodology to identify and measure the major impacts and risks associated with road investments.

10. During the preparation of the Management Report and Recommendation, the project team met with the Requesters in Franck, Province of Santa Fe on July 22, 2009 to discuss the findings of the Panel's Investigation and to discuss the content of the Action Plan. The meeting allowed for an open and constructive dialogue, where all parties could speak with no time limitations to clearly convey project specific comments and concerns. The meeting was attended by three Requesters, five other Project Affected People who did not sign any of the three Requests for Inspection, the Undersecretary of External Financing of the Province of Santa Fe (and Head of the Project Implementation Unit), three engineers from the Secretary of Water Affairs, the Project Implementation Unit's communication coordinator, the Task Team Leader of the project and a Bank consultant. The Requesters were comfortable with the Action Plan proposed by Management and they welcomed the invitation to participate in the process of elaboration of the Strategic Environmental Assessment.

11. Management would like to highlight that the Province of Santa Fe fully endorses the Action Plan and is committed to implement all the items included in the Action Plan that fall under its fiduciary and legal responsibility, including the environmental mitigating measures resulting from the studies of the downstream area, if any.





## I. INTRODUCTION

1. On October 19, 2007 the Inspection Panel registered a Request for Inspection, IPN Request RQ07/08 (hereafter referred to as “the Request”), concerning the Argentina Santa Fe Road Infrastructure Project (“the Project”) financed by the International Bank for Reconstruction and Development (IBRD). The Request for Inspection was submitted by Mr. Hector E. Jullier and Ms. Ana Rosa Tizianel, residents of Franck, Province of Santa Fe (PSF), Argentina, who submitted the Request on behalf of themselves and on behalf of ten other area residents who are landowners and who also signed the Request (hereafter referred to as the “Requesters”). This Request for Inspection is the third Request that the Panel has received concerning this Project.

2. On August 28, 2006, the Panel received a Request for Inspection (the “First Request”), dated August 20, 2006. The First Request was submitted by Mr. Hugo Mario Arriola-Klein and Dr. Nancy Beatriz Jullier, residents of Chateaux Blanc in San Agustín, Department of Las Colonias, PSF, Argentina. They represented residents who live and work in Chateaux Blanc. On September 21, 2006, the Panel received a second Request for Inspection (the “Second Request”). The Second Request was submitted by Mr. Víctor Hugo Imhoff and Ms. María Alejandra Azzaroni, on their own behalf and on behalf of people living in San Jerónimo del Sauce, in the Department of Las Colonias, PSF, Argentina.

3. The Panel registered the First and Second Requests, on September 11 and September 21, 2006, respectively and decided to process them jointly for reasons of economy and efficiency since they referred to the same Project and similar issues. The Panel assessed whether these two Requests were eligible and whether they warranted an investigation. The Panel concluded that, while the Requesters were otherwise eligible to submit a Request for Inspection, the procedural criterion requiring requesters to have brought the “*subject matter (...) to Management’s attention and that, in the requester’s view, Management has failed to respond adequately demonstrating that it has followed or is taking steps to follow the Bank’s policies and procedures*” was not fully met. The Panel therefore determined that it could not make a recommendation on whether to investigate the subject matter of the Requests for Inspection at that time.<sup>1</sup> The issues cited in the First and Second Requests were subsequently addressed to the satisfaction of the Requesters.

4. The Executive Directors and the President of IBRD were notified by the Panel of receipt of the Third Request. The Management responded to the claims in the Request on November 20, 2007.

5. In its Report to the Board, the Panel found the Third Request eligible and recommended that the Executive Directors authorize an investigation. The investigation was authorized by the Executive Directors on May 2, 2008.

6. On July 2, 2009, the Panel issued its report outlining the findings of the investigation. Management appreciates the Panel’s clear and thorough presentation of its

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<sup>1</sup> Inspection Panel Report and Recommendation, Request for Inspection, Argentina Santa Fe Road Infrastructure Project (Proposed), November 16, 2006, ¶64.

findings. This report, responding to the findings of the Panel, is organized in six sections. Section II describes the context in which the project was developed, the Requests for inspection, and the timeline of events. Section III provides information on project status. Section IV details the key issues raised by the Panel in its Investigation Report. Section V presents Management's Action Plan in response to the Panel's findings, and Section VI contains the conclusion. The Panel's findings, along with Management's responses, are presented in Annex 1.

## II. CONTEXT

7. **The Santa Fe Road Infrastructure Project supports the PSF's Infrastructure Strategy, aimed at helping to position Santa Fe as the most competitive province in Argentina. Specifically, it supports the upgrading of National Road 19. This strategic corridor links the PSF to regional and international transportation and trade hubs.** The improvement of National Road 19 is a cornerstone of the development of a transport corridor in the PSF, which is a fundamental step in fostering regional integration in the Center Region<sup>2</sup> (see Map in Annex 2). The Infrastructure Strategy includes projects under national jurisdiction, for example, the dredging of the Paraná River, and other projects under provincial jurisdiction, such as the relocation of the Santa Fe city port. While financing for the improvement of National Road 19 would normally be provided by the national government, due to limited fiscal resources and significant infrastructure backlogs, the national government accepted an offer by the PSF to finance this project. The national government is working with the PSF in this project through the National Road Directorate (DNV).

8. **There is a broad consensus on the need to develop the National Road 19 transport corridor.** The two main chambers of commerce in PSF<sup>3</sup> produced a joint report<sup>4</sup> contributing to the formulation of a strategic plan for the Center Region. In the report, the upgrading of National Road 19 between San Francisco and Santa Fe was recognized as a necessary infrastructure intervention to facilitate the flow of goods in the Center Region. Within a broader integration perspective, the Initiative for the Integration of Regional Infrastructure in South America (IIRSA) highlighted the upgrading of National Road 19 as an integral part of the bi-oceanic corridor that constitutes the Mercosur-Chile transportation corridor.<sup>5</sup>

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<sup>2</sup> The Center Region was officially created in 2004 and comprises the provinces of Córdoba, Santa Fe and Entre Ríos.

<sup>3</sup> Bolsa de Comercio de Santa Fe y Bolsa de Comercio de Rosario.

<sup>4</sup> *Aportes para la Formulación del Plan Estratégico de la Región Centro de la República Argentina. Informe Técnico N2: Relevamiento de Acciones Gubernamentales y Obras de Infraestructura de Transporte y Logística a Evaluar con el Gobierno de la Provincia de Santa Fe. Bolsa de Comercio de Santa Fe y Bolsa de Comercio de Rosario, November 2004.*

<sup>5</sup> Mercosur is the Southern Common Market, a customs union between Brazil, Argentina, Uruguay, Paraguay and Venezuela, founded in 1991 by the Treaty of Asunción, which was later amended and updated by the 1994 Treaty of Ouro Preto. Its purpose is to promote free trade and the fluid movement of goods, peoples, and currency. The organization has a South and Central America integration vocation. The Mercosur-Chile transportation corridor is the main industrial area in South America, with high value added

9. **The upgrading of National Road 19 is a project that dates back to the early 1970s. At that time, the National Government had already acquired approximately 50 percent of the land necessary to upgrade this road. The improvement of National Road 19 has become all the more urgent because of the significant growth in traffic levels and the high incidence of fatal road accidents.** Between the last study conducted by DNV in 2003 and one carried out for project preparation in March 2006, Annual Average Daily Traffic (AADT) grew approximately 40 percent. Traffic composition changed, increasing the relative importance of trucks, which in some segments of the road account for more than 45 percent of total traffic, supporting the road's regional relevance. The economic evaluation of this project produces a Net Present Value (NPV) of US\$ 63 million. Traffic continued to grow considerably between 2006 and 2008. This fact, along with the very high incidence of fatal accidents along the road, has increased the economic and social justification for upgrading National Road 19.

10. **The PSF, through the National Government of Argentina, approached the Bank in September 2006 to request support for financing the upgrading of National Road 19, given the considerable experience of the Bank in the design and implementation of this type of project.** When the collaboration between the Bank and the PSF was initiated, the PSF had already advanced the preparation of the preliminary design studies for the project. Since the start of project preparation, one of the main objectives of the project team was to ensure that the PSF completed high-quality engineering designs and a comprehensive Environmental and Social Management Plan (ESMP), capable of identifying all the possible impacts of the road on the environment. The guidance of the project team focused on the need to propose clear mitigation measures for all risks and impacts identified.

11. **The project will transform 130 kilometers of National Road 19 in the PSF (between the City of Santo Tome and the City of San Francisco in the frontier with the Province of Cordoba) into a four lane highway.** The improvement of National Road 19 is a two-phase project. The first phase (to be financed by Loan 7429-AR) involves the construction of a two lane carriageway to convert National Road 19 into an *Autovia*,<sup>6</sup> while the second phase plans to transform National Road 19 into an *Autopista*<sup>7</sup> with total control access.<sup>8</sup> The acquisition of the right of way (ROW) by the PSF for the construction and safe operation of the *Autovia* will allow future construction of an *Autopista* without any additional land requirements.

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industries (automotive, construction materials, petrochemical, agroindustrial) and some of the most productive agriculture lands in the world. Further increases in the commercial flows, which are essential to the formation of more efficient supply value chains in both ends of the axis, are threatened by the poor conditions and capacity of infrastructure. To this end, IIRSA prioritized the upgrading of National Road 19.

<sup>6</sup> A divided highway with a two lane carriageway in each direction. This highway is without full control of access, i.e., it has toll booths at certain points. Any driver entering and exiting the highway between these points does not pay a toll.

<sup>7</sup> A divided highway with at least a two lane carriageway in each direction and which can only be entered or exited at toll booth points (i.e., a limited control of access freeway).

<sup>8</sup> For more detailed project background information see the Project Appraisal Document (Report 38464-AR).

12. **The road infrastructure will be located alongside the existing alignment of Road 19, requiring only acquisition of land for the expansion of the ROW. The average price paid by the PSF in the rural section of Road 19 was US\$ 4,500, with values ranging from US\$ 2,500 to over US\$ 10,000 per hectare depending on the quality of the land.** The Land Acquisition and Resettlement Action Plan (RAP) developed for this project includes an analysis of the different types of land needed to be acquired by the PSF. The average size of the affected properties is 100 hectares and in 50 percent of the properties less than 4 hectares needed to be acquired to expand the ROW. The expansion of the ROW affects 1,313 hectares. Of these 1,313 hectares, 662 (50.4 percent) were acquired by the national government (DNV) in the 1970s. The remaining hectares (633) are located in 247 properties along the road in the PSF. A total of 27 buildings had to be displaced: 20 houses (6 with businesses), 6 businesses and one school. The RAP includes provisions to follow, on a case by case basis, each of the houses, businesses and school that had to be displaced.

13. **The area that surrounds Road 19 is located on an extremely flat terrain, characterized by intensive agricultural and livestock production that has seen agricultural yields reach unprecedented levels in recent years.** National Road 19 cuts across one of the regions with the highest yields of grain production in Argentina and the world. In the last few years, the pattern of economic development of the hinterland of Road 19 has seen a shift from livestock production to soy, which has benefited from the boom in commodity prices that has occurred over the last few years.

14. **As indicated by the Panel, this project is taking place in a highly dynamic local development context in which agricultural and livestock production issues are intertwined with water and environmental management concerns, and where the Bank has played a major role in efforts to understand local and regional environmental concerns.** The project area is located within the middle reaches of the Paraná River basin, which encompasses four countries (Argentina, Paraguay, Brazil and Bolivia) and has a total area of 1.5 million km<sup>2</sup>. Flood plains along the Paraná River are periodically inundated, usually during the high river flow period that begins in October/November and peaks between February and June/July. Evidence suggests that flooding risks have increased in the last three decades. The Bank has played a major role in efforts to understand and control flooding problems in the Paraná River basin and has supported projects focused on improved management of the basin as well as structural and non-structural measures to mitigate floods and their effects.<sup>9</sup>

#### **PROJECT MILESTONES AND SUBSTANCE OF THE REQUESTS**

15. **The project has triggered the following Bank operational policies: Environmental Assessment (OP 4.01); Involuntary Resettlement (OP 4.12); Project Supervision (OP/BP 13.05) and The World Bank Policy on Disclosure of Information (September 2002).** The ESMP, which includes the RAP prepared by the

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<sup>9</sup> The text of this paragraph relies heavily on the Panel's Investigation Report (page 16). Please note that the description of the area presented in paragraph 13 is very similar to the one elaborated by the Panel (see paragraph 58 of the Investigation Report). For details on the role played by the Bank, see Project Files for: AR-El Nino Emergency Flood Project and AR IWRM Workshop River Basins.

PSF, has been available to the public through its website since August 31, 2006. The Project Appraisal Document (PAD) decision meeting was held on September 7, 2006, the project was approved by the Board of Directors of the World Bank on February 13, 2007 and the Loan Agreement became effective on August 17, 2007. Table 1, which was extracted and slightly modified from the Investigation Report (page 11), presents the main project milestones and several others pertinent to the Panel's investigation.

<b>Table 1: Project Milestones</b>	
<b><i>Project Preparation</i></b>	
Project Concept Review	February 22, 2006
Start of consultation process (meetings with elected local officials)	April 20, 2006
Public meetings in Frontera and Josefina, San Francisco and Santo Tomé (main communities along Road 19)	June 2006
First Request received by Panel	August 28, 2006
Full ESMP made available on PSF website and letters sent to community presidents	September 2006
Seventeen meetings requested and held by Project Affected People with Project Implementation Unit (PIU) staff in Santa Fe	September 2006-February 2007
Project Information Document (PID) available in Infoshop	September 9, 2006
Second Request received by Panel	September 21, 2006
Management Response to First and Second Request	October 18, 2006
Panel's Report and Recommendation (Eligibility)	November 16, 2006 (Requesters did not satisfy all eligibility requirements)
Board non objection to Panel's Report and Recommendation	December 5, 2006
Updated PID available in Infoshop	December 15, 2006
Completion of ESMP	December 2006
Beginning of Project Appraisal	December 18, 2006
Board of Executive Directors approval of Loan	February 13, 2007
Intense rains/Flooding of Project area	March 2007
Review and changes to project hydraulic and hydrological design by engineering firms of Segment 1 and 2 of Road 19	March-July 2007
Bank Supervision Mission to assess technical design after flooding of April 2007	May 2007
Signing of Legal Agreements	June 12, 2007
PIU organizes third round of community meetings, including information on lessons-learned from the March 2007 floods	July 24-26, 2007
<b><i>Project Implementation</i></b>	
Effectiveness of Loan Agreement	August 17, 2007
Third Request received by Panel	September 13, 2007
Panel registration of Request	October 19, 2007
Meeting between Bank Management and Requesters	October 31, 2007
Management Response	November 20, 2007
Change in PSF Government	December 11, 2007
Inspection Panel Memorandum to the Board:	December 21, 2007

Table 1: Project Milestones	
Request for extension of eligibility determination (about 90 days)	
Panel's eligibility visit to project area	March 10-17, 2008
Panel's Eligibility Report and Recommendation	April 18, 2008 (Recommends investigation)
Board approval of Panel's recommendation	May 2, 2008
Communication specialist hired	July 2008
Panel's investigation visit to project area	September 30 to October 7, 2008
Additional Hydrological Studies following Panel's October 2008 visit to project area	October 2008-February 2009

16. **The First and Second Requests for Inspection were received by Management in September 2006, four months after the Project Concept Note and three months after the consultation program with affected communities along Road 19 was launched through the organization of town hall meetings.** The milestones presented in the table above show that the Requests for Inspection were received relatively early in the project preparation cycle. Up to the elaboration of this Management Report and Recommendation, almost three years have elapsed since Management received the First Request. During this time period, the project evolved from the first steps of preparation to full project implementation. The Midterm review is scheduled for March 2010.

17. **The substance of the Requests for Inspection showed the same evolution as the general feedback received by the PSF during the consultation and communication process. The concerns of Project Affected People evolved from issues related to land acquisition and resettlement to concerns about flooding risk. Concerns about flooding in the project area increased significantly after the floods of March 27-29, 2007, which were caused by rainfall of more than 500 millimeters, surpassing the most intense rainfall previously on record, of 450 millimeters.<sup>10</sup>** The first two Requests for Inspection focused on the following issues: land acquisition and resettlement, width of the ROW, local connectivity (returns), construction of an overpass, and job losses in some businesses along Road 19. Flooding risks were raised as a secondary issue in the first two Requests and due consideration was given to it by the PIU and the Bank. The affected communities focused on flooding from the road project only in the third round of community information meetings, organized in July 2007 (carried out only three months after the floods of March 2007 with the purpose of gathering specific concerns that Project Affected People might have as a result of the floods).<sup>11</sup>

18. **The engagement with beneficiaries, stakeholders and Requesters has been and continues to be a key element of project design and implementation.** During the project design phase, inputs from stakeholder consultations incorporated the concerns raised at different times by the Requesters and others, for example by changing the proposed design for culverts or an overpass. As designs were being finalized, the updated information was made available to concerned groups. The discussions with the Requesters also evolved during this process, from initially being focused on land

<sup>10</sup> The floods of March 2007 correspond to a rainfall of 125 years. That is, with the statistical information available, it was a rainfall with an intensity that is expected to occur once every 125 years.

<sup>11</sup> Investigation Report, first paragraph of page xvi.

acquisition and compensation levels, to eventually addressing concerns about flooding risks. This interactive process is continuing during project implementation, and stakeholder engagement, communication and consultation will remain an integral part of the project.

19. **The Panel found that issues raised in the First and Second Requests were resolved to the satisfaction of the Requesters.** The fact that the issues related to the First and Second Requesters were resolved indicates that the communication and consultation programs have been successful. In addition, it shows the willingness of the PSF to find, within the available legal framework, ways to accommodate the concerns of Project Affected People and demonstrates that the Project team has fully applied Bank policies in an effective manner.

### III. PROJECT STATUS

#### PROJECT OBJECTIVES

20. **The Santa Fe Road Infrastructure Project is a US\$ 173.1 million project to upgrade road infrastructure and provide institutional support for a strategic corridor linking the PSF to regional and international transportation and trade hubs.** Adding capacity to National Road 19 will reduce logistics costs, facilitate access to major regional consumption and export markets and foster effective economic integration of the Center Region provinces. The project also aims to provide institutional support to the PSF to achieve the following specific objectives: (i) improve road safety by implementing pilot interventions capable of providing valuable qualitative and quantitative information to the comprehensive road safety action plan elaborated by the PSF in 2005; (ii) identify transport infrastructure and trade facilitation constraints by setting up a system to measure logistics costs in the PSF; (iii) reinforce the PSF's planning capacity to foster economic growth; (iv) strengthen provincial capacity to assess and manage environmental and social impacts of large civil works; and (v) create provincial capacity to monitor and evaluate large infrastructure projects.

#### PROJECT COMPONENTS AND STATUS OF THE UPGRADING OF ROAD 19

21. The Project has two key components:

- *Component 1 – Upgrading National Road 19* (estimated cost, including contingencies, US\$ 167.4 million, of which US\$ 123.9 million will be financed by the Bank Loan). This component will transform 130 kilometers of National Road 19 in the PSF into a four lane *Autovia* to expand the capacity and road safety of this heavily traveled corridor. The component entails building: (i) a two lane carriageway within the ROW that will serve East-West traffic, which in the future will become one of the main carriageways of the future freeway; (ii) three four-lane bypasses of the towns of San Jerónimo del Sauce, Sa Pereyra and Frontera (and its twin city San Francisco) within the PSF; (iii) alignment improvements for three sharp curves on the existing two

lane highway; (iv) grade separation interchanges at high trafficked intersections – National Roads 34 and Rosario Santa Fe Freeway – and overpasses for railroad crossings; (v) ground-level interchanges at intersections with provincial and rural roads; and (vi) turn lanes and returns at intervals of about 4-6 kilometers to facilitate safe access to properties along the corridor.

- *Component 2 – Institutional Strengthening* (estimated cost US\$ 2.8 million, all Bank-financed). This component will consist of four subcomponents:
  - Sub Component 2.1 – Road Safety;
  - Sub Component 2.2 – Measurement of logistics costs in the PSF;
  - Sub Component 2.3 – Strengthening the strategic planning capacity of the PSF;
  - Sub Component 2.4 – Strengthening the capacity of the Provincial Road Directorate (DPV) to enhance environmental and social management; and
  - Sub Component 2.5 – Design of a capacity building program to incorporate monitoring and evaluation analysis in infrastructure projects.

**22. Status of the Upgrading of National Road 19. The execution of the project is proceeding according to the set time plan. There have been no major delays in the implementation of project components.** Construction works began in May 2008. The progress of the works has complied with the pace set in construction contracts. Up to May 2009, progress varied between 14% and 29%, depending on the road section (see Table 2 below). According to the construction contracts and the work pace, the upgrading of National Road 19 is expected to be completed by May 2011.

**Table 2.**

Progress of the works until May 2009					
Section	Description	Km	Contract disbursed amount US\$	% of construction progress	Construction Company
I	National Road 11 (Km0+000) - Provincial Road 6 Intersection (Km29+421)	29.421	12,633,002.61	28,89 %	Dycasa S.A
II	Provincial Road 6 Intersection (Km29+421) - Km53+421	24.000	4,117,996.19	14,19 %	Chediak S.A.I.C.A
III	Km53+421 - National Road 34 (Km75+998)	22.577	4,762,417.27	16,83 %	Chediak S.A.I.C.A
IV	National Road 34 (Km75+998) - Provincial Road 20 Intersection (Km107+998)	32.000	4,733,186.32	16,47%	Vialco S.A Equimac SACIFEI- UTE
V	Provincial Road 20 Intersection (Km107+998) - Interprovincial limit Cordoba (Km129+998)	22.000	8,680,113.18	27,84 %	Esuco S.A
TOTAL		129.998	34,926,715.57		



## PROJECT FINANCING AND DISBURSEMENTS

23. Total project cost is US\$ 173.1 million, of which US\$ 126.7 million is being provided by the Bank loan and the remaining US\$ 46.4 million by the PSF.<sup>12</sup> The Bank loan is guaranteed by the Republic of Argentina.

24. **Disbursements.** As of July 2009, total loan disbursements had reached US\$ 36.16 million.

## IV. KEY ISSUES

### ENVIRONMENTAL CATEGORIZATION OF THE PROJECT

25. **The Panel agreed with the categorization of the project (as “B”) and noted that “the studies in the ESMP are of the scope and depth that would be expected of a “Category A” environmental assessment and have been integrated into and influenced project design so as to reduce both the social and bio-physical impacts of the road.”**<sup>13</sup> The Panel acknowledged in several sections of the Investigation Report the work done by the project team to make sure the project complied with Bank safeguard policies. The first steps of the Bank’s partnership with the PSF to upgrade Road 19 consisted of explaining the Bank’s safeguard policies and guiding the PSF on the steps it needed to take to comply with those policies. Even though the Bank did not finance the engineering studies or the production of the ESMP, it took all the necessary steps to make sure the work of each consulting firm centered on Bank best practices and compliance with safeguard policies.<sup>14</sup>

### CONSULTATION AND COMMUNICATION WITH PROJECT AFFECTED PEOPLE

26. **When analyzing communication and consultation, the Panel concluded that the Bank is in compliance with OP 4.01 (Environmental Assessment), OP 4.12 (Involuntary Resettlement) and OP 13.05 (Project Supervision).** The process of consultation implemented by the PSF for this project is unprecedented in the PSF’s road sector and the project team drew on best practice examples and guidance from similar types of projects all over the world. It has always been the intention of the Bank to guide the PSF in the design and implementation of a comprehensive communications program, not only to comply with Bank’s policies, but to create local capacity that can replicate the outcome of this communications program in future road projects without Bank financing.

27. **However, the Panel indicates that the Bank failed to properly guide the PSF to communicate and consult with Project Affected People on flood risks and take advantage of Requesters’ many years of field-based experience.** The communication and consultation program is a central component of the ESMP and was devised to receive feedback and address the concerns raised by all Requesters, regardless of who presented

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<sup>12</sup> See Annex 5 of the PAD, page 57.

<sup>13</sup> Investigation Report. Paragraph 75.

<sup>14</sup> For details on the steps taken by the project team please see the matrix in Annex 1 (items 3 and 4).

the concern, how it was presented, or the issues raised. The consultation process has paid particular attention to the field based knowledge and experience of farmers and landowners. After the unprecedented rainfall of March 2007 the PSF organized several meetings along Road 19. The outcome of the consultation was an extensive review of the engineering designs, which prompted the PSF to include several new drainage facilities. Management considers that the consultation process as well as the elaboration of the engineering designs has to be considered as an evolving process, which receives inputs from all relevant stakeholders and prioritizes areas of work as the reality on the ground changes.

28. **Management would like to highlight that the sequence of topics raised by the Requesters and other Project Affected People influenced the progress of communication and consultation on flood risks during project preparation and implementation (see Table 1 above).** Since the beginning of project preparation, flooding risks were taken into account, as reflected in the ESMP, in the reports produced by the engineering consulting firms and in Bank project documents. However, in consultations the issue only emerged strongly after the flooding of March 2007, as detailed in paragraph 17.

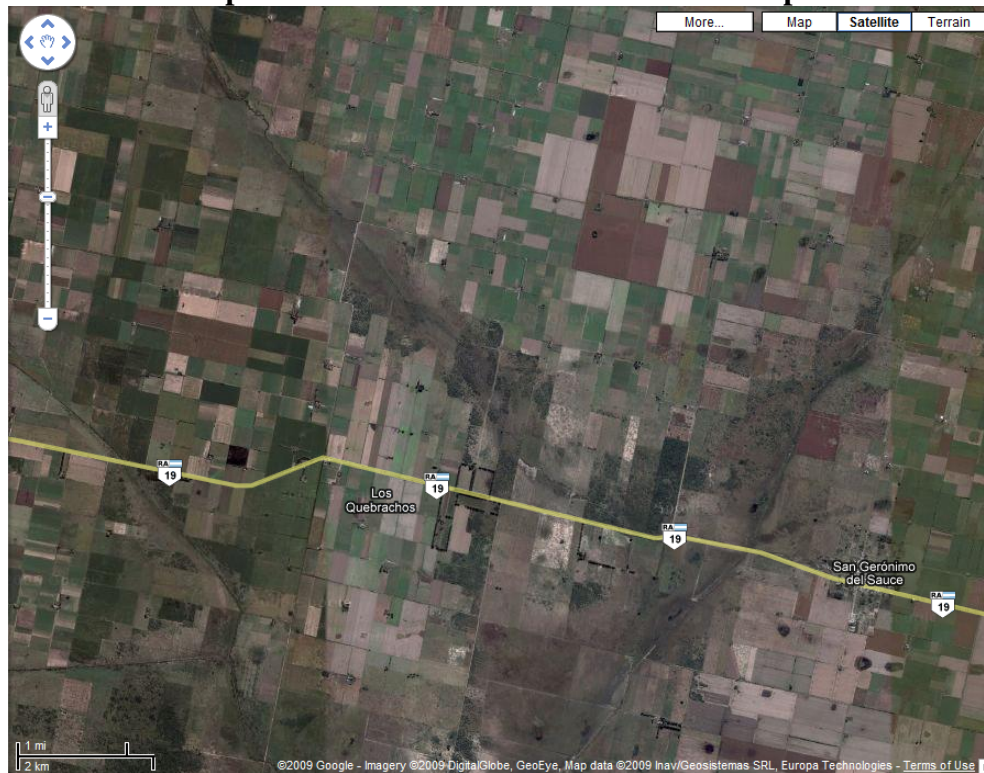
29. **Serious consideration was given by the PIU and Bank staff to all issues raised by Project Affected People. The willingness and commitment of both the PIU and Bank staff to address concerns of Project Affected People is evident from the fact that the issues raised by the First and Second Requesters were resolved to their satisfaction, as confirmed by the Panel.** After the flooding events of March 2007, the Requesters' concerns logically shifted and focused primarily on flooding risks. Accordingly, increased resources were devoted to flooding issues. Management wishes to clarify that flooding issues had not previously been neglected or ignored. The Panel acknowledges the more intense attention paid to flood management problems and even cites the positive engagement between the PIU and one of the Requesters.

30. **Management recognizes that the hydrological and hydraulic studies conducted during project preparation do not convey, in a way that is easily understandable for most Project Affected People, the potential impacts of the upgraded Road 19 on the surrounding area.** The inherent complexity of the matter makes the communication of technical concepts a very difficult task. As a result of the need to solve this communication problem and the positive and constructive dialogue with the provincial authorities and the Panel, additional studies were carried out to show the impact that upgrading Road 19 would have on the time needed to evacuate all the flood waters, the area affected and water levels upstream of Road 19 for rainfalls of 25 and 50 year periods, as well as one commensurate with what was experienced in March 2007, which corresponds to a rainfall for periods of 125 years. The results of the studies, completed in January 2009, were summarized in graphs and presented using PowerPoint. Map 1 presents the results of the studies for a rainfall of 50 years in the vicinity of San Jerónimo del Sauce (Cañada del Sauce and Arroyo del Sauce). Map 2 depicts a satellite view of the same area included in Map 1.

**Map 1. Flooded areas *with* project (blue) and *without* project (red) in the vicinity of San Jerónimo del Sauce**



**Map 2: Satellite view of area included in Map 1**



31. **Management agrees with the Panel that there were important delays in the hiring of a communication expert and appreciates the Panel’s recognition of staff’s efforts to address this issue through intense supervision.** As the Panel noted, the Bank insisted on the need to hire this expert via informal (day to day dialogue) and formal (Supervision Aide Memoires) mechanisms. Once hired, the communication expert rapidly improved the quality and reach of the communication program. The preparation of a brochure for Project Affected People explaining the design of the road with respect to the drainage and flood risk management and the preparation of three information brochures (“*boletines informativos*”), the latest edition being published in June 2009, were among the first actions taken by the communication expert.

#### ANALYSIS OF PROJECT IMPACTS ON FLOODING

32. **When assessing the project’s possible impacts on the environment, the Panel found that the ESMP and the technical studies did not fully evaluate the project’s “potential environmental risks and impacts in its area of influence” as required by OP/BP 4.01, and did not properly provide for mitigation measures of potential downstream hydrologic impacts.**

33. **Management considers that OP/BP 4.01, Environmental Assessment, has been consistently followed in this project and that the studies and simulations conducted during project preparation and the re-examination made after the flooding of March 2007 are sound and led to the conclusion that the upgrading of National Road 19 will improve the hydrological situation of the area surrounding it.** Management instructed the project team to make sure a robust quality control process was put in place to guarantee that the outcome of the hydrological and hydraulic studies was consistent with sound engineering designs used in Argentina and around the world for roads similar to Road 19.

34. **Management considers that the quality control process for the hydrological and hydraulic studies embedded in the project design and carried out during project preparation and implementation has been appropriate and consistent with Bank policies.** The quality control process involved several reviews by Bank experts as well as by the DPV and the Provincial Ministry of Hydrological Affairs, all of which were formally responsible for the approval of the final designs for the project. Moreover, all studies were formally approved by the DNV—with its experienced cadre of highway engineers<sup>15</sup>—as this Road, once completed, will revert back to the national government’s jurisdiction. This unique institutional set up added another layer of quality control and formal approval of engineering designs.

35. **The Panel, however, considered that the methodologies used by engineering consulting firms to assess flood risks were not homogeneous and that the evidence presented in the studies did not allow for the conclusion that the upgrading of Road 19 will not cause harm to the Project Affected People.** During its Investigation, the

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<sup>15</sup> DNV’s headquarters are in the City of Buenos Aires. However, it has an office in the City of Santa Fe (known as District 7) with several full time engineers. DNV is supervising the upgrading of Road 19 with these engineers, who have a thorough knowledge of the characteristics of Road 19’s area.

Panel conveyed this assessment to project members and to the Provincial authorities. Several interviews and meetings centered around the potential impacts of the upgrading of Road 19 on the hydrological situation of the surrounding area. Management concurs with the Panel that all hydrological and hydraulic studies should be based, from the early stages of project preparation, on a unique and homogeneous methodology. In practice, this is sometimes difficult to achieve, in particular when there are several engineering firms involved. In this context, it should be noted that Argentine regulations do not specify a unique methodology to conduct hydrological studies. For this project, all engineering consulting firms used the same methodology (modified rational method) for small size watersheds, which is the most frequently used for the design of highways in Argentina. The methodologies differed only for midsize watersheds.

**36. Management wishes to emphasize that the fruitful outcome of the open and constructive dialogue involving the expert consultant hired by the Panel, the Bank project team and the PSF led to clarifications about the methodologies for analyzing flooding , as well as to a new round of studies, as noted above in paragraph 30.** Thanks to the commitment of the PSF to implement a sound road project with high environmental and social standards unprecedented in its history, the provincial government requested the engineering firms to conduct several revisions to the hydrological and hydraulic studies. The last revision, which was completed in January 2009 and sent to the Panel in February 2009, simulates the impacts of different rainfalls (25, 50 and 125 years) in the upstream area, as that was the area identified by Requesters as the most likely to be impacted by Road 19 due to its new elevation.

**37. Management highlights the Panel's finding that the additional studies during project implementation represent a positive effort to provide quantitative information about upstream impacts in a form easily understood by affected parties. In addition, Management would like to emphasize that the new studies confirmed that the project will, under all reasonable scenarios, cause no harm to Project Affected People from flooding.** As the Panel correctly points out, these studies showed that, for rainfall events with return periods of 25 and 50 years, the "with Project" situation upstream of Road 19 is better than the "without Project" situation. This conclusion indicates that the engineering designs are sound and under all reasonable scenarios the project will cause no harm to Project Affected People.

**38. Management's Action Plan proposes to conduct similar studies for the downstream area to address the Panel's finding that the additional studies have focused on the upstream areas of Road 19.** The studies will use the same methodology agreed upon for the studies that simulate the impact of flooding in the upstream areas. The results of the study will be presented following the same scheme used for the upstream study, in order to facilitate understanding of the results by all parties interested. Thus, the results of the study will allow a comparison of the *with* Project situation with the *without* Project alternative. The study will cover the whole length of the road with particular focus on the critical evacuation streams.

**39. The Bank and the PSF agreed in the early stages of project preparation to include as part of the institutional strengthening component of this project the**

**carrying out of a Strategic Environmental Assessment. The Strategic Environmental Assessment will serve to produce a more in-depth analysis of the potential environmental risks of all future road projects in the Province of Santa Fe.** The Panel found the inclusion of the Strategic Environmental Assessment to be a positive feature of the overall project design (see paragraph 87 of the Investigation Report). The hydrological analysis carried out for this project will be a key input for the Strategic Environmental Assessment.

## **V. MANAGEMENT'S ACTION PLAN IN RESPONSE TO THE FINDINGS**

### **MEETING WITH REQUESTERS**

40. **The project team met with the Requesters in Franck, PSF on July 22, 2009 to discuss the findings of the Panel's Investigation and to discuss the content of the Action Plan.** The meeting was held in the Hotel Colonizador, in the locality of Franck, PSF and was organized by the project team jointly with Mr. Hector Jullier (lead Requester with whom the project team and PIU personnel have met and exchanged letters more frequently). The project team wishes to acknowledge Mr. Jullier's effort in communicating with other Requesters and organizing the local logistics of the meeting.

41. **The meeting allowed for an open and constructive dialogue, where all parties could speak with no time limitations to clearly convey project specific comments and concerns.** The meeting was attended by three Requesters, five other Project Affected People who did not sign any of the three Requests for Inspection, the Undersecretary of External Financing of the PSF (and Head of the PIU), three engineers from the Secretary of Water Affairs, the PIU's communication coordinator, the Task Team Leader of the project and a Bank consultant. The Task Team Leader opened the meeting, explaining the findings of the Panel and outlining a proposed Management Action Plan for discussion and feedback. Afterwards, Mr. Jullier, the Requester, made a presentation based on pictures and maps of the hydrological situation of the area surrounding Road 19, emphasizing the hydrological problems faced by the center region of the Province of Santa Fe, an area of approximately 200,000 hectares. Finally, the Head of the PIU described the role of the provincial government and reiterated the PSF's invitation to present any concerns about the project directly to his office or by all the other communication channels available. He also summarized the main changes made to the design of Road 19 as a result of the participation of the Project Affected People.

42. **The Requesters were comfortable with the Action Plan proposed by Management.** They agreed to provide detailed comments to the hydrological studies conducted for the upstream area of Road 19 that will be sent to the PIU. In addition, they welcomed the invitation to participate in the process of elaboration of the Strategic Environmental Assessment.

43. The PSF fully endorses the Action Plan and is committed to implement all the items included in the Action Plan that fall under its fiduciary and legal responsibility,

including the environmental mitigating measures resulting from the studies of the downstream area, if any.

44. Management appreciates the Panel's findings of general concurrence with Bank policies. Management also welcomes the Panel's observations on specific areas for further strengthening the Project. The following table presents the Action Plan for following up on the Panel's findings.

Table 3. Proposed Management Action Plan	
RELEVANT OP/ISSUE/FINDING	PROPOSED ACTION
<b>Potential environmental risks and impacts in the area of influence. OP/BP4.01</b>	
<b>Project's potential impacts on flooding risks downstream of Road 19</b>	<p>The PSF, at the request of the Bank, will conduct a downstream analysis similar to that conducted for the upstream area of Road 19. The study will use the same methodology agreed upon for the studies that simulated the impact of flooding in the areas upstream of Road 19. The results of the study will be presented following the same scheme used for the upstream study. The results of the study will allow a comparison of the <i>with</i> Project situation with the <i>without</i> Project alternative. The study will cover the whole length of the road with particular focus on critical evacuation streams.</p> <p>The study will also include environmental mitigating measures if the results identify negative impacts associated with the project. This study is expected to be completed within a period of 6 months. Its results will be appropriately documented in supervision reports (e.g., Aide Memoires) and Implementation Supervision Reports (ISRs).</p> <p>The PSF has agreed with Management to carry out the Strategic Environmental Assessment that is an integral part of the institutional strengthening component of the project. The Strategic Environmental Assessment will allow the PSF to elaborate a methodology to identify and measure the major impacts and risks associated with road investments.</p>
<b>Consultation and communication with Project Affected People. OP 4.12</b>	
<b>Communication on flood risks</b>	<p>As part of project implementation, the ESMP communication program calls for community meetings during the construction phase. Stakeholder engagement, communication and consultation will remain an integral part of this communication program. Stakeholder involvement will also continue to be an important element in the Bank's discussions with the Government as part of implementation support and supervision. Particular attention will continue to be devoted to presenting, in an easily understandable way, past and future hydrologic and hydraulic studies that assess the impacts of the project on the area surrounding Road 19.</p>

Table 3. Proposed Management Action Plan	
RELEVANT OP/ISSUE/FINDING	PROPOSED ACTION
<b>Project supervision. OP 13.05</b>	
<b>Project supervision until the closing date of the Project</b>	Management is committed to continue providing the necessary resources to conduct enhanced supervision of the Santa Fe Road Infrastructure Project. The enhanced supervision consists of at least three supervision missions with the participation of the Washington-based Task Team Leader per year and several other visits to the field by local environmental and social consultants, as well as direct attention by regional management.

## VI. CONCLUSION

45. In Management's view the Bank has made every effort to apply its policies and procedures and to pursue its mission statement in the context of the project. Management considers that the proposed Action Plan appropriately address the issues identified in the Panel's Investigation Report.



**Argentina: Santa Fe Road  
Infrastructure Project  
MANAGEMENT REPORT AND RECOMMENDATION  
Annex 1 – Findings, Comments and Actions**

The project has triggered the following Bank operational policies: Environmental Assessment (OP 4.01); Involuntary Resettlement (OP 4.12); Project Supervision (OP/BP 13.05) and The World Bank Policy on Disclosure of Information (September 2002). The First and Second Requests for Inspection were received by Management in September 2006, four months after the Project Concept Note and three months after the consultation program with affected communities was launched. These Requests for Inspection were received early in the project preparation cycle.

The substance of the Requests showed the same evolution as the feedback received by the PSF during the consultation and communication process. The Requesters' concerns evolved from issues related to land acquisition and resettlement to concerns about flooding risk. Flooding risks were present in the first two Requests and due consideration was given by the PIU and by the Bank to flooding related concerns, but it was only in the third round of community information meetings, organized in July 2007 (three months after floods occurred in the project area), that concerns focused on the possible impacts of the road project on flooding. Management acknowledges the Panel's reporting about the positive outcome of the First and Second Requests that were resolved to the satisfaction of the Requesters. This clearly indicates that the communication and consultation programs have worked. It shows the willingness of the PSF to find, within the available legal framework, ways to address the concerns of Project Affected People, and it also shows that the Project team has effectively conveyed Bank policies.

No.	Findings	Comments and Actions
1.	<p><b>Overall Conclusions</b></p> <p>The Panel finds, with respect to assessment of potential impacts <u>upstream</u> of Road 19, the Project is now consistent with OP/BP 4.01.</p> <p>The Panel also concludes that the additional studies carried out represent a positive effort to provide quantitative information about the upstream impacts in a form that can be easily understood by the affected parties. The Panel finds that this approach, which involved adjustments to the studies and the design in order to address existing and emerging issues, is consistent with Bank policy on Project Supervision.</p> <p>The Panel finds that the ESMP and technical studies did not fully evaluate Project's "potential environmental risks and impacts in its area of influence" as required by OP/BP 4.01, and did not properly</p>	<p><b>Comment:</b> Management acknowledges the finding of compliance with the Bank policy on Project Supervision and the compliance with respect to the assessment of potential impacts upstream of Road 19 (OP/BP 4.01).</p> <p>Management considers that OP/BP 4.01, Environmental Assessment, has been consistently followed and that the studies and simulations conducted during project preparation and early stages of implementation are appropriate and sound. Management further considers that these analyses support the conclusion that the upgrading of National Road 19 will improve the hydrological situation of the area surrounding it.</p> <p>However, Management recognizes that the studies conducted during project preparation did not convey, in a way that was easily understandable for most Project Affected People, the potential impacts of the new Road 19 on the surrounding area. As a result of the need to solve this communication problem and the positive and constructive dialogue with the provincial authorities and the Panel, additional studies were carried out to show the impact that upgrading Road 19 will have on the time needed to evacuate all the flood waters, the area affected and water levels upstream of Road 19 for periods of 25 and 50 years, as well as for the unprecedented rainfall of</p>

No.	Findings	Comments and Actions
	<p>provide for mitigation measures of potential downstream hydrologic impacts.</p> <p>The Panel finds that, contrary to OP 4.01, the ESMP did not analyze the Project's potential impact on flooding of the areas located downstream of the Road that should be reasonably regarded as within the area of influence of the Project.</p>	<p>March 2007 (which corresponds to a period of 125 years).</p> <p>Thus, Management agrees with the Panel that the results of the simulations requested by the PSF, prepared by the engineering firms and submitted to the Panel,<sup>1</sup> constituted an enhanced tool to convey quantitative information about upstream impacts in a form easily understood by affected parties. Taking the positive outcome into account, a similar exercise can be undertaken for the downstream flows to more completely respond to the full set of concerns from the Requesters.</p> <p>Substantial attention was given by the PIU and Bank staff to all issues raised by Project Affected People. The willingness and commitment of both the PIU and Bank staff is evident in the fact that the issues raised by the First and Second Requesters were resolved to their satisfaction. After the extraordinary flooding events of March 2007 the Requesters' concerns logically shifted and focused primarily on flooding risks. Accordingly, increased resources were devoted to flooding issues. The Panel acknowledges the intense attention paid to flood management problems and cites the positive engagement between the PIU and one of the Requesters.<sup>2</sup></p> <p><b>Action:</b> Within the next 6 months, the PSF, at the request of the Bank, will conduct an analysis downstream of Road 19 similar to the one conducted upstream. The study will use the same methodology agreed upon for the studies that simulated the impact of flooding in the upstream areas. The results of the study will be presented following the same scheme used for the upstream study, in order to facilitate understanding of the results by all parties interested. Thus, the results of the study will allow a comparison of the <i>with</i> Project situation with the <i>without</i> Project alternative. The study will cover the whole length of the road with particular focus on the critical evacuation streams. It will also include environmental mitigating measures if the results identify negative impacts associated with the project.</p> <p>The results of this study will be appropriately documented in supervision reports (e.g., Aide Memoires) and Implementation Supervision Reports (ISRs).</p>

<sup>1</sup> The PSF requested that the Task Team Leader share the results of the simulations with the Panel (February 5, 2009 email from Head of the PIU to the Task Team Leader).

<sup>2</sup> Paragraph 172 of the Investigation Report: *"The Panel notes that for quite some time communication and consultations with affected people about flood management problems seem to have been limited to providing information, rather than listening and taking views of affected people into account. The Panel, however, notes that this attitude towards the Requesters seems to have positively changed over time. In late 2008, one of the Requesters, for example, was asked to convey in writing his views about the hydrological issues of the project area in the context of updated hydrological studies carried out after the Panel's investigation visit to Santa Fe."*

No.	Findings	Comments and Actions
<i>Environmental Assessment</i>		
2.	<p><b>Environmental Categorization of the Project</b></p> <p>The Panel finds that the Project was correctly categorized as “B,” in compliance with OP/BP 4.01.</p> <p>The Panel also notes that the studies in the ESMP are of the scope and depth that would be expected of a “Category A” environmental assessment and have been integrated into and influenced project design so as to reduce both the social and bio-physical impacts of the road.</p> <p>While the ESMP undertaken for this Project has an important shortcoming in that it does not include a proper description and analysis of Project’s potential impacts on flooding risks upstream and downstream of Road 19, this shortcoming does not seem to be the direct result of “Category B” classification of Project.</p>	<p><b>Comment:</b> Management acknowledges the finding of compliance by the Panel of the categorization of the project as “B”.</p> <p><b>Action:</b> No action required.</p>
3.	<p><b>Environmental and Social Management Plan (ESMP)</b></p> <p>The Panel finds that the necessary studies to demonstrate that for any given flood event, the area flooded and the length of time that such area is flooded is no greater with the project than without it, were not carried out in Project preparation. In the absence of these studies, it is not possible to make a categorical assertion on this matter as is done in Project documents.</p> <p>Although overall the ESMP contains an assessment of the social and bio-physical aspects of the project, the Panel finds that it does not include a proper description and analysis of the Project’s potential impacts on flooding risks upstream and downstream of Road 19 and therefore is not fully in compliance with OP/BP 4.01.</p> <p>The Panel finds nonetheless that, to</p>	<p>As indicated in Item 1 above, Management considers that sufficient and appropriate simulations were carried out during project preparation in compliance with OP 4.01.</p> <p>Upon request from the PSF, the Bank began project preparation and review of the studies and reports already developed by the Province for the upgrading of Road 19. A key objective of the project team was to ensure that the Province completed a comprehensive ESMP, identifying all the possible impacts of the road on the environment. The guidance of the project team focused on the need to propose clear mitigation measures for all risks and impacts identified. In line with the identification of the areas with higher vulnerability for flooding and those that could benefit significantly more from the design of enhanced drainage works along the existing roadway and the duplicate carriageway, the ESMP and the ensuing engineering design emphasized in a commensurate manner the analysis and interventions on the upstream side of the road, taking into account the flat characteristics of the surface area and the behavior of water flows.</p> <p>The task team ensured that the Terms of Reference for the elaboration of the ESMP explicitly covered interference with the natural drainage systems. Management notes that the Panel highlighted in its</p>

No.	Findings	Comments and Actions
	<p>achieve compliance with OP 4.01, the Project's Environmental Impact Assessment should have considered potential downstream flooding impacts in its analysis and should have proposed some environmental mitigating measures if needed, within a broader framework for the integrated management of floods in the area.</p>	<p>Investigation Report the completeness of the Terms of Reference<sup>3</sup> and noted that the studies in the ESMP are of <i>"the scope and depth that would be expected of a 'Category A' environmental assessment."</i></p> <p>The environmental consulting firm hired by the Province to prepare the ESMP emphasized the hydrological risks in the area and carefully studied the preliminary engineering designs to ensure that the road design principles adopted avoid any blocking effect (or "damming", as the Requesters have called it) from an elevated road. The analysis included in the ESMP concluded that the engineering designs adopted for National Road 19 were appropriate and the <i>"impact of the road in terms of possible flooding [in the area of influence of the road were] considered very low."</i><sup>4</sup> However, the ESMP stated that complementary analyses and reviews of the hydrological and hydraulic studies had to be carried out before approval of the final engineering designs, as was eventually done. The ESMP identified the process for the technical review of those studies as reasonably sound due to the involvement of the provincial (DPV and Ministry of Water Affairs) and national (DNV) authorities. Both the provincial and national authorities have proven experience in the area and in projects with similar technical complexities—including those related to hydrological and hydraulic challenges—and potential impacts on the environment. The various sets of analyses and studies—technical, engineering, environmental, social, etc.—were carried out by reputable engineering firms and the review and quality assurance processes were on the level of those carried out in similar type of projects all over the world, as noted by the engineering and environmental and social experts of the Bank and consultants who have been involved in project preparation and implementation.</p> <p>Several reviews were carried out after the ESMP was disclosed for public consultation and negotiations were completed. Management notes that the Panel has thoroughly analyzed and acknowledged the work the Bank and the PSF has done on the potential impacts related to the hydrological and hydraulic aspects of the Road 19, especially since March 2007<sup>5</sup> (before the Loan</p>

<sup>3</sup> Paragraph 77 of the Investigation Report indicates *"The Panel notes that the Terms of Reference (TOR) for the Environmental Assessment (2006) required that all the possible environmental impacts be identified, described and assessed, analyzing the nature, importance, magnitude, intensity and temporal dimensions of these impacts. The TOR also required that the environmental impacts should be described to the extent possible in maps indicating the location of the affected areas and other characteristics, giving emphasis to the assessment of impacts resulting from the Project's interference of the natural drainage systems and its possible dam effect."*

<sup>4</sup> ESMP. Annex 4, page 31.

<sup>5</sup> "... The Panel acknowledges that additional studies were carried out after the March 2007 flood event and more recently after the Panel's October 2008 visit to the Project area", paragraph 103, Investigation Report.

No.	Findings	Comments and Actions
		<p>Agreement was signed and the project became effective). Numerous changes to the engineering design were made by the PSF as a follow-up to successive revisions to the simulations done by the engineering firms, including new and improved drainage canals, culverts and passage pipes. The Aide Memoires of the enhanced supervision carried out by the Bank team summarize the sequence of the changes to the design.<sup>6</sup></p> <p>Management would like to emphasize that all the studies and simulations carried out so far (including the one prepared after the comments received from the Inspection Panel during the Investigation phase) show that the hydrological situation of the area surrounding Road 19 <i>with</i> the project is better than <i>without</i> the project.<sup>7</sup></p> <p><b>Action:</b> Particular efforts will be made during project implementation to ensure that technical aspects and results of studies are conveyed to affected groups and other interested stakeholders in a manner that is easily understandable. This will be part of the ongoing communication and consultation activities of the project. Please see also Item 1 (Overall conclusions).</p>
<b>Analyses of Project Impacts on Flooding</b>		
4.	<p><b>Hydrologic and Hydraulic Analyses</b></p> <p>The Panel finds a lack of coherence among basic criteria used in hydrological studies for the three sections of Road 19. The Panel finds there are several technical shortcomings in Project hydrological and hydraulic analyses. These shortcomings show a lack of rigor and robustness of performed hydrological analysis and introduce an important degree of uncertainty in results of hydraulic analyses.</p> <p>The Panel finds, during preparation phase, Management did not succeed in guiding Borrower appropriately to ensure a rigorous analysis of potential environmental impacts as required under OP 4.01, paragraph 5.</p>	<p><b>Comment:</b> The quality control process for the hydrological and hydraulic studies was considered appropriate and consistent with Bank policies by the project team. It involved several reviews by Bank experts as well as by the DPV and the Provincial Ministry of Hydrological Affairs. Moreover, all studies were formally approved by DNV as the Road will revert back to national jurisdiction once the PSF completes the upgrading; this added an additional degree of quality control in the formal approval of engineering designs. DNV has an office in the City of Santa Fe (known as District 7) with several full time engineers. DNV is supervising the upgrading of Road 19 with engineers based in Santa Fe, who have a thorough knowledge of the characteristics of Road 19's area.</p> <p>Management concurs with the Panel that all hydrological and hydraulic studies should be based, from the early stages of project preparation, on a unique and homogeneous methodology. In practice, this is sometimes difficult to achieve, in particular when there are several engineering firms involved. In this context, it should be noted that Argentine regulations do not specify</p>

<sup>6</sup> The Aide Memoires of May and December 2008, available in Project Files, describe the changes introduced to the engineering design.

<sup>7</sup> For the rainfall of March 2007, the duration of floods will be slightly higher in the “with” project situation but the flooded area will be smaller.

No.	Findings	Comments and Actions
		<p>a unique methodology to conduct hydrological studies. For this project, all engineering consulting firms used the same methodology (modified rational method) for small size watersheds, which is the most frequently used for the design of highways in Argentina. The methodologies differed only for midsize watersheds.</p> <p>Management instructed the project team to ensure that a robust quality control process was put in place to guarantee that the outcome was consistent with sound engineering designs used in Argentina and around the world for roads similar to Road 19. Moreover, the fact that there were different methodologies was explicitly noted in the ESMP, as was the fact that this variation made no difference in practice as the methodologies arrived at the same conclusions. The environmental consulting firm, after reviewing the studies of the engineering firms, concludes: <i>"...this consulting firm has analyzed the consistency among the different hydraulic models proposed by the different engineering consulting firms. The result of this analysis is that although there exist some variations regarding the design storm, the possible climate change or the coefficients used to characterize the soil or vegetation; the design flows for the different sections are similar for equivalent watershed sizes. In conclusion, in spite of the differences of coefficients, parameters and models, the forecasted flows for the three different sections' projects are homogeneous for equivalent watershed sizes"</i> (ESMP, Annex 4, page 42).</p> <p>As mentioned in Item 3, the review process of the hydrological and hydraulic studies did not end with the preparation phase. At the request of the Bank, following several instances of revision of the hydrological and hydraulic studies, the PSF made several changes to Road 19's design. Many of the existing drainage facilities under the present roadway did not have enough capacity for the resulting runoffs. Therefore, these facilities were enlarged to give them the same capacity of discharge as the drainage channels that will be built for the new carriageway. In addition, new drain pipes crossing the highway embankment have been designed at low points where there were none previously, to improve the existing drainage conditions at those points.</p> <p>Based on the reasonable investigations and studies undertaken during project preparation, the hydraulic improvements to the existing carriageway, which are at the level of those implemented for the parallel new road way, provide improved conditions for the population within the area of influence of the road—both upstream and downstream. As shown in the studies and analyses carried out thus far, the most beneficial impacts will accrue to the population upstream—where the Requesters have their properties—since that is where the</p>

No.	Findings	Comments and Actions
		<p>environmental impacts of the flat-rising floods in the past have been more intense and covered a larger area.</p> <p><b>Action:</b> Please see Item 1 above.</p>
5.	<p><b>Additional Studies and Supervision</b></p> <p>The Panel finds additional studies employed the same technical and methodological shortcomings of original studies. Nonetheless, the Panel also concludes that additional studies during Project implementation represent a positive effort to provide quantitative information about upstream impacts in a form easily understood by affected parties. These studies showed that, for rainfall events with return periods of 25 and 50 years, the “with Project” situation upstream of Road 19 was better than the “without Project” situation. The Panel finds this approach, which involved adjustments to the studies and design in order to address existing and emerging issues, is consistent with Bank policy on Project Supervision.</p>	<p><b>Comment:</b> Management acknowledges the finding of compliance with the Bank policy on Project Supervision by the Panel.</p> <p>Management wishes to emphasize the fruitful outcome of the open and constructive dialogue involving the expert consultant hired by the Panel, the Bank project team and the PSF. Thanks to the commitment of the PSF to implement a sound road project with high environmental and social standards unprecedented in the history of the province, the provincial government requested the engineering firms to conduct several revisions of the hydrological and hydraulic studies. As the Panel correctly points out, these studies showed that, for rainfall events with return periods of 25 and 50 years, the “with Project” situation upstream of the Road was better than the “without Project” situation. This conclusion indicates that the engineering designs are sound and under all reasonable scenarios the project will cause no harm to Project Affected People.</p> <p><b>Action:</b> Please see Item 1 above.</p>
<b>Consultation and Communication with Affected People</b>		
6.	<p><b>Resettlement Action Plan</b></p> <p>The Panel finds that with respect to families needing resettlement assistance, RAP is in compliance with OP 4.12.</p> <p>The lack of a complete socio-economic analysis covering all people affected by land acquisition is not consistent with OP 4.12. However, the Panel also finds that communication with landowners on this aspect significantly improved during Project implementation and that some measures to address potential negative impacts of the partial taking were provided for. The Panel finds that although initially there was only partial compliance of OP 4.12, the situation improved as a result of Bank staff's compliance with the</p>	<p>Management acknowledges the finding of compliance with Bank policy OP 4.12 on families needing resettlement assistance.</p> <p>The Land Acquisition and Resettlement Plan includes a detailed socio-economic analysis for those properties where more than 40 percent of the land was required to be purchased for this project. In addition, it devotes particular attention to all cases identified as vulnerable, which included those families, businesses and a school that needed resettlement assistance. For these cases, a special program (re-establishment of socio-economic conditions of the affected population) was created that not only covers the time period up to completion of resettlement, but also maintains communication with those affected to ensure compliance with the agreements reached.</p> <p>For the remaining properties to be expropriated under this project, the socio economic characteristics of the area clearly show that the vast majority of landowners are in the top quintiles of Argentine income distribution. Most of them completed secondary and even higher education levels, use the best physical and technological tools</p>

No.	Findings	Comments and Actions
	policy on supervision.	<p>available worldwide to maximize the productivity of the land and have adequate access to information tools and provincial and national institutions.</p> <p>Those that considered that their land would no longer be economically viable as a result of the partial expropriation had the option to require the PSF buy the entire plot of land. The PSF also offered all landowners affected by partial expropriations technical advice and information to maximize the productive use of the land.</p> <p><b>Action:</b> No action required.</p>
7.	<p><b>Consultation and Communication Program with Wider Community</b></p> <p>The Panel finds affected people were given opportunities to meet Project officials to express their concerns and to make suggestions for project design modifications, as required by Bank policy.</p> <p>The Panel finds concerns related to design of the Road were generally responded to and acted on. The Panel finds this is in compliance with OP 4.01.</p> <p>The Panel notes that considerable effort was made by the PIU to consult with affected communities, but this process fell short of what had been envisaged in the ESMP and RAP, which was not entirely implemented as planned.</p> <p>The Panel notes delay in hiring communication expert led to some delays in adequately implementing communication and consultation programs and this may be the root of some complaints of Requesters and other affected people.</p> <p>The Panel finds that Bank staff emphasized the need to hire a communication expert within PIU on a number of occasions since Project preparation, although this eventually happened only in July 2008. The Panel finds this is in</p>	<p><b>Comment:</b> Management acknowledges the finding of compliance with Bank policies OP 4.01 and OP 13.05 on Project Supervision.</p> <p>The project includes a communication and consultation strategy that takes into account the local culture and social dynamics. Management considers that the project team has successfully managed to convey to the local authorities the need to involve affected communities in the design of the upgrading of Road 19.</p> <p>Management agrees with the Panel that there were important delays in the hiring of a communication expert. The Bank insisted via informal (day to day dialogue) and formal mechanisms (Supervision Aide Memoires) on the need to hire this expert. Management appreciates the Panel's recognition of staff's efforts to convince the PIU to hire a communication expert.<sup>8</sup> Once hired, the expert rapidly improved the quality and reach of the communication program. The preparation of a brochure for Project Affected People explaining the design of the road with respect to drainage and flood risk management, and the preparation of three information brochures ("boletines informativos"), the latest edition being published in June 2009, were among the first actions taken by the communication expert.</p> <p><b>Action:</b> Continued implementation of the Project Communication and Consultation Strategy.</p>

<sup>8</sup> "According to Bank staff in Buenos Aires, the Bank had attempted in various occasions to convince PIU management to hire the communication coordinator. The Panel also found evidence in the Aide Memoirs that the Task Team urged the PIU to hire a communication specialist" Paragraph 133, Investigation Report.



No.	Findings	Comments and Actions
	compliance with OP 13.05 on Project Supervision.	
8.	<p><b>Communication on Flood Risks</b></p> <p>The Panel notes Requesters were able to meet with Project and local authorities and Bank staff to express their worries. The Panel finds Bank staff did not sufficiently emphasize with PIU the importance of communicating and consulting with affected people on flood risks and taking Requesters' many years of field-based experience more seriously.</p>	<p><b>Comment:</b> As indicated by the Panel, the ESMP includes a Communication and Participation Program. This program was included at the request of the Bank<sup>9</sup> and its content has been closely supervised.</p> <p>The ESMP's chapter on communication and participation does not prioritize any topic. It was devised to receive feedback and address the concerns raised by all Requesters, regardless of who presented the concern, how it was presented, or the issues raised. Bank staff have decisively conveyed this principle during supervision, emphasizing that all concerns should be properly considered by the PIU and acted upon as appropriate. The consultation process has paid particular attention to the field based knowledge and experience of farmers and landowners. After the unprecedented rainfall of March 2007 the PSF organized several meetings along Road 19. The outcome of the consultation was an extensive review of the engineering designs, which prompted the PSF to include several new drainage facilities. Management considers that the consultation process as well as the elaboration of the engineering designs has to be considered as an evolving process, which receives inputs from all relevant stakeholders and prioritizes areas of work as the reality on the ground changes.</p> <p>As previously discussed, Management would like to highlight that the sequence of topics raised by the Requesters and other Project Affected People influenced the progress of communication and consultation of flood risks during project preparation and implementation.</p> <p><b>Action:</b> Management is committed to continue providing the necessary resources to enhance supervision of the Santa Fe Road Infrastructure Project. The communication program included in the ESMP calls for community meetings during the construction phase. The project team will ensure that these meetings are organized. Particular attention will be devoted to presenting, in an easily understandable way, past and future studies (see Action in Item 1 above) to assess the impacts of the project on the hydrological situation in the area surrounding Road 19.</p>
9.	<p><b>Communication with Directly Affected Landowners</b></p>	<p><b>Comment:</b> Management acknowledges the finding of compliance with Bank policies OP 4.12 and OP 13.05.</p>

<sup>9</sup> Paragraph 114 of the Investigation Report describes the communication and community participation program included in the ESMP, while footnote 67 indicates: "It appears as though this chapter was included at the request of the Bank" and acknowledges the Bank's guidance on the inclusion of a cross-cutting program in Communication and Community Participation.

No.	Findings	Comments and Actions
	<p>The Panel finds information provided to affected people during land acquisition process was not always adequate. However, the Panel finds communications with landowners improved over time, especially after submission of Request for Inspection. The Panel finds that with improvement in the consultation process Project is now in compliance with OP 4.12.</p>	<p>The land acquisition process will be completed in August 2009. For 88 percent of the plots, a voluntary agreement for the land purchase was reached. The remaining 12 percent are under judicial review. Most of the cases under judicial review are explained by problems associated with the owner's lack of proper titling documentation (inheritance conflicts, unpaid bank loans). Less than 2 percent of the cases were submitted to the courts due to lack of agreement over monetary compensation, a statistic that supports the low degree of judicial conflict that emerged from the successful design and implementation of the RAP's land acquisition program...</p> <p>No complaint about the land acquisition process has been received by the PIU through any of the instruments available (project-specific email address, physical mailboxes, community information centers ["puntos comunitarios"], visits by Project Affected People to PIU offices in Santa Fe) since February 2008. Moreover, no landowner has presented a formal complaint to the provincial ombudsman's office (which is independent from the executive branch of government) or to the Provincial Auditing Body (<i>Tribunal de Cuentas</i>).</p> <p>This statistical evidence, along with the thorough description and analysis presented by the Panel (in Section C of the Investigation Report)<sup>10</sup> indicates that the consultation process designed and being implemented by the PSF with the support of the Bank is comprehensive and detailed and has included all Project Affected People along Road 19.</p> <p><b>Action:</b> Please see Item 8 above.</p>
10.	<p><b>Continuing Project Communication</b></p> <p>The Panel finds that, while delays could and should have been avoided, the consultation and communication strategy during Project implementation is consistent with OP 4.01 and OP 4.12 and Bank staff is in compliance with requirements of Bank policy on Project Supervision.</p>	<p><b>Comment:</b> Management acknowledges the finding of compliance with Bank policies OP 4.01, OP 4.12 and Bank policy on Project Supervision (OP 13.05).</p> <p>The process of consultation implemented by the PSF for this project is unprecedented in the PSF's road sector and the project team drew on best practice examples and guidance from similar types of projects all over the world. It has always been the intention of the Bank to guide the PSF in the design and implementation of a comprehensive communications program, not only to comply with Bank policies, but to create local capacity that can replicate the outcome of this communication program in future road projects without Bank financing.</p> <p>The project team has been carrying out enhanced supervision that continuously seeks to improve implementation of the communication program. The enhanced supervision consists of at least 3 supervision missions per year and several other visits to the field by</p>

<sup>10</sup> Pages 39-45 of the Investigation Report.

No.	Findings	Comments and Actions
		<p>local environmental and social consultants.<sup>11</sup>The project team is committed to maintaining the current level of communication throughout project supervision.</p> <p><b>Action:</b> Please see Item 8 above.</p>

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<sup>11</sup> The Panel indicates in the Investigation Report (paragraph 157) that the approach of hiring local consultants to help the Washington-based Task Team Leader is a good practice: *“During the investigation, Bank staff interviewed by the Panel stated that the Project team was strengthened with consultants based in Argentina who could visit the Project area and monitor progress more frequently and regularly than staff coming from Washington. In the Panel’s view, this seems to be a good and cost effective practice to supervise project implementation.”*

## Annex 2: IBRD Map 37122: Argentina Santa Fe Road Infrastructure Project – Location of Road 19

IBRD 37122

